82

PAUL F. CALABI
925 BELL CANYON ROAD
ANGWIN, CA 94508
(707) 965-2921

Chief,FAA,
Wine & Beer Branch,BATF
1200 Pennsylvania Ave.N.W.
Washington,D.C.20226

January 8,1988

Gentlemen:

Here are my thoughts regarding the proposed Stag's Leap appellation.
First of all I want to make it clear that I do not own any land in that vicinity;my vineyard is in Chiles Valley.
The only reason to have an appellation onthe label is to inform the public about the character of the grapes used to make the wine contained in that bottle.
I have been the grape buyer for Robert Mondavi Winery from 1970 to 1980 (the last year we bought 24,000 tons for both wineries) and in my job I had to be aware of the difference in character and quality of the grapes from different areas. I bought plenty of grapes from the area in question and I want to state that only from Angelo Regusci'land to the South to Ernie Ilsley's to the North I could find a common character in the grapes.
To extend the Stag's Leap appellation beyond these limits would cheat the wine buying public.

Sincerely yours,

Paul Calabi

(Paul F.Calabi)

CONNOISSEURS' GUIDE TO CALIFORNIA WINE
p.o. box 11120, san francisco, california 94101

10 January 1988

83

Stephen E Higgins
Director
Bureau of Alcohol, Tobacco and Firearms
Washington, D.C. 20226

Dear Mr. Higgins:

I am a reviewer of wines and publisher of a monthly wine review service. I also have a long standing record regarding my support and continuing interest in the matter of the designation of appellation areas.

I believe in appellations as a useful device that, if artfully delineated, can help improve the quality image of the products of the American wine industry. Using the potentially valuable competitive edge conveyed by the award of an appellation, wineries and growers are given an economic incentive to expend the extra time and effort necessary to produce distinctive wine for release under these appellations and to focus on the special attributes that may be unique to their area.

However, there has to be real merit to the designation or none of these values will be achieved for either the petitioners or the wine consuming public. This potential dissolves into nothing more than advertising puffery if the appellation is defined so broadly that it includes such a wide variety of soil types and microclimates there are no unifying characteristics to the wine produced within the appellation.

In the case of the Stag's Leap area, I think that all of the factors are in line for the establishment of a useful and meaningful appellation for I have observed a unique character shared by many of the wines produced from grapes grown in the area. At the same time, I urge you to narrowly define the appellation, for, as attractive as some of the wines have been that have been produced to the northwest and southeast of the traditional Stag's Leap area, the character is not the same and would dilute the value of this appellation.

Respectfully yours,

Earl Singer

Letter regarding Notice No. 644

RICHARD P. MENDELSON

DICKENSON, PEATMAN & FOGARTY
A PROFESSIONAL LAW CORPORATION
809 COOMBS STREET
NAPA, CALIFORNIA 94559-2977
TELEPHONE 707 252-7122

84

January 13, 1988

Mr. Rich Mascolo
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue, N.W.
Room 6237
Washington, D.C. 20226

Re: Stags Leap District

Dear Rich:

Attached is the Committee's Post-Hearing Brief.

Sincerely,

Richard Mendelson

RM:lm
Enclosure

STAGS LEAP DISTRICT

POST-HEARING BRIEF

Submitted to the Director
Bureau of Alcohol, Tobacco & Firearms
U.S. Department of the Treasury
Washington, D.C. 20226

By the Stags Leap District Appellation Committee
Mr. John Shafer, Chairman
6154 Silverado Trail
Napa, CA 94558

January 13, 1988

STAGS LEAP DISTRICT POST-HEARING BRIEF

EXHIBITS:

G. 1895 map prepared by William Heintz showing the approximate boundary of the Yountville and Napa Viticultural Districts

H. Statement of John Shafer regarding his purchase of Dr. Anderson's grapes

I. Statement of Bernard Portet regarding his purchase of Dr. Anderson's grapes

J. Statement of Gary Andrus regarding the proposed southern extension

K. Statement of Doug Shafer regarding the proposed southern extension

L. Curriculum vitae of Deborah Elliott-Fisk

M. Final report of Deborah Elliott-Fisk entitled "The Geography of Stags Leap District

N. Photographic evidence of fog hanging north of Stags Leap District in winter, indicating micro-climatic effect of northern ring of hills

O. Statements of Messrs. Jim Allen (Sequoia Grove Vineyards) and Randy Mason (Lakespring Winery) comparing the wines of Stags Leap District and the northern extension

P. Statement of John Stuart regarding cane growth in and around Stags Leap District

Q. Map of the climate regions of California from Winkler, et al., General Viticulture

R. Copy of letter from Virgil Galleron to ATF, dated December 1, 1987

S. Letter from Dave Bader, surveyor, regarding the height differential north and south of Yountville Cross Road

T. Letter of Alex Bianco dated January 5, 1988 regarding the soils in the northern extension

U. Drainage systems and rock outcrops which distinguish Stags Leap District from any southern extension

INTRODUCTION

A. Background

The Stags Leap District Appellation Committee ("the Committee") filed its viticultural area petition on August 22, 1985. Since that time, the Committee has filed several additional briefs, exhibits and letters in support of its proposal. The Committee amended the boundary and name of the viticultural area prior to your Notice of Proposed Rulemaking [1] ("NPRM"), and these changes were reflected in the NPRM.

Dr. Stanley Anderson and several of his neighbors to the north of the proposed Stags Leap District requested an extension of the northern boundary during the public comment period which followed publication of the NPRM. (See Exhibit A showing all of the aforementioned boundaries.) At the public hearing on December 2, 1987, Mr. George Altamura expressed his desire to expand the viticultural area to the south. Hagafen Cellars also requested a southward extension after the public hearing. To date, the Committee has not received any written documentation concerning the proposals of Mr. Altamura (Altamura Winery) or Mr. Ernie Weir (Hagafen Cellars). The Committee, in fact, still does not know the boundaries proposed by these individuals. On December 18, 1987, the Committee requested a copy of any correspondence which the Bureau of Alcohol, Tobacco and Firearms ("ATF") receives from Messrs. Altamura or Weir (Exhibit B). Apparently, no comments have been received from them to date.

B. Evidence

In this post-hearing brief, the Committee will summarize the evidence contained in its previous filings and highlight the "new" evidence (designated as such in the margins of the text) which it has discovered since the publication of your Notice of Hearing. [2] This information will be presented in outline form and will be organized according to the regulatory requirements for the establishment of viticultural areas, as set forth in 27 CFR §4.25a(e)(2). Supporting evidence will be presented as exhibits to this brief or will be referred to by citing to previous filings or to the hearing transcript and exhibits.

The Committee firmly believes that it has complied fully with the viticultural area regulatory requirements and that the proponents of enlargement have not sustained their burden of proof under the regulations. Specifically, the Committee has shown that the proposed area is identifiable by name and boundary among industry members, consumers and the press. The evidence in the record conclusively shows that the northern extension never has been known, and is not known today, as Stags Leap District.

In terms of distinguishing geographic features, the Committee has presented evidence that the proposed viticultural area is a single geographic system. Dr. Anderson has presented no such

evidence and claims only to be similar to Stags Leap District. This is insufficient to satisfy Dr. Anderson's burden of proof under the regulations. Moreover, even for the claims he has made, Dr. Anderson has presented little, if any, objective data. These facts notwithstanding, the Committee recognizes ATF's concerns about the westernmost vineyards of Stags Leap District compared with Dr. Anderson's proposed northern extension. For this reason, the Committee has prepared a chart (infra, pp. 14-15) which compares these areas in terms of each appellation criterion. This chart and the accompanying text demonstrate that the preponderance of the evidence supports the Committee's proposal.

It is important to note that the establishment of any geographic system (in this case, a viticultural area) does not depend on a showing of uniformity of each geographic factor throughout the width and breadth of the proposed area. In Stags Leap District, there is a range of geographic factors which, working together as an integrated whole, establishes the viticultural uniqueness of the area in contrast to the immediately surrounding vineyard areas. These viticultural distinctions, coupled with the modern identification of Stags Leap District, have created a special grape growing area within the Napa Valley. Not only are the geography and the name of the area unique, so also are the fruit and the wines. The surrounding areas are part of separate and distinct geographic systems, have never been regarded as part of Stags Leap District and produce grapes and wines which are noticeably different.

C. Public Comments

The Stags Leap District viticultural area proceeding is the focus of attention of many vintners, growers, members of the trade and consumers, both in the U.S. and abroad. Their views have been expressed in over 50 comments (as of January 4, 1988) submitted to ATF as part of the public record in this matter. Many commenters have expressed no opinion on the specific boundaries of Stags Leap District but have stated that small viticultural areas like Stags Leap District should be viticulturally distinct so as to be meaningful to consumers.

This concern is particularly applicable to the Napa Valley where there are continuous vineyard plantings on the valley floor and hillsides. If ATF chooses to expand viticultural areas on the basis of marginal evidence covering some, but not all, of the appellation requirements, then the distinctiveness of the surrounding areas will be compromised. This is not "working with industry" because such an inclusionary bias jeopardizes the meaning, integrity and value of the program in the eyes of consumers, industry and the international wine community, particularly those countries involved with the establishment and regulation of viticultural areas.

The smaller the grape growing area, the more distinct should

be its viticulture. The percentage requirements for grape origin at the various appellation levels reflect this principle: 75% for political appellations, 85% for viticultural areas, 95% for vineyard designations. ATF's rigor, and petitioners' burden of proof, in the creation of small viticultural areas should be correspondingly strict. There must be a preponderance of evidence of viticultural distinctiveness and name identification in order to establish a viticultural area.

Stags Leap District has attracted widespread industry and consumer interest not only out of concern for the future of small viticultural areas but also because Stags Leap District and its wines have a broad following in the domestic and international marketplace. Many consumers' comments about the viticultural area have been very specific. The overwhelming majority who have defined Stags Leap District have done so on the basis of the area's distinct geography. Far from preferring a road as an identifiable boundary, these consumers regard the use of a road as a boundary of Stags Leap District as a travesty. Instead, they see and define the viticultural area in terms of its natural boundaries, which have contributed to the area's viticultural uniqueness.

A minority of those who have commented would restrict Stags Leap District to the east of the Silverado Trail, reflecting the historical genesis of the name. The Committee now has evidence, presented below (infra, p.3, A.2), which ties the name Stags Leap to the vineyard area west of the Silverado Trail around 100 years ago. This fact, coupled with other evidence of viticultural distinctiveness and name identification, strongly supports the boundaries proposed by the Committee.

Not a single disinterested wine consumer or member of the trade favors an extension of the proposed boundaries. The Committee urges ATF to consider very carefully the comments of its primary constituency -- consumers and industry members.

NAME IDENTIFICATION AND BOUNDARY SUPPORT

A. In Support of the Committee's Petition

1. Historical Name Derivation: Stag's Leap originally referred to Horace Chase's Stag's Leap Manor and Stag's Leap Winery and to the rocky cliffs overlooking the area. William Stagg, who lived at the southern end of the proposed viticultural area in the late 1800s, also may have had some role in naming the area. [3]

[NEW] 2. Historical Label Usage: In addition to Chase's Stag's Leap Winery, Luigi Domeniconi used Stags Leap on his wine labels in the late 1800s. [4] Domeniconi had a bonded winery and vineyards at the site now occupied by Pine Ridge Winery, west of the Silverado Trail.

3. Modern Name Identification: The words Stags Leap without apostrophe have been used on U.S.G.S. maps since 1951. [5] In the early 1970s Stags Leap began to develop its modern viticultural identity. In 1974 Warren Winiarski stated in his promotional literature, "Stag's Leap is a regional designation which should in time become as familiar to wine buyers as certain domaines in European wine-growing regions." [6]

[NEW] 4. Label Usage Pre-1983: Prior to 1983, when ATF's viticultural area regulations took effect, ten wineries (four within and six outside of the viticultural area) produced wines from Stags Leap District grapes and referred to the viticultural area by name on their labels and in their point of sale materials. [7] All of these wines contained grapes from the viticultural area proposed by the Committee. [8] No grapes from the northern extension proposed by Dr. Anderson or from the area of interest to Messrs. Altamura and Weir, south of Stags Leap District, are contained in these Stags Leap District-designated wines despite the fact that there were producing vineyards in both the northern and southern extension areas.

[NEW] 5. Grape Marketing: Since the effective date of the present appellation regulations in 1983, growers and vintners have continued to refer to Stags Leap or Stags Leap District, other than on their labels and in their advertisements, as a source of grapes. For example, since 1983 Clos du Val in its promotional literature has described its winery and vineyards as within Stags Leap District. [9] Silverado Vineyards has referred to Stags Leap as the location of its vineyards since 1984, the year of its first cabernet release; vintners who have purchased these grapes, as early as 1976 (before Silverado Vineyards was established) and continuing to the present, have referred to them as Stags Leap grapes (Exhibit C). Vichon Winery has produced a Stag's Leap Cuvee Cabernet Sauvignon since 1985 (Exhibit D). And Phelps Winery uses Stags Leap on weigh tags for grapes from the proposed area but not for grapes which it has purchased from the northern extension. [10]

[NEW] 6. Wine Press References: The wine press repeatedly has used the term Stags Leap or Stags Leap District to refer to the viticultural area. At the public hearing, Mr. Andrus presented an exhaustive compendium of press clippings since 1975 which have mentioned the viticultural area by name -- according to Mr. Andrus' own counting, over 2100 references to Stags Leap or Stags Leap District. [11] With only three arguable exceptions discussed below, these articles have never referred to any extension area vineyards or wineries (north or south of the proposed Stags Leap District) as part of the viticultural area. By contrast, numerous press persons have mentioned the river-fronting vineyards of Silverado and Mondavi in connection with Stags Leap District. [12]

[NEW] 7. Consumers: Stags Leap District already is a well-known viticultural area among wine consumers. Its widespread reputation is based principally on the area's distinctive cabernet sauvignon grapes and wines. More than 50 consumers have expressed their views on the boundaries of the viticultural area in written comments to ATF. These comments, which the Committee has obtained through a request under the Freedom of Information Act, demonstrate the knowledge and sophistication of the consumers of Stags Leap District wines and their overwhelming support of the boundaries proposed by the Committee.

8. Boundary Administrability: The Committee's northern boundary does not divide anyone's vineyard. [13] If ATF deems it appropriate for all or part of the northern boundary to coincide with nearby property lines, the Committee would have no objection and in fact has previously submitted such an alternative boundary description. [14] As shown in Hearing Exhibit 20, the Committee's proposed boundary and the property lines practically coincide.

B. Concerning the Proposed Northern Extension

1. Historical Plantings and Grape Sales: Dr. Anderson maintains that his predecessors sold their grapes to the Occidental Winery or Stag's Leap Winery (both within the proposed viticultural area) in the late 1800s. [15] This is self-serving speculation, unsupported by any written documentation. As the Committee's expert historian, Mr. William Heintz, noted at the public hearing, the Lycans, who then owned the Anderson property, could have sold and probably did sell their grapes to the nearby winery of Emil Bressard or the winery of Burridge & Tucker in Rector Canyon, both located north of the Yountville Cross Road. [16]

[NEW] Notwithstanding the contention of Mr. Bud Dulinsky that there were no vineyards north of the Cross Road until the 1920s or early 30s because the soils were thin and hard east of State Lane and marshy wet west of State Lane [17], Mr. Heintz showed through the reports of the State of California Board of Viticultural Commissioners that there were at least nine vineyardists north of the Yountville Cross Road in 1895 and more than 250 acres of grapes. [18] Exhibit E, attached hereto, shows the location of these vineyards. The U.S.G.S. map, published in 1951, also shows vineyards north of the Yountville Cross Road, as does the 1985 aerial photograph attached as Exhibit F.

2. Name Recognition. The only evidence of current name identification which Dr. Anderson and his neighbors have presented in support of the northern extension is set forth below. Each item is discussed in turn.

a. The Wine Spectator article of January 1 - 31, 1987, entitled "Locking Horns over Stag's Leap" [19] includes

a map of "Stag's Leap cabernet vineyards," in which Anderson Winery is shown just south of the Yountville Cross Road. Dr. Anderson has no cabernet vineyards. His winery is shown on the map, along with Domaine Chandon and several other wineries outside of Stags Leap District, in order to situate the reader within the Napa Valley.

[NEW] No cabernet vineyards outside of the Committee's proposed boundaries are included on this map. Specifically, there is no mention of Weeks' or Chambers' cabernet, located in the proposed northern extension. Moreover, no vintner or grower north or south of the Committee's proposed boundaries is referred to in the ten-page article.

b. A Napa Register article dated February 5, 1987, entitled "Winery Cleared Over Objection" [20], contains a map of the "Stag's Leap Area," including the Sinskey Winery, which is the subject of the article, Anderson Winery and other nearby wineries. This article was published only six (6) days before the NPRM was published - almost one and a half years after the Committee filed its initial petition. The article did not discuss or propose any boundaries of the viti-cultural area and the Committee believes that Dr. Anderson has taken the map and article out of context.

c. Richard Paul Hinkle's 1981 article entitled "How Many Stags in a Stag's Leap?" [21] defines the boundaries of the viticultural area "[f]or the immediate sake of argument . . . as being Clos du Val on the south, the Silverado Trail on the west, an extension of the Yountville Cross Road on the north, . . . and the rocky promontories of the eastern flank of the Mayacamas Mountains (also called Stags Leap) to the east." This proposed boundary does not include Dr. Anderson or any other property west of the Silverado Trail. However, Mr. Hinkle does state that certain areas west of the Silverado Trail may "come up for discussion." These include the vineyards of Silverado, Pine Ridge and Mondavi. Dr. Anderson and his neighbors are not mentioned.

[NEW] d. Mr. Bill Weeks, a vineyard owner in the northern extension, maintains that he once sold his cabernet grapes to Mr. Peter Brehm of Wine and the People in Berkeley, California, who allegedly resold them to home winemakers as Stags Leap cabernet. [22] Mr. Weeks has no documentation to support this contention. Moreover, Mr. Craig Williams of Joseph Phelps Winery contacted six wineries which have purchased Mr. Weeks' cabernet grapes. [23] Not one of these wineries referred to these grapes as coming from Stags Leap or Stags Leap District. [24] Additionally, in the 1984 listing of available grapes, Mr. Weeks described his appellation as

"Yountville Crossroads," not Stags Leap District. [25]

[NEW] e. Certain residents of the northern extension have stated that they regard themselves and their vineyards as part of Stags Leap District. This newly acquired self-perception is refuted by written evidence. The Napa Register publishes an annual magazine entitled "Appellation" in which each Napa Valley winery is asked to list the appellations of the wines it produces. In 1984 and 1985, Dr. Anderson listed Napa Valley. In 1986 and 1987 he changed his appellation to Yountville, until he retracted this listing following publication of the 1987 edition. [26] By contrast, the vineyard owners within the proposed Stags Leap District listed their appellation as Stags Leap or simply Napa Valley, but not as Yountville.

[NEW] It should be noted that four adjacent vineyard owners in or near the northern end of Stags Leap District have described their appellation in writing in 1986 and 1987. Messrs. DePuy and Missimer reported their vineyard locations (both within the northern extension) to the Napa Valley Grape Growers Association as the "Yountville Crossroad area." [27] Dr. Anderson listed "Yountville." [28] And Mr. Freethy immediately to the south (the only one of the four owners within the Committee's proposed boundaries) stated "Stag's Leap area." [29] This is yet another reflection of the accuracy of the northern boundary.

f. The Napa office of the Soil Conservation Service has an internal filing system which divides the county into several areas. These filing areas have no substantive relevance in terms of geography, geology or soils. Moreover, the existence of a "Southeast Yountville Stag's Leap" filing area in no way proves that the name Stags Leap refers to the extension area proposed by Dr. Anderson. The Committee, in fact, agrees that the filing area is part in Yountville and part in Stags Leap District, as its name suggests.

[NEW] 2. Viticultural Identity: The separate identities of the growers and vintners in Stags Leap District and in the proposed northern extension are firmly rooted in the viticultural history of Napa County. In or around 1893, the State of California Board of Viticultural Commissioners ("State Board") divided the vineyard areas of Napa County into three viticultural districts -- from north to south, the St. Helena District, Yountville District and Napa District. [30] Mr. Heintz reviewed the publications of the State Board and has prepared a map showing the approximate division between the Napa District and the Yountville District (Exhibit G). The district boundary does not follow the Yountville Cross Road but instead closely approximates the Committee's northern boundary. This fact, which has not been contested

or refuted, offers insight into the historical basis for the separate viticultural identities of these two areas, identities which have remained intact to the present.

3. Name Identification: Yountville is both a formal political entity and an informal viticultural designation. Viticulturally speaking, the area is larger than the town itself. While the purpose of the instant proceeding is only to establish the Stags Leap District viticultural area, ATF must take notice of the fact that the vintners and growers of the proposed northern extension have referred to themselves consistently as part of a Yountville appellation or a Yountville Cross Road appellation. They could have allied themselves with Stags Leap District in any one of several viticulturally relevant ways, including grape marketing, internal documentation such as weigh tags, promotional literature and vineyard descriptions. They never thought of doing so, but instead used the Yountville designation. When the viticultural area north of Stags Leap District is established, these name recognition facts clearly will be relevant to that proceeding. For the same reason, they should be taken into consideration in defining what is, and what is not, Stags Leap District.

4. Vintner/Grower Support: Mr. Anderson has not garnered the support of all of the growers in the extension area. Mr. Jack Abruzzini, who lives at the corner of Yountville Cross Road and Silverado Trail within the northern extension, has been outspoken in his view, based on a lifetime in the Napa Valley and over 30 years as a landowner in the extension area, that the northern extension always has been referred to as Yountville and never as Stags Leap District. [31] Mr. Abruzzini calls his vineyard in the extension area "Yountville Vineyard." Additionally, Messrs. Fred Schweizer and Edgar Ilsley, who own the parcel just north of the Committee's northern boundary, have not supported Dr. Anderson's petition to expand the viticultural area. Even Mr. Laurie Wood, who apparently changed his mind about the appellation after the Committee's initial filing, did not retract his statement that he always referred to Dr. Anderson's vineyard, which he farmed, as being in the "Yountville area," not Stags Leap District. [32]

[NEW] 5. Consumer Support: Based on the Committee's review of the public comments submitted in this proceedings, not a single disinterested consumer has identified the extension area as part of Stags Leap District. Instead, consumers overwhelmingly think of this area as part of the Yountville viticultural area.

[NEW] 6. Grape Sales and Purchases: Dr. Anderson has maintained that because some of his and his neighbors' grapes in the past have been sold to wineries within Stags Leap District, they deserve to share in the prestige and renown of the viticultural area, even if they never contributed to the

name. Dr. Anderson, however, is mistaken in his calculations. Excluding Pine Ridge Winery, which specifically labels its wines from extension area grapes as "Yountville Cuvee," wineries within the Stags Leap District viticultural area between 1981 and 1987 purchased an annual average of only 7.2% of the total production of extension area vineyards. [33] These grapes were not used in any of these wineries' Stags Leap District wines (e.g., Pine Ridge's Stag's Leap Cuvee, Stag's Leap Winery's Stag's Leap Vineyard, the Cabernets of Steltzner, Silverado and Clos du Val [34]), but instead were used as part of the wineries' Napa Valley blends. The extension area is by no means the only outside source of grapes for Stags Leap District wineries. In fact, the purchased grapes from the northern extension represent only 2.3% of the total tons crushed by the wineries within Stags Leap District. [35]

Rather than clarifying the situation by reviewing the grape flows between the extension area and Stags Leap District, Dr. Anderson has preferred to cite selective facts and even then to misstate them. For example, Dr. Anderson claims that his sale of chardonnay grapes to Mr. Shafer in 1984 (his last such sale) represented around 32% of Shafer's chardonnay production that year. The actual percentage, according to Mr. Shafer, is 16% (Exhibit H). Similarly, Dr. Anderson miscalculated the percentage of his grapes which went into Clos Du Val's first chardonnay in 1978 (see Statement of Mr. Bernard Portet, Exhibit I). It should be noted that Clos du Val has not purchased any grapes from Dr. Anderson for more than six years. Additionally, neither Mr. Shafer nor Mr. Portet labeled or referred to any wine containing Dr. Anderson's grapes as a Stags Leap District wine.

Mr. Shafer also stated at the public hearing that he does not recall telling Mr. Chambers that wine from the latter's grapes is "Stags Leap cabernet." [36] Mr. Shafer does not deny that Mr. Chambers' grapes produce fine wines, as fine as those from Stags Leap District; this is why Mr. Shafer buys them. But Mr. Shafer has never referred to these grapes as being from Stags Leap District. He bottles them as Napa Valley wines, and considers his Cabernet Sauvignon Reserve and Hillside Select to be his Stags Leap District wines.

In sum, Dr. Anderson's contention that he and his neighbors contributed to the quality image of the wineries of Stags Leap District is factually unsupportable. Moreover, this logic if accepted, would signify the total degeneration of the principle of equity, which was directly applicable to the Napa Valley viticultural area proceeding but which, if taken to the extremes suggested by Dr. Anderson, would mean that anyone who sold grapes to any Stags Leap District winery at any time would have a justifiable basis for inclusion.

7. Yajome Land Grant: Without hard evidence of name support, Dr. Anderson has relied on the fact that his northern boundary follows, at least in part, the northern boundary of the Yajome Land Grant, along the Yountville Cross Road. This is intended to lend historical credibility to his proposed boundary. The Committee does not deny that the land grant is an historic fact but does question its validity as a viticultural area boundary.

The Yountville Cross Road was not used as a boundary to separate the Napa and Yountville Viticultural Districts of the late 1800s. The road has no geographic or viticultural significance. Moreover, ATF has not followed land grant boundaries even where the names of the land grant and the proposed viticultural area are the same (for example, Los Carneros); and here the proposed viticultural area name is Stags Leap District, not Yajome. Dr. Anderson does not even follow the entirety of the northern land grant boundary; at the intersection of the Yountville Cross Road and the Silverado Trail, his proposed boundary diverges from the land grant line and proceeds north along the Silverado Trail around 600 feet before it heads east to the 400 foot contour line. Yet the vineyards west of the Silverado Trail less than 600 feet north of the Yountville Cross Road, such as Mr. Egan's vineyard, have been arbitrarily excluded. [37] Finally, Dr. Anderson has ignored the southern boundary of the Yajome Land Grant which stretches several miles south into the City of Napa.

C. Concerning the Proposed Southern Extension

1. No Evidentiary Support: To the best of the Committee's knowledge, there is no evidence which would support the application and identification of the name Stags Leap District with the area south of the Committee's proposed boundary. Two vintners in Stags Leap District own property south of the viticultural area. They have never referred to this area as Stags Leap District in internal documents, promotional literature, labels or otherwise. Instead, they refer to this area as Oak Knoll. To the best of the Committee's knowledge, no Stags Leap District-designated wine has been blended with grapes from the southern extension. (See generally the statements of Messrs. Andrus and Shafer attached hereto as Exhibits J and K, respectively.)

DISTINGUISHING VITICULTURAL FEATURES

A. In Support of the Committee's Petition

1. Geographic Uniqueness: Stags Leap District is a separate and distinct geographic system, according to the Committee's expert geographer, Assistant Professor Deborah Elliott-Fisk of the University of California at Davis. Professor Elliott-Fisk has an academic background in physical geography, biogeography, climate change, geomorphology, and

soil-vegetation relationships (Exhibit L). She conducted field work in Stags Leap District and surrounding areas. Her final report is attached as Exhibit M.

In developing her map of the geographic systems of Stags Leap District and surrounding areas, Professor Elliott-Fisk relied on data concerning soils, subsoils (geomorphology), vegetation, climate, geology and physical geography. Her principal conclusion is that the soil structure, texture and composition of the proposed viticultural area is different than in surrounding areas. The vineyard area within Stags Leap District, which once served as the channel of the Napa River, contains alluvial sub-soils derived from volcanic and sedimentary bedrock and from Napa River deposits. These soils have never been covered by fan deposits and are fine, well-weathered and well-drained.

By contrast, the sub-soils of the areas north and south of Stags Leap District are comprised of more recent deposits of the well-defined Rector Canyon Fan and Soda Creek Fan, respectively. The Rector Canyon Fan begins at the northern border of Stags Leap District, abutting the northern edge of the hills at the northwest corner of the proposed boundary. The Soda Creek Fan begins at the southern boundary of Stags Leap District. These sub-soils have a distinctly different profile than those of Stags Leap District, with coarser particles, a silty clay or sandy clay texture and a different mineralogy. These divergent soil profiles and compositions are particularly relevant viticulturally because grape vines typically root in the sub-soil, not just the topsoil.

Even from the perspective of topsoil, the soil survey of the U.S. Department of Agriculture Soil Conservation Service does not support the Yountville Cross Road as a viticulturally distinct northern boundary. The bale clay loam topsoils (Series 104 and 105), which predominate in Stags Leap District, also are found in the northern extension as well as north of the Yountville Cross Road and beyond, comprising a total of 14,000 acres of Napa Valley. Topsoils alone cannot define a northern boundary of Staps Leap District.

2. Western Boundary: Regarding the Committee's proposed western boundary, the Napa River is a natural dividing line between soils primarily of volcanic parentage east of the river and those primarily of sedimentary parentage west of the river. Viticultural consultant Richard Nagaoka pointed out this distinction in the Committee's original petition. [38] Because of this fact and others enumerated immediately below, the Committee amended its proposed western boundary to the Napa River. First, ATF itself requested that the Committee consider the Napa River and the Yountville Cross Road as possible alternative boundaries. [39] This prompted a more detailed inquiry into these specific areas. Second, the Mondavi Winery and Silverado Vineyards decided voluntarily to exclude their vineyards west of the main channel of

the Napa River, where the soils are predominately sedimentary in origin. Third, the Committee discovered new evidence of name identification which tied the western area to Stags Leap District. In conclusion, the Napa River is the only boundary which satisfies the regulatory requirements of name identification and of geographic features which distinguish the proposed viticultural area from the immediately surrounding vineyard areas.

3. Climate: Professor Elliott-Fisk also investigated the climate of Stags Leap District, as revealed by the area's vegetation. She concluded that the types of plants (primarily trees) and density of forests and woodlands on the ridges and hills of Stags Leap District indicate the entrapment of moist, marine air within the viticultural area. This parallels the findings of meteorologists Irving Krick and Donald Schukraft, who noted the existence of a topographic funnel in Stags Leap District. This funnel is created and defined by the eastern mountains, the northern ring of hills, the western ridge from Silverado to Mondavi and the broad, open part of the funnel along the Napa River beginning at the southernmost point of the western ridge and ending where the eastern mountains protrude toward the Napa River. Both Messrs. Krick and Schukraft have referred to this as Stags Leap District's distinct "orography" (that is, physical geography dealing with hills and mountains).

The Committee has never regarded this funnel as impenetrable. A portion of the prevailing winds continues through the gaps between the northern hills, although with modified force. This penetration, however, is not simply a function of the height of the hills, as Dr. Anderson and his son John suggested in their diagram of relative hill sizes. The northern, geographic closure of Stags Leap district is comprised of a series of rock outcroppings, including a spur ridge of the eastern mountains and a number of adjacent hills. These hills do not lie along a straight line, side by side, but have overlapping bases of varying sizes and configurations which serve to direct the marine breezes out of the viticultural area to the broader valley to the west. It should be noted that the Andersons' diagram of relative hill sizes does not provide a true profile of those hills and hence is misleading because it does not follow a straight line (i.e., a transect).

Mr. Schukraft concluded that the temperature and humidity of the areas north and south of this ring of hills differ. [40] Without extensive weather data, these differen-
[New] ces cannot be quantified. Nevertheless, it is a viticultural fact that "the slightest change in wind, the varying exposures to the sun, and the slightest moisture trapped in a climate" can change the microclimate of a grape vine. [41] The Committee also has presented photographic evidence of the fog which, during the growing season, often hangs just south of the northern hills. [42] During the winter months, this

pattern is reversed. Winter fog, known as tule or radiational fog, forms in the valley areas and is dispersed by wind movement. The breezes from San Pablo Bay limit the fog intrusion in Stags Leap District but not in the northern extension. (See recent photographic evidence in Exhibit N of fog hanging north of Stags Leap District in winter.) Therefore, in all seasons the northern hills modify the forces of climate in a viticulturally significant way in which the Yountville Cross Road cannot.

The topographic funnel does not extend to the Napa River. Mr. Schukraft acknowledged this fact but also referred to the weather stations which Silverado Vineyards installed and the resulting data which show that the western-most vineyards of the viticultural area are similar climatically to other portions of Stags Leap District. [43] Additionally, these western vineyards are on west-facing slopes similar to those of much of the rest of the viticultural area and receive similar amounts of solar radiation.

4. Grape and Wine Character. There is a consistent fruit and wine character within Stags Leap District which is not found in either the northern or southern extension areas. Consumers, industry and trade members, and the wine press have commented on these organoleptic distinctions, particularly with respect to cabernet sauvignon but also for chardonnay. (See, for example, Mr. Andrus' comparison of his own chardonnay and those of Messrs. Freethy, Taylor and Egan in Stags Leap District, Dr. Anderson in the northern extension, and Mr. Hermann in the southern extension, at Hearing Transcript, Vol. I, pp. 163-6.)

The statements of Messrs. Jim Allen (Sequoia Grove Vineyards) and Randy Mason (Lake Spring Winery), which were submitted to ATF during the fact-finding visit in July, 1987 but which apparently were not put into the comment file, are re-introduced herein as Exhibit O. These statements attest to the differences in wine character from grapes grown in Stags Leap District and in the northern extension, as perceived by winemakers who make wines from both areas. (See also November 23, 1987 letter of W.C. Cadman, Tulocay Winery, comment no. 32.) Consumers' comments reveal that they too recognize these differences (see, for example, November 30, 1987 letter of Dr. Bill Bell, comment no. 46).

B. Concerning the Proposed Northern Extension

1. Comparing Western and Northern Vineyards. The Committee has taken note of the questions raised by the ATF hearing panel comparing the western vineyards (Silverado, Mondavi) and the proposed northern extension. The chart at pp. 14-15 represents a direct comparison of the two areas and reveals why the Committee rejected Dr. Anderson's proposed extension. The points summarized in the chart are elaborated in this section.

COMPARISON OF EVIDENCE CONCERNING THE COMMITTEE'S WESTERN VINEYARDS (SILVERADO, MONDAVI) AND DR. ANDERSON'S PROPOSED NORTHERN EXTENSION

ATF Criteria:	Western Vineyards	Northern Extension
1. Name Identification	A. Silverado's western grapes are considered by purchasers to be from Stags Leap District.	A. All the evidence of grape marketing and industry recognition place this area in Yountville, not Stags Leap District. No real estate agencies, listings or agreements have ever associated this area with Stags Leap District.
	B. Promotional literature (e.g., wine auction material) recognizes Stags Leap District-Yountville division. Both Silverado and Mondavi have excluded their vineyards west of the Napa River which they associate with Yountville.	B. Written evidence of viticultural self-perception supports Yountville, not Stags Leap District.
	C. Numerous press references include Silverado and Mondavi as part of Stags Leap District.	C. Lack of internal support: Jack Abruzzini and Fred Schweizer/Edgar Ilsley do not support Dr. Anderson.
	D. There is widespread consumer awareness of Silverado and Mondavi as part of Stags Leap District and of the Napa River as a relevant and appropriate western boundary.	D. No press articles explicitly refer to the northern extension as part of Stags Leap District.
		E. Unanimous consumer view that the area immediately south of Yountville Cross Road is not part of Stags Leap District.
2. Boundary Support	A. Late 1800s state-sponsored division of Napa and Yountville viticultural districts was at the Napa River, not the western ridge.	A. Late 1800s division between Napa and Yountville viticultural districts was at the northern hills, not the Yountville Cross Road.

	B. The Napa River, which is both a natural feature and part of the Yajome land grant boundary, divides viticulturally distinct areas to the east and west.	B. The Yajome land grant is an historic fact: the Yountville Cross Road is part of that land grant boundary but <u>cannot</u> distinguish the areas to the north and south geographically or viticulturally.
3. Viticultural Distinctiveness		
Topsoil:	A. Primarily volcanic parentage, with primarily sedimentary soils west of the Napa River.	A. Primarily volcanic parentage, with the <u>same</u> soils north and south of the Yountville Cross Road.
Subsoil:	A. Napa River deposits from old and modern times have never been covered by fan deposits. Sub-soils are relatively fine, light, well-weathered and well-drained.	A. Rector Canyon Fan has contributed to rockier, coarser, darker soils of northern extension, which Alex Bianco characterizes as "gumbo".
Climate:	A. Not part of topographic funnel.	A. Not part of topographic funnel.
	B. Weather data collected by Silverado shows temperatures to be similar to areas east of Silverado Trail.	B. <u>No</u> weather data.
	C. Fog penetration is a function of distance from San Pablo Bay (north-south) and elevation. Fog during the growing season may cover the western vineyards while the northern extension is clear.	C. Fog patterns are not influenced in any season by the Yountville Cross Road.
Vegetation:	A. Extensive forest and woodlands are indicative of inception of moist, marine air.	A. Small, patchy woodlands are a function of northern exposure, not inception of moist marine air.
Slope:	A. Western-facing slopes receive maximum sun exposure.	A. Northern-facing slopes on north side of northern hills receive minimal sun exposure.

2. Wind Similarity: In their written comments as well as at the public hearing, Dr. Anderson and his neighbors stressed the similarities between the northern extension and Stags Leap District. Dr. Anderson and Mr. Missimer, for example, observed that the wind in the extension area is strong; Dr. Richard Chambers posited that the extension area receives the "spillover effect" of the winds which flow through Stags Leap District. [44] These individuals, however, offered no concrete data or expert testimony to confirm their observations. Dr. Chambers' reference to bent cane growth in his vineyard does not distinguish the enlarged viticultural area from surrounding areas because one finds examples of such cane growth in the surrounding vineyard areas west of the Napa River. (See statement of Mr. John Stuart of Silverado Vineyards, attached as Exhibit P.)

3. Climatic Distinctiveness: Dr. Anderson and his neighbors have failed to differentiate the extension area climatically from surrounding vineyard areas north of the Yountville Cross Road, as required by your regulations. They have presented no weather data whatsoever, a significant and telling omission. Mr. Benito Barboza did offer testimony concerning the climate regions of the University of California at Davis which were utilized for grape classification and pricing by the Napa Valley Cooperative Winery. [45] Mr. Barboza, however, is mistaken in his assertion that the University of California established the Yountville Cross Road as a boundary between climate regions I and II. The most detailed map of the climate region breakdown, prepared by the founders of the climate region system, Professors Winkler, Amerine, et al. of the University of California at Davis, is presented herein as Exhibit Q. The generality of this map speaks for itself. Moreover, the Cooperative Winery's efforts to implement a grape classification/payment system based on these climate regions failed and were abandoned after one year of operation. (Exhibit R is a copy of Virgil Galleron's letter to ATF dated December 1, 1987, which was submitted to ATF at the public hearing. It is reproduced and reintroduced herein because the Committee's Freedom of Information Act search did not uncover a copy in the comment or exhibit file.)

4. Soils Distinctiveness: Dr. Anderson and Mr. Dulinsky do not dispute the fact that there are bale loam soils north and south of the Yountville Cross Road. They claim, however, that the soils north of the Cross Road are more marshy and the surface five feet lower than those south of the Cross Road. [46] The Committee asked Mr. Dave Bader, a licensed surveyor, to measure the height difference. According to Mr. Bader, the land immediately north of the Yountville Cross Road is one foot lower than that immediately south of the Cross Road, representing a gradual descent from the northern hills (Exhibit S).

With respect to marshes, it first should be stated that today there are vineyards everywhere north of the Cross Road, so any marshland that might have existed obviously does not preclude vineyard plantings (Exhibit F). Second, Alex Bianco, who has farmed several vineyard areas north and south of the Yountville Cross Road, maintains in a statement attached hereto as Exhibit T that the soils on both sides of the Cross Road are identical ("heavy-textured, sticky and gummy") and are distinctly different from the soils south of the hills which serve as the Committee's northern boundary. Mr. Bader makes a similar point in his statement (Exhibit S).

5. Harvest Dates: Dr. Anderson and his neighbors further attempted to distinguish the area north of Yountville Cross Road by comparing grape harvest dates. These comparisons, however, were selective and did not consider or control for clones or cultural practices. These variables led ATF in past proceedings to conclude that "[h]arvest dates and differences in sugar and acid levels in grapes measured at the same time are not related to geographical features." [47]

C. Concerning the Proposed Southern Extension

1. No Evidentiary Support: The proponents of southward expansion have not introduced any data regarding the viticultural distinctiveness of this area. The Committee knows from first-hand experience that the area south of its proposed boundary is different than Stags Leap District viticulturally and produces grapes of a different character. (See Statements of Messrs. Andrus and Shafer, attached hereto as Exhibits J and K, respectively.) This area is part of the Soda Canyon Fan, with coarse, bouldery soils classified primarily as Haire loams. In terms of subsoils, this area is more similar to the north of Stags Leap District than to the District itself.

2. Confluence of Drainage Systems: There is a confluence of three significant drainage systems (Napa River, Dry Creek and Hopper Creek) at the Committee's proposed southern boundary. This confluence, coupled with the large rhyolitic outcrop (peak 453 feet) across the Silverado Trail to the east, have limited the northern reach of the Soda Canyon Fan to the Committee's southern boundary (Exhibit U). In her Final Report (Exhibit M), Professor Elliott-Fisk shows the exact location of the Soda Canyon Fan.

CONCLUSION

The Committee urges ATF to apply its regulatory requirements equally to all parties concerned -- the Committee, Dr. Anderson, Mr. Altamura, Mr. Weir and others. Each party must prove by the preponderance of the evidence that its proposal satisfies all of the criteria set forth in 27 CFR §4.25a(e)(2). To summarize, the name must apply to the

entire area, with evidence of local or national name recognition. The proposed boundaries must have historical or modern support. And the area must be distinguished viticulturally from surrounding areas.

The public comments on Stags Leap District reveal that consumers have definite views about this renowned viticultural area. Not one disinterested consumer supports an extension of the area proposed by the Committee. A small minority believe it should be restricted to the east of the Silverado Trail, reflecting the historical name genesis from Stag's Leap Manor and Stag's Leap Winery. The overwhelming majority agree with the Committee's boundaries, based on natural geographical features which distinguish surrounding vineyard areas.

Stags Leap District has built its worldwide reputation on the character of its grapes and wines. This character is firmly rooted in the area's special geography and its distinctiveness compared to surrounding areas. The Committee urges ATF to respect the tradition and uniqueness of this area. To expand the viticultural area at the request of any nearby owner who claims to be similar to Stags Leap District would be a disservice to our entire industry and to both present and future consumers of Stags Leap District wines.

Respectfully submitted,

STAGS LEAP DISTRICT
APPELLATION COMMITTEE*

By: John Shafer
JOHN R. SHAFER, Chairman

* Petitioning members include: Martin Blumberg, Chimney Rock Vineyards & Winery, Clos du Val Wine Co., Robert Egan, F.S. Foote, Elmer Freethy, Robert Hartwell, June Isley, Robert Mondavi Winery, Joseph Phelps Winery, Pine Ridge Winery, Monte Reedy, Angelo Regusci, Norman Robinson, Shafer Vineyards, Silverado Vineyards, Ron Spicer, Stag's Leap Wine Cellars, Steltzner Vineyards, Jerry Taylor, Susan Vineyard and Diane Wilsey.

NOTES

[1] ATF Notice No. 620, 26 Fed. Reg. 4350-2.

[2] ATF Notice No. 644, 52 Fed. Reg. 36431-2.

[3] Committee Petition of August 22, 1985, pp. 2-7.

[4] See labels approved for Domeniconi Winery, BW 68, and letter to ATF from Gary Andrus dated December 17, 1987; see also Hearing Transcript, Vol. I, pp. 153-4.

[5] Committee Petition, p. 2.

[6] Committee Petition, Exhibit 10.

[7] The wineries and their Stags Leap District-designated wines include the following: 1982 Bay Cellars Cabernet Sauvignon, 1978 Berkeley Wine Cellars Cabernet Sauvignon, 1978 Cakebread Cabernet Sauvignon Lot JTL-1, 1981 Clos du Val Cabernet Sauvignon, 1980-81 Markham Merlot, 1979 and 1982 Pine Ridge Chardonnay, 1980 Pine Ridge Merlot, 1981 Pine Ridge Cabernet Sauvignon, 1981 Rombauer Cabernet Sauvignon, 1978-80 Shafer Cabernet Sauvignon, 1979 Shafer Zinfandel, 1981 St. Andrews Cabernet Sauvignon, and 1977-79 Steltzner Cabernet Sauvignon. (Committee Petition, Exhibits 10 and 11; Hearing Transcript, Vol. I, p. 175.)

[8] Hearing Transcript, Vol. I, pp. 175-6; see also Committee's letter to Mr. Jim Ficaretta dated January 21, 1986, pp. 4-5.

[9] Committee Petition, Exhibit 10.

[10] Hearing Transcript, Vol. I, p. 174, and Hearing Exhibits 14 and 15.

[11] Hearing Transcript, Vol. I, pp. 161-2, and Hearing Exhibits 11 and 12.

[12] The articles include, among others, Patrick Fegan "Napa Winery Profiles: The Quest for Site," Friends of Wine, April - May 1984; Richard Winter, "Stags Leap Saga, Part II," Trumpetvine Wines, April 1985; Richard Paul Hinkle, "How Many Stags in a Stag's Leap?" Vintage Magazine, September 1981; James Laube, "Locking Horns Over Stag's Leap," Wine Spectator, January 1 - 31, 1987; Harvey Steiman, "Napa Notes," San Francisco Examiner, March 9, 1983; N.A. Ponomareff, "1981 Cabernet Sauvignon: New Releases," California Grapevine, April-May, 1984, p. 22; and R. DeLeeuw and G. Gleason, The 1986 Great American Vineyards Datebook: A Year-Long Tour of America's Wineries (New York, 1985).

[13] See testimony of Daniel Radman, expert surveyor, in Exhibit 6 to Committee's letter to ATF dated May 28, 1987, and Hearing Exhibit 21.

[14] Exhibit 8 to Committee's letter to ATF dated May 28, 1987.

[15] Anderson Comments dated April 10, 1987, p. 31.

[16] Hearing Transcript, Vol. I, pp. 64-7, 73; see Exhibit E of this brief for the location of the vineyards and winery of Emil Bressard.

[17] Anderson Comments, Exhibit P-1.

[18] Hearing Transcript, Vol. I, pp. 65, 73.

[19] Committee Petition, Exhibit 13.

[20] Anderson Comments, Exhibit E.

[21] Committee Petition, Exhibit B.

[22] Hearing Transcript, Vol. III, pp. 41-2, 44-5.

[23] Mr. Williams contacted Chateau Montelena, Rutherford Hill, Chateau Boswell, Forman, Cuvaison and Chappellet.

[24] Hearing Transcript, Vol. II, p. 176.

[25] Hearing Exhibit 10; see also Hearing Transcript, Vol. I, p. 156.

[26] Hearing Exhibit 7.

[27] Hearing Exhibit 10; see also Hearing Transcript, Vol. I, pp. 155-6.

[28] Hearing Exhibit 7.

[29] Hearing Exhibit 10; see also Hearing Transcript, Vol. I, p. 156.

[30] Exhibit 1 to Committee's letter to ATF dated May 28, 1987.

[31] Abruzzini comments to ATF dated March 31, 1987 (comment no. 2) and November 25, 1987 (comment no. 29).

[32] Compare Mr. Wood's statement in Committee Petition, Declaration B, par. 7, and in Anderson Comments, Exhibit J.

[33] Hearing Transcript, Vol. I, pp. 177-8 (see Mr. Phelps' prepared statement for greater accuracy, submitted to ATF on January 12, 1988); see also Hearing Transcript, Vol. III, pp. 155-6.

[34] Consumer and industry recognition of "Stags Leap District" wines are shown by numerous press articles, including "Stags Leap Saga, Part II," Trumpetvine Wines, April 1985, at p. 3 ("Featured Wines for April" - note that "Stag's Leap Ranch" is Carl Doumani's vineyard), countless Stags Leap District cabernet tasting reviews, and industry and consumer comments submitted as part of the public record in this proceeding.

[35] Hearing Transcript, Vol. I, p. 177.

[36] Hearing Transcript, Vol. I, p. 19.

[37] See Mr. Egan's statement at Hearing Transcript, Vol. I, p. 182.

[38] Committee Petition, pp. 45-52.

[39] See Committee's letter response to ATF's questions, dated January 21, 1986.

[40] Hearing Transcript, Vol. I, pp. 115-8, 121-2.

[41] Mark Kliewer, University of California at Davis Extension, 1984.

[42] Hearing Exhibit 18.

[43] Committee's Second Amendment, dated June 26, 1986, Appendix 1.

[44] Hearing Transcript, Vol. III, pp. 27-8.

[45] Anderson Comments, Exhibit L-1, L-2.

[46] Hearing Transcript, Vol. II, pp. 80-1.

[47] T.D.-ATF 188 (Temecula), 49 Fed. Reg. 42563, 42565.

EXHIBIT A
(p. 1 of 2)

Committee's Original (black) and Amended (blue) Boundaries; Dr. Anderson's Proposed Extension (red)

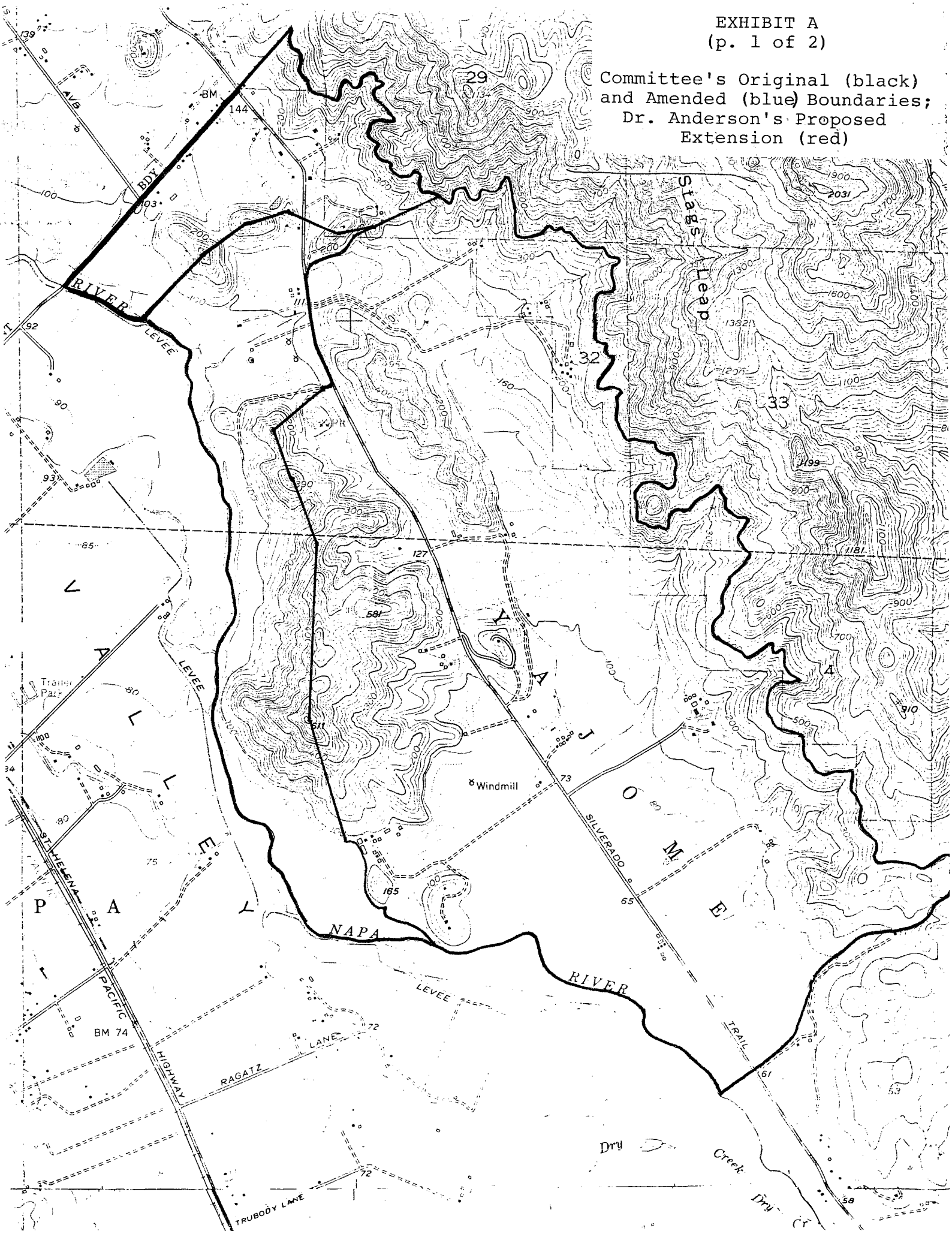


EXHIBIT A
(p. 2 of 2)

Focus on the Northern Boundary as proposed by the Committee (black) and Dr. Anderson (red) with their respective alternatives in green

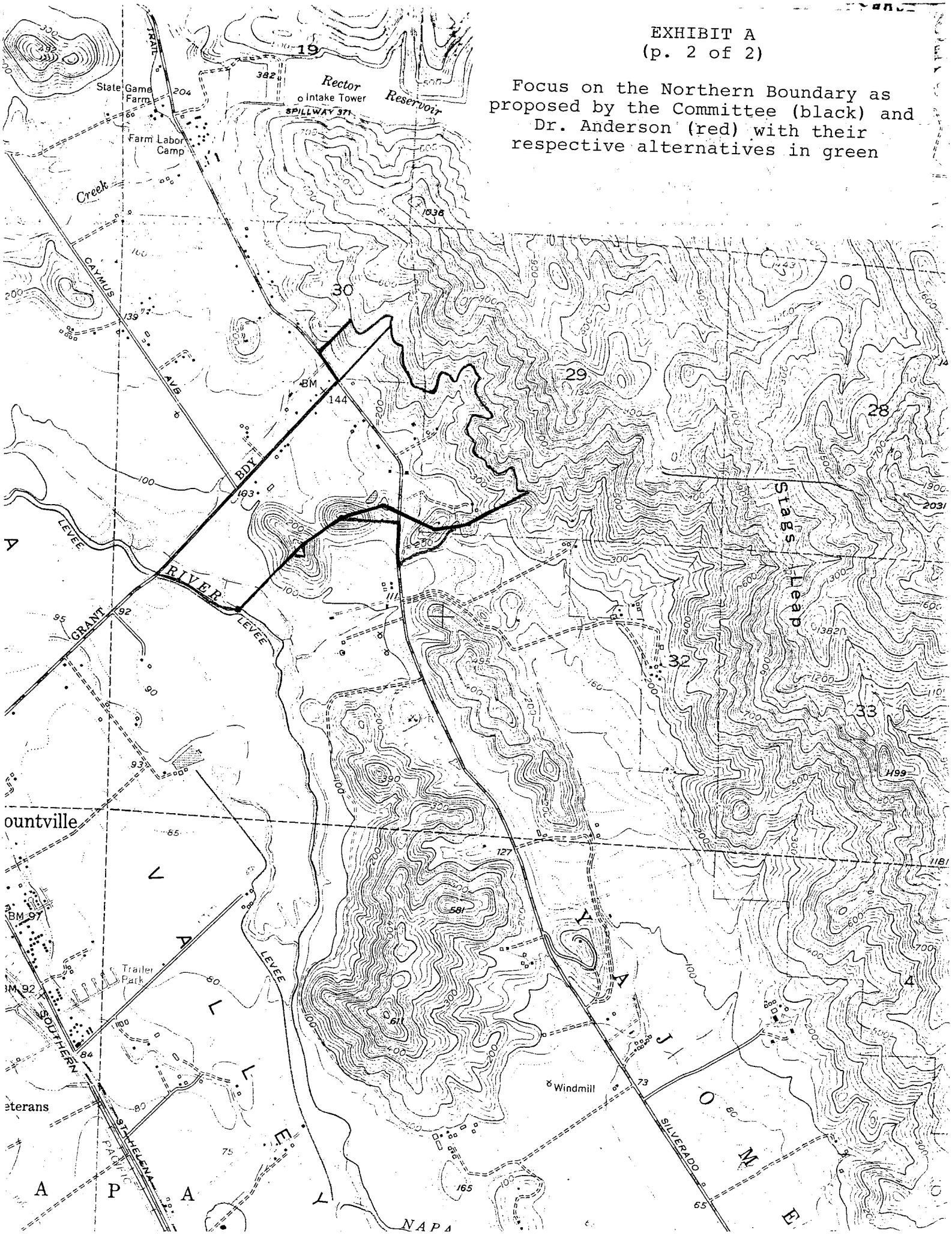


EXHIBIT B

RICHARD P MENDELSON

DICKENSON, PEATMAN & FOGARTY
A PROFESSIONAL LAW CORPORATION
809 COOMBS STREET
NAPA, CALIFORNIA 94559-2977
TELEPHONE 707 252-7122

TELECOPIER
707 255-6876

December 18, 1987

VIA AIRBORNE EXPRESS

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue, N.W., Rm. 6237
Washington, D.C. 20226

Re: Stags Leap District

Dear Rich:

In an effort to respond to the proposals of Mr. George Altamura and Hagafen Cellars to expand the viticultural area to the south, the Stags Leap District Appellation Committee needs to review the evidence submitted by these parties in support of their respective boundary proposals. We would appreciate your notifying us by telephone upon your receipt of any such evidence and also your providing us with a copy of these documents, whenever received, at our cost in accordance with the provisions of the Freedom of Information Act.

Thank you in advance for your cooperation.

Sincerely,

Richard Mendelson

RM:lm
Enclosure:

Silverado Vineyards

When Lillian Disney and Ron and Diane Disney Miller bought two grape ranches in the southern Napa Valley in the mid-1970s, they didn't know there was a winery in their future. But after just a few vintages of selling top-quality grapes to some of the best wine producers in the valley (who were winning awards with the results), the temptation to get into the winery business proved too great to resist.

Silverado Vineyards now spans the valley from Stag's Leap on the east to the town of Yountville on the west, 180 acres of alluvial loams, gentle sandy slopes, and steep gravelly terraces. Established in 1981, the early-California stone winery stands on a knoll above the Silverado Trail. The name Silverado is an old one in the Napa Valley, evoking the days of silver and quicksilver mining and made famous by Robert Louis Stevenson. It symbolizes the Disney family's long-term commitment to the future of Napa wine.

Production is limited to Cabernet Sauvignon, Chardonnay, and Sauvignon Blanc, three varieties which thrive in Silverado's unique combination of soils and microclimates. "We are striving for elegant, harmonious wines which reflect the character of the variety and the inherent quality of the fruit," according to winemaker John Stuart. Response to Silverado's first vintage was enthusiastic—the wines were sold out within weeks of release. The first of the 1982 bottlings were completely spoken for months before release. And now the 1983s—still months away from bottling—are already creating a stir among those who have tasted them.

Lot No.	Wine Description	Vintage	
	Cabernet Sauvignon	1981	
	Our 1981 Cabernet is the first produced by the winery. The regular bottling, as yet unreleased at this writing, is already receiving considerable attention. Only two dozen jeroboams were bottled in rare antique green glass. Specially labelled for the Napa Valley Wine Auction, this offering is the first of its kind to leave the winery.		
254.	1 jeroboam (boxed)		per lot $150
	Chardonnay	1981	
	The same wine as our limited-production first release, which sold out immediately, this Chardonnay—in special French magnums—is commercially available. In these larger bottles it should age well into the next decade.		
255.	1 case/6 magnums		per lot $175
	Sauvignon Blanc	1981	
	From the winery's first vintage and the vineyard's first crop, this unique wine will never be duplicated. Rich and round, spicy and smooth, it is no longer available commercially. This special offering for the Napa Valley Wine Auction is one of only three imperials produced and is the first to leave the winery.		
256.	1 imperial (boxed)		per lot $100
	Cabernet Sauvignon Chardonnay Sauvignon Blanc	1981 1981 1981	
	Two magnums of each wine from Silverado Vineyards' debut vintage, specially packaged for the Napa Valley Wine Auction.		
257.	1 mixed case/6 magnums, 2 each varietal		per lot $150

Conn Creek

BONDED WINERY 4769

October 25, 1985

Silverado Vineyards
6121 Silverado Trail
Napa, Ca. 94558
Attn: Mr. Jack Stuart

Dear Jack;

I was amazed to learn from you yesterday during our telephone conversation that your vineyard is not included in the proposed "Stags Leap" Appellation.

Conn Creek purchased Cabernet [illegible] rom your vine eyard of the St s in the area finest Stag's Le our vineyard

We lik ab- ernet, hal utation of the pro our vineyard p Leap grapes.

To lea

If I ca know.

called Conn Creek way 1988 - Apparently, they did not refer to Silverado grapes as being in Stags Leap or labels or advertising - (they never got back to me with examples)

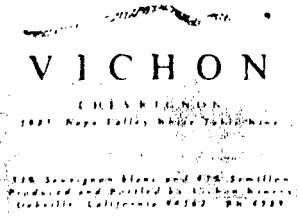
Cordially,

W.D. Collins, Jr.
Managing General Partner

WDC:lc

RECEIVED
OCT 29 1985
SILVERADO VINEYARDS

EXHIBIT D



VICHON WINERY. *Located on the Oakville Grade in the foothills of the Mayacamas Mountains Vichon Winery offers panoramic views of the Napa Valley. From Vichon's first harvest in 1980, the philosophy of the winery has been to make distinctive wines of natural balance which complement food.* ❧ *Vichon specializes in three wines: Cabernet Sauvignon, Chardonnay and a proprietary blend of Sauvignon Blanc and Semillon called Chevignon. The wines are stylistic in the complete sense of the word; their vinification entails specific techniques designed to achieve complexity, depth, and roundness in harmony with the fruit.* ❧ *In 1985, Vichon was purchased by the Robert Mondavi family with the intention of continuing Vichon's integrity, quality and unique style of winemaking.* ❧ *Vichon's winemaker is Michael Weis.*

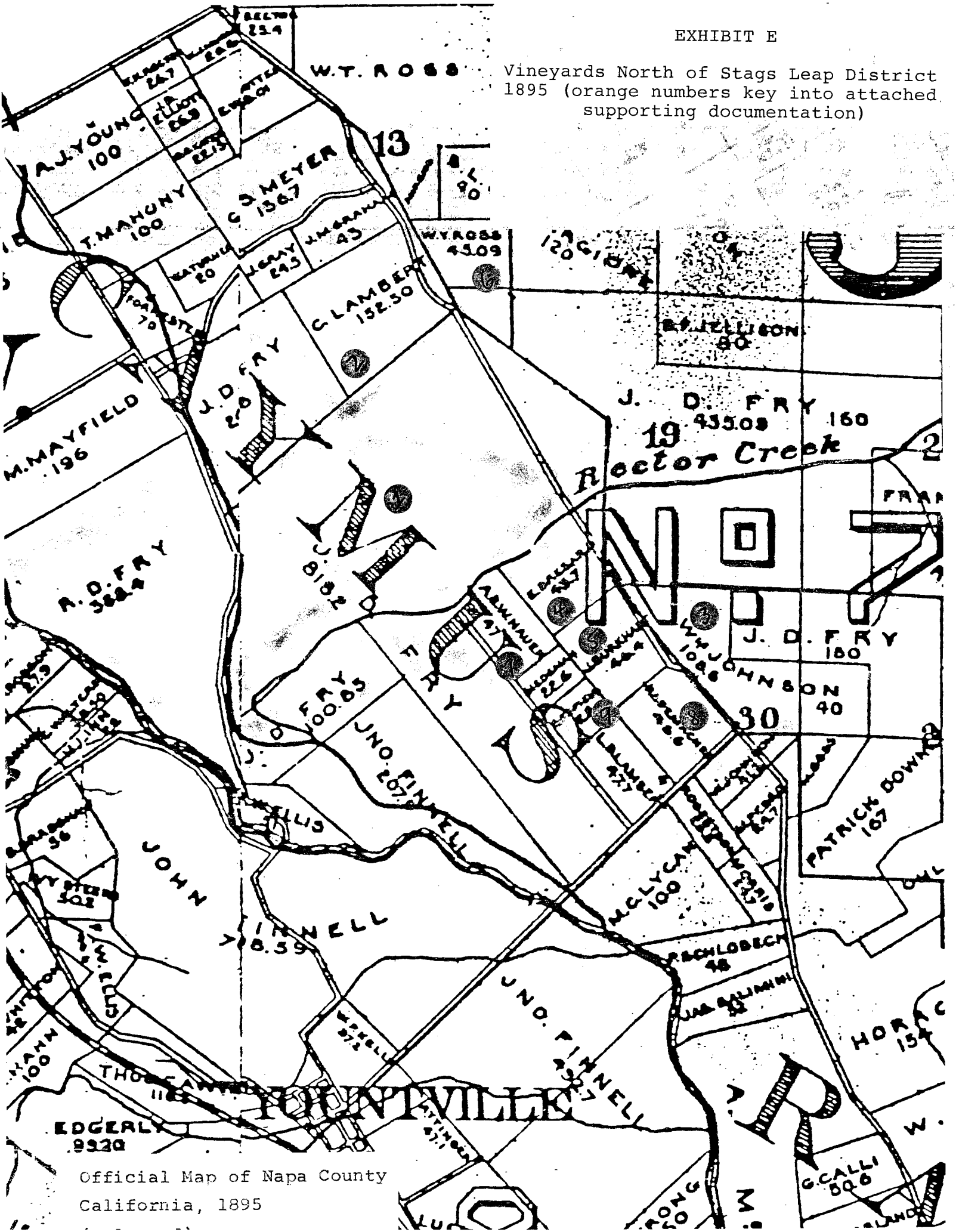
LOT NO.	WINE DESCRIPTION	VINTAGE
	CABERNET SAUVIGNON—Stag's Leap Cuvee	1985
	A selection of sizes that will carry well into the next century. This special cuvée was created for the 1986 Wine Auction and is a blend from 3 of the Stags Leap area's great vineyards Fay, Ilsley, and Foote. It is a wine of richness and depth that captures the classic characteristics of this unique Cabernet growing area.	
98.	1-6.0L, 1-3.0L, 1-1.5L, 1-750ml (1 bottle each)	per case $270
	BOTRYTIS SEMILLON	1985
	This unique offering is the first naturally infected Botrytis Semillon ever produced in California. Light rains in early September resulted in this Botrytis infection. The grapes averaged 33° Brix and were harvested by select cluster picking. The Vichon enology staff continued the hand selection process in the gondola and at the hopper. Vichon winemaker, Michael Weis, called the fruit "the cleanest Botrytis infection I've ever seen anywere." The wine is soft and lush with a classic ripe apricot nose. Two years of barrel age should result in a California Semillon in the classic Sauterne style.	
99.	12 bottles, 375ml	per lot $420

PRIVATE DONOR

LOT NO.	WINE DESCRIPTION	VINTAGE
	PINOT NOIR Charles Krug Winery	1965
	This wine was made by Robert Mondavi while still at Charles Krug.	
100.	1 bottle	per lot $75
	CABERNET SAUVIGNON—Vintage Selection Charles Krug Winery	1964
	These two bottles were made by Robert Mondavi while still at Charles Krug and Signed by his father, Caesar Mondavi.	
101.	2 bottles	per lot $125
	DONATED BY MRS. WILLIAM H. HART, ST. HELENA, CALIFORNIA.	

EXHIBIT E

Vineyards North of Stags Leap District 1895 (orange numbers key into attached supporting documentation)



Yount Ranch/ Fry ranch

See references on 1895 and 1915 Map of Napa County

1880s vineyard originally 250 acres in size.
1895 only 55 acres in vines

WINERY

Yount ranch/Fry ranch

On the following item from the Napa Register of August 9, 1895 i is unclear as to the location of the buildings/or winery. The item begins: "A short distance above Yountville on the foothills road..." clearly means Silverado Trail but then the writer adds: "It was originally the old Yount homestead.." This was further to the west, near the mill on the Napa River, near the adobe nor far from Yount hill.

Nevertheless the original 250 acres of vines stretched well into the valley floor, probably to the Napa River as a vineyard is indicated on the 1870 parcel map of the Yount estate.

Napa Register August 9, 1895 Tour of Farms

"A short distance above Yountville on the foothills road is the large estate owned by R. D. Frye. It was originally the old Yount homestead and comprises 3,000 acres of land. Fifty-five acres of the place are in resistant vineayrd, 400 acres were in hay this year 150 acres were in grain and 50 in corn. The rest of the farm is pasture and woodland. There were formerly about 250 acres in vineyard. There is a wine cellar of 150,000 gallons capacity on the right of the road, (going up) rented to the California Wine Association. The stock on this places includes 400 sheep, 200 head of cattle, 100 hogs and forty horses."

1893 Phylloxera Study of Napa County

There is no listing for R.D. Fyre but there is for J.D. Fry. (Robert Fry was the son of J.D. according to John Wichels)

P. 27 "Yountville"
"Col. J.D. Frye, Yountville. Total, 70 acres; in bearing, 30 acres; will replant several acres; planted in Riparia, 20 acres; not yet grafted; soil gravelly; vineyard upland; exposure east; all

---

Col. J. D Frye cont.

European varieties succumb the same; crop, 40 tons; cooperage, 110,000 gallons, of which 50,000 is oak, and 60,000 is redwood.
Riparia has proved the best resistant. It is difficult to ascertai definitely the acreage planted, for resistants are planted in spots. The original vineyard is going fast. The vines on the light soil go first, then those on damp soil. In a vineyard not far from this one the manager thinks phylloxera attacks vines quicker that are over underground watercourses."

(Wichels claims the winery is not the old original Yount winery but the Burrage and Tucker winery up Rector Canyon.)

1891 Directory of Grape Growers and Wine Makers of California

Page 97 Yountville
"Frye, Col. J.D 120 acres in grapes; 282 tons harvested 1890 winemaker on premises; Zinfandel, Burger, Cabernet Mataro, Sauvignon Vert.

C. Lambert, (Silverado) Foothill road east of Yountville.

See 1895 and 1915 Property Maps of Napa County.

1893/92 vineyard of 20 acres
1895 no vineyard remained.

Yountville Cross Road
& North

Napa Register August 9, 1895 Tour of Farms

"Above on the left, Mrs. C. Lambert owns 70 acres of land devoted to grain and occupied by M. Stice."

(no reference to vineyard)

1893 Phylloxera Survey of Napa County (1892)

p 27 "Yountville"
"C. Lambert, Yountville-Total 20 acres; in bearing, 10 acres; infested by phylloxera, 15 acres; of which 15 acres are good for only one crop more; soil gravelly; vineyard upland; exposure west; all European varieties succumb alike; crop 80 tons."
This vineyard is going fast."

(THE VINEYARD HAD DIED OR BEEN PULLED OUT BY 1895).

1891 Directory of Grape Growers and Wine Makers

No reference to Lambert.

William Johnson (Siverado) foothills road and Yountville Cross Road.
Farm lies east of intersection, extending north and south thereof

See Map of 1895

1895 only 6 acres in vines

1893 had 10 acres in vines, to be removed.

1891 there were 15 acres in vines.

Napa Register, August 2, 1895 Tour of Farms

"W.L. Johnson in the same neighborhod, 190 acres. Fourteen acres of it is hay land, 5 in corn, 6 in vines, 3 in watermelons. A.J. Robertson rents the melon patch and 2½ acres of corn, also a house."

1893 Phylloxera Survey of Napa County (1892)

P. 27 "Yountville"

"W.L. Johnson, Yountville. Total, 10 acres; in bearing 8 acres; infested by phylloxera, 5 acres of which 2 acres are good for only one crop more; soil gravelly loam; vineyard upland; exposure west ; all European varieties succumb alike; not much care has been given the attacked vineyards; crop, 18 tons."
"This vineyard will be dug up in a year or so."

1891 Directory of Grape Growers and Wine Makers

P 92 Yountville

"Johnson, William; 15 acres in grapes; harvest in 1890 53 tons; no winemaker/winery; Zinfandel, Malvoisie, Mission"

Yountville Cross Roa
& North

Emil Bressart/Brassard. (Silverado) foothills north of intersection with Yountville Cross Roads.

Map of 1895 notes 43.7 acres

1891-had 33 acres in grapes. WINERY

Yountville Cross Roa
& North

Napa Register, August, 1895 Tour of Farms

No reference to Emil Bressart

1893 Phylloxera Survey of Napa County (1892)

p 26 "Yountville"

"E. Breseind, Yountville-Total, 30 acres; in bearing, 25 acres; will replant 5 acres; infested by phylloxera, 5 acres, of which 2 acres are good for only one crop more; soil loam; vineyard low lying; exposure northwest; all European varieties succumb alike; crop 45 tons; copperage 15,000 gallons all ofwhich is oak."

1891 Directory of Grape Growers and Wine Makers

P 96 Yountville
"Bressart, Emil, Yountville. 33 acres in grapes; 120 tons harvested in 1890; winemaker and a winery; Zinfandel, Chassles, Burger"

J. Burkhart, (Silverado) foothills road just northof intersection with Yountville Cross Roads.

1895 Map carries name.
1915 W.G. Nunn owned.

1895 Burkhart farm had 15-20 acres in vines.

Yountville Cross Road
& North

Napa Register August 2, 1895 Tour of Farms

"On the right is the 13 acre property of I.A. Johnson. He already has 300 almond trees and is extending his orchard. He rents the Burkhardt place of 48 acres a little above, 15 or 20 acres of which are in vines."

(error in total acres should be 40?)

1893 Phylloxera Survey of Napa County (1892)

No reference to Burkhart

1891 Directory of Grape Growers and Wine Makers

No reference to vines.

W.T. Ross, (Silverado) Foothill trail east of Yountville, near Oakville Cross Roads.

See 1895 Map of California

1891 contained 30 acres of vines.
1895 vines all gone.

Yountville Cross Roa
& North

Napa Register August 9, 1895 Tour of Farms

"Next comes 'Mountain Spring Resort" owned by W.T. Ross, The farm comprises 350 acres. Grain, hay and vegetables are raised, and 12 dairy cows are kept. Mr. Ross will build another house 32 by 28, to accomodate boarders. He rents rents 75 acres across the way from C. Lambert."

1893 Phylloxera Survey of Napa County (1892)

"W.T. Ross, Yountville Total, 20 acres; in bearing 12 acres; infested by phylloxera, 10 acres, of which 5 acres are good for only one crop more; soil loam; vineyard upland; exposure west; all European varieties succumb alike; crop, 16 tons.
This vineyard is going fast. It will last two or three years."

THIS VINEYARD WAS REMOVED OR DIED BY 1895.

1891 Directory of Grape Growers and Wine Makers of California
Yountville:
"Ross, W.T. 30 acres in grapes; 30 tons harvested in 1890;
no winemaker/winer; Zinfandel, Burgundy,Burger, Chasselas'

H. Tiedmann--on the Yountville Cross Road, heading toward Yountville but on the lane leading north from Lycan.

Name appears on 1915 Property Map but not on 1895 Map although he is listed in Napa Register of August 2, 1895

Land on 1895 Map identified as belonging to A.W. Nauer

1891-15 acres in grapes.
1895-25 acres, mostly being replanted to resistant

Napa Register August 2, 1895 Tour of Farms

"H.A. Tiedmann. He works 24 acres of land--the most of it in non-resistant vines. These vines will be replaced with resistants."

1893 Phylloxera Study of Napa County (1892)

p 29 "Yountville"

"H. Tiedermann, Yountville.-Total 11 acres; in bearing 10 acres; soil black loam; vineyard low lying; exposure southwest; crop 35 tons."

(All vines dying by 1895)

1891 Directory of Grape Growers and Wine Makers of California

P 98 "Yountville"
"Tidermann, H., Yountville. 15 acres in grapes; 35 tons harvested in 1889; winemaker-no;" Zinfandel, Golden Chasselas

Yountville Cross Roa
& North

William Nunn -corner Silverado Trail and Yountville Cross Roads
(on right side or road going to Yountville)

Property Map of 1895 not changed to reflect his purchase of land owned by Rasenmacher? (name illegible)

(Nunn purchased next north property.)

1893--30 acres of grapes
1895--only six acres of vines remaining

Youtville Cross Road
& North

Napa Register Aug 2, 1895 Tour of Farms

"Taking the road which leads off to Yountville, we come to the 50 acre property of Wm Nunn on the right. Mr. N. has 10 acres in hay, 6 acres in vines, and 8 in corn. He owns 35 head of cattle; will next year plant 10 acres in fruit."

1893 Phylloxera Survey of Napa County (1892)
p 23 "Yountville"

"William Nunn, Yountville. Total 30 acres; in bearing, 28 acres; infested by phylloxera, 5 acres, of which 1 acre is good for only one year; soil gravelly; vineyard upland; Zifandel has proved most resistant; crop 58 tons."

(Between 1892 and 1895, Nunn dropped from 30 acres to 6 acres in vines
Crop in 92 was less than 2 tons per acres, indication of disease.

1891 Directory of Grape Growers & Wine Makers

??

Mrs. Schofield, on the Yountville Cross Roads, heading toward Yountville-but on lane leading north from Lycan

Name appears on both 1895 and 1915 Maps
1891-12 acres of grapes
1895-12 acres still in grapes-vineyard to be removed.

Yountville Cross Roa
& North

Napa Register August 2, 1895 Tour of Farms

"Turning up a lane to the right we come to a farm of 25 acres rented by W. T. Baxley and owned by Mrs. Schoefield. The place is hay land and vineyard in equal parts. Phylloxera having attacked the vines, they will be taken out and replaced by orchard."

1893 Phylloxera Study of Napa County (1892)

p 28 "Yountville"

"Mrs. Schofield, Yountville. Total, 12 acres; all in bearing; soil loam; vineyard low lying; exposure southwest; all European varieties succumb alike; crop 50 tons."

(Vineyard having died apparently by 1895, vines being removed.)

1891 Directory of Grape Growers and Wine Makers
p 97 "Schofield, Mrs. B.M. 12 acres in grapes; 45 tons harvested in 1890; no winemaker/winery" Zinfandel, Burger.

DIRECTORY OF THE GRAPE GROWERS, WINE MAKERS AND DISTILLERS OF CALIFORNIA (Sacramento: Board of State Viticultural Commissioners, 1891).

SUMMARY REPORT

The following grape growers are listed in this DIRECTORY under the town of "Yountville": (Page 97-98)

"Lycan, M.C.	12	acres	in	bearing	39	tons	harvested	in '90"
"Morris, Frank	12	"	"	"	20	"	"	" "
"Johnson, Wm.	15	"	"	"	53	"	"	" "
"Pedro, M.	18	"	"	"	45	"	"	" "
"Salmina, Jas.	15	"	"	"	25	"	"	" "

(The Johnson and Pedro vineyards were of some age, hence the greater production.)

The following grape growers are listed in this DIRECTORY under the town of "Napa" (pages 86-89):

"McFarland, A.M.	50	acres	in	bearing	70	tons	harvested	in '90"
"Gyte, Jos.	17	"		"	30	"	"	" "
"Bank of Napa (The Occidental Winery)	80	"		"	248	"	"	" "
"Thompson, Chas.	250	"		"	850	"	"	" "
"Crowey, Mrs. J.	20	"		"	40	"	"	" "

*There is no listing for Horace Chase. The name "Chas." may be a mistake for W.W. Thompson as shown on the 1895 Property Owners Map of Napa County. "Thompson & Chase" are listed in the DIRECTORY of the Board of State Viticultural Commissioners for 1888.

REPORT OF E. C. PRIBER, Commissioner for the Napa District , to Board of State Viticultural Commissioners, 1893.

Study of phylloxera in Napa County.
Every grower and wine maker is listed.

"Yountville District"

"Mrs Lycan	5 acres in grapes	10 ton harvest	
"Frank Morris	10 " "	15 " "	
"W.L. Johnson	10 " "	18 " "	
"M. Pedro	10 " "	10 " "	

(R. Robertson no listing)
(All vineyards severely attacked by phylloxera "This vineyard is going fast".)

"Napa District"

"A. McFarland	17 " "	20 " "	
"A. Mc Farland	10 " "	20 "	(2nd vineyard)
"Joseph Gyte	16 " "	25 "	
"Bank of Napa	105 " "	220 "	

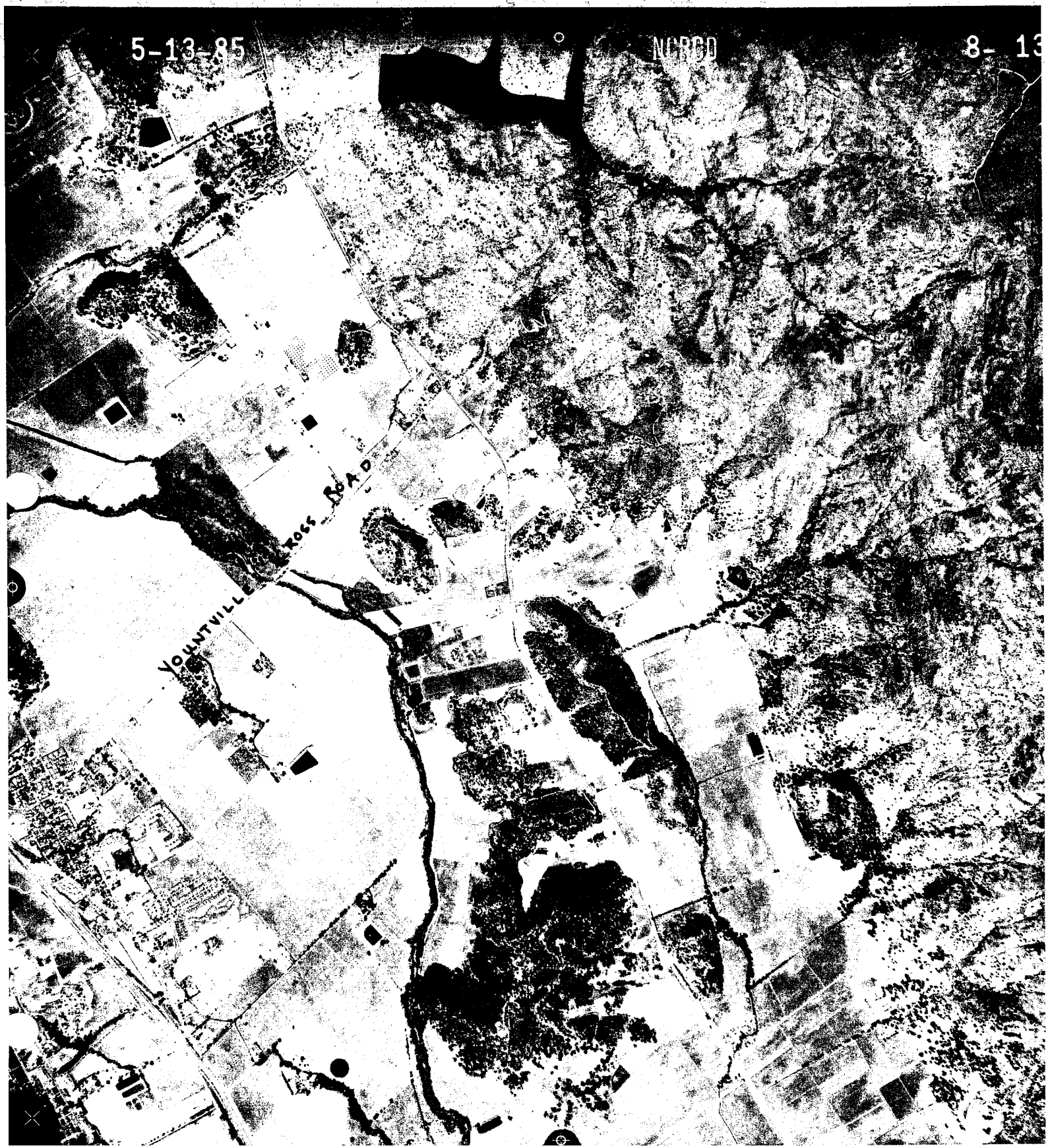
(Winery also listed-this is the Occidental Winery/Grigsby ranch)

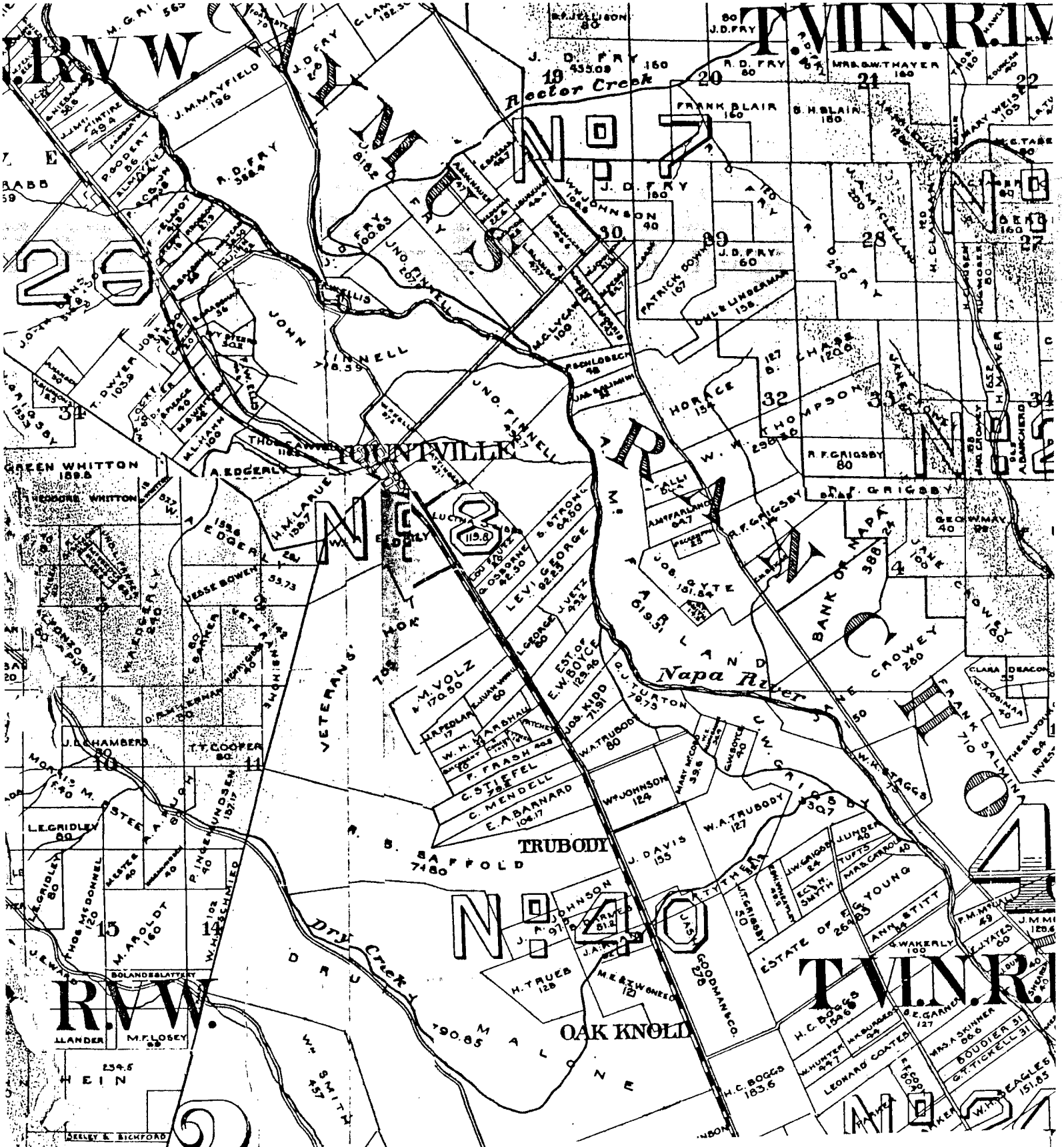
"W.W. Thompson	107 " "	472 "	
"Horace Chase	80 " "	271 "	

(R. F. Grigsby ---no listing)

EXHIBIT F

1985 Aerial Photograph Showing Vineyards
North and South of Yountville Cross Road





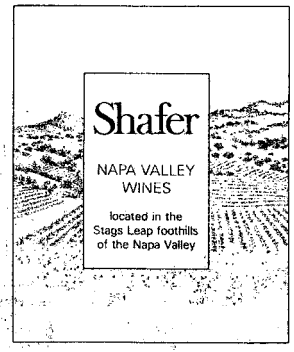
Official Map of Napa County

California, 1895

EXHIBIT G

State-created Yountville Viticultural District (orange) and Napa Viticultural District (green), 1893

EXHIBIT H



January 6, 1988

Chief, FAA, Wine & Beer Branch
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue NW
Washington, D.C. 20226

Re: Stags Leap District

Dear Sir:

I am writing to correct the record in connection with the written comments submitted by S. Anderson Vineyard on April 10, 1987.

On page 34 Mr. Anderson states the 21 tons of Chardonnay grapes sold to Shafer amounted to 32% of our production. The facts are we produced 7600 cases of 1984 Chardonnay and thus Mr. Anderson's 21 tons amounted to 16%, not 32% of our production.

Mr. Anderson is using this one example of his grapes importance to Stags Leap wineries. On the other hand, our Committee's analysis involved research into total grape flows from the proposed northern extension to wineries within the Committee's proposed viticultural area.

Sincerely,

John R. Shafer

JRS:mks

EXHIBIT I

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

PHONE 707-252-6711 - TELEX 353197 (ARETI UD)
FAX. 707-252-6125

January 7, 1988

Mr. James P. Ficaretta
FAA Wine and Beer Branch
Bureau of Alcohol, Tobacco and Firearms
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20226

Re: Stag's Leap District Appellation

Dear Mr. Ficaretta:

Mr. Stanley Anderson, in his written comment of April 10th, 1987, on page 35, mentioned that Anderson's Vineyards supplied one half of our Chardonnay grapes for the 1978 crush, thus implying that he was instrumental in building up the reputation of our Clos Du Val Chardonnay.

I would like to correct this statement by stating that, in 1978, we crushed 40.5 tons of Chardonnay grapes and only 15 of those, i.e., 37% were coming from Mr. Anderson's vineyards. Moreover, I would like to add that our 1978 was the least good Chardonnay we ever made, and in view of the above, were I Mr. Anderson, I would not claim that my vineyard helped build the reputation of our Clos Du Val winery, especially with that year.

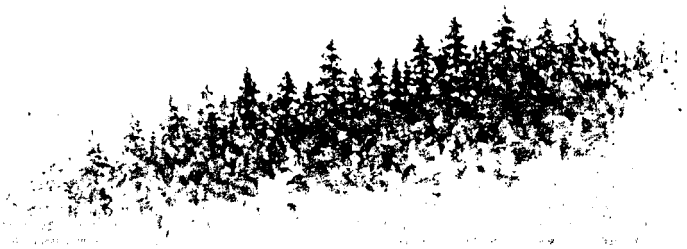
Very sincerely yours,

Bernard M. Portet
President

BMP:smh

EXHIBIT J

PINE RIDGE



January 12, 1987

Mr. James P. Ficaretta
FAA, Beer and Wine Branch
Bureau of Alcohol, Tobacco, and Firearms
Post Office Box 385
Washington, DC 20044-0385

Dear Jim:

I believe you are in receipt of the letter from Fred Hermann (copy enclosed) from whom I purchase grapes regarding his belief that his vineyard is located in the area known as Oak Knoll and not Stags Leap District.

I concur with his assessment and have never used the grapes in our Chardonnay designation Stags Leap Cuvee. The grapes are excellent but different in structure and grape chemistry.

In addition, Jim Murray, my maintenance supervisor, and I are planting a vineyard just south of the Hermann Vineyard and north of John Shafer's Oak Knoll Vineyard and George Altamura this spring. When we acquired the property, we never considered it to be in the Stags Leap District. While I am uncertain what the quality of the wine will be from these grapes as we are just now developing the parcel, we do not wish to be included in the Stags Leap District.

Very truly yours,

R. Gary Andrus
Operating Partner/Winemaker

RGA/sg
Enclosure

December 2, 1987

Mr. Jim Ficaretta
Bureau of Alcohol, Tobacco and Firearms
Post Office Box 385
Washington, DC 20044-0385

Attention: Hearing Notice No. 644
Chief, FAA, Wine and Beer Branch

Dear Sir:

My name is Fred Hermann. My wife and I own a small vineyard located at 5200 Silverado Trail, which is also our home. Our vineyard is planted to Chardonnay grapes and was planted in 1980.

Since 1985 I have sold my total production to Pine Ridge Winery. In 1982 and 1983 we sold our grapes to St. Clement Vineyards and in 1984 we sold them to Cartlidge & Brown. We have known Pine Ridge Winery and our friends Jerry and Pay Taylor's vineyard to be within the proposed Stags Leap District. We are not.

Since 1985 we have produced grapes which are part of Pine Ridge's Oak Knoll or Knollside Cuvee, as our vineyard is located just north of the Oak Knoll Avenue.

We are extremely proud of producing part of the grapes which have won gold medals and international acclaim as produced by Pine Ridge Winery.

We do not believe it is appropriate for us to be included in the Stags Leap District since our grapes have different tastes and produce different wines than those of the Stags Leap District.

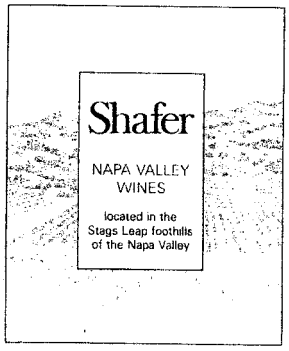
I submit this to be used as evidence in the Stags Leap District Appellation Hearing.

Sincerely,

Fred Hermann

Fred Hermann

EXHIBIT K



December 24, 1987

To: John R. Shafer

From: Doug Shafer - Winemaker, Shafer Vineyards

Re: Comparison of Shafer's Stags Leap District Chardonnay Vineyard and Shafer's Oak Knoll Chardonnay Vineyard.

This memo is in response to your inquiry regarding the possible difference and/or distinctions regarding our two Chardonnay vineyards. I have prepared the following:

1) LOCATION: Both vineyards are on the east side of Silverado Trail on relatively flat land. The Stags Leap vineyard is part of the Shafer estate vineyard approximately one mile south of the Yountville Crossroad. The Oak Knoll vineyard is approximately one quarter mile north of the Oak Knoll Crossroad and one half mile south of the southern boundary of the proposed Stags Leap District.

2) SOIL/IRRIGATION: The Stags Leap vineyard is composed of rocky, shallow, well-drained soil which requires numerous irrigations during the growing season to achieve the quality of fruit desired. By contrast, the Oak Knoll vineyard is made up of a deeper, heavier-type of soil with a large water-holding capacity. As you well know, we had to install hundreds of feet of drain tile before planting this vineyard and rarely irrigate more than one time during the growing season.

3) BUD BREAK: The Stags Leap vineyard consistently begins its Spring growth (Bud break) a week to ten days before the Oak Knoll vineyard.

4) FROST: Both vineyards require frost protection during the Spring. On frost control nights we consistently turned on our wind machines at the Oak Knoll vineyard two or three hours earlier (for the same temperature, i.e. 34°F) than the Stags Leap vineyard.

5) HARVEST DATES: As the following data indicated, the Stags Leap vineyard usually (in 3 out of the last 4 years) is harvested well before the Oak Knoll vineyard.

6) TOTAL ACIDITY/pH OF HARVEST FRUIT: Again, as the enclosed data indicates, at harvest the Stags Leap fruit consistently has higher total acidity and lower pH value than the Oak Knoll fruit for the same °Brix (sugar level).

7) WINE CHARACTERISTICS: The Stags Leap Chardonnay wine has definite citrus fruit characters, straight forward Chardonnay flavors and, due to its higher acidity, is consistently a lean, austere Chardonnay. In contrast, the Oak Knoll Chardonnay wine has tropical, banana-fruit characters, more intense flavors, and a rich, soft mouth feel. It has a better natural structure and balance than the Stags Leap Chardonnay and, in my opinion, is consistently a superior wine.

DATA

STAGS LEAP VINEYARD	1984	1985	1986	1987
Harvest Date:	8/20/84	8/25/85	8/31/86	8/21/87
°Brix	23.0°Brix	23.0°Brix	23.0°Brix	23.0 °Brix
TA	0.72	0.81	0.86	0.75
pH	3.36	3.36	3.36	3.45

OAK KNOLL VINEYARD	1984	1985	1986	1987
Harvest Date:	9/6/84	9/1/85	8/30/86	8/26/87
°Brix	23.4 °Brix	23.0 °Brix	23.0 °Brix	23.0 °Brix
TA	0.65	0.75	0.72	0.63
pH	3.40	3.44	3.32	3.56

EXHIBIT L

CURRICULUM VITAE
(short version)
DEBORAH LOUISE ELLIOTT-FISK, Ph.D

Address: Department of Geography
University of California, Davis
Davis, CA 95616
phone: (916)752-8559 or -0790

Current Appointment: Assistant Professor IV, Dept. of Geography and Graduate Groups in Botany, Ecology, and Earth Sciences and Resources.

Research Scientist (0.33 FTE), UC White Mountain Research Station

Born: June 19, 1953, Fullerton, California

Education: Ph.D., 1979, Geography (Institute of Arctic and Alpine Research), University of Colorado, Boulder

B.A. (honors), 1975, Geography (Biology), California State University, Fullerton

Post-Doctoral Employment: 1981 - present: Assistant Professor, University of California, Davis (tenure and promotion action in progress)
1979 - 81: Assistant Professor, University of Wyoming
1980 (summer): Visiting Assistant Professor, University of Colorado, Boulder (EPO Biology through Mountain ResearchStation)

Professional Organizations: Association of American Geographers
Association of Pacific Coast Geographers
American Quaternary Association
California Botanical Society
Geological Society of America
International Geographical Union
Friends of the Jepson Herbarium
Friends of the Pleistocene

Professional Appointments: Editorial Board, The Professional Geographer, Washington, D.C.: Association of American Geographers.
Executive Committee, University of California (systemwide) Natural Reserve System
Research Scientist, University of California (systemwide) White Mountain Research Station

Teaching Specializations: Physical Geography, Field Techniques, Biogeography, Climate Change, Geomorphology, Quaternary Environments, Coastal Environments, Arctic and Alpine Environments, Mountain Weather and Climate, Cartography, California Climate and Vegetation, Paleoecology

Research Specializations: Environmental change, ecology and paleoecology of Arctic tree line, the biology of conifers, soil-vegetation relationships, elemental analysis of botanical materials, impact of volcanism on vegetation, soils, and geomorphic systems, the physical geography of California's wine country, dendrochronology, soils geomorphology of California, Late Cenozoic environmental history of California and the Great Basin, interstadial forests of Alaska, glaciation of the western Great Basin, climate change.

DEBORAH L. ELLIOTT-FISK

Select Publications:

1979 The current regenerative capacity of the northern Canadian trees, Keewatin, N.W.T., Canada: some preliminary observations. Arct. Alp. Res., 11: 243-251.

1981 The palaeoclimatic interpretation of exotic pollen peaks in Holocene records from the eastern Canadian Arctic: a discussion. Rev. Palaeobot. Palynol., 33: 153-167. (with R. G. Barry and R. G. Crane).

1982 Isopoll maps and an analysis of the distribution of the modern pollen rain: eastern and central northern Canada. Geographie physique et Quaternaire, 36: 91-108. (with J. T. Andrews, S.K. Short and W.N. Mode).

1983 A re-evaluation of the postglacial vegetation of the Laramie Basin, Wyoming-Colorado. Great Basin Natur., 43: 377- 384. (with B. S. Adkins and J.L. Spaulding).

1983 The stability of the northern Canadian tree limit. Ann., Assoc. Amer. Geogr., 73: 560-576.

1986 Quaternary dynamics of the White Mountains. pp. 47-50. In: Hall, C.A., Jr., and Young, D.J. (eds.). Natural History of the White-Inyo Range, Eastern California and Western Nevada and High Altitude Physiology. University of California, White Mountain Research Station Symposium, Volume 1, August 23-25, 1985. University of California, Los Angeles.

1986 Relict tree populations in the White Mountains. pp. 64-67. In: Hall, C.A., Jr., and Young, D.J. (eds.). Natural History of the White-Inyo Range, Eastern California and Western Nevada and High Altitude Physiology. University of California, White Mountain Research Station Symposium, Volume 1, August 23-25, 1985. University of California, Los Angeles.

1987 Glacial geomorphology of the White Mountains, CA-NV: Establishment of a glacial chronology. Physical Geography, 8(4): in press (25 pages, 14 figures, and 5 tables).

1988 Trees. In: Hall, C.A., Jr. (ed.). Natural History of the White-Inyo Range. University of California Press, Berkeley. 30 pp. (with A. M. Peterson).

1988 Geomorphology. In: In: Hall, C.A., Jr. (ed.). Natural History of the White-Inyo Range. University of California Press, Berkeley. 25 pp.

1988 The boreal forest. In: Barbour, M.G. and Billings, W.D. (eds.). Terrestrial Vegetation of North America. Cambridge University Press. 67 pp.

1988 Paleoecological modeling of hydrologic processes. (in press). Proceedings, International Society for Ecological Modeling, 6th International Conference on State of the Art Ecological Modeling. Venice, Italy, June 22-26, 1987. (with A. Bale and G.T. Orlob).

EXHIBIT M

The Geography of Stags Leap District

by Assistant Professor Deborah L. Elliott-Fisk
Department of Geography, University of California, Davis
January 9, 1988

The study of geography bears directly on the criterion of geographical distinctiveness set forth in the viticultural area regulations. The standard methodological approach of geography is to define areas as unique (or bounded) geographical systems based on a combination of their climate, plant life (especially natural vegetation), soils, and geology/geomorphology. Systems are integrated, functional units, much as a grape vine or any organism is. Stags Leap District can be viewed as a geographical system with boundaries and integrated functional components. These components (soil, subsoil, topoclimate, etc.) and a source of energy (in this case, the sun) act to control the growth and fruit quality of the vine. Although humans can manipulate the vine's environment to some extent, this cannot compensate for all aspects of the natural environment, such as soil structure, soil type, subsoil type and depth, intensity of solar radiation, atmospheric moisture, etc. In other words, the environment of an area outside the proposed Stags Leap District cannot be modified such that the enological characteristics of the grapes from outside the area are the same as those within it.

With respect to climate, Stags Leap District, Napa Valley and most of the State of California are characterized by a "Mediterranean" regional climate, with warm, dry summers and cool, wet winters. On a smaller scale, the topo-climate (or mesoclimate) of the Stags Leap District is somewhat unique, as the area is topographically a "valley within a valley", open to sea breezes off San Pablo Bay during the growing season. The hills in the Stags Leap District act as barriers to this breeze, intercepting the moist air. As this sea breeze flows in from the south, the south, west, and east-facing slopes directly intercept this moisture. It is also apparent that these slope aspects are more suitable to viticulture than north-facing slopes in Napa Valley.

Detailed micro-meteorological data for the Stags Leap District and Napa Valley is largely lacking, due to the sparse network of observational stations. However, the natural vegetation of the area is a reliable proxy indicator of climate, providing evidence for the influx of cool, moist marine air and its entrapment along and below the ridge lines. The dominant plant community in eastern Napa Valley at elevations up to 1000 feet is the oak-madrone woodland, a component of the mixed hardwood (*Arbutus-Quercus*) forest vegetation type of California. An increase in vegetation density (i.e, number of plants per unit area) and the number of species (i.e., diversity of plant types) on ridges and hilltops in the Stags Leap District indicates the entrapment of moist, marine air, with this topographically generated climate (i.e., topoclimate) moist enough to sustain a mixed conifer-hardwood forest in some locations. Working along a progressive moisture gradient in the Stags Leap District, the following type of woodlands are found: oak-madrone woodland, oak forest, madrone forest, conifer-hardwood forest, and riparian woodland. Although the oak-madrone woodland which dominates eastern Napa Valley continues well to the north and the south of the Stags Leap District, the other forest/woodland types do not. Scattered patches of the denser forest types are found in the Howell Mtn. area of Napa County at much higher elevations (1600 feet asl vs. 400-600 feet asl), reflecting an orographic increase in precipitation. However, the presence of these forests in the Stags Leap District indicates fog inception and increased fog drip, with moist, cool air off of San Pablo Bay providing a favorable moisture balance for the trees in the growing season.

In reference to the subsurface enviornment of the vine, soils exert a considerable influence on potential rooting depth (which is also a function of subsoils), and water, gas, and nutrient availability to the roots. Soil "climate" is an important component of the vine's environment. It is important to remember that soils are a mixture of both

organic and mineral matter and form a veneer of material over the subsoil. Most woody plants, including vines, are rooted in the subsoil as well as the soil itself.

The Stags Leap District contains a suite of diverse soil types as mapped by the USDA-Soil Conservation Service. This is because soil type is a function of climate, living organisms, parent material, time and topography, which all vary on the microscale in the Stags Leap District. As the amount of time for a soil to form on a surface increases, several properties of the soil change, including soil color, texture, structure, cation-exchange capacity (i.e., nutrient availability), and depth. Young soils thus differ greatly from older soils in the Stags Leap District and elsewhere. Of the 31 mapped soil series in Napa County, 14 (~45%) of these occur in the Stags Leap District. The District is thus characterized by high soil diversity, but dominant soils can be delineated which distinguish the area geographically. Bale clay loam dominates the valley floor in Stags Leap District, with the Boomer-Forward-Felta complex on the lower hillslopes, and Boomer gravelly loam , Rock outcrop-Hambright complex, Kidd loam and Sobrante loam on the hillsides. In contrast, the area to the west of the Stags Leap District is dominated by Cole silt loam and Clear Lake clay; the area to the east by the Rock outcrop-Hambright complex and the Hambright-Rock outcrop complex; the area to the south by the Haire loam, Coombs gravelly loam and Hambright-Rock outcrop complex; and the area to the north by Bale clay loam, Cortina very stony loam, Perkins gravelly loam, Pleasanton loam, Clear Lake clay, Yolo loam, Kidd loam, and Forward gravelly loam.

Mapped soil units in this region and other parts of Napa County do not reveal or reflect the geomorphic surfaces, which integrate the soil variables of parent material and time. We can basically divide the soils into several types: (1) those found on uplands of varying lithology (i.e., composition), (2) those on lower (i.e., toe) slopes, (3) those of fans

of younger to older ages, (4) and those found on river deposits/channels of younger to older ages. My map of the geomorphic surfaces in the area shows several distinct surfaces that have formed as a result of diverse lithologies and climatic and structural changes during this time period.

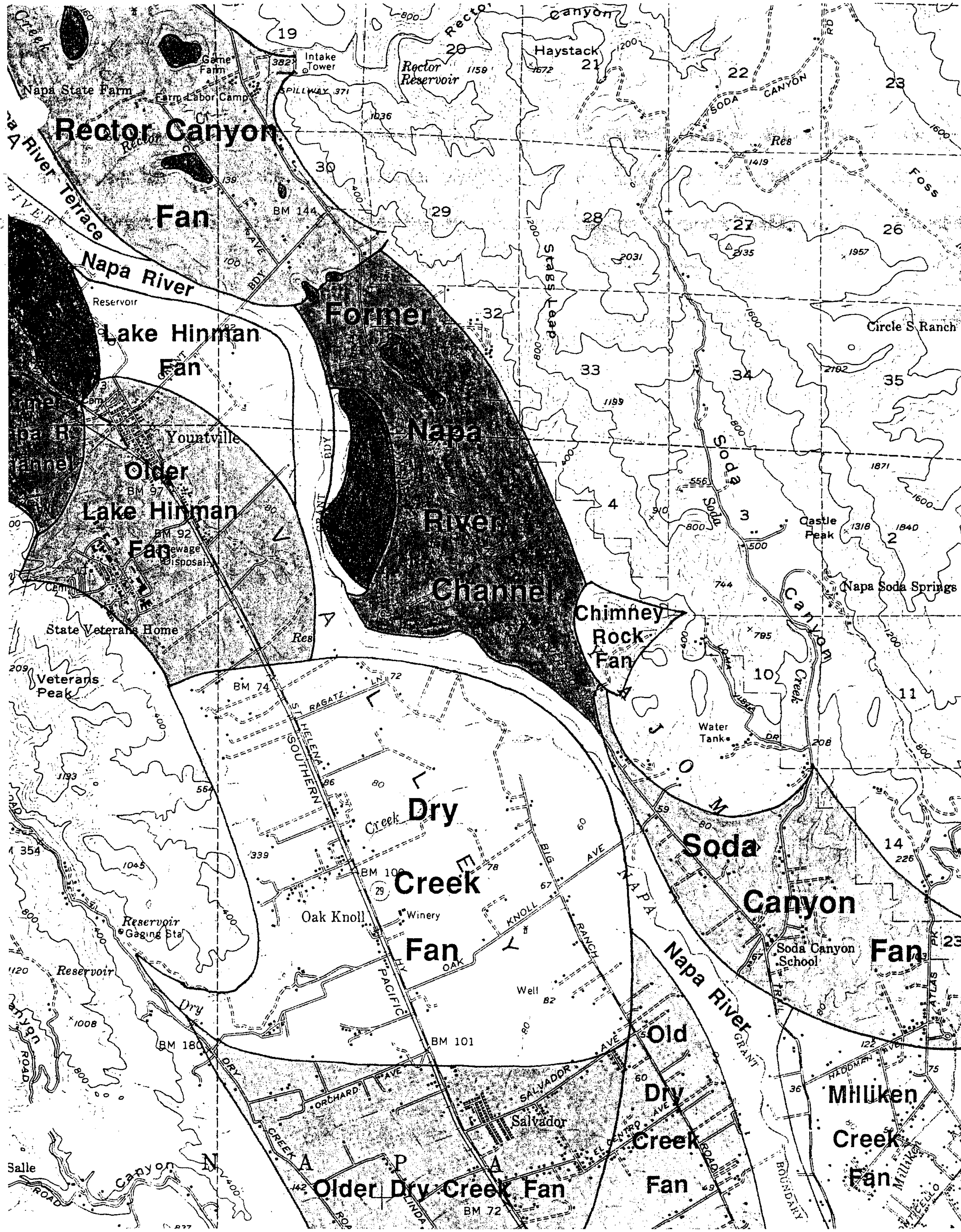
Geologic history is important here. Napa Valley itself is largely a synclinal (down-folded) valley of Cenozoic age. Faulting (accompanied by minor folding) throughout the valley later resulted in the formation of bedrock "islands" (outcrops) across the valley floor. These rock islands have been modified during the last million years by erosion by the Napa River and its tributaries and slope processes. Sections of the old Napa River channel (which is at least 140,000 years old) are still visible here and there in the valley, including in several places within Stags Leap District where river terraces were cut at about the 250-foot contour. In places, the old river channel and its alluvial sediments have been buried by more recent Napa River floodplain sediments, but they have principally been covered by alluvial fans emerging from the mountain streams on the western and eastern sides of the valley. The age and size of these fan surfaces is a function of climatic change, basin lithology and structure, and basin size, and as such a diversity of fan surfaces with their own soil characteristics are found throughout the valley.

Based on my own field work, it is apparent that Stags Leap District is a well-preserved section of the old Napa River channel. A "ring" of coarser soils (Boomer-Forward-Felta complex and Perkins gravelly loam, with some patches of Clear Lake clay) rims all of the Stags Leap District hillsides. These geomorphically younger materials are predominately slopewash in origin. Large alluvial fans have not been built over the vineyard areas within Stags Leap District due to the integrity of the compact andesite bedrock which forms the mountain front (and the Stags Leap rock

formation itself). The soils here are thus very different from those to the south on the Soda Creek fan (built along a fault-line valley), from the Rector Canyon fan to the north (built from less resistant volcanic rocks, which form a "mini-Grand Canyon" type of topography), and from the Dry Creek and Lake Hinman fans to the west, derived largely from sedimentary lithologies. The subsoil is very deep in Stags Leap District and composed of a complex sequence of fine, well-weathered alluvial sediments. Rooting depth of vines should be very different here than on the coarser fan surfaces.

As the areas to the north, west, and south of the Stags Leap District are geomorphic surfaces of alluvial fans, the soil and subsoil types and textures are very different from those of Stags Leap District. This is an important factor influencing vine growth and grape quality. Alluvial fans are composed of much coarser sediments. The depth and type of soils are very different. As would be predicted and as confirmed by field work, soil color is much darker (5 YR 2.5/1 wet color) and the texture is silty clay or sandy clay in the proposed northern extension. Subsoil characteristics are very different here than anywhere within the Stags Leap District, thus effecting vine vigor and rooting depth.

In sum, the soils, geomorphology, and vegetation (and the climate it reflects) of the area north of the proposed Stags Leap District boundary suggest an affinity with the area to the north that continues towards Conn Creek. The area to the south of Stags Leap District also has a distinct geography as a function of the Soda Creek fan and other environmental factors, which is not the same as that of the Stags Leap District. In reference to viticulture, these areas should not be affiliated with the proposed Stags Leap District.



Rector Canyon Fan
Napa State Farm
Farm Labor Camp
Game Farm
Intake Tower
Spillway
Rector Reservoir
Haystack
Rector Canyon
Soda Canyon
Napa River Terrace
Napa River
Reservoir
Lake Hinman Fan
Former Napa River Channel
Stags Leap
Circle S Ranch
Yountville
Older Lake Hinman Fan
Sewage Disposal
State Veterans Home
Veterans Peak
Soda Canyon
Soda Creek
Castle Peak
Napa Soda Springs
Chimney Rock Fan
Water Tank
Dry Creek Fan
Oak Knoll
Winery
Soda Canyon Fan
Soda Canyon School
Reservoir Gaging Sta
Reservoir
Old Dry Creek Fan
Salvador
Milliken Creek Fan
Older Dry Creek Fan
Napa Valley
Napa
Yountville
Well
BM 144
BM 97
BM 92
BM 74
BM 100
BM 101
BM 180
BM 72

EXHIBIT N

Photographic Evidence of Fog Hanging
North of Stags Leap District in
Winter, Indicating Micro-Climatic
Effect of Northern Hills

EXHIBIT O
(p. 1 of 2)

SEQUOIA GROVE
V I N E Y A R D S
8338 St. Helena Highway Napa, California 94558
707/944-2945

July 6, 1987

John Shafer, Chairman
Stags Leap District Appellation Committee
6154 Silverado Trail
Napa, CA 94558

Dear John:

From 1980 to 1984, Sequoia Grove purchased Cabernet Sauvignon from the Balfour (now Joseph Phelps) Vineyard in the Stags Leap District. After the vineyard was sold to Phelps in 1985, the grapes were no longer available. I was very sorry to lose them because of their high quality and the intensity of Stags Leap Cabernet character in the wines we made from them.

In 1985, I purchased Cabernet Sauvignon from the Weeks Vineyard in Yountville, located on the Yountville Crossroad north of the proposed Stags Leap District Appellation. The wine made from these grapes did not have the character or the intensity of the Stags Leap District wines, and I did not purchase them again.

Sincerely,

James W. Allen
President

JWA:pr

Lakespring Winery 2055 Hoffman Lane Napa, California 94558 Telephone (707) 944-2475

July 7, 1987

Mr. John Shafer, Chairman
Stags Leap District Appelation Committee
6154 Silverado Trail
Napa, California 94558

Dear John:

I have been following with interest the development and formation of the Stags Leap District Appelation effort. In so much as I have been making wines for the last five years from grapes purchased from the Steltzner Vineyards within the proposed Appelation and grapes purchased from the Egan Vineyard some 50 yards north of the Yountville crossroad, I thought you might be interested in the differences. The soil and climate of the Steltzner Vineyard grapes is such that it consistently gives a medium ruby and a moderate tannic wine with predominant cherry flavors. On the other hand, the climate and soil of the Egan Vineyards is such that I obtain a wine of substantially heavier tannic character, darker color and flavors that are earthy and briary in its fruit. The balance of these two grapes has consistently produced a structure and character of wine for which Lakespring Winery has built its sales and reputation upon. It is the very difference of the two climatic areas and soil types that marry and produce our distinctive character.

Best wishes in the successful conclusion of your unique viticultural area.

Sincerely,

Randy W. C. Mason

Randy W. C. Mason
Winemaker and General Manager

EXHIBIT P

Silverado
VINEYARDS
6121 Silverado Trail
Napa, California 94558
(707) 257-1770

January 12, 1988

Mr. William Drake
Assistance Director (Compliance)
BUREAU OF ALCOHOL, TOBACCO & FIREARMS
1200 Pennsylvania Avenue, N.W.
Washington, DC 20226

Dear Mr. Drake:

At the December 2, 1987 ATF public hearings on Stags Leap District, Dr. Richard Chambers testified that canes in his vineyard east of the Napa River grow toward the north, while those in vineyards west of the Napa River do not. Dr. Chambers asserted that this supposed distinction supports inclusion of the proposed northern extension in the Stags Leap District viticultural area by providing evidence of strong wind effects there and by distinguishing the extension from Yountville.

I have overseen operations in Silverado's vineyards located on both sides of the Napa River, that is, in Yountville and Stags Leap District, since 1980. Dr. Chambers's observation is mistaken. In our 80 acres of vineyards in Yountville, cane growth very definitely is oriented toward the north. In fact, during the growing season just past, an entire row of Chardonnay vines blew down in our Miller Vineyard Block A. It fell to the north. In other parts of the same vineyard, notably blocks C1 and C2, we have had to splint or double-stake vines to prevent the same kind of wind damage.

Even in sections of the vineyard where rows have not been blown down, canopy growth is oriented to the north. Canes tend to hang over and shade fruit on the north side of the rows, which run east to west, while at the same time exposing fruit on the south side of the vine row to direct sunlight. This phenomenon can easily be observed during the summer.

Because northerly canopy growth exists on both sides of the Napa River--and in fact, all over the Napa Valley--it is insignificant in determining the boundaries of Stags Leap District.

Sincerely,

John Stuart
Winemaker and General Manager

JS:kf

EXHIBIT Q

Map of California Climate Regions
from Amerine, et al.,
General Viticulture

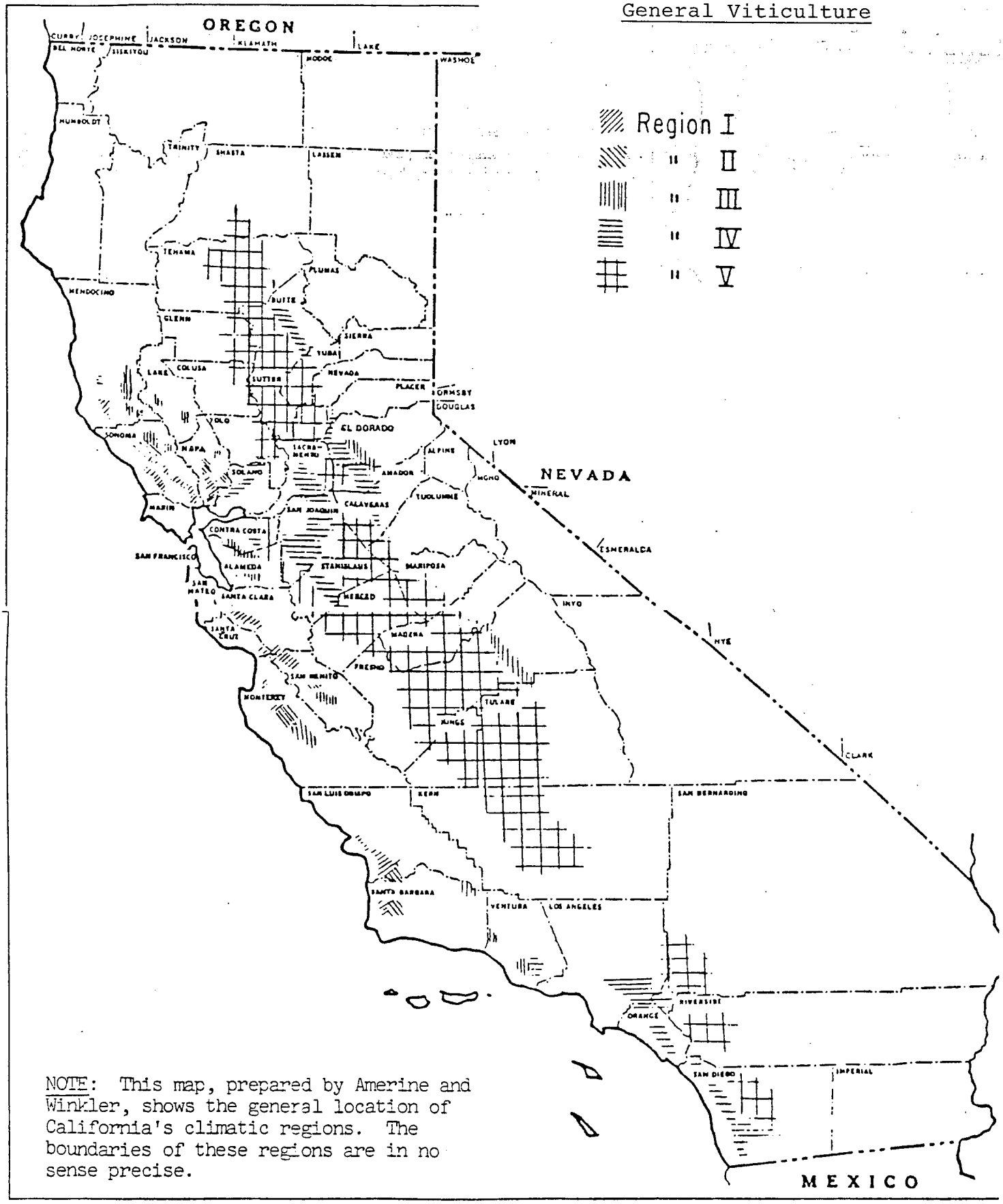


FIGURE 12: The climatic regions of California, based on heat summation above 50°F.

EXHIBIT R

December 1, 1987

Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, NW
Washington, D.C. 20026

Gentlemen:

My name is Virgil Galleron and I live at 1098 Galleron Road, St. Helena, California.

I have been a grape grower in the Napa Valley for 44 years and for many years served on the Board of Directors of the Napa Valley Cooperative Winery.

In the late 1950's or early 1960's, the Coop Winery experimented with a grape classification system whereby member growers were paid on the basis of the sugar and acid levels of their grapes at harvest. The growers were grouped into 3 regions: Calistoga, Rutherford-Oakville, and Napa.

After about one year, the Coop Winery abandoned the system, declaring it inaccurate, unfair to our growers, and generally unworkable.

Sincerely,

Virgil Galleron

Virgil Galleron

EXHIBIT S

DAVE BADER LAND SURVEYOR NO. 4366
3175 DRY CREEK RD. NAPA, CALIFORNIA 94558

Mr. Richard Mendelson
STAGS LEAP DIST. COMMITTEE
809 Coombs Street
Napa, CA 94559

January 12, 1988

Dear Richard:

This letter is my response to your request for an evaluation of the topographic characteristics of the area just to the North of your proposed boundary in the area of Yountville Cross Road. My comments are based upon a review of the USGS Quad Map entitled "Yountville" and on-site inspections.

The Yountville Cross Road was created along the boundary between the Caymus and Yajome Ranchos, and was not established along any topographic boundary since the roadway forms a straight line along the Mexican Land Grand boundary.

This area North of the proposed Stags Leap District is part of the broader open Napa River drainage basin which drains generally Southwesterly to the river. There are numerous small drainage ways that convey water from the mountains through the Eastern Napa Valley to the river. One of these drainage ways or small creeks lies just to the North of Yountville Cross Road 300 to 400 feet. The land along the road is generally about 1 foot higher on the South side than the North side, owing to the gradual descent from the hills South of the Cross Road to this drainage way. The most significant topographical feature of this area is that most of the water coming from runoff drains into the swampy areas North and South of the Yountville Cross Road bridge over the Napa River, which is very prone to flooding.

This area is differentiated topographically from your proposed Stags Leap District which drains mainly Southerly to a point along the Napa River that is 2.5 miles from the Yountville Cross Road.

After reviewing the characteristics of the area immediately North and South of Yountville Cross Road area, it is my belief that the road does not lie on the limit of a geographical area defined by topography.

Respectfully submitted,

Dave Bader
Land Surveyor No. 4366

EXHIBIT T

BIANCO RANCHES

4128 Chiles Valley Rd.
St. Helena, CA 94574

January 5, 1988

Dear Sirs:

I have read in the newspapers about the northern boundary of the Stags Leap District. I have been farming in the Napa Valley for some time. I have some experience of grape growing in the area in question, and I thought this experience would be useful.

I have been growing grapes and farming for a total of fifty years, first in Cucamonga, later in Fresno, and still later in the Napa Valley. I was in charge of the entire vineyard operation for Charles Krug Winery (1,800 acres) for 10 years. In addition, I have leased lands for the growing of grapes as a business venture with others all over the Napa Valley.

In this connection, I farmed the vineyard land on both sides of the Yountville Crossroads now owned by Anderson and Krug, as well as the vineyards on the south side of the hills along the Silverado Trail - now owned by Bob Eagan.

In my experience, the soils on both the north and south sides of the Yountville Crossroads are identical from the view of growing grapes. In general, they are tight, heavy-textured soils with a lot of compact clay. There are some places where there is an abundance of rock. If these soils are cultivated when they are partially dry, they form hard clods that don't break up easily. When these soils are wet, they are sticky and gummy - I call them gumbo soils because they stick to the heels of your boots.

In some places the soil is more gumbo-like than others. In some places there are more or less rocks in the soils or below the surface, but there is no difference between the north and south side of the Crossroad from these points of view. In addition, I have noticed that some locations where the soil is more gumbo, these soils take a long time to warm up in the spring. In other locations, where there is more stone in the soil, the vines seem to run out of moisture earlier in the fall (unless there is some irrigation).

On the south side of the hills the farming is very different. The soil is different. This is not a sticky, gumbo soil. I am refering to Bob Eagan's place. The soil is not tight and does not have a heavy textured clay. It breaks up more easily and seems to have a more sandy or grainy character. It also seems to warm up earlier in the spring and allow for cultivation sooner.

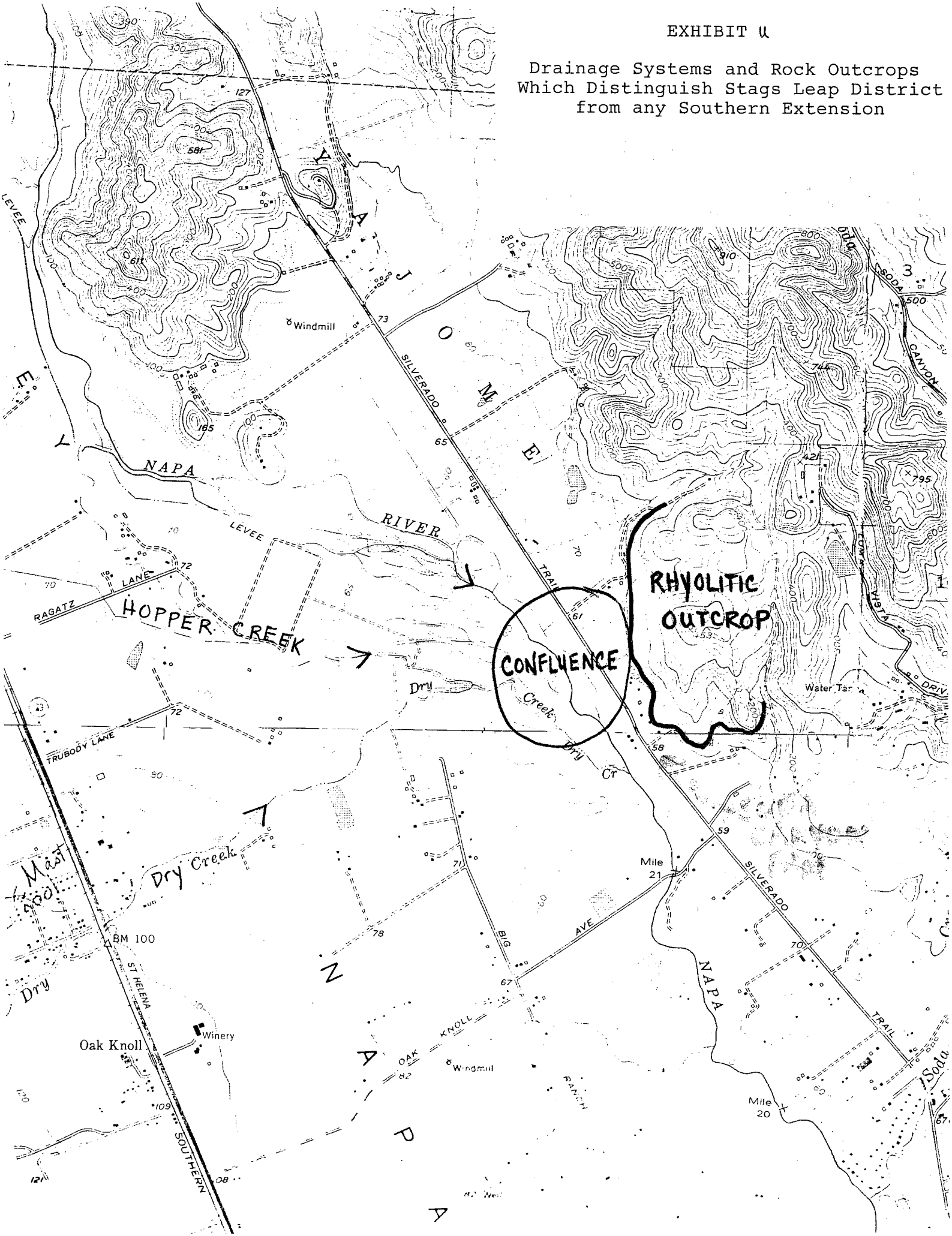
As a general rule, I would judge the soil character by the type of grapes I would plant in the area, and expect to succeed with the least difficulty from the soil. And in this regard, using my experience, I would not plant Cabernet along the south or north sides of the Crossroads if I wanted a good quality every year. I'm not saying that Cabernet could not be grown in some of these sites. It is just that the soil, because of its character, would be against you. On the south side of the hills, where the Eagan vines are, you could be sure of having more sugar, better quality in general, and more smiling faces at the winery without struggle and sleepless nights on your part. As a grape grower, I would say in conclusion, that the soil on the south side of the hills is much better for the grapes and for the farmer. It is very different in this way from the soil on both sides of the Yountville Crossroad which makes farming harder because of the rocks and the gumbo character of the soil.

Respectfully yours,

Alex Bianco

EXHIBIT U

Drainage Systems and Rock Outcrops
Which Distinguish Stags Leap District
from any Southern Extension



(85)

6236 Silverado Trail
Napa, Ca., 94558
January 6, 1988
(707) 944 2315

Chief
FAA, Wine & Beer Branch
Bureau of Alcohol, Tobacco & Firearms
P.O. Box 385
Washington, D.C. 20044-0385

Re: Notice #644 Stags Leap Appellation - North Boundary

Sir:

I am writing this letter to you, not as a member of the Stags Leap Appellation Committee, but as a farmer, a grape grower, living within the proposed boundary. I was disappointed with the antics and integrety of some of the members of the "Northern Extension" group. I am taking the liberty of sending you photos, along with my comments regarding this matter. Your committee, headed by Mr. Drake, conducted the hearing with courtesy, dignity and interest, for which we all are very grateful. I submit the following, on the outside chance your committee was misled by some of the speakers:

1) Mr Missimer stated, "I always thought I was in Stags Leap because I can see it from my back porch". Please note the attached photos, #M-1. 1A, 2, 3, and the notations on the back of #M-1. It is clear from these photos that Stags Leap cannot be seen from the porch of this (Mr. Missimer's) house.

2) Ms. Simonson stated, the wind coming up from the south was helpful to her vineyard, so they planted their vineyard north and south. Please refer to photo #4 and comments on the back. It clearly shows a good portion of their vineyard is planted east and west, with the remainder protected from the wind by their hill on the south corner of their property. (See USGS Map).

3) Mr. Chambers story of how the wind bent his vines and those of his neighbors, is questioned in the photos numbered, A-1, 2, 3, 4 and 5, taken on the Anderson property road, which runs between the hills where Mr. Drake stood, to the Yountville Crossroad, and in photos, "Chambers 5, 6 and 7. It can be seen that the wind has little or no effect on the vines or canes in either vineyard. Again, Mr. Chambers vineyard is protected by the hills on his southern property line. (See USGS Map). Mr Anderson's vineyard is likewise protected. The wind coming swiftly through the opening between the hills does not affect his vineyard, as the opening is much higher than the vineyard and the wind, although coming swiftly through this gap, (re. Mr Drake) merely passes over the top as it does when it comes over the top of the hills. In comparison, note the vines in photos #E1, 2 and 3, taken on the Egan vineyard just south of the hills forming this proposed northern boundary. Note the effect of the wind on these vines and how they tend to "lean" to the north. Notations also on back of photos.

4) Our committee chairman, John Shafer, His wife and myself visited Ms. Thomas, an old timer in the area, in early November. At this time she stated that Stags Leap stopped at the Shafer property and did not go any further north. She was very firm in her opinion and stated as "rediculous" that anyone thought it went to the crossroad. She would not consent to appear, but did agree to sign a statement to this effect if we would make one up for her. When John Shafer returned to have her sign, she refused, stating that she changed her mind, that Stags Leap did go to the crossroad. She later signed a statement to this effect and it was presented to your committee at the hearing by Ms. Barboza.

At the original meeting with Ms. Thomas, after John Shafer and his wife departed, I stayed and talked with Ms. Thomas about our properties and surrounding properties, and some of the history of the area.. During this talk the Zinsky Winery next door to her came up. She stated, "I didn't fight the winery. How can someone like me stop these people, they have too much money. His lawyer came to me and told me they would clean up my property line, also the run-off ditch, even where it comes on my property. They would also install a new fence, if I would sign a paper saying I did not object to the winery. I could not fight them, so I signed. My neighbors were very mad at me. I got a very nasty telephone call from one of them". In view of this statement to me by Ms. Thomas, her letter to the committee and the method of obtaining it are indeed questionable.

4) Much was made of "how hard we work on our farm". A sort of Ma and Pa Kettle down on the farm routine. Yes we all work very hard. My children still work here every summer. My wife still drives tractor every year during harvest. This information is interesting but not pertinent.

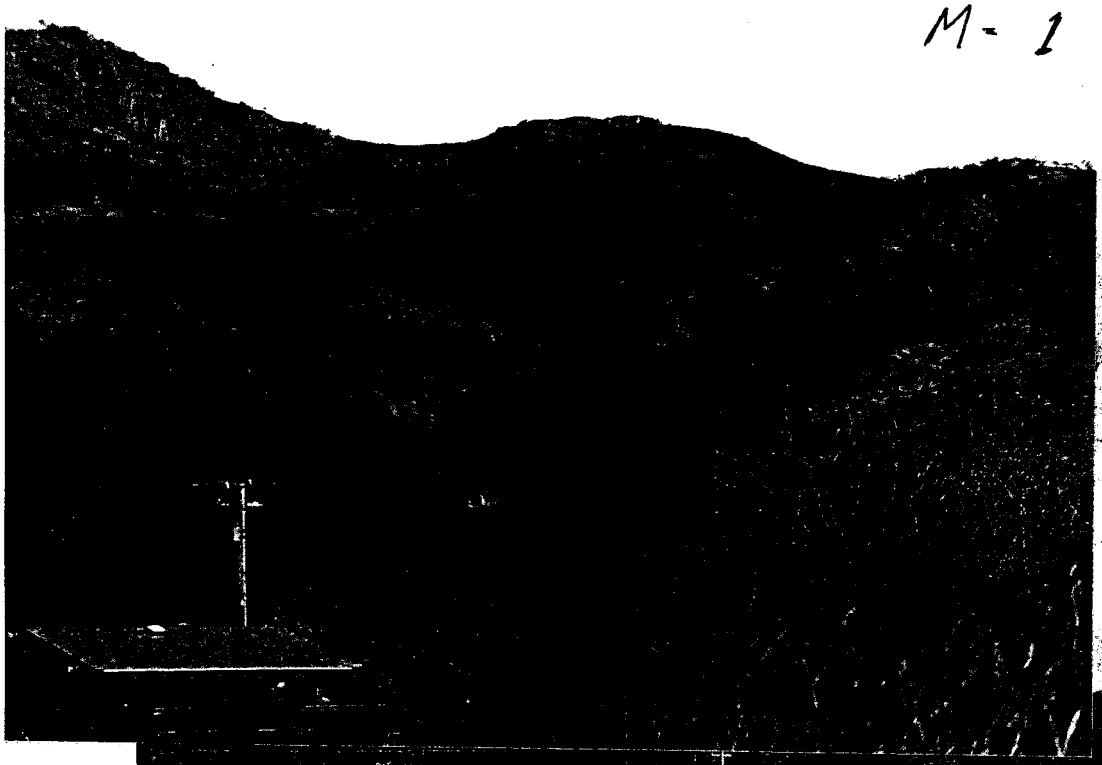
In closing, allow me to thank you for taking the time to read my comments and study the enclosed photos.

Respectfully,

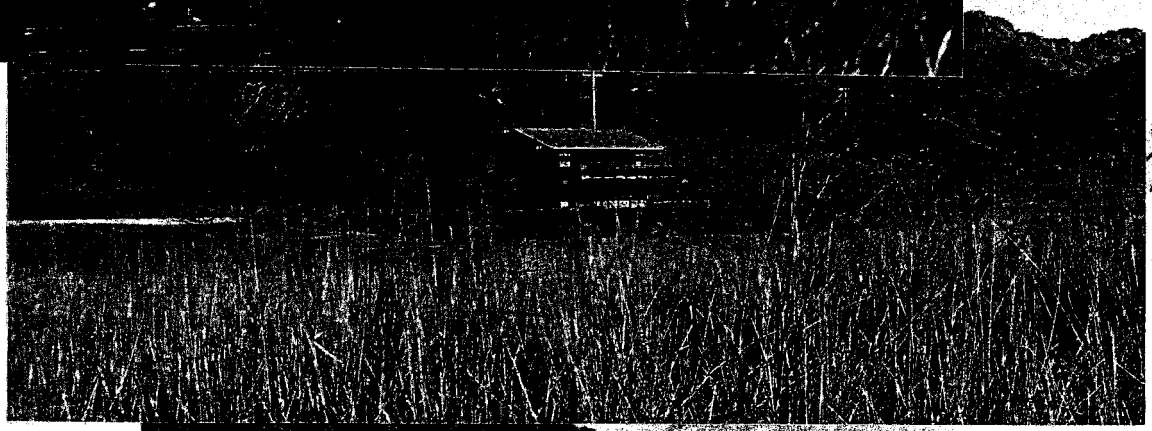
Robert D. Egan

NOTICE # 644
"STAGS LEAP"

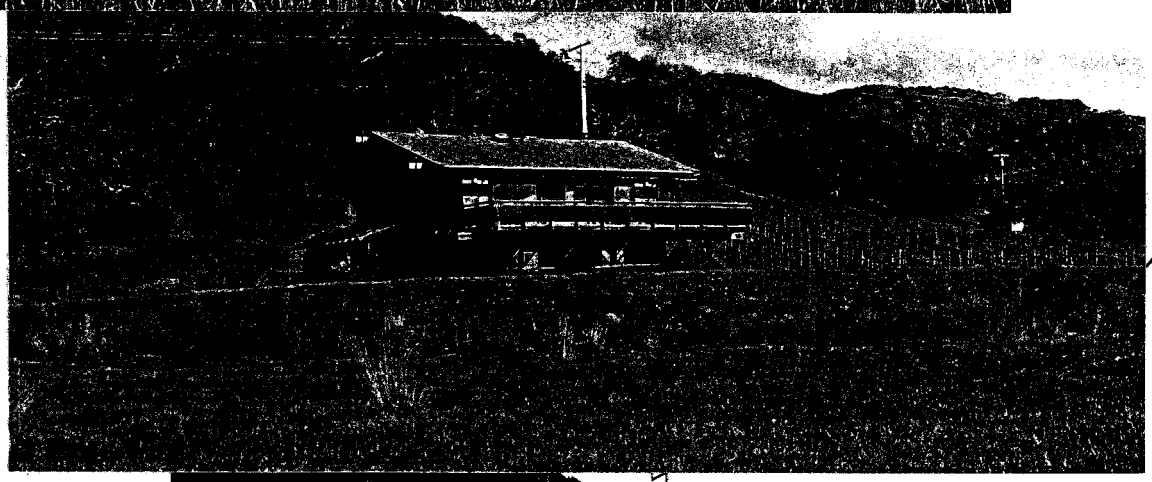
M-1



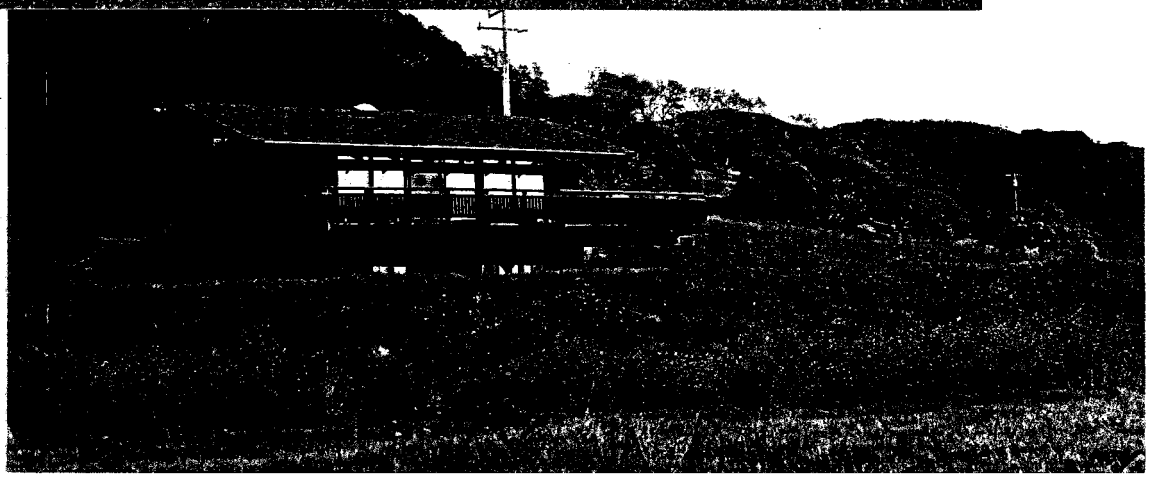
M-1-A



M-2



M-3



5

6

7

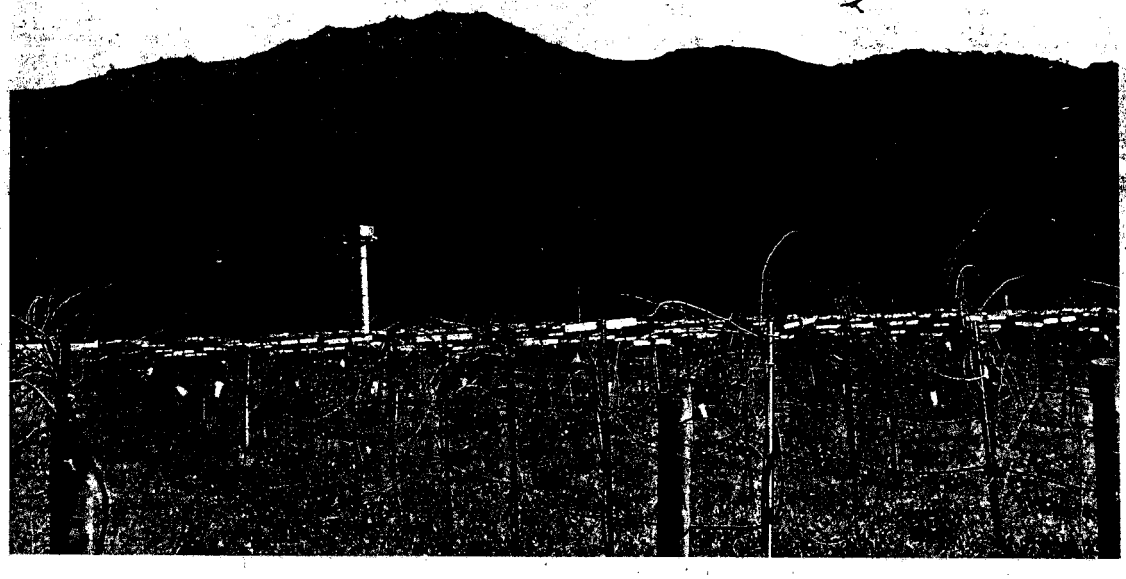
A-1

NOTICE 644
"STAGS LEAP"

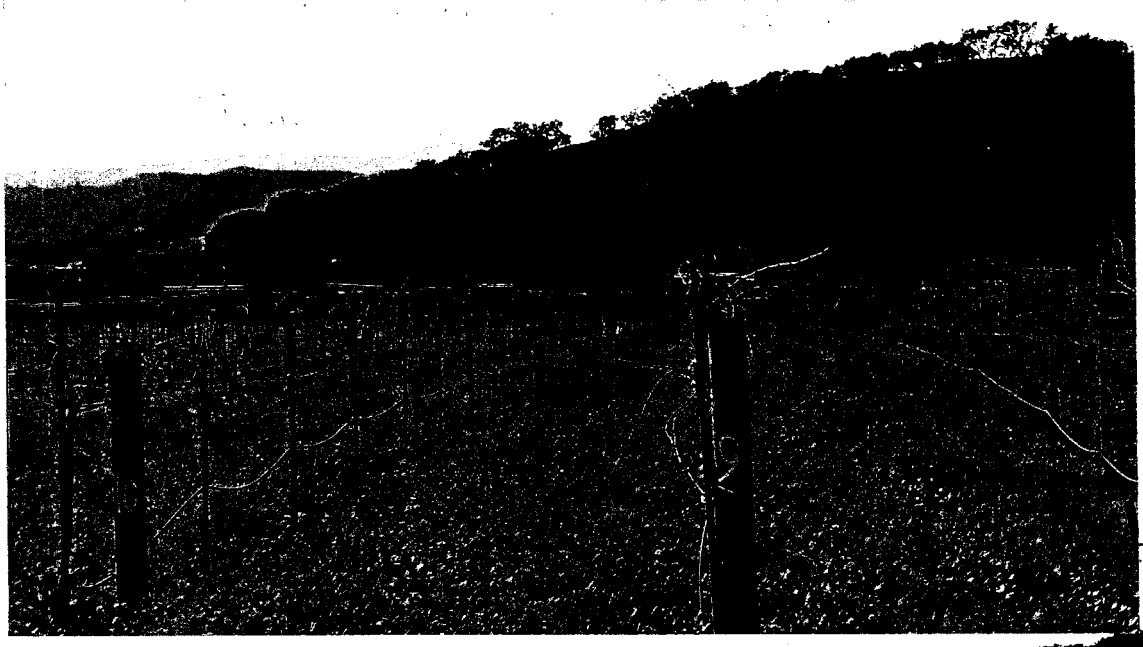
4

5

E-1



E-2



E-3

(86)

5912 Chandler Court
Santa Rosa, CA 95409
January 10, 1988

Chief, Wine and Beer Branch
Bureau of Alcohol, Tobacco and Firearms
P. O. Box 385
Washington, DC 20044-0385
Attn: Notice No. 647

To Whom It May Concern:

Please consider the enclosed document as a written comment that responds to issues raised about the proposed Stags Leap District Viticultural Area. Thank you very much for your time and attention. Should you have any questions, plese feel free to contact me at either 707-539-8430 or 707-664-2195, or in writing at the above address.

Sincerely yours,

William K. Crowley

Dr. William K. Crowley,
Professor of Geography

THE STAGS LEAP DISTRICT BOUNDARY QUESTION

by

William K. Crowley
Professor of Geography
Sonoma State University

December 10, 1987

THE STAGS LEAP DISTRICT BOUNDARY QUESTION

Introduction

I am chair of the Geography Department at Sonoma State University. I have taught wine geography courses as part of our department's regular curriculum since 1975 and have followed the response to ATF-53 since it was established as part of the Federal Code of Regulations in 1978. I have published papers, delivered various presentations at professional meetings (eg., the Association of American Geographers and the Society of Wine Educators), and organized panels that have focussed on the impact of, and response to, ATF-53, particularly with respect to viticultural areas. As a geographer, I am very familiar with the idea of regions and how boundaries are established for delimiting regions. Viticultural areas are clearly regions whose limits are being formalized by the ATF. In the discussion that follows, I particularly want to direct my attention to the proposed Stags Leap District and the question of its boundaries, especially the northern boundary, since that is the one most disputed at present. I will make very brief comments on ATF-53's first two criteria, then comment at some length on the geographic criterion, and, finally, offer some observations on additional points that have been raised.

ATF has already received reams of written material and two days of testimony on the subject, so I intend to direct my comments only to the most obvious and important points. Accompanying this document, I have submitted three air photos that show the Stags Leap District and adjacent areas (Exhibit 1). With

a stereoscope nearly all of the proposed viticultural area can be brought in to three dimensional focus, which provides an important perspective on the question of topography. I have included a plastic sheet overlay (Exhibit 1A) that shows all present vineyards in green. (I have not had time to field check every piece of land on the photos so that I may have missed a vineyard or two, but the point I wish to make would not be changed.)

Essentially, two northern boundaries have been proposed for the Stags Leap District, that of the Stags Leap District Appellation Committee (which has indicated a willingness to accept any one of three variations of its boundary, depending on whtether ATF wishes to use property lines, a peak-to-peak line, or an altered peak-to-peak line to avoid bisecting any vineyards), and that of Dr. Stanley Anderson (whose area is referred to below as the Anderson Addition). Which boundary best fits ATF-53 criteria?

The first criterion requires "evidence that the name of the proposed viticultural area is locally and/or nationally known as referring to the area specified in the petition." Testimony by Gary Andrus and Joseph Phelps at the December 1st and 2nd, 1987 hearing in Yountville was particularly telling in this regard. No wineries have labelled wines made from grapes grown in the Anderson Addition as "Stags Leap." Napa Valley Wine Auction literature has not listed any of these vineyards or the one winery in the area as "Stags Leap." The wine press has not referrred to the area by that name. So, what evidence suggests that the first criterion has been fulfilled for the Anderson addition?

The second criterion requires "historical or current evidence that the boundaries of the viticultural area are as specified in the petiton." Again, the wine literature omits the Anderson addition from even the most loosely defined Stags Leap District. Much talk centers around the Yountville Cross Road as the boundary of the Yajome land grant made in mid-nineteenth century. But the present concern is for a late twentieth century viticultural area boundary and the two hardly seem related. The land grant boundary was drawn up before vineyards were planted here and had nothing to do with outlining an area of unique viticultural characteristics.

The third criterion requires "evidence relating to the geographical features which distinguish the viticultural features of the proposed area from surrounding areas."

Topography

The accompanying air photos, particularly when viewed through a stereoscope, show the topographic discontinuity along the northern boundary proposed by the Stags Leap District Committee. There are three hills there that separate the Stags Leap District from the Anderson Addition to the north. It is a distinctive landform boundary. On the other hand, the Yountville Cross Road is nothing more than a road. The topography is exactly the same on either side of the road. It could have been built immediately to the north or south with equal facility but was built where it is because it followed a property boundary, as so many rural roads do in this country. Its straightness attests to the fact that it follows no topographic barrier. It is clear that such a boundary

would not separate either topographically or viticulturally distinctive areas.

At the Yountville hearing John Anderson presented profiles of various hills found in the Stags Leap area. His contention was that there are larger hills already within the Stags Leap District Appellation Committee's boundaries (for example, the so-called Mondavi Hill--the long north-south hill near the western boundary) than the hills the Committee wants to use as its northern boundary, and therefore crossing the hills at the Committee's proposed northern boundary so as to include the Anderson Additon ought not to be a problem. He argued that if the larger hills within the Committee's proposed boundaries are not topographic and climatic barriers, how could the smaller ones on the north be barriers. Two important points answer his claims and support the Committee's use of these smaller hills as a northern boundary.

1) The larger hills within the appellation that he refers to are aligned more north-south, paralleling the predominant air flows that dominate the area during the growing season. Air moves freely along both the east and west sides of these hills, and they therefore have minimal impact as barriers to this flow--they, in fact, create the so-called Stags Leap funnel and are a major part of the topography that help create its microclimate. In contrast, the hills at the northern boundary are aligned in an east-west direction and directly impede the air flows that dominate during the growing season, producing a barrier effect and creating different microclimatic conditions on either side of these hills.

2) Even if the ATF were to accept Mr. Anderson's erroneous arguments, what of the topographic effect of his proposed northern boundary, the Yountville Cross Road? ATF might find it enlightening to consider what a cross-section of that boundary looks like. It would, of course, be a perfectly flat line! What kind of unique viticultural area would be delimited by that kind of boundary?

Geology

At the Yountville hearings on December 2, when Dr. Stanley Anderson was asked if the Yountville Cross Road was a geologic boundary, he replied that yes it was! The folly of that answer really sums up the entire case made by those who seek to add the Anderson addition to the Stags Leap District. The geologic map shows no boundary here and no geologist worthy of the name would claim any kind of geologic boundary follows the Yountville Cross Road. What are the two geologic formations that it separates if it is a boundary?!! The hills at the northern end of the Stags Leap District proposal, on the other hand, represent a geologic discontinuity between the areas to the north and south.

Soils

There are two basic sources for determining the soils of the general area under consideration, the highly generalized USDA Soil Survey and the more particularized work of Professor Elliot-Fiske of the University of California, Davis. Whichever source the ATF wishes to consider authoritative, the Yountville Cross Road does not stand up as a boundary. According to the USDA the Bale Loams are continuous across this road. The road does not follow any

soil boundary (and it would be extremely rare for any soil boundary to follow such a straight line!). The hills that form the northern barrier proposed by the Stags Leap District, however, are covered by soils of the Bressa-Dibble Complex and Perkins gravelly loam. They represent a break in the predominant soil types found on the valley floors. And while it is true that the Bale Loams predominate on both sides of the hills, they are also scattered widely throughout the Napa Valley and are by no means limited to the Stags Leap District.

Professor Elliot-Fiske's field work has led her to conclude that the USDA map is errant, and that in reality, the Anderson Addition is covered by alluvial fan materials brought down from Rector Canyon while the bulk of the Stags Leap District is covered by sediments deposited by the Napa River when it previously followed a different course that took it right through this area. These same sediments are also very likely found in the Anderson Addition since the Napa River likely flowed in that area as well, but in the Anderson Addition area they have since been covered over by many feet of the Rector Canyon Fan materials so that they are no longer anywhere near the surface, nor available to vine roots as they are in the Stags Leap District. In other words, the Napa River sediments have been well-buried by the Rector Canyon Fan materials in the area of the Anderson Addition. Professor Elliot-Fiske's conclusion is that both the surface soils and the root zone materials are distinctive in the Anderson Addition as compared to the area within the Committee's proposed boundaries. No distinctions separate the soils to the north and south of the

Yountville Cross Road; this is a human-made boundary, the Committee's is a geographic one.

Climate

Those supporting the Anderson Addition have not produced a single climatic statistic--no temperature data, no precipitation data, no fog or wind data. Anyone can stand up and make claims, but my impression is that in recent decisions the ATF has required some proof of climatic similarity where areas have sought to annex to viticultural areas or proposed viticultural areas. The ATF's recent decision to not amend the boundaries of the Los Carneros area offers wisdom for the present case. In an August 24, 1987 letter to Ms. Sara Schorske concerning the proposed Los Carneros expansion, Mr. Richard Mascolo states that "your climatic evidence is not adequately supported by objective data" (p. 6), and that "what is lacking is more specific [climatic] data" (p. 4). If ATF was not satisfied with the climatic data in that instance, it would be hard to imagine how the Anderson petition could find support, since, to this point, not a single climatic datum has been offered to support a northward extension of the Committee's proposed boundaries. On what basis could ATF determine that the Anderson Addition and the Stags Leap District are alike climatically?

It is also worth noting that most of the area that petitioners sought to add to the Los Carneros area was extremely flat Sonoma Valley land where no topographic barrier divided the petitioned for area from the area presently within the viticultural area. If the ATF found it reasonable to argue for

maintaining a boundary where topography does not change on either side of the line, it should have no difficulty in recognizing the significant topographic boundary that separates the Stags Leap District from Dr. Anderson's proposed addition. Given the general air flow in the Napa Valley, and the topographic barrier provided by the hills at the northern end of the Stags Leap District, the greater probability is that the two sides of the Stags Leap District Committee's proposed boundary are microclimatically distinctive. Vegetation patterns as well as observed fog patterns suggest this to be the case.

The vineyards themselves, however, tell the story better than anything else. The overlay accompanying the air photos (Exhibits 1 and 1A) shows vineyards (colored in green) in the general area under question. Note that vineyards are contiguous across the Yountville Cross Road. If the road were not there, vineyards would be planted on that land because it does not represent any kind of natural boundary. Vineyards on either side of the road are within 50 feet of one another. On the other hand, look along the boundary proposed by the Stags Leap District. There is no road there, no human-made device artificially separating territory. Yet the bulk of the boundary area is void of vineyards for some distance on either side. This boundary is one which separates distinctive growing areas as ATF-53 prescribes. Vines could be planted here if it were worthy land; there is no asphalt to stop them. But they are not, because this area represents the terminus of an area of distinctive

viticultural features. What are the viticultural distinctions between the north and south sides of the Yountville Cross Road?

Other Considerations

Much mention has been made of the superiority of the Yountville Cross Road as a boundary because of its "ease of administration." Whether this claim is true or not is really not an issue because nowhere in ATF-53 is "ease of administration" mentioned as a criterion for defining American Viticultural Areas. To apply this kind of a criterion would be the equivalent of "changing the rules in the middle of the game." If it is not an ATF criterion, presumably it cannot be used in deciding the question.

Economic issues have also been brought up with respect to where to draw the boundaries. The value of a ton of grapes and the price commanded by bottled wines have been mentioned as important considerations. Again, ATF-53 makes no mention of any kind of economic criterion, and ATF itself has made this clear as it noted in its decision on the boundaries of the Shenandoah Valley, California Viticultural Area wherein it stated that economic factors were not a consideration in its Final Rule. ATF reiterated this point in refusing to expand the boundaries of the Los Carneros area. On page 6 of the August 24, 1987 statement to Ms. Sara Schorske regarding the proposed expansion of the Los Carneros boundaries, Mr. Richard Mascolo states that "this [commercial disadvantage] is not a factor that is prescribed by regulations for the determination of viticultural area boundaries."

In sum, I find that the topographic, geologic, lithologic and climatic evidence argue overwhelmingly for support of the Stags Leap District Committee's proposed northern boundary rather than that of Dr. Anderson, and I trust that the wisdom ATF has demonstrated in previous viticultural area decisions will prevail again here.

EXHIBIT 1

Exhibit 1 consists of three air photos that include the area of the proposed Stags Leap District.

1. With a stereoscope the areas of overlap on adjacent photos can be viewed in three dimension.

2. The overlay (Exhibit 1A) is to be used with photo #13 since this photo includes the disputed northern boundary area.

3. Exhibit 1A is attached to the photo and should not be detached since it would be difficult to line it up correctly once removed. (Should it become detached, line up the red crosses near the corners with the cross-hairs near the corners of the photo.) It can be lifted back for stereoscopic viewing with the other photos.

EXHIBIT 1A

Vineyards of the northern portion of the Stags Leap District, of the proposed Anderson addition, and of the area to the north of the Yountville Cross Road:

Proposed northern boundaries--the Stags Leap District Appellation Committee's and Dr. Anderson's:

Points to consider:

1. Note the obvious break in vineyard cover along the northern boundary proposed by the Stags Leap District Appellation Committee.

2. Note the continuity of vineyards across the northern boundary proposed by Dr. Anderson


5-13-8
8- 11


85
8- 12


3-85
NCRCD
8- 13
BUOY
BUOY

(87)

WHITBREAD OF CALIFORNIA
P.O. BOX 5660
NAPA, CA 94581
707-252-7971

December 7, 1988

Chief, FAA Wine & Beer Branch
B A T F
Box 385
Washington, D.C. 20044

Re: Notice #644

Dear Sir,

I have been a professional winemaker in California for 29+ years. I have been Assistant Production Manager (Winemaking) and Technical Director at Gallo, Winemaster/Production Manager at Beaulieu and President/Winemaster at the Monterey Vineyard during that time. I have watched the progress of the B A T F Applellation program and would like to make a general comment.

First, please understand that I am not on any established side in the Stag's Leap question. Nor is it my purpose to be critical, and I hope I will not offend anyone by stating what I believe. I am only concerned from a "let's do it correctly the first time" point of view. It strikes me that some of the appellations which have received approval previously have not exactly followed the stated criteria--to the detriment of the worth of those same appellations.

Since the purpose of the Bureau's actions on appellations is primarily to protect the consumer, then it follows that classifying winegrowing areas according to a generally identifiable familial uniqueness of wines within each given area should be the primary goal of the appellation committee. But, to my outside eyes looking in, it has appeared that the final boundaries of some appellations were expanded to accomodate adjoining areas which "wanted in" even though there was little evidence to support such inclusion. I do not believe the committee performs a service, either to the consumer or to the producer, where proof of uniqueness is not a rigid requirement of inclusions with in a specific applellation.

If all the vineyards within a given viticultural area do indeed share certain <u>unique</u> characteristics, then that viticultural area becomes worthwhile to consumers. If they do not, then the consumer cannot rely on the stated appellation to be meaningful, and we will have only further confused the consumer.

I do not know which boundaries should prevail in the Stag's Leap question. Which vineyards are in and which are out is none of my business since I have no ownership or other interest in any of them. But growers throughout the area are friends of mine and I sincerely hope that the boundaries you establish are real, and meaningful so that good, and not further confusion, is created by the establishment of such an appellation.

In short, my plea is that you redouble your efforts to let actual uniqueness, as proven by whoever can, be the sole determining factor in your decisions. Nothing is gained, long term, by allowing political boundaries or political pressure to determine appellation boundaries.

Thank you for your efforts.

Sincerely,

Richard G. Peterson

Richard G. Peterson, Ph.D.
President

STAG'S LEAP WINE CELLARS

5766 Silverado Trail • Napa, California 94558

(707) 944-2020 or 944-2782

88

January 13, 1988

Chief, FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
Post Office Box 385
Washington, D.C. 20044-0385

REFERENCE: Notice Hearing No. 644

Dear Sir:

This statement is submitted in addition to the one read during the hearing on December 2, 1987. It addresses the issue of the Stag's Leap District. It also addresses the larger issue of principles which will guide the discussions relative to the creation of viticultural appellations within the Napa Valley.

I am the chairman of a committee of the Napa Valley Vintners on the subject of subappellations within the valley. And, while I want to make clear that I do not speak on behalf of the Napa Valley Vintners in the following statement, I assure you that the alternative principles as stated herein are very much of deep concern.

During the hearing that led to the establishment of the Napa Valley viticultural area, BATF took notice of the considerable climatological and viticultural diversity that existed within that proposed viticultural area. Yet it was perceived that the consumer had come to associate this diversity with an accepted unified image of the valley. That unitary public recognition was the basis for creating the "valley" in such a way as to include the regional diversity which had contributed to that public recognition. Not to have done this would have appeared, in effect, to deny a massive consumer reality.

In the closing discussion of the second day of the Napa Valley hearing, BATF also laid the grounds for an internal articulation of the Napa Valley's viticultural diversity through establishment of smaller sub-regions within the valley. The Stag's Leap District proposal would appear to be an example of that articulation. Yet the attempt to islolate viticultural distinctiveness through process of regional articulation appears to be in doubt. And this is so because BATF does not seem to be attempting to draw boundaries of the Stag's Leap District sub-region as narrowly as possible in order to preserve the distinctiveness in evidence. Rather, BATF appears to take a broad view of the evidence in order to include any petitioner who presents marginal evidence for inclusion.

I believe the inclusionary principle is inappropriate as applied to sub-regions because it denies and frustrates the reality of "distinctiveness" (both as a consumer issue and as geography) which the further subdivision of the Napa Valley is meant to secure.

This inclusionary objective cannot lead to an articulation of the valley which would be meaningful and useful to the consumer. Indeed, one could make a strong case to show that such an objective would merely take something away from the consumer because it would drain the immense resevoir of public recognition and good will that now exists for the "Napa Valley". This is a dangerous possibility and one that I believe is contrary to the consumer benefit that BATF is meant to serve. Dividing up the Napa Valley into named subdivisions, without the reality of distinctiveness which those named subdivisions are meant to represent and signify, can only lead to confusion.

It has been suggested by some that the purpose of the viticultural appellation procedure is merely to signify to the consumer the <u>origin</u> of the wine. It is not meant to say anything to the consumer about <u>what</u> is in the bottle. In my opinion, this interpretation is not supported by the ongoing refinements of the appellation process. The very fact that the BATF is allowing the formation of appellations within other appellations points to the fact that there is a recognition of diversity within appellations, (e.g. the Napa Valley) which deserves designation for the benefit of consumers. The root of this diversity is distinctiveness. But distinctiveness cannot be reduced to considerations of origin alone. It is origin, plus that which makes a difference in the products of those origins.

To state this in a somewhat different way, it does not do anyone any good to establish another smaller "origin" appellation within the Napa Valley.

Why should anyone want to have a smaller and smaller focus on origins, unless there were something unique and distinctive about the smaller region of origin?

It would also follow that this unique and distinctive "something" give the product grapes and wines a unique, distinctive and local character not present elsewhere in the larger region of origin. One could justify appellation of origin, it appears, only if the above described distinctiveness were present.

In the Stag's Leap District, there is a well-documented nationally and internationally recognized distinctiveness. There is "something" which deserves the status of appellation not merely because it gives the consumer information about a smaller geographical origin of the wines.

In the case of the Stag's Leap District, that unique character or distinctiveness is to be found in the Cabernet Sauvignons which are produced therein. There is something special about its geography of origin which produces wines of familial resemblance. And this is so notwithstanding the clonal heterogeneity and the diversity of viticultural practices within the proposed district. The "distinctive combination of grape and locality"[1] in this district also serves as a model for the basis of recognition and designation for the smaller regions totally within the larger, well-recognized Napa Valley. Such a viticultural designation would assist the consumer by providing a geographical basis for wines of familial resemblance. It would also be a recognition for the substance and reality which justify the designation of sub-regions within already well-known regions of origin. It would also save the "Napa Valley" from an unjustified and unmerited destructive fragmentation into sub-regions, each of which was proposed merely on the basis of geographical identity, and none of which had anything helpful to say to the consumer by way of a recognizable "distinctive combination of grape and locality".

I am not saying that BATF should allow only Cabernet types in the Stag's Leap District. We are now near a consensus on this future possibility. What I am saying is that BATF should not abandon the opportunity to utilize the considerable consumer recognition of the "distinctive combination of grape and locality" in creating the boundaries of the Stag's Leap District. By creating the boundaries along tight lines which contribute to preserving the "distinctive combination", BATF would be promoting its ultimate objective of consumer information and protection.

---

1. This phrase is used by the wine writer Gerald Asher in his article in Gourmet, Oct. 1987, pp. 102-106. Asher's extensive knowledge of European and American appellations commands wide respect in the industry and among consumers. The nerve of the thought in this article could be seen as a suggestion to the BATF to encourage the empirically developing association of certain varietals and certain geographic regions, especially in California, "There is", he says, "clearly an increasing, if unspoken concensus on which marriages of variety and location are likely to endure sucessfully.

No new regulation or new interpretation of regulations is required for BATF to make this contribution to the ongoing development of its viticultural appeallation program. BATF has only to pay the closest attention to the widely acknowledged viticultural and oenological reality that exists in determining the boundaries of the district. That reality would surely be universally perceived by competent observers as having been ignored for other, non-viticultural considerations if the artificial, non-viticulturally significant Yountville Crossroad was one of its boundaries. Please do not allow the great purposes of the viticultural appellation program to be tainted by the stigma of the road. Do not allow the inclusionary principle to blur the edges of distinctiveness; but rather preserve the principle of distinctiveness as indicated throughout this statement.

Respectfully submitted,

Warren Winiarski cb

Warren Winiarski

WW:cb

This letter was dictated but not read by Mr. Winiarski. The document was signed in his absence.

89

January 11, 1988

Chief, FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20226

Dear Sir or Madam:

I am writing to express a view relevant to the Stag's Leap District and other sub-appellations.

In order to be meaningful as designations of distinctive viticultural areas, I believe that there must be an adherence to those aspects of growing conditions (i.e., soils, micro-climates, terrain, etc.) that differentiate the sub-appellation from surrounding areas.

I strongly support the objectives of BATF in allowing more definitive appellations. It has important informational value to the consumer. However, if this information is to be accurate, then the viticultural criteria must be observed.

Sincerely,

Robert E. Craig,
President

REC:b

Napa Valley Estate Vineyards and Winery
[illegible] Redwood Road [illegible] Napa, California [illegible] Telephone [illegible]

(90)

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Cheryl Ames
District Manager / Wine House
3241 S. Keeler
Chicago, Ill. 60623

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

91

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

John J. Dabrenen

John Dabrenen
9520 CARDINAL AVE
WESTMINSTER, CALIF
92683

92

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Tom Dunn
Darlene Dunn

Tom Dunn
605 17th St
Huntington Beach, CA
92648

93

Vintage PRODUCTIONS

1545 WEST MOCKINGBIRD • SUITE 1047 • DALLAS, TEXAS 75235 • (214) 688-0906

January 13, 1988

Bureau of Alcohol, Tobacco and Firearms
Wine and Beer Branch
Washington, D. C. 20226

Dear Sirs:

Regarding Notice 644 which will establish the boundaries for the Stag's Leap appellation, I urge you to maintain the integrity of the viticultural area by defining the northern border with the row of hills proposed in the original application. While there are certainly very fine wines grown between the row of hills and the road which is also under consideration as the northern border, they are different in character from Stag's Leap wines.

To use man-made boundaries in defining appellations, rather than natural geographical boundaries which create specific soil types and/or unique climatic conditions necessary to produce distinctive wines, destroys the credibility of a viticultural area. If consumers cannot rely on an appellation designation to signify a wine with unique characteristics, they will lose confidence in the system.

The entire American wine industry will be affected by your decision. If our appellations are political in nature rather than viticultural, then the entire process is a waste of time and effort. Again, I urge you to make your rulings, not only in the Stag's Leap issue, but in all American appellation issues based on the preponderance of evidence which proves viticultural uniqueness.

Thank you for your consideration.

Yours truly,

Rebecca Murphy
President

RM:bf

DEPARTMENT OF ECONOMICS, BA402
COLLEGE OF BUSINESS ADMINISTRATION
Fayetteville, Arkansas 72701
(501) 575-4002

UNIVERSITY OF ARKANSAS

94

January 14, 1988

Federal Express

Director
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20226

Mr. Jim Ficaretta
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20226

Dear Sirs:

I am concerned about the establishment of the viticultural area to be known as Stags Leap. In previous scholarly publications (in Wines and Vines, Economic Affairs, and the Atlantic Economic Journal) and in national and international conferences (like the Western Social Science Association, the Southern Economic Association, the Western Regional science Association, and the Atlantic Economic Society,) my late co-author and I have questioned the development of the designation of U.S. viticultural areas.

The development of sub-appellations may be a welcome addition to the process of viticultural appellations. However, the process of approval adds some other dangers of applying a proprietary name to a geographic area. Instead of removing confusion for consumers, it may create confusion.

Enlarging a petition, or accepting one, should require a strong case for uniqueness where evidence should be presented. Inclusion of any interested party undermines the viticultural appellation.

The use of a proprietary name made nationally and internationally famous for quality by the winery using the name as an appellation for a viticultural area is unjustified for at least three reasons. First, the credibility of all geographic appellations for U.S. wines could justifiably be called into question. Second, the principle of exclusivity would be violated and would generate the problem of the commons for the winery whose famous proprietary name is so utilized. Third, there is the generation of confusion between what is proprietary and what is geographic.

(95)

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558
PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

D. J. Burke Ryder
Lisa L. Ryder
1018 IRVING AVE., #8
GLENDALE, CA 91201

(96)

1158 Hayes Street
Napa CA 94558
January 12, 1988

Chief, FAA, Wine & Beer Branch
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue NW
Washington, D.C. 20226

Dear Sir:

I am writing to urge you to approve the boundaries as established by the Stags Leap District Appellation Committee for the proposed viticultural area to be known as the Stags Leap District.

I have lived and worked in the Napa Valley for ten years. During this time I have been involved, in varying capacitites, in the wine business. Never, have I nor any of my co-workers ever thought of the Stags Leap District as extending to the Yountville Crossroad.

It is the general feeling that the boundaries proposed by the Stags Leap District Appellation Committee are correct. Especially taking into consideration your criteria for establishing a viticultural area. The Yountville Crossroad is not a natural boundary.

The red wines produced within the boundaries proposed by the Appellation Committee have certain qualities and characteristics that those produced nearer the Yountville Crossroad do not possess - namely, soft tannins and intense berry flavors. Stan Anderson does not even grow red grapes and those of Mr. Weeks are in no way comparable to those of the proposed Stags Leap District wineries and growers.

It is important that you make the correct decision in order to preserve our unique Napa Valley. You must remember that appellations - as in France (in particular, Bordeaux) - should reflect natural boundaries and be distinguishable from surrounding areas by their distinct geographical,geological and climatic features.

An extension north (or in any direction) would be a serious mistake and would be misleading to the consumer as well as the whole meaning of appellations in the United States.

Please, approve the boundaries as proposed by the Stags Leap District Appellation Committee.

Thank you.

Sincerely,

Mary Kay Schatz

(97)

Laurie Wood
Frank Wood & Sons
3022 St. Helena Highway
St. Helena, CA 94574

Chief
FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
P.O. Box 385
Washington D.C. 20044-0385

January 13, 1987

Dear Sir,

I regret that I was unable to attend the public hearings that your agency conducted concerning the proposed Stag's Leap District and its Northern extension. I'm sure the testimony was both interesting and informative and I hope provided you with enough information to make the correct decision.

I write to you to clear up the questions you posed as to the reasons behind my amendment , in Stanley Anderson's comment to my original declaration in the Stag's Leap Appellation Committee's original petition.

I was asked over two year ago, by the committee, to comment on what I felt were the historical boundaries of Stag's Leap. My original declaration, quite correctly, addressed only this historic area; The original Stag's Leap Ranch. This area is quite small and only encompasses a few modern properties.

At the time I wrote my decleration I was unaware of the extent of the proposed appellation. In light of its expanded size, the meaning of my decleration is not what I intended. The amendment to my decleration was an attempt to correct the inaccurate picture that my decleration was creating in these new circumstances.

As a modern viticultural area, Stag's Leap has grown from the ranch to include vast areas to the south and west, and certainly to include those areas that you refer to as the Northern Extension.

My amended decleration discusses the area as a whole, not just the history of a ranch. The soils, climate and most important, the heating influence of the Eastern hills, ties the whole area together and makes it unique. The Northern Extension completes the area and can not be excluded.

I hope this answers some of your questions.

Sincerely,

Laurie Wood

Laurie Wood

(98)

RICHARD CHAMBERS VINEYARD

6394 Silverado Trail
Napa, California 94558

January 12, 1988

James P. Ficaretta
F.A.A. Wine and Beer Branch
Bureau of Alcohol, Tobacco, and Firearms
1200 Pennsylvania Avenue NW
Washington, DC 20226

Dear Mr. Ficaretta,

My thanks to Mr. Drake, to you, and to the other members of the panel for patiently listening to everyones views during the recent hearing. I especially appreciated being given the extra time to say what I needed to say.

As I stated during the hearing, I know my neighabors along Yountville Cross Road and I share the same growing conditions that exist wihin Stags Leap valley itself. Our unique topography impacts us equally. We all share the venturi driven wind and morning fog. We all share the prolonged afternoon radiant heat and the cooler nights. We also all share the same volcanic soil mix which, along with variations in drainage and sun exposure create additional micro conditions within each and every Stags Leap vineyard. We all are learning that a " red grape does best here while a white grape does best there."

The proposed Stags Leap District is a complex issue and you must find it difficult to identify objective evidence for commonality. I am perhaps in an unique position to make a comparison. I can compare my vineyard with Shafer Vineyards since I sell my entire crop to John Shafer each year. Both vineyards are small, primarily terraced hillside vineyards with the same soil mix and sun exposure. We use the same viticultural techniques and our grapes should be almost identical. And they are.

My Cabernet Sauvignon and Shafer's Cabernet Sauvignon are harvested at the same time each year. My Cabernet franc and Shafer's Cabernet franc are picked the same day and put into the same tank. My merlot and Shafer's merlot are harvested together and fermented together (The recently released Shafer merlot has received high praise and it is half my grapes.)

Finally, the wine made from my grapes and the wine made from Shafer grapes (by the same winemaker) should be very similar. And indeed both are acknowledged as "Stags Leap quality" wines.

Again, Mr. Ficeretta, thank you for your exhaustive deliberation. I look forward to a positive outcome so we can all return to working together as neighbors.

Sincerely,

Richard F. Chambers

99

Chief
FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
P.O. Box 385
Washington D.C. 20044-0385

January 13, 1987

Dear Sir,

I would like to thank you and your staff for the exemplary way in which you conducted the public hearings focusing on the proposed Stag's Leap District and the Northern Extension. A great many facts came forward in the testimony including many that I found particularly interesting.

The testimony concerning the importance of a Rector Fan and the impact that it might have as to the northern boundary are particularly important. I felt that it would be worthwhile for someone to document the fan itself in a meaningful way.

The fan and its dominance of the area north of the Yountville Crossroad becomes obvious when you look for it. As one travels north on State Lane from the Yountville Crossroad the soil is at first very much like that of the S. Anderson property and other properties in the Northern Extension. This begins to change, though, almost immediately, less than 250 feet above the Crossroad, the soil beings to be infiltrated with ever increasing rocks. By the time one is 1/2 mile above the Yountville Crossroad these rocks completely dominate the soil. Piles of rocks picked from the land become commonplace.

One mile north of the Crossroad the source of all these rocks becomes plain. Rector Creek is a veritable mother lode of river rock of varying sizes. Photographs 1 & 3 (facing west) and 2 & 4 (facing east) show Rector Creek itself filled with river rock, rocks that dominate the vineyards that have been planted in its path. Vineyards just north of Rector Creek bear silent witness to this fact. Photographs 5 & 7, (facing east just north of Rector Creek) show Rector Dam in the back-ground and a heavy concentration of rocks from this source. In the right middle-ground of Photo 5, a pile of larger rocks picked from the vineyard can be seen. Photo 6 is of the same vineyard facing west. Photo 8 shows very large rocks that have been removed from the vineyard. Their scale is not obvious but they are roughly 3 to 6 feet in size. Photographs 1 through 8 were all taken roughly 8/10 of a mile from the mouth of the dam along the line of State Lane.

A vineyard on Rector Creek just south of Rector Dam further shows the rocky nature of the Rector Fan area. Photographs 9 & 10 are of the large rocks picked from the vineyard over the years and those that remain on the ground. Photo 11 is of the Rector Creek bed just south of Rector Dam.

The area of Rector Creek fan is dominated by rocks. Rocks that change the nature of the soil and therefore the nature of wine made from grapes grown upon such soil. The fan has an area totally dominated by these rocks at its center, becoming less rocky as one moves away from this center. The area of heavy rocks seems to spread outward in a V from Rector Canyon and runs to and is stopped by the Napa River. This V seems to cross State Lane at the 1/2 mile mark north of the Crossroad. The area 1/2 mile to the Creek (250 ft. North of the Yountville Crossroad) is what I think Dr. Elliot-Fisk would describe as a margin area. The rocks become less and less important until they stop at that Creek just north of the Crossroad.

The Rector Fan has no effect south of the Crossroad. The Rector rocks simply aren't present. The Rector Fan is totally dissipated, and this area running south to Chimney Rock is dominated by a series of Fans of its own.

Randy W.C. Mason, winemaker of Lakespring Winery, in his letter to John Shafer of July 7, 1987 (attached) comments on the differences in soil above and below the Yountville Crossroad. He noticed this difference in the wines he produced from grapes form the Egan Property located in the margin area of the Rector Fan, above the Crossroad, and those produced from the Steltzner property, south of the Crossroad.

The effect of the Rector Fan on wine making is significant as is the way in which it separates the Stag's Leap area, south of the Yountville Crossroad from what is obviously another area, north of the Crossroad.

Sincerely,

John S. Anderson

PHOTO 1

PHOTO 2

PHOTO 3

PHOTO 4

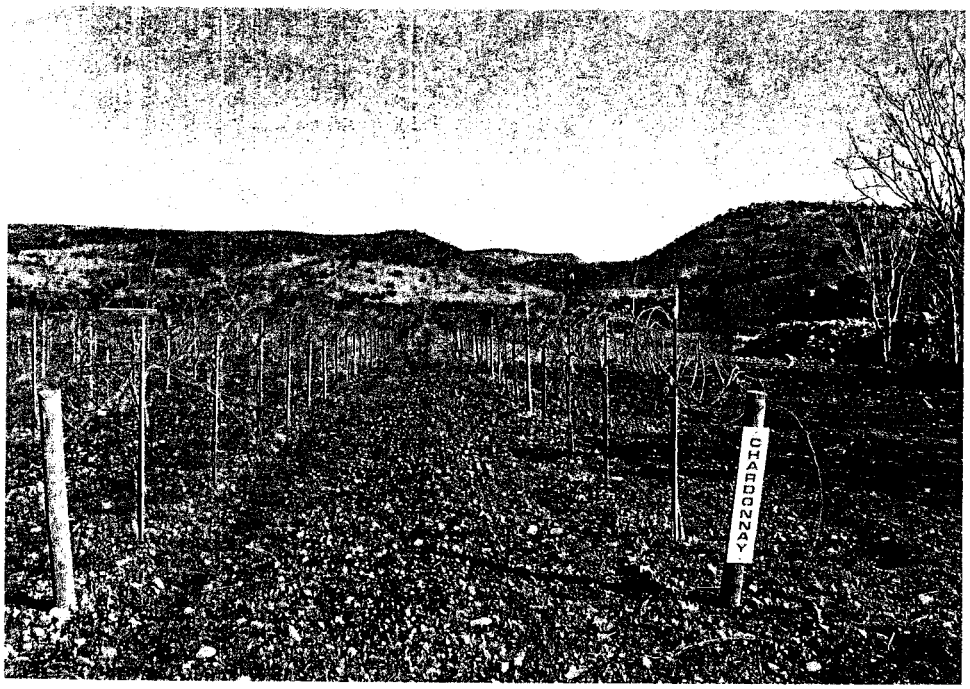


PHOTO 5

PHOTO 6

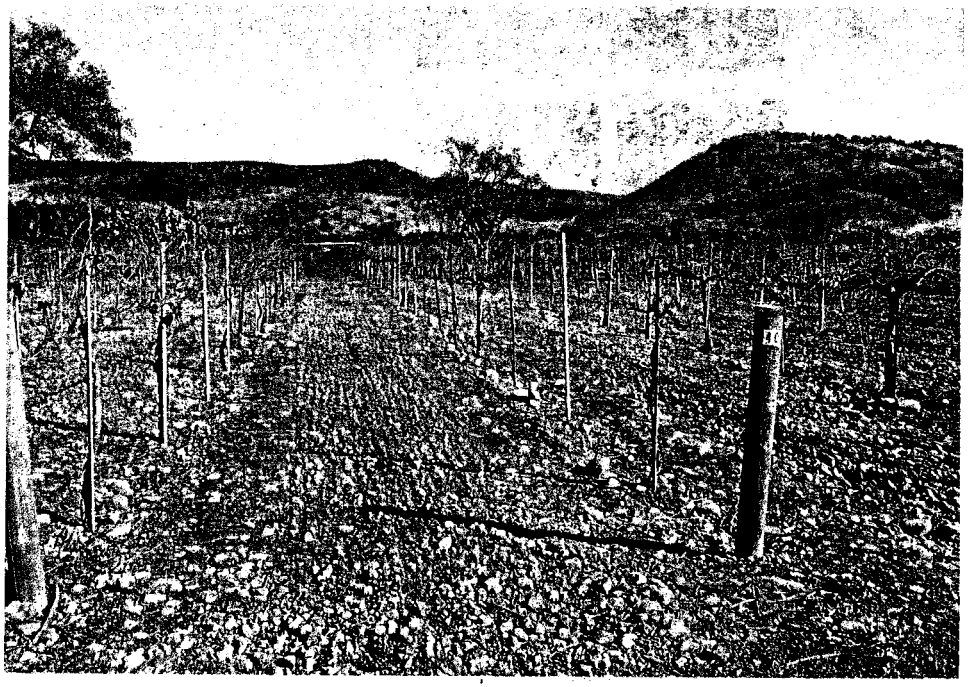


PHOTO 7

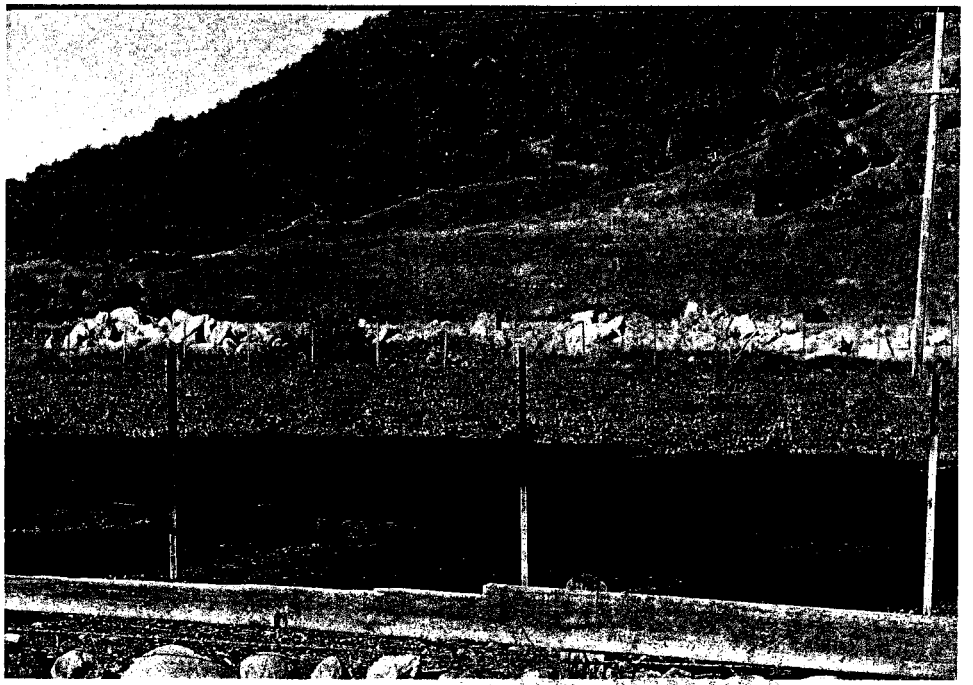


PHOTO 8

Lakespring

Lakespring Winery 2055 Hoffman Lane Napa, California 94558 Telephone (707) 944-2475

July 7, 1987

Mr. John Shafer, Chairman
Stags Leap District Appelation Committee
6154 Silverado Trail
Napa, California 94558

Dear John:

I have been following with interest the development and formation of the Stags Leap District Appelation effort. In so much as I have been making wines for the last five years from grapes purchased from the Steltzner Vineyards within the proposed Appelation and grapes purchased from the Egan Vineyard some 50 yards north of the Yountville crossroad, I thought you might be interested in the differences. The soil and climate of the Steltzner Vineyard grapes is such that it consistently gives a medium ruby and a moderate tannic wine with predominant cherry flavors. On the other hand, the climate and soil of the Egan Vineyards is such that I obtain a wine of substantially heavier tannic character, darker color and flavors that are earthy and briary in its fruit. The balance of these two grapes has consistently produced a structure and character of wine for which Lakespring Winery has built its sales and reputation upon. It is the very difference of the two climatic areas and soil types that marry and produce our distinctive character.

Best wishes in the successful conclusion of your unique viticultural area.

Sincerely,

Randy W. C. Mason

Randy W. C. Mason
Winemaker and General Manager

100

6341 Silverado Trail
Napa, CA 94558

January 3, 1987

Chief
FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco and Firearms
P.O. Box 385
Washington, D.C. 20044-0385

Dear Sir:

Subject: Proposed Stags Leap District Appellation
Soil difference between north and south
sides of Yountville Crossroad

In 1947, I started to work at the Veterans' Home in Yountville, before Rector Dam was built to provide a water supply for the Veterans' Home. Since the dam was built in 1948, I have been intimately acquainted with the soils along the pipeline from Rector Dam to the Veterans' Home because part of my job was to walk along the line checking for leaks, and to see that any leaks were repaired. From 1963 to 1983, I was supervisor of the water system.

A year or two after the water system was completed, we began to experience leaks in the areas designated on the print, and a cathodic protection system was installed. The 12" line was so badly damaged by electrolysis that a new 14" cement-lined steel pipe was finally installed in 1956. The print shows the old 12" line which was replaced by the 14" line.

Leaks occurred, as shown on the attached print, in areas 1, 2, and 3. No leaks occurred from Finnell Road to where the line leaves the south shoulder of the Yountville Crossroad, in front of the S. Anderson house. The line crosses under the road and runs through Fagiani's property, up to Rector Dam. In the late 1950's, a leak occurred between the north side of the Crossroad and the ditch north of the road, in the deep heavy dark soil.

There were never any leaks beyond the blow-off box in the drainage ditch, up to Rector Dam. A short distance above the drainage ditch, the soil changes dramatically, and is rocky.

Although I am no soils specialist, simple observation makes it obvious that the soils along the pipeline vary greatly. The areas where the leaks occurred (including on Fagiani's property north of the Crossroad) all had heavy, deep, dark soil. The soils south of the Crossroad, where there were never any leaks, are lighter in color and are not heavy

A new cathodic system was installed in 1985 when a new bridge was put across the Napa River and the Yountville Crossroad was improved.

Very truly yours,

Benito Barboza

Attachments:

Cathodic Protection System, Engineering Conclusions and Recommendations for Veterans home of California, Highway #29, Yountville, California, by Smith & Denison, Inc., 18 September 1985

Print of map showing location of water supply line from Rector Dam to Veterans Home and proposed connection to Conn 36" line, March 16, 1956

CATHODIC PROTECTION SYSTEM
ENGINEERING CONCLUSIONS
AND
RECOMMENDATIONS
FOR
VETERANS HOME OF CALIFORNIA
HIGHWAY #29
YOUNTVILLE, CALIFORNIA

PREPARED BY:

SMITH & DENISON, INC.

18 September 1985

SMITH & DENISON

S & D

1581 Industrial Parkway West, Suite 3, Hayward, Ca. 94544 (415) 782-9788

3232 E. Willow Street, Long Beach, Ca. 90806 (213) 426-0461

September 18, 1985

State Of California
Veterans Home Of California
Highway #29
Yountville, CA 94599

Dear Mr. Duval:

Enclosed find our engineering conclusions and recommendations for installing a new anode bed for cathodic protection of your 18-inch water pipe. Briefly stated, this says that 16 horizontal anodes should suffice.

In addition we have included a proposed fixed price contract should you choose to select Smith & Denison for the work.

If you have any questions please call me or Bill Burkhart.

Sincerely,

Warren J. McGowan,
President

WJM/bg

cc: Kenneth H. Johnson

FINDINGS

A rectifier with more than enough capacity to protect the lengths of pipe that were protected in the past is in place and shows no physical damage. We do not know if it works properly.

The new negative cathodic protection connection to the water pipes enters the pier end of the conduit with black insulation and emerges at the rectifier as an (old) white wire, implying an underground or in-conduit splice.

The soil, as found, was a very poor conductor with resistivity of 8500 ohm-cm. Wetted with distilled water the resistivity dropped to 5300 ohm-cm.

The orignal installer of the cathodic protection system noted in his letter of August 15, 1952 that a "drainage bond" (a resistor) was connected between the 18 inch protected main and a paralled 6 inch unprotected main, to minimize damage caused by earth current flow between the two lines.

We do not know where this bond is, or whether it still exists.

We do not know whether the sections of pipe to be protected are electrically isolated from the bridge and other structures.

Conclusions

The soil resistivity is high, and calculations, based on an assumed soil resistivity of 5300 ohm-cm, show that 16 horizontal anodes in a trench five feet deep will produce a 2 ohm earth resistance. Calculated half-life of these anodes is about 25 years, at 5 amperes output.

This amount of current sufficed in the past; it will be sufficient now if there are no shorts. Vertically oriented anodes could be used instead of horizontal ones, but in this case the anode header cable would not be very deep and there would be more risk of future damage by excavation.

Recommendations

Sixteen horizontal graphite anodes are recommended. These should be spaced at seven foot intervals in a trench at least four feet deep. Each anode should be centered in a petroleum coke breeze backfill one foot deep. The remaining backfill should be native soil.

The header cable supplying power to these anodes should be AWG #6 stranded copper with high molecular weight polyethylene insulation.

All splices should be made by split-bolt connectors wrapped with tac tape insulating compound, butyl rubber sealant tape, and electrical tape.

The negative-lead conduit should be excavated beneath the rectifier to find the splice. The old white wire should be discarded and replaced with a properly spliced new cable.

When the new system has been installed, tests should be performed to determine how many amperes are required to achieve cathodic protection. If more than five amperes are needed, the trouble, typically a short between the pipe and other structures, should be found and eliminated. This quotation does not include finding or correcting shorts, if there are any.

PROPOSED CONTRACT

Smith & Denison, Inc., proposes the following contract for design, installation and testing of a replacement anode bed for cathodic protection of portions of the 18 inch Veteran's Home water pipe.

STATE OF WORK TO BE DONE:

1. Plan and secure the materials needed to install a new anode bed at the new Yountville Crossroad bridge.

2. Install 16 each 3 inch by 60 inch graphite anodes in a four foot deep trench approximately 112 feet long and paralled to the bridge.

3. Connect the rectifier to the new negative cable and to the new anode bed cable.

4. (a) Perform tests and make adjustments to assure that the pipe-to-soil potential of the 18 inch water line is maintained at or greater than -0.850 volts, the level accepted as sufficient to inhibit corrosion.

   (b) Perform tests to determine whether a substantial amount of current is lost through electrical contact between foreign utilities or pipes.

5. Backfill, clean up and restore the area to its original appearance.

6. Provide as-built drawings showing the location of all additions.

QUALITY

All materials and workmanship will be equal to or better than that specified by the National Association of Corrosion Engineers for similar installations.

Smith & Denison installations are guaranteed for a period of one year to be free of defects in materials or workmanship. During this period, repair or replacement will be made free of charge.

QUALIFICATIONS

Smith & Denison carries $1,000,000 liability insurance. It holds California General Engineering Contractor and General Contractor Licenses and all engineering will be checked and approved by a Registered Professional Corrosion Engineer.

PRICE

Our price for all labor and material included in items 1 through 6 above is $7,130.00. This quotation is valid for a period of 30 days after submission to you.

TERMS

To authorize us to proceed with the design and installation as described in this proposed contract, please sign below and return one copy to us. Terms are 30% payment upon signing to cover cost of materials to be ordered in advance, and the balance due upon completion. One percent interest will be charged for each month the balance is past due.

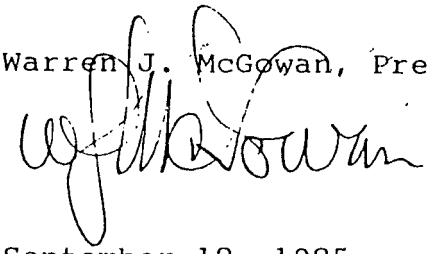
FOR:

FOR: SMITH & DENISON, INC.

BY:

BY: Warren J. McGowan, President

SIGNED:

SIGNED: 

DATE:

DATE: September 18, 1985

Contractor's License #466196

Contractors are required by law to be licensed and regulated by the Contractors State License Board. Any questions concerning a contractor may be referred to the Registrar of the Board whose address is: Contractors State License Board, 1020 N Street, Sacramento CA 95814.

101

January 14, 1988

Chief
FAA, Wine & Beer Branch
Bureau of Alcohol, Tobacco & Firearms
P. O. Box 385
Washington, D.C. 20044-0385

Attention: Notice No. 644

Re: Stags Leap District Viticultural Area

Dear Sirs:

S. Anderson Vineyard would first like to take this opportunity to thank Mr. Drake, Mr. Mascolo and Mr. Ficaretta, as well as other members of the Bureau of Alcohol, Tobacco & Firearms (ATF), for their efforts in carefully and patiently undertaking to establish the boundaries of a new viticultural area in the Napa Valley to be known as the "Stags Leap District."

The letters, reports, maps and other information that accompany this letter should serve to finally and clearly demonstrate that S. Anderson Vineyard and its neighbors south of the Yountville Cross Road are a part of the Stags Leap District. We have become painfully aware that the establishment of the proposed Stags Leap District is a complex issue; we hope these final pieces of the puzzle clarify these issues and assist you at arriving at their resolution.

As we are now all very aware, Section 4.25a(e)(1), Title 27, CFR defines an American viticultural area as a delimited grape-growing region distinguishable by geographical features. Section 4.25a(e)(2) outlines the criteria for establishing as American viticultural area: (1) the name of the proposed viticultural area must be locally and/or nationally known as referring to the area specified by its proposed boundaries; (2) the boundaries of the viticultural area must be supported by historical or current evidence; and (3) the geographic characteristics (climate, soil, elevation, physical features, etc.) of the proposed viticultural area must viticulturally distinguish the proposed area from surrounding areas.

The information submitted with this letter, together with the written comments, letters, site visits, oral testimony, and other information gathered by the ATF, to date, clearly supports the establishment of the northern boundary of the Stags Leap District as proposed by S. Anderson Vineyard.

The Stags Leap District is Known to Include the Properties Adjacent to and Immediately South of the Yountville Cross Road

As demonstrated by the testimony of M. Kendall Hillman at the recent public hearing, the original petition submitted by the Stags Leap Appellation Committee includes numerous references to the "Stags Leap" area variously described to include the properties adjacent to and immediately south of the Yountville Cross Road. Napa's largest local newspaper has specifically included S. Anderson Vineyard in its description of the "Stags Leap Area." Tourists and consumers have come to know the area between the Napa River and the Stags Leap promontories, stretching from the Yountville Cross Road south to the Chimney Rock Golf Course, as "Stags Leap." (See, the letter from Joanne DePuy enclosed herewith and the letter from Joanne DePuy presented at the public hearing.)

Admittedly, the name "Stags Leap" has been used in a tremendous number and variety of ways by the members of the Appellation Committee, on labels and advertising, in litigation, in press releases, and in brochures to name but a few. These efforts have resulted in an impressive stack of print containing the description "Stags Leap" district or area in reference to the original petitioners. However, this does not diminish the fact that without such efforts by S. Anderson Vineyard and its neighbors the Yountville Cross Road has nevertheless become an unavoidable point of reference in every description of the Stags Leap area and is often referred to as the viticultural area's northern boundary. (See, the letter from Stanley B. Anderson, Jr. enclosed herewith.)

The Yountville Cross Road is Currently and Historically the Northern Boundary of the Viticultural Area

As discussed above, the Yountville Cross Road is currently considered the northern boundary by many consumers, wine experts and the wine press. As Mr. Chambers testified at the public hearing, the question "where is the Stags Leap area?" when posed to a Napa Valley tourist is responded to with an inevitable reference to the Yountville Cross Road. While S. Anderson Vineyard was able to supply evidence that the Yountville Cross Road is considered by many to be the northern boundary of the Stags Leap area, the Appellation Committee never attempted to provide any evidence that anyone outside of the Committee considers the northern boundary proposed by the Committee to be the northern boundary of the Stags Leap District.

The history of the two proposed northern boundaries is at best limited. The evidence, both written and testimonial offered by the Appellation Committee has been drawn into question by the letter from S. Anderson Vineyard dated July 6, 1987, and by testimony at the public hearing by both M. Kendall Hillman and Charles L. Sullivan. (See also, the letter from Charles L. Sullivan enclosed herewith.) Clearly, the proposed viticultural area was first planted to vineyards before the turn of the century. Equally clear is the

fact that even prior to the first vineyards, the northern and western boundaries of the Stags Leap District as proposed by S. Anderson Vineyard were historically significant as the boundaries of the Yajome Land Grant. The proposed eastern boundary of the Stags Leap District also closely approximates the eastern boundary of the Yajome Land Grant. As first pointed out by the Appellation Committee in its original petition and amendments, the boundaries of the Yajome Land Grant have been important historical and political boundaries since before California was admitted to the Union.

The Geographical Characteristics of the Viticultural Area are Distinct

Climate. At the public hearing, it became obvious that the issue of climate was really more an issue of wind speed and direction. The Appellation Committee has proposed a northern boundary that they contend blocks wind flow. However, at the hearing, it was clearly demonstrated by Richard Chambers that the wind affects the growth of vines north of the northern boundary proposed by the Appellation Committee in much the same way that it effects the vines south of their proposed boundary. Furthermore, Mr. Chambers demonstrated that this wind affect is not found west of the Stags Leap District near the town of Yountville and dissipates north of the Yountville Cross Road. This fact was confirmed by the testimony, at the public hearing, of Robert Egan who owns property a few hundred yards north of the Yountville Cross Road as well as property within the Stags Leap District. Mr. Egan testified that the intensity of the wind as it blows across his property north of the Yountville Cross Road is appreciably less than the intensity of the wind as it blows across his Stags Leap property.

As you are aware, numerous representatives of the ATF, while visiting the Napa Valley, took the opportunity to walk the properties that comprise the proposed Stags Leap District. Those who took the opportunity to walk the S. Anderson Vineyard property were certain to feel the strong breeze that is clearly not "blocked" by the small knolls which mark the northern boundary proposed by the Appellation Committee.

Finally, it is important to draw on the experiences of the people who have farmed the properties of the proposed Stags Leap District. Benito Barboza who has lived and farmed in the area for approximately 40 years testified at the public hearing that the frost characteristics on his property, south of the Yountville Cross Road and north of the Appellation Committee's proposed boundary, were comparable, if not identical, to the frost characteristics of the Stags Leap resort area. (See also, Benito Barboza's letter attached to S. Anderson Vineyard's original written comment.)

Soil. The Soil Conservation Service 1978 Soil Survey of Napa County (portions of which were included in the Appellation Committee's petition, and its amendments, and in S. Anderson Vineyard's written comment) shows that Bale clay loam, 0 to 2 percent slopes, and Bale clay loam, 2 to 5 percent

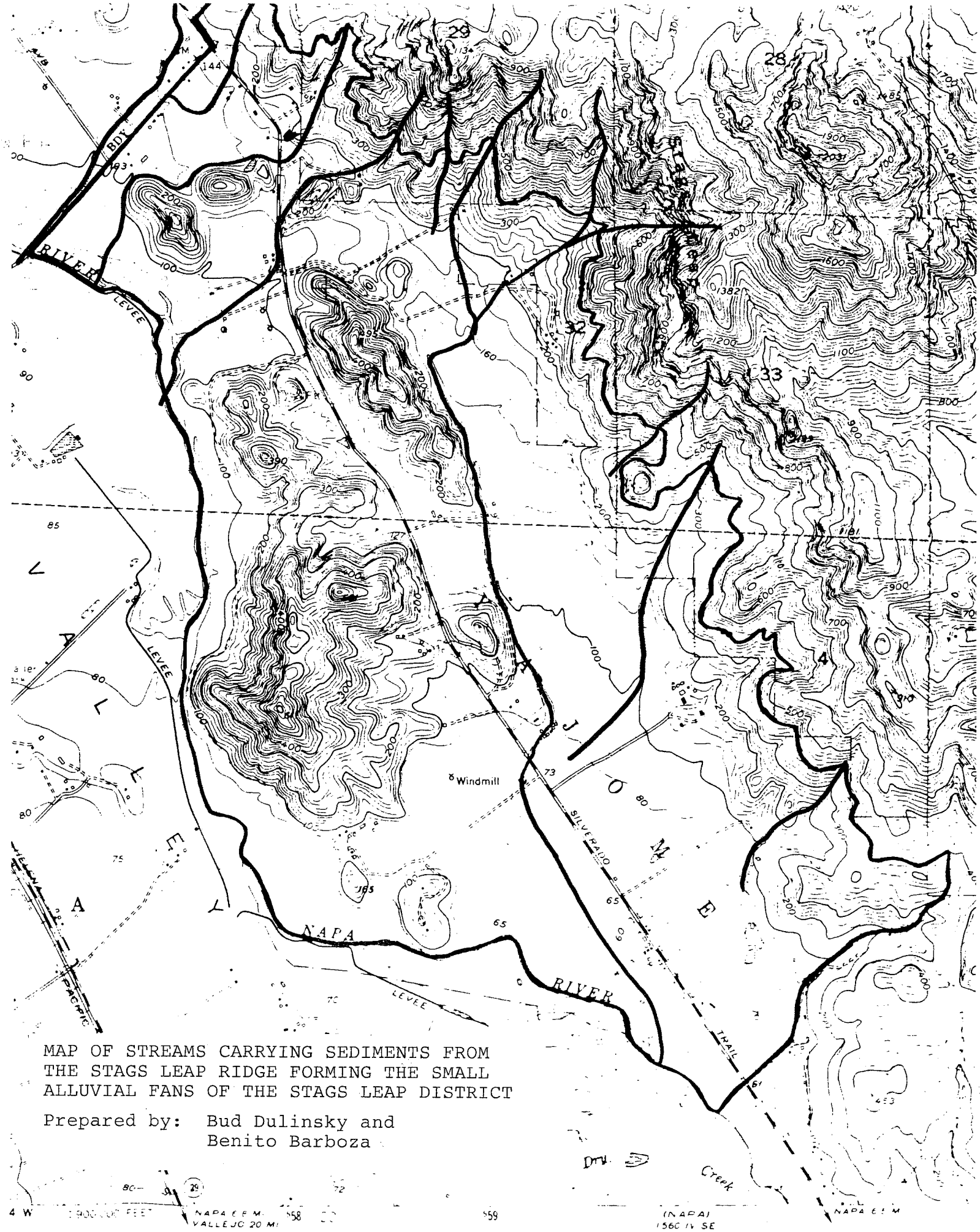
slopes are the two most commonly occurring soil types in the Stags Leap District -- this is true of the vineyard properties of S. Anderson Vineyard and its neighbors south of the Yountville Cross Road. This soil survey was brought into question at the public hearing by Assistant Professor Elliot-Fiske. Professor Elliot-Fiske stated that she did not believe the soil of the S. Anderson Vineyard property was Bale clay loam; she made this assertion without taking soil samples and based solely on visual observations of opened drainage ditches. Bud Dulinsky testified at the hearing that most, if not all, of the rocks Professor Elliot-Fiske observed in these ditches were imported by man and in some cases imported specifically by Mr. Dulinsky.

Subsequent to the public hearing, University of California, Berkeley, Professor Paul J. Zinke made an on-site inspection of the Stags Leap District. His findings are contained in his report enclosed with this letter. Professor Zinke's report is based on observations he made while visiting the Stags Leap District and its surrounding area, on review of various soil surveys, soil maps and topographical maps, and on soil samples taken on a second visit to the Stags Leap District. Dr. Zinke's report clearly supports the establishment of the northern boundary of the Stags Leap District as proposed by S. Anderson Vineyard.

In addition, Benito Barboza and Bud Dulinsky have worked together to prepare a rough soil map and a map of the various streams and creeks that drain the Stags Leap promontories; these maps are enclosed with this letter. These maps were prepared based on the experiences of these two men derived from decades of working with the geographic characteristics of the proposed viticultural area. Though these maps were prepared without the input of any professional geographers or other scientists, it is interesting to note that these maps clearly support the findings contained in Dr. Zinke's report. Professor Zinke, Bud Dulinsky and Benito Barboza bring to the AFT a combined total of well over one century of experience working with soil and its impact on the vegetation it supports. Each of these men have clearly demonstrated that the northern boundary proposed by S. Anderson Vineyard geographically distinguishes the proposed viticultural area from surrounding areas.

Conclusion

Having reviewed and considered the petition and amendments offered by the Stags Leap Appellation Committee; and for all the reasons and based on all the evidence offered by S. Anderson Vineyard in its written comments and subsequent correspondence; and supported by the ATF's July visit to the Stags Leap District and testimony offered at public hearing; and further supported by the additional information and evidence enclosed with this letter; S. Anderson Vineyard respectfully requests that the ATF designate a viticultural area within the Napa Valley by the name "Stags Leap District," with the boundaries of the



MAP OF STREAMS CARRYING SEDIMENTS FROM THE STAGS LEAP RIDGE FORMING THE SMALL ALLUVIAL FANS OF THE STAGS LEAP DISTRICT

Prepared by: Bud Dulinsky and Benito Barboza

SCALE 1:24000

SOILS OF THE PROPOSED STAGES LEAP DISTRICT INCLUDING THE NORTHERN EXTENSION

by

Dr. Paul J. Zinke

Member Professional Soil Scientists Association of California;
Ph.D. Soil Science, University of California;
Former Director, California Cooperative Soil Vegetation Survey;
Professor, Department of Forestry, University of California, Berkeley.

ABSTRACT

This report contains observations I made of the soils and site of the Proposed Stags Leap District, including the Northern Extension (to the Yountville Cross Road), on a field visit on December 19, 1987.

My general conclusion is that the soils of the Stags Leap District are consistent throughout the properties stretching from a line following the small drainage channel approximately parallel and immediately north of the Yountville Cross Road (west of the Silverado Trial), south to a point near the Chimney Rock Golf Course.

The distinctive soil aspect of the Proposed Stags Leap District, including the Northern Extension, is a catena or topographic sequence of soils beginning in the east with a terrace against the base of the Stags Leap Ridge at an elevation of approximately 200 feet, continuing with an alluvial fan on which soils of the Bale series occur, then to the lower end where the fan buries deposits of the Napa river in the west. These distinctive combinations of soils occur in several places in the Stags Leap District from immediately north of the Yountville Cross Road to near the Chimney Rock Golf Course.

The attached report contains my observations concerning the soils of the Stags Leap District from the Yountville Cross Road south to near the Chimney Rock Golf Course.

SOIL FORMING FACTORS OF THE PROPOSED STAGS LEAP DISTRICT

The soils of the Stags Leap District are the result of a unique combination of the topography, geology, and climate of the east side of the central Napa Valley.

TOPOGRAPHY

The topography is dominated by the steep wall like ridge encompassing the Stags Leap cliffs. This ridge and its cliffs, formed of rock material, extends from south of Rector Creek to southeast of the Chimney Rock Golf Course. A series of small drainages in this area, running from the ridge toward the river, are the sources of the alluvium which forms the alluvial fans on which the typical Stags Leap District soils form. Alluvial fans are delta like deposits of sediment formed by streams at the base of mountain ridges.

The streams carrying sediments from the Stags Leap Ridge have deposited sediments in numerous small alluvial fans composed of mixtures of the source basic igneous rock and soil materials from the watersheds above. The watersheds draining the west side of the Stags Leap Ridge are all relatively small beginning immediately south of Rector Creek, just north of the Yountville Cross Road, and continuing to the stream which bounds the Appellation area on the south. It is these small streams and the alluvial fans that they have created that form the unique and homogenous character of the Stags Leap District.

In contrast, the deposits of Rector Creek are different due to a larger watershed and resultant larger flood flows. The deposits are coarser materials (with many large boulders) due to past floods. These floods were prevalent before the present Rector Creek dam was built.

GEOLOGY

A very important soil forming factor in any area is the type of rocks present and their relation to the rocks or sediments which eventually weather

to form the soils of the area. It is the nutrition and fertility offered by the soils that make them unique with regard to the vegetation and vineyards and are major factors in the uniqueness of each wine district. Much of this is derived from the geology of the area moderated by the manner in which the soils form in the context of the topography and the climate of the area.

The Proposed Stags Leap District, including the Northern Extension, has geologic types characterized by rocks of the Sonoma volcanic and Franciscan sedimentary rocks in the foothill areas along Silverado Trail. A copy of the portion of the Geologic Map of the Sonoma and Mt. Vaca Quadrangles, made by Charles E. Weaver (Calif. State Div. of Mines), is appended as figure 1A. (Note the absence of Franciscan sedimentary rocks in the areas surrounding the Stags Leap District.)

The geology of the upland areas is formed by andesite and rhyolitic rocks which weather to the soil of the Hambright soil series. These are dark grayish-brown to brown shallow soils. They occur on steep slopes and are the major source of the sediments which deposit to form the parent material of the lower elevation soils of the Stags Leap District. Rhyolitic ash, tuff and andesite rocks, as well as some sedimentary Franciscan formation rocks, form the parent material of the lower hill slopes and the hills west of the Silverado Trial. These have given rise to soils typical of the smaller hills: the Bressa-Dibble Complex from sandstone and shale; the Forward and Kidd soils from consolidated rhyolitic ash and tuff; and the Boomer and Sobrante soils from mixed volcanic and sedimentary rocks. The eroded products of these upland areas provide the parent material for the lower slope terraces and toe slopes that bound the small hills west of the Silverado Trail and along the base of the Stags Leap Ridge east of Silverado Trail.

A table showing these topographic situations and associated geology, and the soils which have been mapped on them, is presented as Table 1.

TABLE 1

Soil Classification of the STAGS LEAP APPELLATION AREA
(South from the Yountville Cross Road to the Chimney Rock Golf Course, between the Napa River and the Stags Leap Ridge).

TOPOGRAPHIC SITUATION	SOIL PARENT MATERIAL	1938(1) MAP	1978(2) MAP
I.Upland Area	Rhyolite and Andesite Rocks	Rough Mountainous Land	102, Aiken; 152, Hambright; 175 and 176, Rock outcrops
Dibble	Rhyolitic Rock	Butte stony loam	114 and 115, Bressa-Complex; 155 and 156, Kidd; 139, Forward
	Rhyolite and Andesite	Konokti clay loam	109, Boomer; 114, Bressa-Dibble; 178 and 179, Sobrante; 139, Forward
II.Base of Hill	Slope Creep and Terrace	Keefers gravelly clay loam	110, Complex of Boomer-Forward-Felta; 169, Perkins
	Rhyolite and Andesite sources	Keefers dark phase	110, Boomer-Forward-Felta complex; 169, Perkins
III.Alluvial fans	Alluvium from Rhyolitic and Andesite Rock slopes	Bale loam and clay loam	104 and 105, Bale clay loam
	Alluvium from Rhyolitic and Andesite Rock slopes	Bear Creek loam and clay loam	104 and 105, Bale clay loam
	Lower fan	Dublin clay loam	116, Clear Lake clay; 118, Cole; 146, Haire loam

the Yountville Cross Road.

The Stags Leap catena of soils ends at a small drainage which is parallel and immediately north of the Yountville Cross Road, running from a point on the hillslope immediately above the Cross Road to its intersection with the Conn Creek Channel. This drainage ditch is shown clearly in the 1976 photograph attached as figure 4. The Yountville Cross Road appears at the center of the photograph running diagonally from the left of the photograph to the lower right corner; the drainage ditch is approximately parallel to the Cross Road and below it. This is the line where the soils change from those of the Stags Leap District to the coarser soils of the Rector Creek Fan. North of this drainage ditch the soils begin to be dominated by the Rector Creek alluvial fan.

A good operational boundary for the Stags Leap District would be the Yountville Cross Road.

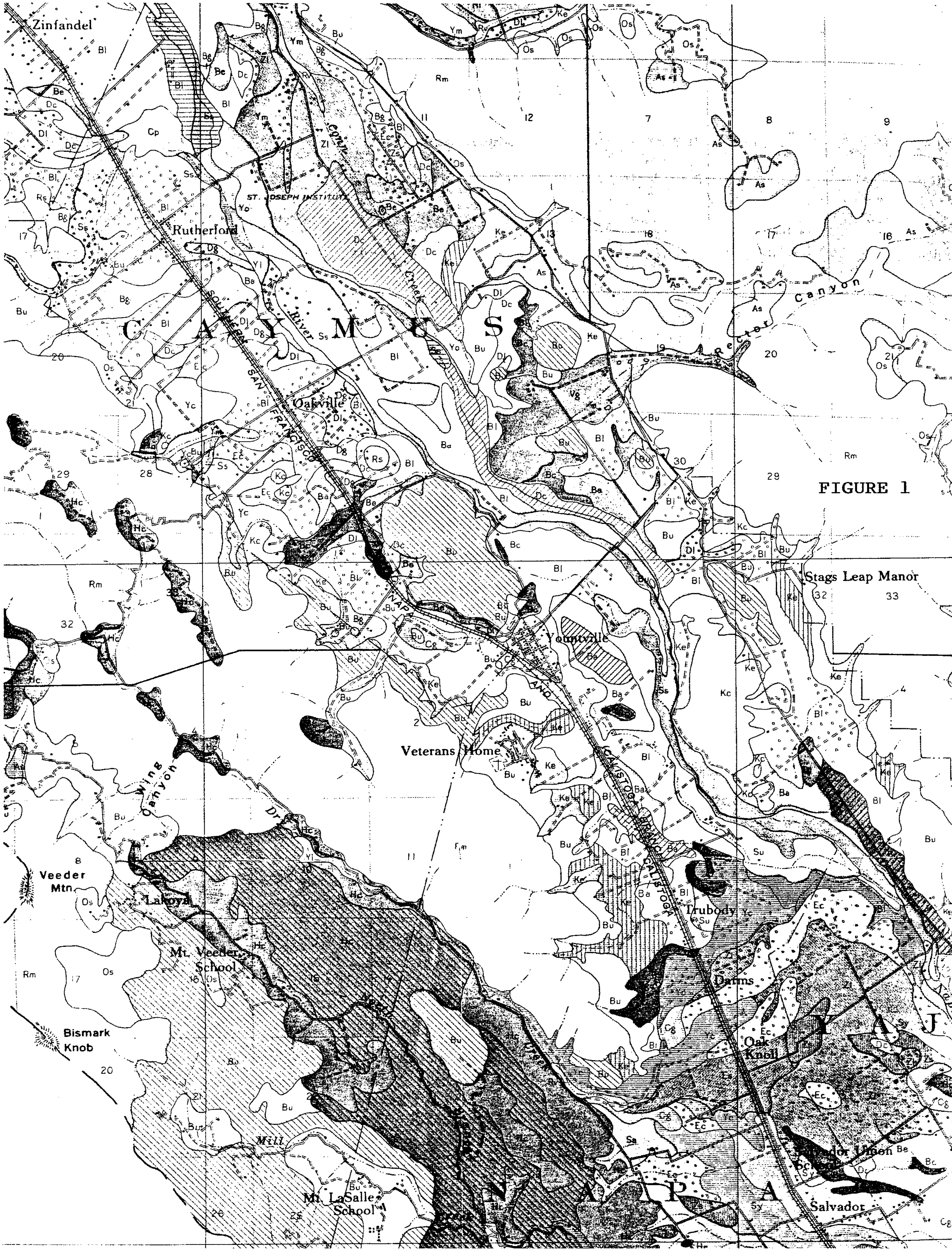

Zinfandel
Rutherford
ST. JOSEPH INSTITUTE
C A Y M U S
Oakville
Rector Canyon
Stags Leap Manor
Yountville
Veterans Home
Wing Canyon
Veeder Mtn.
Lakoya
Mt. Veeder School
Bismark Knob
Mill
Mt. LaSalle School
Trubody
Oak Knoll
Salvador
N A P A

FIGURE 1


TRAIL
River
Napa
River
Dry
Creek
SILVERADO TRAIL
ST HELENA HIGHWAY
29

FIGURE 2 - 1

TABLE 1.—*Acreage and proportionate extent of the soils*

Map symbol	Soil name	Acres	Percent
100	Aiken loam, 2 to 15 percent slopes	2,780	0.6
101	Aiken loam, 15 to 30 percent slopes	1,950	0.4
102	Aiken loam, 30 to 50 percent slopes	5,165	1.1
103	Bale loam, 0 to 2 percent slopes	1,470	0.3
104	**Bale clay loam, 0 to 2 percent slopes**	11,950	2.5
105	**Bale clay loam, 2 to 5 percent slopes**	2,585	0.5
106	Bale complex, 0 to 2 percent slopes, seeped	350	0.1
107	Boomer loam, 2 to 15 percent slopes	1,320	0.3
108	Boomer gravelly loam, 15 to 30 percent slopes	1,290	0.3
109	Boomer gravelly loam, 30 to 50 percent slopes	8,745	1.8
110	Boomer-Forward-Felta complex, 5 to to 30 percent slopes	4,505	0.9
111	Boomer-Forward-Felta complex, 30 to 50 percent slopes	8,910	1.8
112	Bressa-Dibble complex, 5 to 15 percent slopes	2,810	0.6
113	Bressa-Dibble complex, 15 to 30 percent slopes	7,875	1.6
114	Bressa-Dibble complex, 30 to 50 percent slopes	62,370	12.8
115	Bressa-Dibble complex, 50 to 75 percent slopes	22,030	4.5
116	**Clear Lake clay, drained**	6,645	1.4
117	Clear Lake clay, overwashed	545	0.1
118	**Cole silt loam, 0 to 2 percent slopes**	8,360	1.7
119	Cole silt loam, 2 to 5 percent slopes	485	0.1
120	Contra Costa loam, 5 to 15 percent slopes	990	0.2
121	Contra Costa gravelly loam, 5 to 15 percent slopes	980	0.2
122	Coombs gravelly loam, 0 to 2 percent slopes	965	0.2
123	Coombs gravelly loam, 2 to 5 percent slopes	4,115	0.8
124	Cortina very gravelly loam, 0 to 5 percent slopes	1,945	0.4
125	Cortina very stony loam, 0 to 5 percent slopes	795	0.2
126	Diablo clay, 5 to 9 percent slopes	425	0.1
127	Diablo clay, 9 to 15 percent slopes	545	0.1
128	Diablo clay, 15 to 30 percent slopes	830	0.2
129	Diablo clay, 30 to 50 percent slopes	695	0.1
130	Egbert silty clay loam	1,260	0.3
131	Fagan clay loam, 5 to 15 percent slopes	1,640	0.3
132	Fagan clay loam, 15 to 30 percent slopes	2,290	0.5
133	Fagan clay loam, 30 to 50 percent slopes	1,915	0.4
134	Fagan clay loam, 30 to 50 percent slopes, slipped	5,265	1.1
135	Felton gravelly loam, 15 to 30 percent slopes	455	0.1
136	Felton gravelly loam, 30 to 50 percent slopes	5,340	1.1
137	Felton gravelly loam, 50 to 75 percent slopes	2,510	0.5
138	Forward gravelly loam, 2 to 9 percent slopes	675	0.1
139	Forward gravelly loam, 9 to 30 percent slopes	6,715	1.4
140	Forward gravelly loam, 30 to 75 percent slopes	18,665	3.8
141	Forward-Kidd complex, 50 to 75 percent slopes	6,775	1.4
142	Guenoc loam, 30 to 50 percent slopes	1,405	0.3
143	Guenoc-Rock outcrop complex, 5 to 30 percent slopes	3,645	0.8
144	Guenoc-Rock outcrop complex, 30 to 75 percent slopes	2,040	0.4
145	Haire loam, 0 to 2 percent slopes	1,420	0.3
146	**Haire loam, 2 to 9 percent slopes**	8,590	1.8
147	Haire clay loam, 0 to 2 percent slopes	1,070	0.2
148	Haire clay loam, 2 to 9 percent slopes	1,360	0.3
149	Haire clay loam, 9 to 15 percent slopes	605	0.1
150	Haire clay loam, 15 to 30 percent slopes	580	0.1
151	Hambright-Rock outcrop complex, 2 to 30 percent slopes	3,975	0.8
152	Hambright-Rock outcrop complex, 30 to 75 percent slopes	19,200	4.0
153	Henneke gravelly loam, 5 to 30 percent slopes	1,820	0.4
154	Henneke gravelly loam, 30 to 75 percent slopes	54,995	11.3
155	Kidd loam, 15 to 30 percent slopes	910	0.2
156	**Kidd loam, 30 to 75 percent slopes**	3,790	0.8
157	Lodo-Maymen-Felton association, 30 to 75 percent slopes	4,815	1.0
158	Los Gatos loam, 5 to 30 percent slopes	425	0.1
159	Los Gatos loam, 30 to 50 percent slopes	1,995	0.4
160	Los Gatos loam, 50 to 75 percent slopes	1,660	0.3
161	Maxwell clay, 2 to 9 percent slopes	3,330	0.7
162	Maymen-Los Gatos complex, 50 to 75 percent slopes	9,155	1.9
163	Maymen-Millsholm-Lodo association, 30 to 75 percent slopes	31,460	6.5
164	Millsholm loam, 15 to 30 percent slopes	1,280	0.3
165	Millsholm loam, 30 to 75 percent slopes	4,875	1.0
166	Montara clay loam, 5 to 30 percent slopes	4,290	0.9
167	Montara clay loam, 30 to 50 percent slopes	3,400	0.7
168	Perkins gravelly loam, 2 to 5 percent slopes	1,595	0.3
169	**Perkins gravelly loam, 5 to 9 percent slopes**	1,280	0.3
170	Pleasanton loam, 0 to 2 percent slopes	3,020	0.6
171	Pleasanton loam, 2 to 5 percent slopes	3,725	0.8
172	Reyes silty clay loam	6,800	1.4
173	Reyes silty clay loam, salt ponds	5,435	1.1
174	**Riverwash**	1,000	0.2
175	Rock outcrop	11,315	2.3
176	Rock outcrop-Hambright complex, 50 to 75 percent slopes	8,290	1.7
177	Rock outcrop-Kidd complex, 50 to 75 percent slopes	14,475	3.0
178	**Sobrante loam, 5 to 30 percent slopes**	3,120	0.6
179	**Sobrante loam, 30 to 50 percent slopes**	15,095	3.1
180	Tehama silt loam, 0 to 5 percent slopes	5,265	1.1
181	**Yolo loam, 0 to 2 percent slopes**	3,955	0.8
182	Yolo loam, 2 to 5 percent slopes	730	0.2
	Total	485,120	100.0

FIGURE 2 - 2

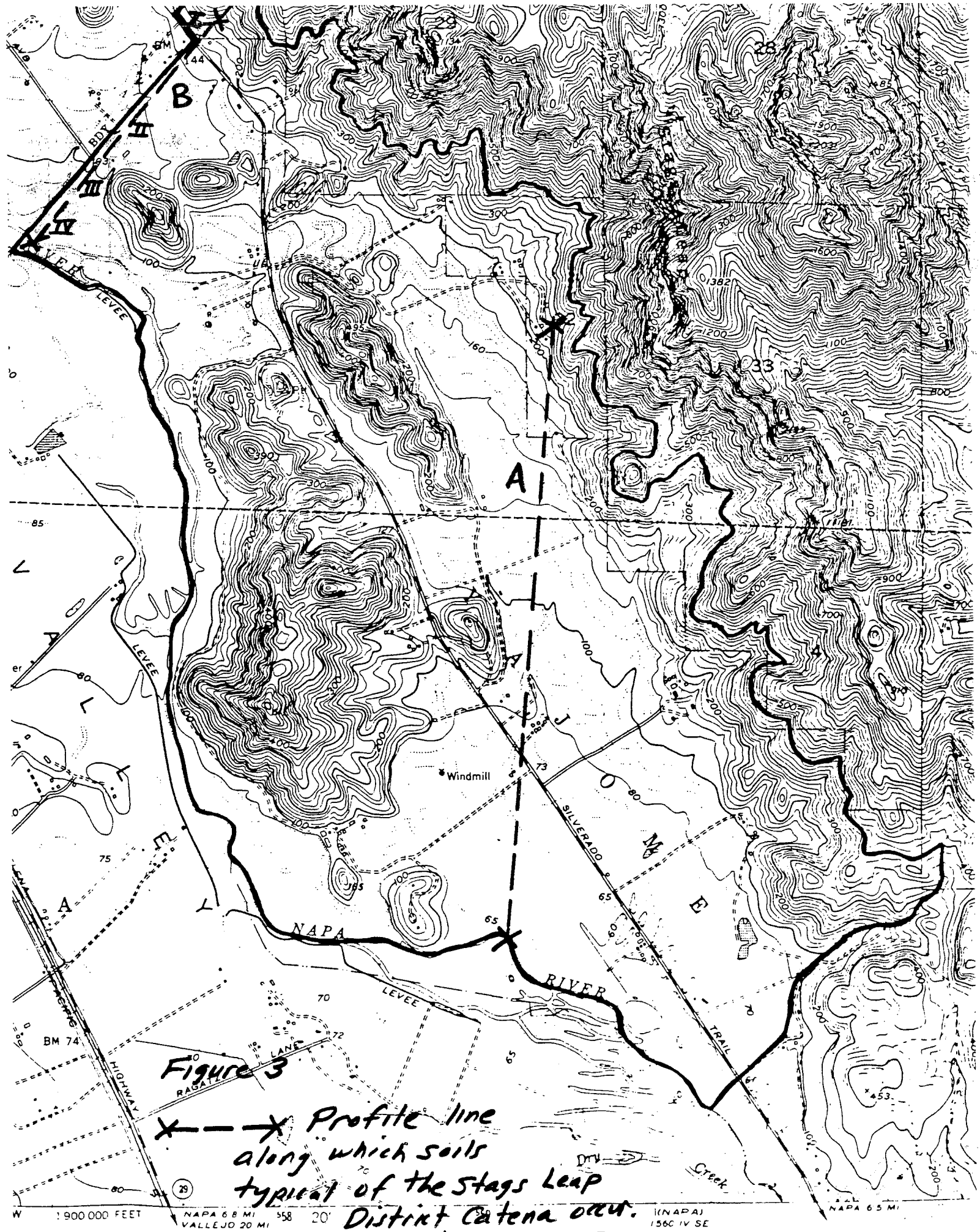


Figure 3

A — A Profile line along which soils typical of the Stags Leap District Catena occur.

P. Zinke 1980 Soil Sample sites I, II, III, IV

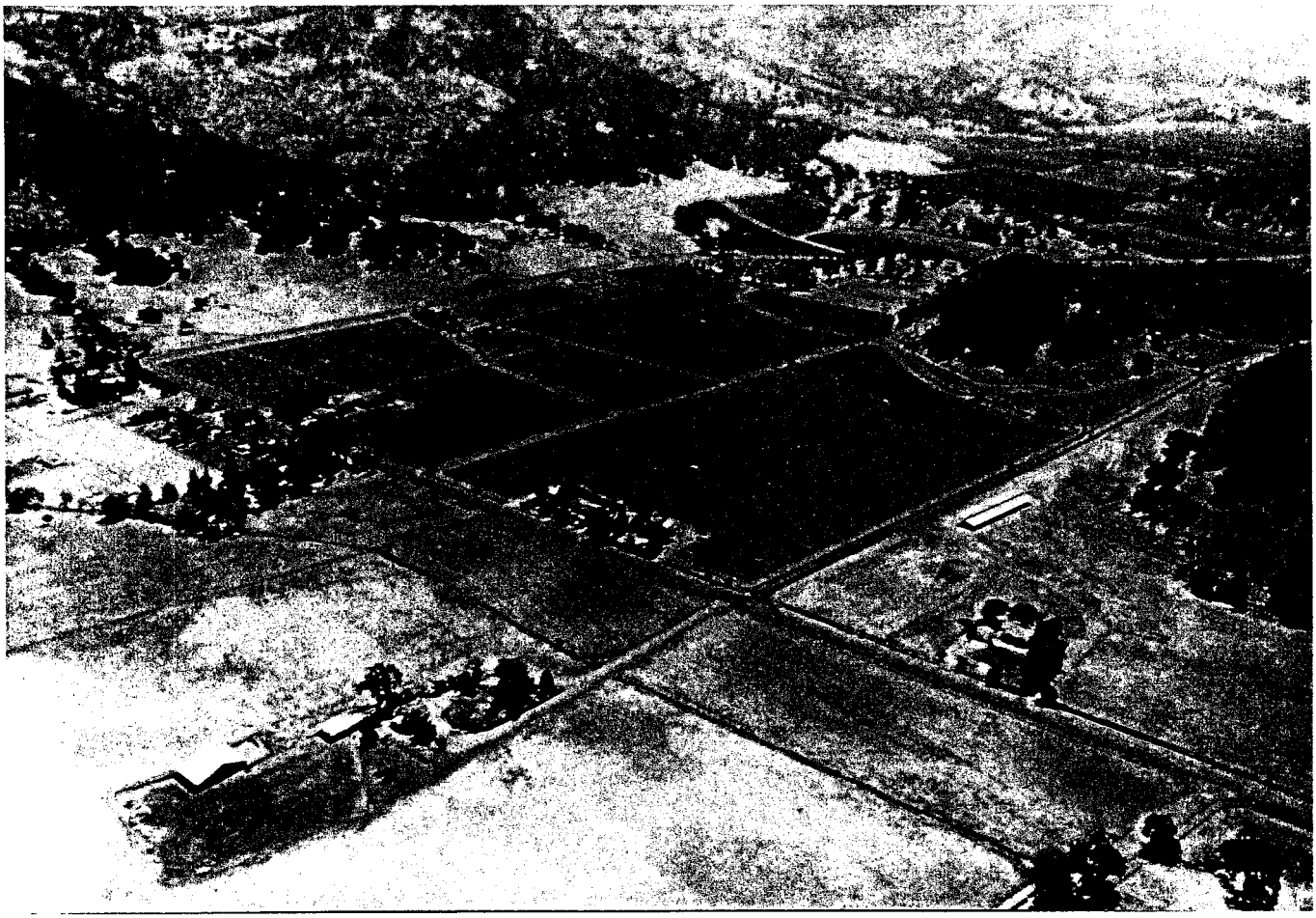


FIGURE 4

PAUL J. ZINKE
Professor of Forestry
University of California
Berkeley, California 94720

Education

B.S., Forestry, University of California, 1942

M.S., Forestry, University of California, 1952

Ph.D., Soil Science, University of California, 1956

Employment Record

Surveyor, Alaskan Highway, Yukon Territory, Canada, 1942

Timber Cruiser, Tongass National Forest, Alaska, 1943

Rifleman, G-2 Reconnaissance, and Photo Interpreter, 10th Mountain Division, United States Army, 1944 - 1946

Forester, United States National Park Service, Mt. Rainier National Park, 1947

Forester, United States Forest Service, Cooperative Soil Vegetation Survey, Pacific S.W. Forest and Range Exp. Station, 1947 - 1951

Soil Scientist and Director, California Cooperative Soil Vegetation Survey, 1953 - 1956

Research Hydrologist and Soil Scientist, San Dimas Experimental Forest, United States Forest Service, Glendora, California, 1956

Assistant Professor - Professor, Department of Forestry, University of California, Berkeley, California, 1956 - Present

Publications

See enclosed curriculum vitae

TEACHING. RESEARCH & CREATIVE WORK. PROFESSIONAL ACTIVITY. UNIVERSITY & PUBLIC SERVICE

Paul J. Zinke
Professor & Forester
Univ. of California & California Agricultural Experiment Station
Berkeley.

INTRODUCTION

This report is concerned with the current status of my work at the University of California at Berkeley, in the Department of Forestry and Resource Management. During the time I have been a member of this department, my objectives have been

1. The teaching of professional foresters the value of proper forest management to insure the integrity of our environment in terms of hydrologic processes and the productivity of soils, and the role of forests as protection against hazards of floods, erosion, and soil fertility decline.

2. Guidance and advise to graduate students wishing to do research in the field of Forest Influences, through the development of an adequate scientific background to define the problems in the field, and the ability to develop and carry out thesis research involving the hydrologic and soil influences of forests.

3. The development of my own research so it covers the main scientific problems with regard to the influences of forests upon watershed soils, their moisture relationships, and contents of fertility elements.

4. The maintenance of contact through professional activities with the current concerns with regard to forest and land management that are involved with the environmental influences of forests and associated vegetation.

5. The participation in national and international projects and committees dealing with the primary problems of the time which involve the interactions between people and the influences of forests on a global as well as national and local basis.

This report present the details of the manner in which I am working toward these objectives in the various areas of teaching, research, professional, and public service activities.

TEACHING

My teaching consists of two courses and a seminar in my field of Forest Influences (122) and Forest and Range Soils (120), and a

Seminar in Environmental Forestry and Watershed Management (222). In addition I organize a course in Forestry and Wildland Conservation (10) which involves guest lecturers representing various topics in forestry. These courses are all given in the autumn semester with 122 and 120 being given in alternative years. In addition, at the U.C. Forestry Summer Camp at Meadow Valley, I participate in teaching Forest Soils and Watershed Management in the field. These field teaching sessions are part of Forestry and Conservation 100A. and 100B. They involve an emphasis on the field characteristics of soils and the observations which the professional forester can make to evaluate soils. The watershed portion introduces the student to the field aspects of watersheds, and how activities on a watershed influence our water sources. The outlines for these courses are on the following pages.

University of California
Dept of Forestry & Resource Mgt

Forestry 122
Spring
Prof. P.Zinke

Forest Influences and Environment

Microclimate and Hydrology as influenced by forests and associated vegetation. The role of forests and wildland vegetation in watershed management, the control of surface runoff and wateryield erosion control and maintenance of water quality. The influences of forests on the environment; and the impact of forest management on various environmental properties involving climate, water and soil.

1. INTRODUCTION

1.1 Forest Influences and the Forest Environment

1.1.1 Concepts terminology and definitions

1.1.2 Historical aspects and current emphasis

1.1.3 Hydrology Watershed Management and Environmental Forestry

1.2 Environmental context of Forest Influences

1.2.1 Climate

1.2.2 Vegetation

2. THE ENERGY BALANCE

2.1 Solar Radiation

2.1.1 Components

2.1.2 Measures Quantities and relation to local variables

2.2 The Energy Balance in Forest Stands

2.3 Role in Microclimatic Influence of Vegetation

3. THE FOREST CLIMATE

3.1 Temperature

3.1.1. Temperature Profiles in Vegetation

3.1.2. Diurnal and Annual Variation

3.1.3. Cold Air Drainage.

3.2. Wind

3.2.1. Effects of shelterbelts and windbreaks

3.2.2. Local wind profiles and gradients.

3.2.3. Managing the forest for winddamage control.

3.3. Humidity

3.3.1. Definitions and Measurements

3.3.2. Influence of forests and other vegetation

3.3.3. Humidity gradients in vegetation

3.3.4. Condensation of moisture, dew frost.

3.3.5. Effects of forest and vegetation management on Humidity.

4. FOREST HYDROLOGY and WATER BALANCE

4.1. The Hydrologic Cycle and Interactions with vegetation.

4.2. The Water Balance of the Forested Landscape.

4.2.1. Water Balance Equations

4.2.2. Processes in the Water Balance

4.2.3. Relation to Wateryield of Watersheds

4.3. Precipitation inputs to the Watershed

4.3.1. Processes and Measurement

4.3.2. Influence of Forests

4.3.3. Artificial Cloud seeding for Precipitation increase and lightning suppression.

4.3.4. Effects of Forest Management on Precipitation.

4.4. Interception Loss from Vegetation on the Watershed

4.4 1 Process Components and Measures

4 4 2. Role of Leaf Litter

4.4 3. Fog Drip

4 4.4. Effects of Forest Management on Interception.

4 5. Evapo-Transpiration Losses of Water

4 5.1. Processes, measurements and rates

4 5.2 Role of Soil Moisture

4.5.3 Evapo-transpiration formulae and estimates

4 5.4 Effects of Forest Management on Evapo-transpiration from watershed surfaces

4 6. Soil Moisture Storage

4 6.1. Soil Properties involved and their Measurement

4.6.1.1. Field Capacity and Permanent wilting storage

4 6.1 2. Infiltration and Percolation of water

4 6.1.3. Seepage

4.6.2. Effects of Forest Management on Surface Runoff, Infiltration and Depletion of soil moisture

4.7 Snow Hydrology in Forested Areas

4 7 1. Snow Characteristics Storage, and Melt in Forests and associated vegetation.

4 7.2. Dealing with Snow Storage in the Water Balance

4 7 3. Influencing the Snow Pack through Forest Management

4.7 3.1. Snow Pack Accumulation

4 7 3.2. Snow Avalanches and their Control.

4 7 3 3. Snow melt rates as influenced by forests.

4 8. Water Yield from the Watershed-- Streamflow

4 8 1 Measurements and Dimensions

4.8 2 The Hydrograph and Hydrograph analysis

4 8 3. Impacts of Forest Management on the Hydrograph

4 8 3.1. Total Water yield

4 8 3.2 Flood Peaks and Low (base) flow.

5. EROSION, SEDIMENT WATER QUALITY

5.1 Suspended Sediment and Bed Load

5.1 1 Sediment Rating Tables for Baseline conditions

5.1.2 Impacts of Forest Management Practices

5.2 Erosion Control

5.2 1. Erosion Hazard Ratings

5.2 2. Forest and Vegetation management for Erosion Control

5.3. Water Quality and Evaluation of Pollution Sources.

5.4. Point & Non Point pollution sources in Forested Watersheds

5.5. Impacts of Forest Management Practices on Water quality and derivation of Best Management Practices.

6. LABORATORY ASSIGNMENTS

There will be lab projects during the quarter which will be carried out individually and in teams, at times chosen by the individual students or teams. These laboratory projects will involve the following topics:

6 1. Comparison of Forest and Open --First Week .

6.2 Leaf Litter Quantities and Properties Relative to Moisture Storage and Nutrient Storage (2 weeks)

6.3. Microclimate Contrasts between forested and open conditions (2 weeks)

6 4 Computation of WaterBalances for Some California Watersheds (3 - 4 weeks)

6.5. Derivation of Sediment Rating Tables for Forested Watersheds (1 week)

7. Examinations and Problem sets.

There will be small problem examinations given on a weekly basis; with a midterm examination given at the time of initiating the lectures on the waterbalance. Examinations will be open book and will involve handling and interpreting data concerning the influences of forests and the impacts of their management on the various environmental aspects discussed in the course of lectures.

8. Course Readings

Readings will be assigned based upon references reserved in the Forestry Library Key references for general background are: Kittredge, Forest Influences; Geiger Climate near the Ground; U S A. Corp of Engineers Snow Hydrology; Reifsnyder and Lull Radiant energy in Relation to Forests; R.Lee Forest Microclimatology; and Vegetation and The Atmosphere edited by J.Monteith-2vols

University of California
Department of Forestry & Conservation

Forestry & Consv. 120
Fall
Prof. P. Zinke

SOIL IN THE FOREST ENVIRONMENT

Course Outline

1. INTRODUCTION

1.1. Unique aspects of soil in the forest.

1.2. Cycling of elements and the role of forests.

1.3. Soil erosion processes as influenced by forests.

2. SOIL DEVELOPMENT

2.1. Soil forming factors.

2.2. Sequence of soil development over time.

2.3. General characteristics of immature vs mature soils.

3. PHYSICAL CHARACTERISTICS OF FOREST SOILS

3.1. Introduction

3.2. Particle size

3.2.1. Stoniness

3.2.2. Texture

3.3. Soil aggregation and structure.

3.4. Bulk Density

3.4.1. Range in forest soils

3.4.2. Relevance to fertility and water storage.

3.4.3. Influence of trees on soil bulk density.

3.5. Porosity

3.5.1. Calculation from bulk density & specific gravity.

3.5.2. Pore size distribution

3.5.3. Compaction

3.6. Soil Depth

3.7. Soil Moisture

3.7.1. Field Capacity

3.7.2. Wilting Point

3.7.3. Storage Capacity

3.7.4. Soil Moisture depletion by trees.

3.8. Miscellaneous physical properties

3.8.1. Temperature

3.8.2. Aggregate stability and erosion potential rating.

3.8.3. Variability and sampling.

4. CHEMICAL PROPERTIES OF FOREST SOILS

4.1. Soil storage capacity for elements cycled by vegetation.

4.2. Soil Organic matter and Carbon Content.

4.2.1. Vegetation as a source.

4.2.2. Range of Carbon Contents .

4.2.3. Problems associated with organic matter.

4.3. Nitrogen

4.3.1. Total nitrogen storage in forest and range soils.

4.3.2. The nitrogen cycle in relation to soil storage.

4.3.3. The Carbon/Nitrogen Ratio.

4.3.4. Adding nitrogen to the soil.

4.3.4.1. Nitrogen fixation by forest plants.

4.3.4.2. Fertilization.

4.4. Cation Exchange Capacity

4.4.1. Definitions.

4.4.2. Sources of Exchange Capacity in forest & Range Soils.

4.4.2.1. Colloidal mineral matter.

4.4.2.2. Organic Matter.

4.4.2.3. Exchange Capacities of forest materials.

4.4.2.3.1. Wood

4.4.2.3.2. Leaf litter-humus

4.4.2.3.3. Correlation between Carbon & CEC

4.5. Major Exchangeable Cations in Forest and Range Soils.

4.6. Anion Exchange Capacity

4.7. Phosphorus

4.7.1. Forms

4.7.2. Relation of pH to Solubility of Phosphorus.

5. BIOLOGICAL PROPERTIES OF FOREST & RANGE SOILS

5.1. Soil Fauna

5.1.1. Role in Litter & detritus decomposition.

5.1.2. Populations and their assessment.

5.1.3. Problems related to forest management.

5.1.3.1. Nematodes

5.1.3.2. Ants and Termites

5.2. Soil Microflora

5.2.1. Role

5.2.2. Effect on Soil Processes.

5.2.3. Symbiotic relationships with forest trees

5.2.3.1. Mycorrhizae

5.2.4. Pathogens.

6. SOIL MANAGEMENT IN FOREST & WILDLAND AREAS

6.1. Control of Physical processes.

6.1.1. Infiltration capacity & Permeability.

6.1.2. Erosion Control

6.1.3. Constraints on Forest & Range Practices.

6.1.3.1. Slope Stability & Log Skidding.

6.1.3.2. Effects of Grazing

6.1.3.3. Road Construction.

6.2. Control of Chemical processes

6.2.1. Fertilization

6.2.1.1. Establishing the need, Deficiency symptoms of trees.

6.2.1.2. Potential for site improvement.

6.2.1.3. Materials, prescriptions, and techniques.

6.2.1.4. Evaluation.

6.3. Nursery soils as a special case.

6.4. Miscellaneous wildland soil management problems.

6.4.1. Drainage.

6.4.2. Windthrow.

6.4.3. Effluent disposal.

6.4.4. Soil Rehabilitation.

7. CLASSIFICATION & MAPPING SOILS FOR MANAGEMENT

7.1. Classification criteria and relevance to management.

7.1.1. Seventh Approximation

7.1.2. Universal Soil Classification.

7.2. World Forest Soils and Typical Management Problems.

7.3. Soil Maps as information sources for forest Managers.

8. LABORATORY EXERCISES.

9. GENERAL COURSE INFORMATION

There will not be a required text for this course. Appropriate readings from xerox reprints will be placed on file in the Forestry Library in Mulford Hall.

California Forest Soils $4 + tax Publications office
387 Univ. Hall

University of California
Dept. of Forestry & Resource Mgt.

Forestry 222
Fall 1986

Seminar in Forest Influences and Watershed Management
TENTATIVE SCHEDULE

The format of the seminar will be a review of a topic of concern in this field, having reviewed this material in the literature or presenting personal research work covering the topic. An outline of the presentation and key references should be prepared for distribution at the time of the seminar. Other members of the seminar will have been given readings which cover the same subject matter, and will be prepared to comment briefly on the topic, or to enter into discussions with seminar leader concerning the presentation. MEETINGS in ROOM 103 MULFORD HALL THURSDAYS 4:10p.m. - 6:00p.m.

Month	Date	Topic	Seminar leader
September	11	no meeting	
	18	Thai Watershed	Tom Lakusta
	25	Mangrove forests	Pauline Wynter
October	2	Alpine forests	Christine Shirley
	9	Snowpack	Jim Ferris
	16	Wind	Fernando Ribeiro
	23	Forest Plantations	Iñigo Ascasibar
	30	Land tenure	Matthew Uwakonye
November	6	International trade	Timothy Guinane
	13	Economic Value-Water	Jay Sullivan
	20	Forests & Snowmelt	Philippe Martin
	27	HOLIDAY	
December	5		

Each topic will be discussed in relation to Forest Environmental and Influence effects. Snowmelt -Jim Ferris will concentrate on the remote sensing aspects, while P. Martin will concentrate on canopy density effects on snowmelt.

September 4, 1986

The Forest Influences course has the general format of evaluating the influences of vegetation and forests in terms of the energy balance of the site, followed by the microclimatic conditions resulting from this and the local water balance elements of the hydrological cycle which follow. The watershed and environmental management practices needed for forest and range management are then derived from this understanding. The management concerns are mainly watervield. water quality. and erosion and sediment control.

The Forest and Range soils course is concerned mainly with soils which form under the influence of naturally or extensively managed wildland vegetation. The course is concerned with the development of soil under wildland conditions. and the physical. chemical. and biological properties of the soil which result. This general background is then used to develop an understanding of the methods of soil management in forest and wildland areas. The control of physical processes such as erosion, infiltration of water: the control of soil chemical properties through fertilization, influences of forest composition. The special problems of nursery soils is also considered. The general philosophy of the course is that the wildland manager can manage the soil through the prescriptions for management of the vegetation.

The seminar in Environmental Forestry and Watershed Management develops topics in the field as determined by the interests of the graduate students enrolling. The format is generally a review of a topic of interest in the field by each student, with participation by the others in discussion based upon articles which have been read. A typical schedule of seminars for the past semester follows. The topics are developed within the context of the field of Forest Influences.

GRADUATE STUDENT RESEARCH

The graduate students who elect to study with me in the general field of environmental. watershed, and forest soil research and thesis development have chosen a wide range of topics in the field A list of thesis committees which I have chaired or been a member begins on the next page. It indicates that the topics are generally in the area of forest hydrology, snow hydrology, or nutrient cycling in forests or other types of vegetation. My philosophy with regard to research in the field of Forest Influences is that the student should develop a topic of interest. but be guided toward problems that are becoming of iimportance in the field. The usual research in watershed management requires costly facilities. I have avoided the cost to the University of maintaining such facilities by maintaining contact with the U.S. Forest Service Pacific Southwest Forest and Range Experiment Station research groups in hydrology. I have usually been able to obtain cooperative research positions with this organization that funds the student and makes available the field facilities and provides access the long time data bases that are necessary for hydrologic research.

TEACHING AWARDS

I was one of the first to receive a distinguished teaching award on the Berkeley campus. Since then, I have participated in the committee of distinguished faculty welcoming new winners of the award each year, and developing ways of improving teaching and communication with students.

Paul J. Zinke
Thesis Committees
(As chairman, underlined; or member)

(the first eight listed are currently in progress and due for completion within the next two years)

1. Trush, W. 1986(tentative). Stream flow regime and sedimentation-bedload movement in California northcoastal watersheds. PhD Wildland Res. Sci. P. Zinke chmn.

2. Mc Donald, L. 1986 (tentative). Snow Pack Augmentation & Water Quality PhD Wildland Res. Sci. P. Zinke chmn. comm. to be assigned

changed to MS with no Res W

3. Carey, R. 1985(tentative). Rehabilitation of stripmined watershed areas. M.S. Wildland Res. Sci. P. Zinke chmn. comm. to be assigned.

4. Woo, S. 1985 (tentative). Snow pack chemistry in relation to forest influences. M.S. Wildland Resource sciences. P. Zinke chmn.

5. Cuneo, K.L. 1985. Indices for use in planning salt marsh restoration in the San Francisco Bay Estuary. PhD Environmental Planning J.McBride Chmn. P.Zinke comm. member.

6. Frazer, D. 1985. Soil Nitrogen Mineralization in a managed forest in California M.S. Soil Science M. Firestone chmn. P.Zinke comm. member.

7. Sanford, R. 1985. Some aspects of nutrient cycling in tropical forests at San Carlos, Venezuelan Amazon. PhD Wildland Res. Sci. P. Zinke Chmn. committee to be assigned.

8. Thomas, D.E. 1985. Village land Use in Northeast Thailand. PhD Wildland Res. Sci. J.Romm Chmn. P.Zinke comm. member.

9. Diemer, W.D. 1984. Shoot turnover and growth of three perennial graminoids in a southern Bavarian Fen. M.S. Wildland Res. Sci. P.J. Zinke Chmn.

10. Farrell, J.G. 1984. The ecological role of trees within mixed farming systems of Tlaxcala, Mexico. M.S. Wildland Res. Sci. A.Schultz chmn. P.Zinke, comm. member.

11. Perez, F.L. 1984. The ecology of the Venezuelan superparamos; Vegetation distribution in relation to soil factors, geomorphic activity, and other site characteristics. PhD Wildland res. sci. J.McBride Chmn. P.Zinke comm. member.

12. De Lain, L.I. 1982. Limnological conditions and trout habitat suitability of Lake Davis. M.S. Wildland Res. Sci. D.C.Erman Chmn. P.Zinke comm. member.

October 28, 1984

13. Thaiutsa, B. 1981. Foliar Nutrient Status and Growth Characteristics of Native Pines in Thailand. PhD Wildland Res. Sciences. P.J. Zinke Chmn.

14. Kattelman, R.C. 1981. Hydrology of Compacted Snow. M.S. Wildland Res. Sci. P.J.Zinke Chmn.

15. Powers R.F. 1980. The nutritional ecology of Ponderosa pine and associated species. PhD Wildland Resource Sciences. E.C. Stone Chmn. P.Zinke comm. member.

16. Akers, R.A. 1979. Stand Structure, Tree growth, and Moisture stress in relation to mortality by the western pine beetle, Dendroctonus brevicomis. M.S. Wildland Res. Sci. E.C. Stone, Chmn. P.Zinke comm. member.

17. Huete, A.R. 1979. Soil Leaching by acid rain with varying nitrate to sulfate ratios. M.S. Soil Science. J. McColl chmn. P.Zinke comm. member.

18. Msaky, J.J. 1979. Effects of organic acids on heavy metal and phosphorus solubility in soils. M.S. Soil Science. H.E. Doner Chmn. P.Zinke comm. member.

19. Stangenberger, A.J. 1979. A simulation of nutrient cycling in Red Fir, and Douglas Fir forests. PhD. Wildland Resource Sciences. P.Zinke Chmn.

20. Hecht, S.B. 1978. Cattle Ranching development in the amazon Basin. PhD. Geography H.O.Sternberg Chmn. P.Zinke comm. member.

21. Bush, D.S. 1978. Mechanisms controlling temporal variation in throughfall chemistry. M.S. Soil Science. J.McColl Chmn. P.Zinke comm. member.

22. Hicks, B.R. 1978. Growth of Verticicladiella wagenerii through soil and infection of Pinus ponderosa as related to selected soil properties. M.S. Soil Science. P.Gersper chmn. P. Zinke comm. member.

23. Virginia, R.A. 1978. Nitrogen fixation by non-leguminous plants. PhD Ecology C.C. Delwiche, Chmn. P.Zinke comm. member.

24. Donoso, C. 1977. Genecological differentiation in Nothofagus obliqua. M.S. Wildland Res. Sci. J. McBride Chmn. P.Zinke comm. member.

25. Miller, L.I. 1977. National Parks in the French Alps. PhD Geography J.Parsons Chmn. P.Zinke comm. member.

26. Pohlman, A.A. 1977. Relationships between diazotrophic bacteria and the rhizosphere in forests. PhD Soil Science. J.McColl Chmn. P.Zinke comm. member.

27. Lehre, A.K. 1976. Rates and Processes of Erosion and sediment Production in the northern Coast Range, California. PhD Geology. C.Wahrhaftig, Chmn. P.Zinke Comm. Member.

28. Cooper, J.P. 1975. Tourism Development and Park Planning in Nepal. M.S. Landscape Architecture. J. McBride Chmn. P.Zinke comm. member.

29. Davis, H.H. 1975. Effects of mountain vacation home septic tank leach lines on soil nitrogen budgets. M.S. Wildland Res. Science. P.Zinke, Chmn.

30. Coats, R.N. 1974. Nitrogen flux through a forested watershed near Lake Tahoe. PhD. Wildland Resource Science. P.Zinke Chmn.

31. Isik, K. 1974. Site, Height and Nutrient uptake Relations of White Fir Populations. PhD Wildland Resource Science. W.L. Libby Chmn. P.Zinke comm. member

32. Schwarz, C. 1974. Watershed Models to Estimate Land Use impacts on water color and transparency- Lake Tahoe. PhD Wildland Resource Science. D.C. Erman chmn. P.Zinke comm. member.

33. Eichel, M.H. 1973. The goat in the Dalmatian Landscape. PhD Geography. J.Parsons Chmn. P.Zinke comm. member.

34. Rutter, M.R. 1973. Light Attenuation in a California Mixed Conifer Forest. M.S. Wildland Resource Science. J.Helms chmn. P.Zinke comm. member.

35. Pettinger, L. 1972. Vegetation Analysis by means of color enhanced photography. M.S. Forestry, R.N.Colwell Chmn. P.Zinke comm member.

36. Carballeira, Z.J. 1971. Nutrient Cycling in the Tahoe Basin. M.S. Environmental Health Sciences. R.C. Spear chmn. P.Zinke Comm. member.

37. Rowntree, R.A. 1971. Distribution of microclimate as influenced by vegetation structure. P.Zinke committee member, J.Helms chmn.

38. Carneggie, D.M. 1970. Analysis of very large scale aerial photographs and space photographs as a tool for making interpretations of wildland vegetative resources. PhD Wildland Resource Science R.N. Colwell chmn. P.Zinke Comm. member.

39. Draeger, W.M. 1970. Application of Remote Sensing in Multiple use Wildland Management. PhD Forestry. R.Colwell chmn. P.Zinke comm. member.

40. Lee, R.M. 1970. Desing for Larkspur Ferry Terminal. M.S. Architecture D.P. Reay chmn. P.Zinke member.

41. Bergen, A.T. 1969. A new approach to pavement design in Saskatchewan, Canada. PhD Engineering. C.Monismith Chmn. P.Zinke comm. member.

42. Schwarz, C.F. 1969. Landscape Natural Factor Mapping. M.A. Landscape Architecture. R. Twiss chmn. P.Zinke comm. member.

43. Vole, M.G. 1969. Comparative study of Ion uptake by plants. PhD Soil Science. L. Jacobson chmn. P.Zinke comm. member.

44. Aksornkoae, S. 1968. Nitrogen Contents of Soils in Deciduous and Evergreen forests at Sakerat, Thailand. M.S. Forestry Kasetsart Univ. Bangkhen Thailand. P.Zinke comm. member.

45. Dehlen, G.L. 1968. The effect of non-linear material response on the behaviour of pavements subject to traffic loads. PhD Engineering. C.L. Monismith, Chmn. P.Zinke comm. member.

46. Dickson, R.E. 1968. Environmental effects on the growth and development of Tupelo Gum and Bald Cypress. Phd Plant Physiology P.Zinke, committee member, T.C.Broyer chmn.

47. Elkhudairy, M. 1968. Stability of open channel sections in bends. PhD. Engineering. P.Zinke comm. member, H.A. Einstein chmn.

48. Ellis, R. 1968. Some factors effecting the differentiation of forest sites in southern Victoria. Phd in Forestry. Univ. of Melbourne, P.Zinke overseas examiner.

49. Golding, D.L. 1968. Regulation of water yield and quality in British Columbia through forest management. Phd Forestry, Univ. of British Columbia. P.Zinke external examiner.

50. Gomez, B.E. 1968. Effects of nitrate nitrogen supply on growth and mineral content of tomatoe plant parts. M.S. Soil Science. A.Ulrich chmn. P.Zinke comm. member.

51. Loughman, M.L. 1968. Wilderness and recreation in the southern Sierra Nevada. P.Zinke committee member, D.B. Luten Chmn. M.A. Geography.

52. Mc Cullough,. 1968. Development of a design procedure for overlays over existing concrete pavements. M.S. Engineering. C.Monismith Chmn. P.Zinke comm. member.

53. Schultz, R. 1968. Snowfall Interception and Redistribution in a red fir forest. M.S. Forestry

54. Simard, A.J. 1968. The moisture Content of Forest Fuels. M.S. Forestry; P.Zinke Chmn.

55. Stocks, Brian. 1968. Moisture in the forest floor. M.S. Forestry P.Zinke Chmn.

56. Storey, T. 1968. Soil Moisture - Weather Relationships for Organic Soils in coastal N.Carolina. P.Zinke, Chmn.

57. Clayton, J. 1967. Salt Spray influence on mineral cycling on coastal terraces. M.S. Soil Science P.Zinke committee member, P.Birkeland chmn.

58. Glauser, R. 1967. The ecosystem approach to the study of the Mt. Shasta mudflows.

    Phd in Soil Science, P.Zinke comm. member, H.Jenny chmn.

59. Terrel, R.L. 1967. Factors influencing the resilient characteristics of asphalt treated aggregates. Phd in Engineering. C.Monismith Chmn. P.Zinke comm. member.

60. Wells, K. 1967. Aspects of shrub-herb productivity in an arid environment. M.S. Forestry P.Zinke, chmn.

61. Wheaton, R.Z. 1967. An analysis of the influence of watershed management on water yield. Doctor of Engineering, Davis. R.H. Burgy chmn. P.Zinke comm. member.

62. Burke, R.M. 1966. Biological studies in the genus Phleosinus with a host parasite list. M.S. Entomology D.L. Wood Chmn. Dahlsten, D., P. Zinke.

63. DeBano, L. 1966. The effect of hydrophobic substances on soil moisture movement in burned brushland soils. PhD Soil Science. P.Zinke Chmn. J.Letey, L.J. Waldron

64. Hooper, J. 1966. Influences of soils and deer browing on vegetation following logging of redwood and douglas fir near Korbel Humboldt County. M.S. Range Management H.H. Heady chmn., A.Schultz, P. Zinke

65. Luck, R.F. 1966. Distribution of Egg Masses of the Douglas Fir Tussock Moth on White Fir in northern California. M.S. Entomology R.W. Stark Chmn., D. Dahlsten, P.Zinke

66. Bruun, M.E. 1965. Recreation in mountainous regions. M.A. Landscape Architecture H. Vaughan chmn. R. Litton, P. Zinke

67. Lauer, D.T. 1965. Tree Species identification on aerial photography in California M.S. Forestry R.N. Colwell Chmn. F. Moffitt, P. Zinke

68. Secor, K.E. 1965. Viscoelastic properties of asphaltic paving mixtures. Doctor of Engineering C.L. Monismith Chmn. K. Pister, P.Zinke

69. Wallis, J. 1965. A factor analysis of soil erosion and stream sedimentation in northern California. PhD in Soil Science P.Zinke, Chmn

70. Landers, R. 1964. The influence of chamise on vegetation and soil along chamise-grassland boundaries. PhD Botany, H.Heady, chmn. H.G. Baker, P. Zinke

71. Barr, B.A. 1963. The comparative morphology and distribution stridulating accessories in the genus Ips. M.S. Entomology D.Wood, Chmn. R. Pipa, P.Zinke.

72. Jessen, E. 1963. Bionomics of the Monterey Pine needle miner in California. M.S. Entomology. R.W. Stark chmn., J. Powell, P. Zinke.

73. Magill, A.w. 1963. Soil Compaction in relation to forest recreation. M.S. Forestry P. Zinke Chmn., P. Day, E.C. Stone.

74. Tappeiner, J.C. 1963. A contibution to the study of the ecology of squaw carpet as relevant to the establishment and growth of conifer reproduction at Blodgett forest. M.S. Forestry D. Muelder, Chmn. H. Baker, P. Zinke

75. Whatley, J.M. 1963. Comparative studies of vegetation on serpentine and non-serpentine soils. PhD Botany H.G. Baker, Chmn., R. Cleland, P. Zinke.

76. Wilken, G.C. 1963. Snow in the brush; observations on some physical relationships between certain species of brush and snow in the sierra Nevada. M.A. Geography. D.H. Miller chmn., J.J. Parsons, P. Zinke.

77. Willen, D.W. 1963. Erodibility indexes and surface soil characteristics of some southern Sierra Nevada forest Soils. M.S. Forestry P.Zinke chmn., P. Birkeland, M.N. Palley.

78. Ziemer, R.R. 1963. Summer Evapotranspiration trends as related to time following logging of high elevation forest stands in Sierra Nevada. M.S. Forestry P.Zinke Chmn., P. Birkeland, R. Grah.

79. Aley, T.T. 1962. Snow Avalanche Tracks and their vegetation. M.S. Forestry, P. Zinke Chmn.

80. Corban, J.L. 1962. The utilization of the forest in southeast Asia. M.A. Geography P. Wheatley chmn., C. Glacken, P. Zinke.

81. Philpot, C.W. 1962. The relationship between soil drying regimes and vegetation moisture content. M.S. Forestry P. Zinke chmn. D.W. Muelder, P.R. Day.

82. Roy, D.R. 1962. Some factors affecting establishment of pine reproduction on sagebrush flat edges in N.E. California. M.S. Forestry P. Zinke chmn., F.S.Baker, J. Vlamis

83. Scharpf, R.F. 1962. Biology of dwarf mistletoe in California. PhD Plant Pathology J. Parmeter, chmn., S. Wilhelm, P. Zinke.

84. Tamir, R. 1962. INfiltration rates under grass and brush vegetation. M.S. Range Management P. Zinke chmn., H. Heady.

85. Thornburgh, D.A. 1962. An ecological study of man's recreational use of two subalpine sites in western Washington. M.S. Forestry P. Zinke chmn., H.G. Baker, H.Heady.

86. Tschinkel, H.M. 1962. Short term fluctuations in streamflow as related to evaporation and transpiration. M.S. Forestry P. Zinke, chmn., H. Heady, D. Todd

87. Rice, R. 1961. Hydrologic effects of logging in a snow zone watershed of the Sierra Nevada. M.S. Forestry P. Zinke chmn., R. Grah, W. F. TAylor.

88. Meeuwig, R.O. 1960. Effects of seeding and grazing on infiltration capacity and soil stability on a subalpine range in central Utah. M.S. Forestry P. Zinke, Chmn. P. Day, H. Heady.

89. Van Cleve, K. 1960. A study of the nitrogen economy of Bishop Pine stands of various ages. M.S. Forestry P. Zinke chmn., C.C. Delwiche, A.M. Schultz.

90. McDonald, J. 1959. An Ecological Study of Monterey Pine in Monterey County, Ca. M.S. Forestry P. Zinke chmn.

91. Watts, D. 1959. Human Occupancy as a factor in the distribution in California of Digger Pine. M.A. Geography P. Zinke as comm. member.

92. Griffin, J.R. 1957. A study of the distribution of Pinus ponderosa and P. attenuata on sandy soils in Santa Cruz county. M.S. Forestry E.C. Stone, Chmn., H.L Mason, P. Zinke.

93. Merriam, R.A. 1957. Effect of fire on streamflow from small watersheds in the Sierra Nevada Foothills. M.S. Forestry P. Zinke, chmn., H. Heady, J. Major.

94. Quashu, H.K. 1957. Responese of Jeffrey pine seedlings to some properties of serpentine soils. M.S. Forestry E.C. Stone chmn., H.L. Mason, P. Zinke.

RESEARCH

My research activities are carried out in the context of my California Agricultural Experiment Station appointment as an Associate Forester. There, I have had research projects which generally have dealt with the influence of forest and wildland vegetation species on soil properties, the relationship between the chemical properties of the vegetation (mainly as foliage and litter) and the properties of the soil, the relative influences of various species on soil moisture during the long drying periods typical of California and other Mediterranean countries, and the general range of soil and vegetation properties (physical and chemical) that occur in wildland (natural and semi-natural)conditions. The general objective of the research is to be site specific in chemical and physical measurements of soil and vegetation properties, but to be able to generalize these to local, regional, and finally global ranges of expected properties.

This research has involved a sequence of field sampling and laboratory measurements of these properties, and the aggregation of these data into a California Wildland Information System for immediate use by professionals desiring information with site specific detail. The initial laboratory data, and their aggregation into total nutrient storage and water storage quantities for soils, and nutrient content and storage for foliage and for vegetation types are all available on microfiche.

These data are the basis for papers developed on the general themes of the interrelationships between vegetation properties and soil properties. Since my research involves land and its attributes, this sequence of field work, field and laboratory data collection and aggregation, site specific data validation by making it available to professionals, and finally publication of new basic principles derived from this research when adequately validated by use is essential since the data and principles must be true on the land.

COOPERATIVE EXTENSION UNIVERSITY OF CALIFORNIA

What's Happening in California Forestry

VOLUME 3 JANUARY 1982

MICROFICHE DATA BASE FOR WILDLAND SOILS

Research which has been conducted in the University of California Department of Forestry and Resource Management by Dr. Paul Zinke and Dr. Al Stangenberger, and collaboration with the California Cooperative Soil Vegetation Survey, has resulted in a data base of the properties of wildland soils in California. The data base generated on these wildland soil series give areal capacities of storage quantities for moisture, and for storage of carbon, nitrogen and various exchangeable basic cations. On selected sites, vegetation nutrient weights have been collected to accompany those in the soil analysis. This data is of use to foresters, range managers, and other land managers who need to assess potential land productivity, environmental impact of operations, and the options available to them for use of various wildlands.

Because of the large amount of data developed in these studies, and the need to catalog and efficiently scan this information, Zinke and Stangenberger have stored this information on microfiche. In addition, all of the current California Cooperative Soil Vegetation Survey maps and data are stored in fiche form. Shown below is a partial listing of the microfiche information which is available.

0. General Information (Inventory, examples)

0.5 Wildland Environment Data Base Case Study Package 10 Fiche

19. North American Soils Data

19.11-19.15	S.C.S. Soil Data	California - 1	28 Feb 75 - 2 Fiche
19.111	SCS Soils Cal-2	Nutrient Storage	26 Oct 76 - 3 Fiche
19.121	SCS Soils Cal-2	Standard Depth - in.	26 Oct 76 - 3 Fiche
19.131	SCS Soils Cal-2	Standard Depth - cm.	26 Oct 76 - 3 Fiche
19.141	SCS Soils Cal-2	Equivalent Depths	26 Oct 76 - 1 Fiche
19-151	SCS Soils Cal-2	Meter Depth Summary	26 Oct 76 - 1 Fiche

20. Soil-Vegetation Survey - California Wildland Soils

20.0 (inc. Supp. 1)	Soil-Veg Survey	Plot Inventory	2 May 78 - 1 Fiche
20.01	Soil-Veg Survey	Red Fir Soils	18 Feb 77 - 1 Fiche
20.02	Soil-Veg Survey	Fresno County Soils	10 Nov 78 - 1 Fiche
20.1	Soil-Veg Survey	Nutrient Storage	3 Feb 75 - 5 Fiche
20.2	Soil-Veg Survey	Standard Depth - in.	3 Feb 75 - 5 Fiche
20.3	Soil-Veg Survey	Standard Depth - cm.	3 Feb 75 - 2 Fiche
20.4	Soil-Veg Survey	Equivalent Depths	3 Feb 75 - 2 Fiche
20.5	Soil-Veg Survey	Soil Moisture Stor.	28 Feb 75 - 4 Fiche
20.6	Soil-Veg Survey	Fine Erth Soil Moist	22 May 75 - 4 Fiche
20.7	Soil-Veg Survey	Meter Depth Summary	26 Feb 75 - 1 Fiche
20.92	Soil-Veg Survey	Plot + Soil Data	4 Feb 76 - 10 Fiche
20.93	Soil-Veg Survey	Plot Data (by Quads)	11 Feb 76 - 10 Fiche
20.94	Soil-Veg Survey	Species Symbol Key	2 Aug 76 - 1 Fiche

There are a great many uses that owners and managers of forests and other wildlands can make of this information.

Example 1 -- General Soil Data Card

You have measured the bulk density in a skid trail and found it to be 1.5 in the surface. The soil is a Musick soil. You wish to know if there has been any compaction.

Procedure:

1. You look on the index of this card and locate it where information on Musick soil is found.
2. You find that there are 5 Musick profiles on this card beginning at location F7 of the microfiche.
3. Move to location F7 of the card and scan downward vertically, noting surface soil bulk densities for the Musick.

Answer:

Surface bulk densities shown on the card for the 5 Musick soil profiles were: 1.3, 1.0, 1.2, 1.1, not given. Thus, range in surface bulk density for the Musick profiles in the data base is from 1.0 to 1.3. Unless the skid trail is down to subsoil material, which the card shows to include values from 1.5 to 1.9, then there most likely has been surface compaction.

Example 2 -- Soil Moisture Storage Card

This card gives water storage quantities in inches for California soils between permanent wilting point and field capacity (15 atm to 1/3 atm). You wish to know soil moisture storage in an Aiken soil series on the North Coast area to a 5 foot soil depth.

Procedure:

1. Look on the index for Aiken soil series in quadrangles representative of the North Coast.
2. You find two Aiken soil series profiles in quadrangles found on the North Coast, located at coordinates F2 and H2 of the microfiche.
3. Move to location F2 and H2 of the microfiche and record inches of storage to a 5 foot depth for these two profiles.

Answer:

The data shows 8.1 inches of water storage to a 5 foot depth for the first profile, and 10.7 inches of water storage for the second profile for these Aiken soils typical of the North Coast. At a rate of 0.1 inches of water use per day, this represents approximatley 80 to 110 days of growth into the drought period.

There are many other uses of this microfiche data, such as determining soil pH for a certain soil series in a given area to determine species selection for a reforestation project, or finding nitrogen storage to determine the potential effectiveness of a fertilization program.

These microfiche are available to anyone for approximately $1.00 each. For more information on the complete set of data available on microfiche, and how to order these cards for your use, contact the Extension Forestry office at the address or phone number shown at the end of this newsletter.

PAUL J. ZINKE & A.G. STANGENBERGER Data Base and Statistics; Forest soils, vegetation, productivity and site quality, and influence of trees through foliage composition on soil. California Agricultural Experiment Station Projects FRU 1762, 2937-MS

see microfiche files!

Microfiche Inventory (Sorted by Fiche Number)

07-03-1985

Fiche	Title	No	Da	Yr	Co	Notes
0.	General Information (Inventory, Examples)				-1	
0.1	SLIDE INVENTORY	04	08	80	1	
1.	Mixed Conifer Study				-1	
1.1	MIXED CONIFER STUDY SOILS	06	26	75	5	1.1-1.5
1.1.9	MIXED CONIFER STUDY SOIL CARBON STORAGE	04	04	78	1	
1.6	MIXED CONIFER STUDY SOIL MOISTURE STOR.	01	21	77	1	
1.7	MIXED CONIFER STUDY VEGETATION	02	07	75	1	
1.71	PINUS PONDEROSA LITTER WEIBULL DISTS.	07	28	78	1	
1.71R	PINUS PONDEROSA LITTER VEG RATIO WEIBULLS	07	28	78	1	
1.72	CALOCEDRUS DECURRENS LITTER WEIBULLS	07	28	78	2	
1.72R	CALOCEDRUS DECURRENS LITTER WEIB. RATIOS	07	28	78	2	
1.73	PINUS PONDEROSA FOLIAGE WEIBULL DISTS	04	23	84	5	
1.730	PINUS PONDEROSA FOLIAR ANALYSES	08	31	82	1	
1.731	PINUS PONDEROSA FOL. INCL 92 WEIBULL DISTS.	03	05	78	2	
1.74	PINUS PONDEROSA TWIGS WEIBULL DISTS.	03	05	78	2	
1.74R	PINUS PONDEROSA TWIGS RATIO WEIBULLS	07	25	78	2	
1.75	PINUS PONDEROSA WOOD + BARK WEIBULL DISTS.	06	08	77	1	
1.752	CALOCEDRUS DECURRENS WOOD + BARK WEIBULL	06	10	77	1	
1.752R	CALOCEDRUS DECURRENS WOOD+BARK RATIO WEIBULLS	07	27	78	2	
1.75R	PINUS PONDEROSA WOOD + BARK VEG RATIO WEIBULL	07	27	78	1	
1.81	MIXED CONIFER SOILS WEIBULL DISTS.	09	27	78	2	
1.8150	MIXED CONIFER (1-52) SOIL SURF. HOR. WEIBULLS	01	11	78	1	
1.8151	MIXED CONIFER (1-52) SOIL BOT. HOR. WEIBULLS	01	11	78	1	
1.8152	WEST. CON. FOR.SOILS SURF. HOR. WEIBULLS	01	27	78	1	
1.81521	PINUS PONDEROSA SOILS - SURF. HOR. WEIBULLS	01	27	78	1	
1.81522	PSEUDOTSUGA MENZIESII SOILS SURF. HOR. WEIB.	01	30	78	1	
1.81523	CALOCEDRUS DECURRENS SOIL SURF. HOR. WEIBULLS	01	31	78	1	
1.81524	PINUS CONTORTA SOILS SURF. HOR. WEIBULLS	01	30	78	1	
1.81525	MISC. MIX CON. SOILS SURF. HOR. WEIBULLS	01	31	78	1	
1.8153	WEST. CON. FOR. SOIL BOT. HOR. WEIBULLS	01	25	78	1	
1.81531	PINUS PONDEROSA SOILS BOTTOM HORIZ. WEIBULLS	01	30	78	1	
1.81532	PSEUDOTSUGA MENZIESII SOILS BOT. HOR. WEIBULL	01	30	78	1	
1.81533	CALOCEDRUS DECURRENS SOILS BOT. HOR. WEIBULLS	01	30	78	1	
1.81535	MISC. MIX CON. SOILS BOT. HOR. WEIBULLS	01	30	78	1	
1.90	COLUMBIA RIVER SOILS	06	28	76	1	
1.96	PSEUDOTSUGA MENZIESII FOLIAR ANALYSES	04	05	85	3	
1.961	PSEUDOTSUGA MENZIESII FOL. WEIBULL DISTS.	04	04	85	6	
1.9611	PSEUDOTSUGA MENZIESII SERPENTINE WEIB. DISTS	04	05	85	2	
1.962	PSEUDOTSUGA MENZIESII TWIGS WEIBULL DISTS.	07	10	78	2	
1.962R	PSEUDOTSUGA MENZIESII TWIGS WEIBULLS (RATIOS)	07	13	78	2	
1.963	PSEUDOTSUGA MACROCARPA FOLIAR ANAL. + WEIBULL	04	02	85	5	
1.97	MIXED CONIFER COOP GROWTH STUDY SOILS	11	19	84	2	
2.	Chaparral Study				-1	
2.11	LYSIMETER STUDY SOILS	06	26	75	5	2.11-2.15
2.16	LYSIMETER STUDY VEGETATION	01	07	77	1	
2.17	LYSIMETER STUDY SOIL MOIST. STORAGE	01	21	77	1	
2.21	CHAPARRAL SOILS	06	26	75	5	2.21-2.25
2.26	CHAPARRAL STUDY VEGETATION	02	10	75	1	
2.262	CHAPARRAL LITTER WEIBULL DISTS.	08	24	78	2	

Fiche	Title	Mo	Da	Yr	Co	Notes
2.2621	CHAPARRAL LITTER - L+F ADDED WEIBULL DISTS	08	24	78	2	
2.2621R	CHAPARRAL LITTER - L+F ADDED RATIO WEIBULLS	08	24	78	2	
2.262R	CHAPARRAL LITTER VEG RATIO WEIBULLS	08	24	78	2	
2.263	CHAPARRAL FOLIAGE WEIBULL DISTS.	06	08	77	2	
2.2630	CHAPARRAL FOL - ALL SPP NUTRIENT WT. WEIBULL	09	13	78	1	
2.2631	CHAPARRAL FOLIAGE NUTRIENT WT. WEIBULL	09	13	78	1	
2.264	CHAPARRAL STEMS WEIBULL DISTS.	06	08	77	2	
2.2640	CHAPARRAL STEMS - ALL SPP NUTRIENT WT WEIBULL	09	13	78	1	
2.2641	CHAPARRAL STEMS NUTRIENT WT. WEIBULL	09	13	78	1	
2.2650	CHAPARRAL FOL+STEM (ALL) NUTRIENT WT. WEIBULL	09	13	78	1	
2.2651	CHAPARRAL FOL + STEM NUTRIENT WT WEIBULL	09	13	78	1	
2.266	CHAPARRAL ROOTS WEIBULL DISTS.	02	12	81	2	
2.2665	CHAPARRAL ROOTS TOTAL WT WEIBULLS	02	12	81	1	
2.266R	CHAPARRAL ROOTS RATIO WEIBULLS	02	12	81	2	
2.271	CHAPARRAL SOILS WEIBULL DISTS.	09	27	78	1	
2.272	CHAPARRAL SOILS SURF. HOR. WEIBULLS	02	02	78	1	
2.2721	ADENOSTOMA FASCICULATUM SOIL SURF. HOR. WEIB.	02	02	78	1	
2.2722	CEANOTHUS SOILS SURF. HOR. WEIBULLS	02	03	78	1	
2.2723	QUERCUS DUMOSA SOILS SURF. HOR. WEIBULLS	02	02	78	1	
2.281	CHAPARRAL SOILS FIGURES	08	00	75	1	
3.	Redwood Study				-1	
3.1	REDWOOD STUDY SOILS	06	26	75	5	3.1-3.5
3.61	REDWOOD FOL. ANAL. + WEIBS.	03	13	85	3	
3.62	HAAS GROVE REDWOOD X-SEC. WOOD WEIBULL DISTS	07	18	77	1	
3.621	REDWOOD GROWTH RING PERIODICITY WEIBULLS	09	25	78	1	
3.62R	HAAS GROVE REDWOOD X-SEC. WOOD RATIO WEIBULLS	02	22	79	1	
3.65	REDWOOD SITE 102 SOIL AND VEGETATION	04	29	83	1	
3.72	REDWOOD LITTER WEIBULL DISTS.	10	10	75	1	
3.8	REDWOOD SOILS LOG/UNLOG COMPARISON	09	15	76	1	
3.80	REDWOOD DISTURB. STUDY SOIL DATA	06	21	77	6	
3.81	REDWOOD DISTURB. STDY SOIL WEIBULL DISTS	06	22	77	1	
3.82	REDWOOD DISTURB. STD CUM. NUT. STOR.VAR.	06	30	77	2	
3.83	REDWOOD DISTURB. STD STAT. COMPARISONS	06	30	77	4	
3.90	REDWOOD SOILS SURFACE WEIBULLS	01	31	78	1	
3.905	REDWOOD SOILS BOT. HOR. WEIBULLS	01	31	78	1	
3.91	REDWOOD SEDIMENT WEIBULL DISTS.	01	30	78	1	
3.92	REDWOOD SOILS (ALL) WEIBULL DISTS.	10	02	78	1	
4.	Sand Dune Study				-1	
4.1	SAND DUNE STUDY SOILS	06	24	75	2	4.1-4.5
4.6	SAND DUNE STUDY VEG. ANALYSES	08	31	82	1	
4.7	SAND DUNE STUDY SOIL MOIST. STORAGE	01	21	77	1	
5.	Giant Sequoia				-1	
5.1	SEQUOIADENDRON GIGANTEUM SOILS AND VEGETATION	04	29	83	1	5.1-5.5
5.6	SEQUOIADENDRON GIGANTEUM FOL. ANAL. + WEIBS.	08	00	82	4	
6.	Yosemite Valley				-1	
6.1	YOSEMITE STUDY SOILS	01	09	75	2	6.1-6.5
6.6	YOSEMITE STUDY VEGETATION	02	13	75	1	
7.	Mountain Meadow Study				-1	
7.1	MEADOW (HIGH ELEV) - SOILS	06	26	75	1	7.1-7.5

Fiche	Title	Mo	Da	Yr	Co	Notes
7.6	MEADOW (HIGH ELEV) STUDY VEGETATION ANALYSES	06	03	83	4	
7.8	MEADOW (HIGH ELEV) CLIPPINGS WEIBULL DISTS.	07	27	78	1	
7.81	MEADOW (HIGH ELEV) CLIPPINGS WEIBULLS BY AGE	08	17	78	2	
7.81R	MEADOW VEG RATIO WEIBULLS - BY AGE	08	16	78	1	
7.8R	MEADOW (HIGH ELEV) CLIPPINGS VEG RATIO WEIB	07	27	78	1	
8.	Blodgett Forest and Meadow Valley				-1	
8.1	BLODGETT FOREST SOILS	06	24	75	1	8.1-8.5
8.6	BLODGETT FOREST VEGETATION	02	04	75	1	
8.61	BLODGETT FUEL STUDY COMPARTMENT 500U	09	04	79	1	
8.65	BLODGETT N15 STUDY SOILS	03	20	84	1	
8.651	BLODGETT N15 STUDY SOILS - STATISTICS	11	21	84	1	
8.70	MEADOW VALLEY SOILS	05	22	76	1	
8.70	MEADOW VALLEY SOILS SOIL AND WATER DATA	05	00	76	1	8.70-8.71
8.71	MEADOW VALLEY SOIL MOISTURE	06	25	76	1	
8.8	SUGAR PINE CREEK STUDY - VEGETATION DATA	02	24	78	1	
8.9	MEADOW VALLEY VEGETATION ANALYSES	03	04	81	1	
9.	Lake Tahoe				-1	
9.1	LAKE TAHOE (PROJ 1762) SOILS	12	12	74	1	9.1-9.5
9.6	LAKE TAHOE (PROJ 1762) SOIL MOISTURE STOR.	02	25	75	1	
9.7	LAKE TAHOE S.C.S. SOIL DATA	12	02	74	1	
9.8	LAKE TAHOE (PROJ 1762) VEGETATION	08	04	75	1	
9.9	LAKE TAHOE LOG/UNLOG SOILS STATISTICAL TESTS	12	09	76	1	
10.	Lodgepole Pine				-1	
10.1	PINUS CONTORTA SOILS	06	26	75	1	10.1-10.5
10.6	PINUS CONTORTA STUDY VEGETATION	02	13	75	1	
11.	Red Fir				-1	
11.1	ABIES MAGNIFICA SOILS	04	30	75	1	11.1-11.5
11.6	ABIES MAGNIFICA STUDY VEGETATION	05	05	75	1	
11.65	ABIES MAGNIFICA FOLIAR ANALYSES	10	12	78	1	
11.7	ABIES MAGNIFICA FOLIAGE WEIBULL DISTS.	06	20	78	2	
11.75	ABIES MAGNIFICA TWIGS WEIBULL DISTS.	07	13	78	1	
11.75R	ABIES MAGNIFICA TWIGS WEIBULLS (RATIOS)	07	19	78	2	
11.7R	ABIES MAGNIFICA FOLIAGE RATIO WEIBULLS	07	25	78	2	
11.8	ABIES, SP. FOL. ANAL. + WEIBS.	06	02	82	3	
11.81	ABIES CONCOLOR FOL. ANAL. + WEIBS.	02	25	85	6	
11.82	ABIES GRANDIS FOL. ANALYSES & WEIBULL DISTS.	06	28	85	2	
11.99	STANGENBERGER THESIS APPENDICES A-F	06	00	79	3	
12.	East Side Pine Type				-1	
12.1	MACKAMORE PINE SOILS	06	27	75	1	12.1-12.5
13.	Italy & Greece				-1	
13.1	ITALY AND GREECE - SOILS	06	27	75	2	13.1-13.5
13.6	ITALY AND GREECE - VEGETATION	02	28	75	1	
13.71	ITALY AND GREECE SOILS - WEIBULL DISTS.	08	14	75	1	
14.	Shifting Cultivation Study				-1	
14.1	THAILAND SHIFTING CULTIVATION STUDY - SOILS	05	19	83	2	14.1-14.5
14.6	THAILAND: BAN PA PAE - VEGETATION ANALYSES	08	31	82	1	
15.	Thailand				-1	
15.1	THAILAND FOREST SOILS	06	26	75	5	15.1-15.5
15.1.9	THAILAND FOREST SOIL SOIL CARBON STORAGE	04	04	78	1	

Fiche	Title	Mo	Da	Yr	Co	Notes
15.6	TROPICAL FORESTS VEGETATION	04	07	75	1	
15.71	THAILAND FOREST SOILS - WEIBULL DISTS.	08	14	75	1	
15.81	THAILAND TROPICAL FORESTS - FIGURES	08	00	75	1	
16.	Defoliation Study				-1	
16.1	DEFOLIATION STUDY SOILS	06	27	75	5	16.1-16.5
16.8	MANGROVES FOL. ANAL. + WEIBS.	08	12	82	3	
16.80R	MANGROVES RATIO WEIBULLS	08	12	82	3	
17.	Amazon Basin				-1	
17.1	AMAZON SOILS	02	12	75	8	17.1-17.4
17.1.9	AMAZON BASIN SOILS SOIL CARBON STORAGE	04	04	78	1	
17.71	AMAZON BASIN SOILS WEIBULL DISTS.	08	14	75	1	
17.8	MANIOC (TROP. PERU) VEG DATA + WEIBULLS	01	18	78	1	
17.81	AMAZON BASIN SOILS SURF. SOIL WEIBULLS	01	31	78	1	
17.815	AMAZON BASIN SOILS BOT. HOR. WEIBULLS	01	31	78	1	
17.91	HECHT, S.: AMAZON SOIL VARIABILITY	03	17	81	1	
17.92	HECHT, S.: AMAZON SOIL CUM. NUT. STOR. VAR.	03	12	81	1	
17.921	HECHT, S.: AMAZON SOIL DISTURBANCE TESTS	03	13	81	1	
17.93	HECHT, S.: DISSERTATION: MATO GROSSO SOIL VAR	08	05	81	1	
17.930	HECHT, S.: DISSERTATION: MATO GROSSO CLEARING	08	03	81	2	
17.94	HECHT, S.: DISSERTATION: MATO GROSSO SOILS	08	04	81	2	
17.95	R. SANFORD DISSERTATION - SOILS	06	26	85	2	
18.	Iran and Banyans				-1	
18.1	TROPICAL SOILS (MISC.)	02	17	75	4	18.1-18.4
18.1.9	AMERICA, CENTRAL: SOIL CARBON STORAGE	04	04	78	1	
18.5	IRAN: KISH ISLAND SOILS + VEGETATION	09	02	76	1	18.5-18.6
18.71	FICUS BENGHALENSIS FOL. ANAL. + WEIBS.	08	31	82	2	
19.	North American Soils Data				-1	
19.11	S.C.S. SOIL DATA CALIFORNIA - 1	02	28	75	2	19.11-19.15
19.111	S.C.S. SOILS CALIF. - 2: NUTRIENT STORAGE	10	26	76	3	
19.121	S.C.S. SOILS CALIF. - 2: STANDARD DEPTH-IN.	10	26	76	3	
19.131	S.C.S. SOILS CALIF. - 2: STANDARD DEPTH-CM.	10	26	76	3	
19.141	S.C.S. SOILS CALIF.- 2 EQUIVALENT DEPTHS	10	26	76	1	
19.151	S.C.S. SOILS CALIF. - 2 - METER DEPTH SUMMARY	10	26	76	1	
19.21	S.C.S. SOIL DATA COLORADO	02	23	75	5	19.21-19.25
19.31	USFS INTERMOUNTAIN EXP. STA. MISC. PUB. 7	02	23	75	2	19.31-19.35
19.41	S.C.S. SOIL DATA MONT., NEV., WYO.	02	27	75	2	19.41-19.45
19.411	S.C.S. SOIL DATA - NEVADA	12	12	79	2	
19.51	SOUTHERN REG. PROJ. S-14	02	23	75	1	19.51-19.55
19.51.9	S.E. U.S. FOR. SOILS CARBON STORAGE	06	28	78	1	
19.58	S.E. U.S. FOR. SOILS SURF. HOR. WEIBULLS	06	28	78	1	
19.585	S.E. U.S. FOR. SOILS BOT. HOR. WEIBULLS	06	28	78	1	
19.61	SOIL SURVEY LAB. MEMORANDUM 1	05	02	75	3	19.61-19.65
19.71	DICKSON, TIDBALL, MC DONALD THESES	02	27	75	1	19.71-19.75
19.81	S.C.S. SOIL DATA OREGON	10	29	76	5	19.81-19.85
19.90	TENN.: GREAT SMOKY MTS - J. WOLF THESIS SOILS	07	10	80	1	
19.91	NORTH U.S. FOR. SOIL CARBON STORAGE	06	28	78	1	
19.915	GRASS + SAGE SOILS CARBON STORAGE	06	28	78	1	
19.980	NORTH U.S. FOR. SOIL SURF. HOR. WEIBULLS	06	28	78	1	

Fiche	Title	Mo	Da	Yr	Co	Notes
19.9805	NORTH U.S. FOR. SOIL BOT. HOR. WEIBULLS	06	28	78	1	
19.981	GRASS + SAGE SOILS SURF. HOR. WEIBULLS	06	28	78	1	
19.9815	GRASS + SAGE SOILS BOT. HOR. WEIBULLS	06	28	78	1	
19.99	USFS N.E. EXP.STA. RES PAPER NE260 SOILS DATA	02	07	80	1	
20.	Soil-Vegetation Survey - Calif. Wildland Soil				-1	
20.0	SOIL-VEG. SURVEY PLOT INVENTORY	05	02	78	1	INCL. SUPP. 1
20.01	ABIES MAGNIFICA SOILS FROM SOIL-VEG. SURVEY	02	18	77	1	
20.02	SOIL-VEG. SURVEY FRESNO COUNTY SOILS	11	10	78	1	
20.02A	FRESNO CO. S/V SOIL CARBON WITH ROCK COR	02	08	79	1	
20.05	CALIF. FOREST SOIL TAXONOMIC INDEX	08	31	82	1	
20.1	SOIL-VEG. SURVEY NUTRIENT STORAGE	02	03	75	5	
20.2	SOIL-VEG. SURVEY STANDARD DEPTH - IN.	02	03	75	5	
20.3	SOIL-VEG. SURVEY STANDARD DEPTH - CM.	02	03	75	5	
20.311	STD DEPTH FREQ DATA FOREST SOILS	01	25	77	2	
20.312	STD DEPTH PERCNTILES NON-CALCIC BRN SOIL	12	02	76	2	
20.3121	STD DEPTH FREQ TBL NON-CALCIC BRN SOILS	12	06	76	1	
20.313	STD DEPTH PERCNTILES CHAPARRAL SOILS	12	02	76	2	
20.3131	STD DEPTH FREQ TBL CHAPARRAL SOILS	12	06	76	2	
20.4	SOIL-VEG. SURVEY EQUIVALENT DEPTHS	02	03	75	2	
20.5	SOIL-VEG. SURVEY SOIL MOISTURE STOR.	02	28	75	4	
20.51	SOIL-VEG. SURVEY WEIB.-SOIL MOIST.	10	08	75	1	
20.515	SOIL-VEG. SURVEY SOIL MOIST WEIB/SITE	10	18	76	4	
20.52	SOIL-VEG. SURVEY WEIB.-F.E. SOIL H2O	10	10	75	1	
20.6	SOIL-VEG. SURVEY FINE EARTH SOIL MOIST	05	22	75	4	
20.7	SOIL-VEG. SURVEY METER DEPTH SUMMARY	02	26	75	1	
20.8	SOIL-VEG. SURVEY WEIBULL DISTS. -SOIL	08	07	75	1	
20.81	SOIL-VEG. SURVEY WEIB. SOIL BY SITE	09	28	76	4	
20.91	SOIL-VEG. SURVEY VEG WITH PROFILES	09	08	75	1	
20.92	SOIL-VEG. SURVEY PLOT + SOIL DATA	02	04	76	10	
20.93	SOIL-VEG. SURVEY PLOT DATA (BY QUADS)	02	11	76	10	
20.94	SOIL-VEG. SURVEY SPECIES SYMBOL KEY	08	02	76	1	
20.95	PSEUDOTSUGA MENZIESII SITE TREE WEIBULL DISTS	04	08	77	1	SITE TREE HEIGHTS
20.96	CARBON STORAGE BY VEGETATION TYPE	09	18	79	1	
20A.	Soil-Vegetation Survey Supplement 1				-1	
20A.1	SOIL-VEG. SURVEY SUPPLEMENT 1 SOILS	04	27	78	5	20A.1-20A.5
20A.6	SOIL-VEG. SURVEY SUPP. 1 SOIL MOISTURE STOR.	05	01	78	1	
20A.65	SOIL-VEG. SURVEY SUPP. 1 FINE EARTH SOIL H2O	05	10	78	1	
20A.92	SOIL-VEG. SURVEY SUPP A PLOT DATA BY SERIES	04	16	79	2	
20A.93	SOIL-VEG. SURVEY SUPP A PLOT DATA BY QUADS	04	10	79	2	
20B.	Soil-Vegetation Survey Supplement B				-1	
20B.1	SOIL-VEG. SURVEY SUPP B SOILS DATA	02	07	80	1	20B.1-20B.5
21.	Soil-Vegetation Survey - Maps				-1	
21.1	CALIF. VEGETATION TYPE MAPS (42X REDUCTION)	08	00	75	3	
21.2	SOIL-VEG MAPS - CAL. (42X REDUCTION)	08	00	75	5	
21.3	CALIF. VEG AGE-DENSITY MAPS (42X REDUCTION)	08	00	75	5	
21.4	SOIL-VEGETATION MAPS (12X REDUCTION)	00	00	76	34	
21.45	SOIL-VEGETATION MAPS (24X REDUCTION)	00	00	76	9	
21.5	CALIF. TIMBER STAND + VEG. MAPS (12X REDUCT.)	00	00	76	7	
21.6	CALIF. WILDLAND SOIL SERIES DESCRIPTIONS	00	00	79	8	

Fiche	Title	Mo	Da	Yr	To	Notes
22.	Miscellaneous Data - Project 1762				-1	
22.00	MISC. ANGIOSPERM VEGETATION ANALYSES	08	31	82	2	
22.05	MISC. GYMNOSPERM VEGETATION ANALYSES	08	31	82	4	
22.10	MISCELLANEOUS FOLIAR ANALYSES	06	28	85	3	
22.11	MISCELLANEOUS DATA - PROJECT 1762	08	00	75	4	22.11-22.14
22.2	MOKELUMNE RIVER WATER BALANCE (ZINKE ET AL)	08	00	75	2	
22.3	COLUMBIA RIVER STAGE AT STANLEY RK.	12	14	76	1	
22.4	DICKEY FARMS SOILS (COLUMBIA RIVER)	05	16	77	1	
22.41	PUERTO RICO: VIEQUES IS. FOL. + CORAL ANAL.	01	14	82	1	
22.42	WARM SPRS. INDIAN RES. FOLIAR ANALYSES	01	14	82	1	
22.45	TAXUS BREVIFOLIA FOL. ANAL. + WEIBS.	04	29	82	3	
22.51	CALOCEDRUS DECURRENS FOL. ANAL. + WEIBULLS	04	23	85	3	
22.515	CALOCEDRUS DECURRENS FOL. ON SERPENTINE WEIB.	06	19	85	2	
22.52	JUNIPERUS OCCIDENTALIS FOL. ANAL + WEIBULLS	05	20	81	2	
22.53	THUJA PLICATA FOL. ANALYSES + WEIBULLS	09	25	81	3	
22.54	JUNIPERUS CALIFORNICA FOL. ANAL + WEIBULLS	03	26	85	3	
22.542	JUNIPERUS ASHEI FOL. ANALYSES & WEIBULLS	03	26	85	2	
22.55	JUNIPERUS VIRGINIANA FOL. ANAL. + WEIBS.	03	26	85	3	
22.56	JUNIPERUS, SP. FOL. ANAL. + WEIBS.	03	26	85	3	
22.57	CUPRESSUS, SP. FOL. ANAL. + WEIBS.	08	04	82	3	
22.58	CHAMAECYPARIS, SP. FOL. ANAL. + WEIBS.	08	04	82	3	
22.6	TSUGA, SP. TISSUE ANALYSES	02	09	80	1	
22.60	TSUGA, SP. FOLIAGE WEIBULLS	02	15	80	2	
22.60R	TSUGA, SP. FOL. RATIO WEIBULLS	02	05	80	2	
22.610	TSUGA HETEROPHYLLA FOLIAGE WEIBULLS	02	06	80	2	
22.610R	TSUGA HETEROPHYLLA FOL. RATIO WEIBULLS	02	06	80	2	
22.620	TSUGA MERTENSIANA FOLIAGE WEIBULLS	02	05	80	2	
22.620R	TSUGA MERTENSIANA FOL. RATIO WEIBULLS	02	05	80	2	
22.63	TSUGA CANADENSIS FOLIAGE ANAL. & WEIBULLS	06	28	85	4	
22.65	PICEA SITCHENSIS FOL ANAL. + WEIBULLS	05	21	81	3	
22.66	PICEA RUBENS FOLIAGE ANAL. & WEIBULLS	06	28	85	4	
22.6900	PICEA, SP. FOLIAGE WEIBULLS	06	10	81	2	
22.7	MISC. VEGETATION ANALYSES	08	04	75	1	
22.702	PINUS RADIATA 531A WEIBULLS - FOLIAGE	10	06	77	1	
22.71	POPULUS TREMULOIDES FOL. AUTUMN COLOR	10	12	78	1	
22.72	ALNUS RUBRA FOL. ANAL. + WEIBULL	01	22	82	2	
22.75	LITHOCARPUS DENSIFLORA FOL. ANAL. + WEIBULLS	11	20	82	4	
22.781	PINUS JEFFREYI FOL. ANALYSES & WEIBULL DISTS.	06	25	85	5	
22.79	BADGER HILL ORCHARD FOL. ANAL. + WEIBULL	02	09	83	1	
22.81	MISC. VEGETATION (R,Y) FIGURES	08	00	75	1	
22.880.922	PINUS KESIYA SOILS B. THAIUTSA DISS.	12	30	80	3	
22.89	PINUS PONDEROSA FOL. ANAL. B. THAIUTSA DISS.	11	13	80	1	
22.890	PINUS PONDEROSA FOL. WEIBS. B. THAIUTSA DISS.	11	13	80	1	
22.9000	PINUS (, SP.) WEIBULL DISTS.	08	25	82	2	
22.9000R	PINUS (, SP.) RATIO WEIBULLS	08	25	82	2	
22.9001	PINUS (HARD/SOFT) WEIBULL DISTS	02	07	83	4	
22.911	PINUS STROBUS FOL. ANALYSES & WEIBULL DISTS.	06	05	85	4	
22.921	PINUS RESINOSA FOL. ANALYSES & WEIBULL DISTS.	06	10	85	4	
22.930	PINUS (SOUTHERN, SPP.) FOL. WEIBULL DISTS	06	28	77	1	

Fiche	Title	Mo	Da	Yr	Co	Notes
22.930R	PINUS (SOUTHERN, SPP,) FOL. RATIO WEIBULLS	08	09	80	1	
22.931	PINUS TAEDA FOLIAGE WEIBULL DISTS.	03	08	85	2	
22.932	PINUS PALUSTRIS FOLIAGE WEIBULL DISTS	06	28	77	1	
22.932R	PINUS PALUSTRIS FOL RATIO WEIBULLS	08	09	80	1	
22.933	PINUS PATULA FOLIAGE WEIBULL DISTS.	06	21	78	1	
22.934	PINUS HALEPENSIS FOL ANALYSES	06	15	85	2	
22.9341	PINUS HALEPENSIS (L.A. CO) FOL ANAL + WEIBULL	06	15	85	5	
22.9342	PINUS HALEPENSIS (ISRAEL) FOL. WEIBULL DISTS.	01	09	79	2	
22.9342R	PINUS HALEPENSIS (ISRAEL) FOL. RATIO WEIBULLS	01	09	79	2	
22.9349	PINUS HALEPENSIS FOLIAGE (ALL) WEIBULL DISTS	06	16	85	2	
22.935	PINUS ATTENUATA FOLIAR ANALYSES & WEIBULLS	06	27	85	4	
22.936	PINUS CONTORTA FOL. ANAL. + WEIBS.	08	25	82	5	
22.937	PINUS COULTERI FOL. ANALYSES & WEIBULLS	06	26	85	5	
22.938	PINUS KESIYA FOL. WEIBULL DISTS	11	21	79	1	
22.9380R	PINUS KESIYA FOL. RATIO WEIBULL DISTS.	11	21	79	1	
22.9381	PINUS KESIYA FOL. ANAL. B. THAIUTSA DISS.	11	13	80	1	
22.93810	PINUS KESIYA FOL. WEIBULLS B. THAIUTSA DISS.	11	13	80	1	
22.93810R	PINUS KESIYA RATIO WEIBULLS B. THAIUTSA DISS.	11	13	80	1	
22.9382	PINUS KESIYA MISC. DATA B. THAIUTSA DISS.	11	13	80	1	
22.939	PINUS (PINYON) FOL. ANAL. + WEIBULLS	06	28	85	4	
22.94	PINUS MURICATA FOL. ANALYSES & WEIBULL DISTS.	06	28	85	4	
22.941	PINUS SABINIANA FOLIAR ANALYSES + WEIBULLS	06	27	85	3	
22.942	PINUS TORREYANA FOL. ANAL. + WEIBULLS	05	20	81	2	
22.943	PINUS LAMBERTIANA FOL ANAL. + WEIBULLS	06	19	85	5	
22.944	PINUS MONTICOLA FOL. ANAL + WEIBULLS	01	14	82	3	
22.945	PINUS RIGIDA FOL. ANAL + WEIBULLS	06	13	85	3	
22.946	PINUS RADIATA FOL. ANAL. & WEIBULLS	03	04	85	3	
22.947	PINUS CANARIENSIS FOL. ANALYSES & WEIBULLS	06	24	85	3	
23.	Miscellaneous				-1	
23.1	CALIF. FERTILIZER ASSN PROJECT - REPORT	09	03	75	1	
23.2	OREGON: FOREST SURVEY REPORT - DOUGLAS COUNTY	11	03	75	6	
23.3	ANDERSON, H.W.: REFERENCE COLLECTION	09	00	75	6	
23.31	ANDERSON, H.W.: REF. COLLECTION - 24X VERSION	10	02	75	20	
23.4	MEXICO: VERACRUZ - SOIL WEIBULL DISTS.	09	21	77	1	
23.41	MEXICO: VERACRUZ SHIFT. CULT SOILS + WEIBULLS	04	12	78	1	
23.42	MEXICO: VERACRUZ SOIL FERT. STUDY - WEIBULLS	01	08	79	1	
23.46	ZEA MAYS (MEXICO) VEG DATA + WEIBULLS	12	22	77	1	23.46-23.461
23.47	PERSEA AMERICANA FOL ANALYSES + WEIBULLS	06	22	78	1	
23.48	COFFEA ARABICA FOL. ANAL. + WEIBULLS	10	24	80	1	
23.49	ISRAEL - OAK + HALOPHYTE ANAL + WEIBS	10	07	81	2	
23.5	MACROCYSTIS (KELP) FOLIAR ANALYSES	08	26	78	1	
23.6	CREEP. SAGE + FUELS FOLIAR ANALYSES	06	08	79	1	
23.60	SALVIA SONOMENSIS FOLIAGE WEIBULL DIST	06	07	79	1	
23.700	TECTONA GRANDIS LEAF FOLIAR ANALYSES	07	17	80	1	
23.95	TULE ELK HAIR WEIBULLS	11	20	82	2	
23.96	BLACK BEAR HAIR ANALYSES	02	24	79	1	
23.960	BLACK BEAR HAIR WEIBULL DISTS.	02	24	79	1	
23.960R	BLACK BEAR HAIR RATIO WEIBULLS	02	24	79	1	
23.97	FORESTRY 120 LAB EXERCISE 8.1	10	19	78	1	

Microfiche Inventory (Sorted by Fiche Number)

07-03-1985

Fiche	Title	Mo	Da	Yr	Co	Notes
23.98	CRYPTOMERIA JAPONICA 018/016 WEIBULL	10	08	78	1	
23.99	HUMAN HAIR ANAL. + WEIBULL DIST	11	17	82	1	
24.	Ponderosa Pine - Manuel Mills Plantation				-1	
24.6	MANUEL MILLS VEGETATION	08	04	75	1	
24.61	MANUEL MILLS Y FOL WEIBULL DISTS.	06	20	75	1	
24.62	MANUEL MILLS Y BARK WEIBULL DISTS.	06	24	75	1	
25.	Soil-Vegetation Survey - Vegetation Data				-1	
25.6	SOIL-VEG. SURVEY ANNUAL GRASS CLIPPGS	01	06	77	1	
25.7	SOIL-VEG. SURVEY HERB. TYPE ACRE PLTS	03	12	77	1	
26.	Tropiccal Vegetation & Soil - Mangroves				-1	
26.15	PUERTO RICO: VIEQUES IS.: VEGETATION ANALYSES	08	26	78	1	
27.	Serpentine Soils and Vegetation				-1	
27.1	GASQUET MOUNTAIN SOIL DATA	10	02	78	1	
27.2	GASQUET MOUNTAIN VEGETATION DATA	10	04	78	1	
27.3	SERPENTINE SOILS DATA + WEIBULLS	11	00	78	4	
27.4	GASQUET MOUNTAIN, CALIF. - POT TESTS	06	02	82	1	
28.	Riparian Vegetation				-1	
28.1	SALIX NIGRA FOL + TWIG WEIBULL DISTS	12	21	78	1	
28.1R	SALIX NIGRA FOL + TWIG RATIO WEIBULLS	12	22	78	1	
28.2	PLATANUS RACEMOSA ANAL. + WEIBULLS	01	10	79	2	
29.	Oak Ridge Carbon Project Data				-1	
29.1	NUT. STORAGE /LEGEND/STATISTICS/PRELIM.	12	27	79	1	
29.2	FRESNO TEST SITE SOIL NUT WEIBULLS	02	07	80	2	
29.4.1	REGRESSIONS C TO 1 M BY C 20 CM	06	03	80	1	
29.4.2	REGRESSION - BULK DENSITY = F (C,DEPTH)	06	00	80	4	29.4.2-29.4.23
29.4.24	REGRESSION (TEST) - BULK DENSITY	07	11	80	2	
29.4.241	USSR: SIBERIA BULK DENSITY REGRESSIONS	11	17	80	1	
29.5	SOIL C STORAGE BY HOLDRIDGE CLASSES	08	29	80	1	
29.6	TENNESSEE TEST SITE - SOIL ANALYSES	01	08	81	1	
29.7	SOIL NUT STOR BY LAT 10-DEG MOVING AVG	12	05	82	1	
29.8	TROPICAL RAIN FOREST SOIL WEIBULLS	08	21	84	1	
29.9	SOIL CARBON STORAGE -GLOBAL SUMMARY	02	21	83	2	
30.	Oak Ridge Carbon Project Soils Data Base				-1	
30.1	USSR: SIBERIA TUNDRA SOILS ANALYSES	07	29	80	1	
30.15	USSR: SIBERIA TAIGA SOILS ANALYSES	07	31	80	5	
30.151	USSR: SIBERIA TAIGA SOILS ANALYSES - PART 2	11	26	80	6	
30.17	USSR: WEST. SIBERIA TAIGA SOIL ANALYSES	11	26	80	5	
30.18	CANADA: ARCTIC SOILS (FEUSTEL)	08	16	81	1	
30.181	CANADA: ELLEF RINGNES ISLAND SOILS	03	02	82	1	
30.19	ALASKA FOREST-TUNDRA SOILS (UGOLINI)	08	05	81	1	
30.2	CONN. AES BULL. 523 SOIL ANALYSES	11	26	80	1	
30.20	ALASKA S.C.S. SOILS ANALYSES	02	18	81	6	
30.21	USFS LAKE STATES EXP STA. STA. PAPER 38 SOILS	05	12	81	6	
30.22	USFS NORTHEAST EXP STA. STA. PAP. 89 SOILS	05	12	81	6	
30.23	MISCELLANEOUS U.S. SOILS	05	13	81	1	
30.231	MISCELLANEOUS N. AMERICA SOILS - 2	06	02	83	1	
30.24	FLORIDA AG EXP STA. BULL. 265 SOILS	05	12	81	2	
30.25	SOIL SURVEY LAB. MEM. 2 SOILS	05	22	81	5	
30.26	CONN. AG. EXP. STA. BULL. 342 SOILS	05	26	81	1	

Microfiche Inventory (Sorted by Fiche Number)

07-03-1985

Fiche	Title	Mo	Da	Yr	Co	Notes
30.27	CANADA: KANANASKIS EXP STA. (ALBERTA) - SOILS	08	10	81	1	
30.28	ALASKA SOILS USDA MONOGRAPH 7	06	10	81	2	
30.29	CANADA: NORTHWEST TERRITORY SOIL ANALYSES	10	22	81	3	
30.3	USSR SOILS (MISC.) NUTRIENT STORAGE	05	29	81	1	
30.30	CHILE SOILS	05	13	81	1	
30.31	USSR: KAZAKHSTAN PINE FOREST SOILS	06	10	81	1	
30.32	ITALY FOREST SOILS	05	18	83	1	
30.33	GERMANY FOREST SOILS	05	19	83	1	
30.34	CANARY ISLANDS SOILS	05	24	83	2	
30.35	NETHERLANDS SOILS	06	03	83	2	
30.36	SPAIN FOREST SOILS	06	07	83	2	
30.40	TROPICAL SOILS (MISC.) NUTRIENT STORAGE	05	29	81	1	
30.41	AFRICAN LATERITE SOILS	06	10	81	1	
30.42	CUBA: FOREST SOILS	08	16	81	1	
30.43	AFRICA (EAST) FOREST SOILS	03	02	82	1	
30.44	JAPAN FOREST SOILS	04	02	82	6	
30.45	AUSTRALIA FOREST SOILS	04	01	82	1	
30.46	MEXICO: IXTACCIHUATL SOIL TRANSECT	05	19	83	1	
30.47	NIGERIA FOREST SOILS	06	01	83	3	
30.48	MOROCCO FOREST SOILS	06	10	83	2	
30.49	AFRICA: NATAL - TUGELA RIVER SOILS	07	20	83	9	
30.50	BRAZIL (SOUTHERN) - SOILS	08	16	81	1	
30.51	COLOMBIA FOREST SOILS	04	01	82	1	
30.6	MALAYSIA SOILS ANALYSES	08	01	80	2	
30.61	THAILAND - PROJECT BIOTROP - SOIL ANALYSES	05	13	81	5	
30.62	LAOS FOREST SOILS NUTRIENT STORAGE	05	22	81	1	
30.63	INDIA SOILS	08	16	81	1	
30.64	INDIA: DEHRA DUN - FOREST SOILS	03	02	82	1	
30.65	CEYLON / SARAWAK SHIFT CULT. SOILS	06	08	83	2	
30.66	MALAYSIA: TRENGGANU - FOREST SOILS	06	13	83	2	
30.70	SOIL TAX. AG HBK 436 SOIL PROFILE DATA	03	03	82	6	
30.71	SPODOSOLS, CENTRAL APPALACHIAN MTS.	03	02	82	1	
30.72	S.C.S. SOIL DATA - WASHINGTON	04	01	82	4	
30.73	STANGENBERGER M.S. THESIS SOILS	08	04	82	1	
30.90	MISCELLANEOUS - 1 SOIL DATA	04	01	82	4	

Microfiche Index (Sorted by Title)

07-03-1985

Paul Zinke - U.C. Berkeley
145 Mulford Hall 415 642 6472

Title	Fiche	Mo	Da	Yr	Co	Notes
ABIES AMABILIS FOLIAGE	22.10	06	28	85		RED LEAF DISEASE
ABIES BALSAMEA FOLIAGE	22.10	06	28	85		
ABIES CONCOLOR FOL. ANAL. + WEIBS.	11.81	02	25	85	6	
ABIES CONCOLOR FOLIAGE	22.05	08	31	82		WALKER MINE TAILINGS
ABIES CONCOLOR TISSUE ANALYSES	22.05	08	31	82		J. BERTENSHAW THESIS
ABIES CONCOLOR WOOD ANALYSES	22.05	08	31	82		
ABIES GRANDIS FOL. ANALYSES & WEIBULL DISTS.	11.82	06	28	85	2	
ABIES MAGNIFICA FOLIAGE RATIO WEIBULLS	11.7R	07	25	78	2	
ABIES MAGNIFICA FOLIAGE WEIBULL DISTS.	11.7	06	20	78	2	
ABIES MAGNIFICA FOLIAR ANALYSES	11.65	10	12	78	1	
ABIES MAGNIFICA SOILS	11.1	04	30	75	1	11.1-11.5
ABIES MAGNIFICA SOILS FROM SOIL-VEG. SURVEY	20.01	02	18	77	1	
ABIES MAGNIFICA STUDY VEGETATION	11.6	05	05	75	1	
ABIES MAGNIFICA TISSUE ANALYSES	22.05	08	31	82		J. BERTENSHAW THESIS
ABIES MAGNIFICA TWIGS WEIBULL DISTS.	11.75	07	13	78	1	
ABIES MAGNIFICA TWIGS WEIBULLS (RATIOS)	11.75R	07	19	78	2	
ABIES MAGNIFICA UNDERSTORY VEGETATION	22.05	08	31	82		
ABIES, SP. FOL. ANAL. + WEIBS.	11.8	06	02	82	3	
ACER MACROPHYLLUM FOLIAGE	22.00	08	31	82		
ADENOSTOMA FASCICULATUM FOLIAGE	22.10	06	28	85		MATHESON SMELTER
ADENOSTOMA FASCICULATUM FOLIAGE	22.10	06	28	85		
ADENOSTOMA FASCICULATUM SOIL SURF. HOR. WEIB.	2.2721	02	02	78	1	
AFRICA (EAST) FOREST SOILS	30.43	03	02	82	1	
AFRICA (WEST) SOILS - AHN, P.M.	30.40	05	29	81		
AFRICA SOIL CARBON STORAGE	18.1.9	04	04	78		
AFRICA: NATAL - TUGELA RIVER SOILS	30.49	07	20	83	9	
AFRICAN LATERITE SOILS	30.41	06	10	81	1	
ALASKA FOREST-TUNDRA SOILS (UGOLINI)	30.19	08	05	81	1	
ALASKA S.C.S. SOILS ANALYSES	30.20	02	18	81	6	
ALASKA SOILS USDA MONOGRAPH 7	30.28	06	10	81	2	
ALNUS - PSEUDOTSUGA MENZIESII SOIL COMPARISON	30.231	06	02	83		
ALNUS RUBRA FOL. ANAL. + WEIBULL	22.72	01	22	82	2	
ALNUS RUBRA FOLIAGE	22.10	06	28	85		GASQUET TAILINGS
ALNUS RUBRA FOLIAGE	22.10	06	28	85		
AMAZON BASIN SOILS BOT. HOR. WEIBULLS	17.815	01	31	78	1	
AMAZON BASIN SOILS SOIL CARBON STORAGE	17.1.9	04	04	78	1	
AMAZON BASIN SOILS SURF. SOIL WEIBULLS	17.81	01	31	78	1	
AMAZON BASIN SOILS WEIBULL DISTS.	17.71	08	14	75	1	
AMAZON SOILS	17.1	02	12	75	8	17.1-17.4
AMERICA, CENTRAL: SOIL CARBON STORAGE	18.1.9	04	04	78	1	
ANDERSON, H.W.: REF. COLLECTION - 24I VERSION	23.31	10	02	75	20	
ANDERSON, H.W.: REFERENCE COLLECTION	23.3	09	00	75	6	
ARBUTUS MENZIESII FOLIAGE	22.00	08	31	82		
ARBUTUS MENZIESII FOLIAGE	22.10	06	28	85		HERBICIDE EFFECTS
ARCTOSTAPHYLOS CANESCENS FOLIAGE	22.10	06	28	85		
ARCTOSTAPHYLOS KNIGHTII FOLIAGE	22.10	06	28	85		HERBICIDE EFFECTS
ARCTOSTAPHYLOS PATULA FOLIAGE	22.10	06	28	85		
ARCTOSTAPHYLOS VISCIDA FOLIAGE	22.10	06	28	85		KESWICK SMELTER
ARCTOSTAPHYLOS, SPP. FOLIAGE	22.00	08	31	82		

Title	Fiche	No	Ba	Yr	Co	Notes
ARTEMISIA TRIDENTATA FOLIAGE	22.00	00	31	82		
AUSTRALIA FOREST SOILS	30.45	04	01	82	1	
AZORES SOILS	30.30	05	13	81		
BACCHARIS, SP. FOLIAGE	22.00	00	31	82		
BANNER HILL ORCHARD FOL. ANAL. + WEIBULL	22.79	02	09	83	1	
BIGHORN SHEEP HAIR WEIBULLS	23.95	11	20	82		
BLACK BEAR HAIR ANALYSES	23.96	02	24	79	1	
BLACK BEAR HAIR RATIO WEIBULLS	23.960R	02	24	79	1	
BLACK BEAR HAIR WEIBULL DISTS.	23.960	02	24	79	1	
BLODGETT FOREST SOILS	8.1	06	24	75	1	8.1-8.5
BLODGETT FOREST VEGETATION	8.6	02	04	75	1	
BLODGETT FUEL STUDY COMPARTMENT 5008	8.61	09	04	79	1	
BLODGETT N15 STUDY SOILS	8.65	03	20	84	1	
BLODGETT N15 STUDY SOILS - STATISTICS	8.651	11	21	84	1	
BRAZIL (SOUTHERN) - SOILS	30.50	00	16	81	1	
CALIF. FERTILIZER ASSN PROJECT - REPORT	23.1	09	03	75	1	
CALIF. FOREST SOIL TAXONOMIC INDEX	20.05	00	31	82	1	
CALIF. TIMBER STAND + VEG. MAPS (12% REDUCT.)	21.5	00	00	76	7	
CALIF. VEG AGE-DENSITY MAPS (42% REDUCTION)	21.3	00	00	75	5	
CALIF. VEGETATION TYPE MAPS (42% REDUCTION)	21.1	00	00	75	3	
CALIF. WILDLAND SOIL SERIES DESCRIPTIONS	21.6	00	00	79	0	
CALIF.: BODEGA BAY - SOIL	30.23	05	13	81		
CALIF.: DEL NORTE COUNTY SOIL SURVEY SOILS	30.23	05	13	81		
CALIF.: FARALLON ISLANDS - SOIL	30.23	05	13	81		
CALIF.: HUMBOLDT COUNTY SOIL SURVEY	30.23	05	13	81		
CALOCEDRUS DECURRENS FOL.	22.10	06	20	85		BASQUET MTN
CALOCEDRUS DECURRENS FOL. ANAL. + WEIBULLS	22.51	04	23	85	3	
CALOCEDRUS DECURRENS FOL. ON SERPENTINE WEIB.	22.515	06	19	85	2	
CALOCEDRUS DECURRENS LITTER WEIB. RATIOS	1.72R	07	20	78	2	
CALOCEDRUS DECURRENS LITTER WEIBULLS	1.72	07	20	78	2	
CALOCEDRUS DECURRENS SOIL SURF. HOR. WEIBULLS	1.81523	01	31	78	1	
CALOCEDRUS DECURRENS SOILS DOT. HOR. WEIBULLS	1.81533	01	30	78	1	
CALOCEDRUS DECURRENS WOOD + BARK WEIBULL	1.752	06	10	77	1	
CALOCEDRUS DECURRENS WOOD+BARK RATIO WEIBULLS	1.752R	07	27	78	2	
CALOCEDRUS MACROLEPIS FOLIAGE	22.10	06	20	85		NEAR DALAT, VIETNAM
CALYPTRIDIUM UMBELLATUM TISSUE ANALYSES	22.05	00	31	82		
CALYPTRIDIUM UMBELLULATUM FOLIAGE	22.10	06	20	85		MT. HOUGH
CANADA: ARCTIC SOILS (FEUSTEL)	30.10	00	16	81	1	
CANADA: ELLEF RINGNES ISLAND SOILS	30.101	03	02	82	1	
CANADA: KANANASKIS EXP STA. (ALBERTA) - SOILS	30.27	06	10	81	1	
CANADA: NORTHWEST TERRITORY SOIL ANALYSES	30.29	10	22	81	3	
CANADA: PEAT SOILS	30.90	04	01	82		
CANARY ISLANDS SOILS	30.34	05	24	83	2	
CARBON STORAGE BY VEGETATION TYPE	20.96	09	18	79	1	
CASTANOPSIS CHRYSOPHYLLA FOLIAGE	22.00	00	31	82		
CASTANOPSIS SEMPERVIRENS FOLIAGE	22.10	06	20	85		MEADOW VALLEY
CASUARINA EQUISETIFOLIA FOLIAGE	22.00	00	31	82		
CEANOTHUS LEUCODERMIS FOLIAGE	22.10	06	20	85		KESWICK SHELTER
CEANOTHUS PROSTRATUS FOLIAGE	22.00	00	31	82		

Title	Fiche	No	Ba	Yr	Co	Notes
CEANOTHUS PUMILIA FOLIAGE	22.00	00	31	82		
CEANOTHUS SOILS SURF. HOR. WEIBULLS	2.2722	02	03	78	1	
CEYLON / BARAWAK SHIFT CULT. SOILS	30.65	06	00	83	2	
CHAMAEBATIA FOLIOLOSA FOLIAGE	22.10	06	20	85		
CHAMAEBATIARIA MILLEFOLIUM FOLIAGE	22.00	00	31	82		
CHAMAECYPARIS LAWSONIANA FOLIAGE	22.10	06	20	85		BASQUET TAILINGS
CHAMAECYPARIS THYOIDES FOLIAGE	22.10	06	20	85		
CHAMAECYPARIS, SP. FOL. ANAL. + WEIBS.	22.50	00	04	82	3	
CHAPARRAL FOL + STEM NUTRIENT WT WEIBULL	2.2651	09	13	78	1	
CHAPARRAL FOL - ALL SPP NUTRIENT WT. WEIBULL	2.2630	09	13	78	1	
CHAPARRAL FOL+STEM (ALL) NUTRIENT WT. WEIBULL	2.2650	09	13	78	1	
CHAPARRAL FOLIAGE NUTRIENT WT. WEIBULL	2.2631	09	13	78	1	
CHAPARRAL FOLIAGE WEIBULL DISTS.	2.263	06	00	77	2	
CHAPARRAL LITTER - L+F ADDED RATIO WEIBULLS	2.2621R	00	24	78	2	
CHAPARRAL LITTER - L+F ADDED WEIBULL DISTS	2.2621	00	24	78	2	
CHAPARRAL LITTER VEG RATIO WEIBULLS	2.262R	00	24	78	2	
CHAPARRAL LITTER WEIBULL DISTS.	2.262	00	24	78	2	
CHAPARRAL ROOTS RATIO WEIBULLS	2.266R	02	12	81	2	
CHAPARRAL ROOTS TOTAL WT WEIBULLS	2.2665	02	12	81	1	
CHAPARRAL ROOTS WEIBULL DISTS.	2.266	02	12	81	2	
CHAPARRAL SOILS	2.21	06	26	75	5	2.21-2.25
CHAPARRAL SOILS FIGURES	2.201	00	00	78	1	
CHAPARRAL SOILS SURF. HOR. WEIBULLS	2.272	02	02	78	4	
CHAPARRAL SOILS WEIBULL DISTS.	2.271	09	27	78	1	
CHAPARRAL STEMS - ALL SPP NUTRIENT WT WEIBULL	2.2640	09	13	78	1	
CHAPARRAL STEMS NUTRIENT WT. WEIBULL	2.2641	09	13	78	1	
CHAPARRAL STEMS WEIBULL DISTS.	2.264	06	00	77	2	
CHAPARRAL STUDY VEGETATION	2.26	02	10	75	1	
CHILE SOILS	30.30	05	13	81	1	
CHIMAPHILA UMBELLATA TISSUE ANALYSES	22.05	00	31	82		
CHRYSOTHAMNUS VISCIDIFLORUS FOLIAGE	22.10	06	20	85		ROBO LAKE
COFFEA ARABICA FOL. ANAL. + WEIBULLS	23.48	10	24	00	1	
COLEOSTYME RAMOSISSIMA TISSUE ANALYSES	22.00	00	31	82		
COLOMBIA FOREST SOILS	30.51	04	01	82	1	
COLOMBIA FOREST SOILS (CUPRESSUS LUSITANICA)	30.42	00	16	81		
COLOMBIA: BAJO CALIMA - SOILS	30.40	05	29	81		
COLOMBIA: SOILS (UNITED FRUIT CO.)	18.1	02	17	75		
COLUMBIA RIVER SOILS	1.90	06	20	76	1	
COLUMBIA RIVER STAGE AT STANLEY RK.	22.3	12	14	76	1	
CONN. AES BULL. 523 SOIL ANALYSES	30.2	11	26	00	1	
CONN. AG. EXP. STA. BULL. 342 SOILS	30.26	05	26	81	1	
CORALLORHIZA, SP. TISSUE ANALYSES	22.00	00	31	82		
CORALLORHIZA, SP. TISSUE ANALYSES	22.05	00	31	82		
CORNUS NUTTALLI FOLIAGE	22.10	06	20	85		
CORNUS NUTTALLII FOLIAGE	22.00	00	31	82		
CREEP. BASE + FUELS FOLIAR ANALYSES	23.6	06	00	79	1	
CRYPTOMERIA JAPONICA FOLIAGE	22.05	00	31	82		
CRYPTOMERIA JAPONICA 010/016 WEIBULL	23.90	10	00	78	1	
CUBA: FOREST SOILS	30.42	00	16	81	1	

Title	Fiche	No	Da	Yr	Co	Notes
CUPRESSUS, SP. FOL. ANAL. + WEIBS.	22.57	08	04	82	3	
CUSCUTA,SP.(DODDER) TISSUE ANALYSES	22.00	08	31	82		
DARLINGTONIA CALIFORNICA FOLIAGE	22.00	08	31	82		
DEFOLIATION STUDY SOILS	16.1	06	27	75	5	16.1-16.5
DICKEY FARMS SEWAGE EFFECTS	22.00	08	31	82		
DICKEY FARMS SOILS (COLUMBIA RIVER)	22.4	05	16	77	1	
DICKSON, TIDBALL, MC DONALD THESES	19.71	02	27	75	1	19.71-19.75
DISTICHILIS SPICATA FOLIAGE	22.10	06	28	85		ROUND LAKE
DRABA CORRUBATA FOLIAGE	22.10	06	28	85		
DWARF MISTLETOE FOLIAR ANALYSES	22.00	08	31	82		
EPHEDRA CALIFORNICA TISSUE ANALYSES	22.00	08	31	82		
ERICA ARBOREA FOLIAGE	22.10	06	28	85		CANARY ISLANDS
ERICA CARNEA FOLIAGE	22.10	06	28	85		ITALY
ERIOBICTYON CALIFORNICA FOLIAGE	22.10	06	28	85		KENNETT SMELTER AREA
ERIOGONUM NUDUM FOLIAGE	22.00	08	31	82		
ERIOGONUM OVALIFOLIUM FOLIAGE	22.10	06	28	85		
EROBIUM, SP. FOLIAGE	22.00	08	31	82		
ESCHSCHOLZIA CALIFORNICA FOLIAGE	22.10	06	28	85		
FAGUS SYLVATICA TISSUE ANALYSES	22.10	06	28	85		FROM LITERATURE
FARALLONE IS. & BODEGA BAY GRASS SAMPLES	22.00	08	31	82		
FICUS BENGHALENSIS FOL. ANAL. + WEIBS.	18.71	08	31	82	2	
FLORIDA AB EIP STA. BULL. 265 SOILS	30.24	05	12	81	2	
FLORIDA: NARCOS ISLAND SOILS (DEFOLIATION)	16.1	06	27	75		
FORESTRY 120 LAB EXERCISE 8.1	23.97	10	19	78	1	
FRAXINUS LATIFOLIA FOLIAGE	22.00	08	31	82		
FRESNO CO. S/V SOIL CARBON WITH ROCK COR	20.020	02	08	79	1	
FRESNO TEST SITE SOIL NUT WEIBULLS	29.2	02	07	80	2	
GARRYA BUXIFOLIA FOLIAGE	22.00	08	31	82		
GASQUET MOUNTAIN SOIL DATA	27.1	10	02	78	1	
GASQUET MOUNTAIN VEGETATION DATA	27.2	10	04	78	1	
GASQUET MOUNTAIN, CALIF. - POT TESTS	27.4	06	02	82	1	
GERMANY FOREST SOILS	30.33	05	19	83	1	
GHANA (UPPER) SOILS - OBENG	18.1	02	17	75		
GRASS + SAGE SOILS BOT. HOR. WEIBULLS	19.9815	06	28	78	1	
GRASS + SAGE SOILS CARBON STORAGE	19.915	06	28	78	1	
GRASS + SAGE SOILS SURF. HOR. WEIBULLS	19.981	06	28	78	1	
GRASSES - KHUMBU, NEPAL	22.10	06	28	85		COLL. B. BROWER
GREECE AND ITALY - SOILS	13.1	06	27	85		13.1-13.5
GREECE AND ITALY - VEGETATION	13.6	02	28	75		
GREECE AND ITALY SOIL WEIBULL DISTS.	13.71	08	14	75		
GUATEMALA: SOILS (UNITED FRUIT COMPANY)	18.1	02	17	75		
HAAG GROVE REDWOOD X-SEC. WOOD RATIO WEIBULLS	3.628	02	22	79	1	
HAAG GROVE REDWOOD X-SEC. WOOD WEIBULL DISTS	3.62	07	18	77	1	
HACKAMORE PINE SOILS	12.1	06	27	75	1	12.1-12.5
HAIR ANALYSES - BLACK BEAR	23.96	02	24	79		
HAIR ANALYSES - HUMAN	23.99	11	17	82		
HAIR RATIO WEIBULLS - BLACK BEAR	23.960R	02	24	79		
HAIR WEIBULLS - BIGHORN SHEEP	23.95	11	20	82		
HAIR WEIBULLS - BLACK BEAR	23.960	02	24	79		

Title	Fiche	No	Da	Yr	Co	Notes
HAIR WEIBULLS - TULE ELK	23.95	11	20	82		
HECHT, B.: AMAZON SOIL CUM. MUT. BTOR. VAR.	17.92	03	12	81	1	
HECHT, B.: AMAZON SOIL DISTURBANCE TESTS	17.921	03	13	81	1	
HECHT, B.: AMAZON SOIL VARIABILITY	17.91	03	17	81	1	
HECHT, B.: DISSERTATION: MATO GROSSO CLEARING	17.930	08	03	81	2	
HECHT, B.: DISSERTATION: MATO GROSSO SOIL VAR	17.93	08	05	81	1	
HECHT, B.: DISSERTATION: MATO GROSSO SOILS	17.94	08	04	81	2	
HERBICIDE EFFECTS - OREGON	22.10	06	28	85		
HILARIA RIGIDA FOLIAGE	22.00	08	31	82		
HOLODISCUS DISCOLOR FOLIAGE	22.00	08	31	82		
HONDURAS: SOILS (UNITED FRUIT COMPANY)	18.1	02	17	75		
HUMAN HAIR	22.10	06	28	85		
HUMAN HAIR ANAL. + WEIBULL DIST	23.99	11	17	82	1	
HYPNUM - FRUITING BODY	22.10	06	28	85		
INDIA SOILS	30.63	08	16	81	1	
INDIA: DEHRA DUN - FOREST SOILS	30.64	03	02	82	1	
INDONESIAN WOOD SAMPLES	22.00	08	31	82		
IRAN: KISH ISLAND SOILS + VEGETATION	18.5	09	02	76	1	18.5-18.6
ISRAEL - DAK + HALOPHYTE ANAL + WEIBS	23.49	10	07	81	2	
ITALY - PROFILE 339 LITTER	22.10	06	28	85		
ITALY AND GREECE - SOILS	13.1	06	27	75	2	13.1-13.5
ITALY AND GREECE - VEGETATION	13.6	02	28	75	1	
ITALY AND GREECE SOILS - WEIBULL DISTS.	13.71	08	14	75	1	
ITALY FOREST SOILS	30.32	05	18	83	1	
ITALY: SARDEGNA - SOILS	30.90	04	01	82		
JAPAN FOREST SOILS	30.44	04	02	82	6	
JUNIPERUS ASHEI FOL. ANAL. & WEIBULLS	22.542	03	26	85	2	
JUNIPERUS CALIFORNICA FOL. ANAL + WEIBULLS	22.54	03	26	85	3	
JUNIPERUS CALIFORNICA VAR. UTAHENSIS FOL.	22.10	06	28	85		
JUNIPERUS DEPPIANA FOL. ANALYSES	22.56	03	26	85		
JUNIPERUS OCCIDENTALIS FOL. ANAL + WEIBULLS	22.52	05	20	81	2	
JUNIPERUS OSYCEDRUS FOL. ANAL.	22.56	03	26	85		
JUNIPERUS SCOPULORUM FOL. ANALYSES	22.56	03	26	85		
JUNIPERUS VIRGINIANA FOL. ANAL. + WEIBS.	22.55	03	26	85	3	
JUNIPERUS VIRGINIANA FOLIAGE	22.10	06	28	85		
JUNIPERUS, SP. FOL. ANAL. + WEIBS.	22.56	03	26	85	3	
KETELEERIA DAVIDIANA FOLIAGE	22.10	06	28	85		
LAKE TAHOE (PROJ 1762) SOIL MOISTURE BTOR.	9.6	02	25	75	1	
LAKE TAHOE (PROJ 1762) SOILS	9.1	12	12	74	1	9.1-9.5
LAKE TAHOE (PROJ 1762) VEGETATION	9.8	08	04	75	1	
LAKE TAHOE LOG/UNLOG SOILS STATISTICAL TESTS	9.9	12	09	76	1	
LAKE TAHOE N.C.S. SOIL DATA	9.7	12	02	74	1	
LAOS FOREST SOILS NUTRIENT STORAGE	30.62	05	22	81	1	
LAPULLA, SP. FOLIAGE	22.00	08	31	82		
LARIX DECIDUA FOLIAGE	22.05	08	31	82		
LARREA TRIDENTATA FOLIAGE	22.00	08	31	82		
LICHEN - CANARY ISLANDS	22.10	06	28	85		FRESH LAVA FLOW
LITHOCARPUS DENSIFLORA FOL. ANAL. + WEIBULLS	22.75	11	20	82	4	
LITHOCARPUS DENSIFLORA FOLIAGE	22.10	06	28	85		BASQUET MTN.

Title	Fiche	Mo	Da	Yr	Co	Notes
LITHOCARPUS DENSIFLORUS V. ECHINOIDES FOL.	22.00	08	31	82		
LITHOCARPUS DENSIFLORUS FOLIAGE	22.10	06	28	85		BONNEVILLE DAM
LYSIMETER STUDY SOIL MOIST. STORAGE	2.17	01	21	77	1	
LYSIMETER STUDY SOILS	2.11	04	26	75	5	2.11-2.15
LYSIMETER STUDY VEGETATION	2.16	01	07	77	1	
MACROCYSTIS (KELP) FOLIAR ANALYSES	23.5	08	26	78	1	
MACROCYSTIS, SP. TISSUE ANALYSES	22.00	08	31	82		
MALAYSIA SOILS ANALYSES	30.6	08	01	80	2	
MALAYSIA: TRENGGANU - FOREST SOILS	30.66	06	13	83	2	
MANGROVES FOL. ANAL. + WEIBG.	16.8	08	12	82	3	
MANGROVES RATIO WEIBULLS	16.808	08	12	82	3	
MANIOC (TROP., PERU) VEG DATA + WEIBULLS	17.8	01	18	78	1	
MANIOC TISSUE ANALYSES	22.00	08	31	82		
MANUEL HILLS VEGETATION	24.6	08	04	75	1	
MANUEL HILLS Y BANK WEIBULL DISTS.	24.62	06	24	75	1	
MANUEL HILLS Y FOL WEIBULL DISTS.	24.61	06	20	75	1	
McDONALD, J. THESIS: PINUS RADIATA SOILS	19.71	02	27	75		
MEADOW (HIGH ELEV) - SOILS	7.1	06	26	75	1	7.1-7.5
MEADOW (HIGH ELEV) CLIPPINGS VEG RATIO WEIB	7.88	07	27	78	1	
MEADOW (HIGH ELEV) CLIPPINGS WEIBULL DISTS.	7.8	07	27	78	1	
MEADOW (HIGH ELEV) CLIPPINGS WEIBULLS BY AGE	7.81	08	17	78	2	
MEADOW (HIGH ELEV) STUDY VEGETATION ANALYSES	7.6	06	03	83	4	
MEADOW VALLEY - CORBETT SOIL LITTER	22.10	06	28	85		
MEADOW VALLEY SOIL MOISTURE	8.71	06	25	76	1	
MEADOW VALLEY SOILS	8.70	05	22	76	1	
MEADOW VALLEY SOILS SOIL AND WATER DATA	8.70	05	08	76	1	8.70-8.71
MEADOW VALLEY VEGETATION ANALYSES	8.9	03	04	81	1	
MEADOW VEG RATIO WEIBULLS - BY AGE	7.818	08	16	78	1	
METASEQUOIA GLYPTOSTROBOIDES FOLIAGE	22.10	06	28	85		
MEXICO (CAMPECHE): FOREST SOILS	30.42	08	16	81		
MEXICO: TITACCINANTL SOIL TRANSECT	30.46	05	19	83	1	
MEXICO: VERACRUZ - SOIL WEIBULL DISTS.	23.4	09	21	77	1	
MEXICO: VERACRUZ SHIFT. CULT SOILS + WEIBULLS	23.41	04	12	78	1	
MEXICO: VERACRUZ SOIL FERT. STUDY - WEIBULLS	23.42	01	08	79	1	
MISC. ANGIOSPERM VEGETATION ANALYSES	22.00	08	31	82	2	
MISC. GYMNOSPERM VEGETATION ANALYSES	22.05	08	31	82	4	
MISC. MIX CON. SOILS BOT. HOR. WEIBULLS	1.81535	01	30	78	1	
MISC. MIX CON. SOILS SURF. HOR. WEIBULLS	1.81525	01	31	78	1	
MISC. VEGETATION (R,Y) FIGURES	22.81	08	08	75	1	
MISC. VEGETATION ANALYSES	22.7	08	04	75	1	
MISCELLANEOUS - 1 SOIL DATA	30.90	04	01	82	4	
MISCELLANEOUS DATA - PROJECT 1762	22.11	08	04	75	4	22.11-22.14
MISCELLANEOUS FOLIAR ANALYSES	22.10	06	28	85	3	
MISCELLANEOUS HERBS - TISSUE ANALYSES	22.10	06	28	85		BAGDUET TAILINGS
MISCELLANEOUS N. AMERICA SOILS - 2	30.231	06	02	83	1	
MISCELLANEOUS U.S. SOILS	30.23	05	13	81	1	
MIXED CONIFER (1-52) SOIL BOT. HOR. WEIBULLS	1.8151	01	11	78	1	
MIXED CONIFER (1-52) SOIL SURF. HOR. WEIBULLS	1.8150	01	11	78	1	
MIXED CONIFER COMP GROWTH STUDY SOILS	1.97	11	19	84	2	

Title	Fiche	Mo	Da	Yr	Co	Notes
MIXED CONIFER SOILS WEIBULL DISTS.	1.81	09	27	78	2	
MIXED CONIFER STUDY SOIL CARBON STORAGE	1.1.9	04	04	78	1	
MIXED CONIFER STUDY SOIL MOISTURE STOR.	1.6	01	21	77	1	
MIXED CONIFER STUDY SOILS	1.1	04	26	75	5	1.1-1.5
MIXED CONIFER STUDY VEGETATION	1.7	02	07	75	1	
MOJAVE DESERT VEGETATION	22.00	08	31	82		
MOKELUMNE RIVER WATER BALANCE (ZINKE ET AL)	22.2	08	04	75	2	
MONTANA: FOREST & MEADOW SOILS (S.C.S.)	19.41	02	27	75		
MOROCCO FOREST SOILS	30.48	06	10	83	2	
MYRICA ASPLENIFOLIUS FOLIAGE	22.00	08	31	82		
MYRICA FAYA FOLIAGE	22.10	06	28	85		CANARY ISLANDS
NETHERLANDS SOILS	30.35	06	03	83	2	
NIGERIA FOREST SOILS	30.47	06	01	83	3	
NORTH U.S. FOR. SOIL BOT. HOR. WEIBULLS	19.9905	06	20	78	1	
NORTH U.S. FOR. SOIL CARBON STORAGE	19.91	06	20	78	1	
NORTH U.S. FOR. SOIL SURF. HOR. WEIBULLS	19.990	06	20	78	1	
NORWAY: FOREST SOILS	30.90	04	01	82		
NUT. STORAGE /LEGEND/STATISTICS/PRELIM.	29.1	12	27	79	1	
OREGON: FOREST SURVEY REPORT - DOUGLAS COUNTY	23.2	11	03	75	6	
OROBANCHE FASCICULATA TISSUE ANALYSES	22.00	08	31	82		
OVIS CANADENSIS HAIR	22.10	06	28	85		BALL SHEEP
OXALIS, SP. FOLIAGE	22.00	08	31	82		
PALM LITTER - FLORIDA	22.00	08	31	82		
PANAMA: SOILS (UNITED FRUIT COMPANY)	18.1	02	17	75		
PARASITE AND SAPROPHYTE TISSUE ANALYSES	22.00	08	31	82		
PARDSELA, SP. TISSUE ANALYSES	22.00	08	31	82		
PEDICULARIS SENIBARBATA FOLIAGE	22.10	06	28	85		
PEDICULARIS, SP. TISSUE ANALYSES	22.05	08	31	82		
PERSEA AMERICANA FOL ANALYSES + WEIBULLS	23.47	06	22	78	1	
PERSEA AMERICANA FOLIAR ANALYSES	22.00	08	31	82		
PICEA EXCELSA FOLIAGE	22.05	08	31	82		
PICEA EXCELSA LEAF LITTER - ELEVATION REG.	22.10	06	28	85		FROM LITERATURE
PICEA RUBENS FOLIAGE ANAL. & WEIBULLS	22.66	06	28	85	4	
PICEA SITCHENSIS FOL ANAL. + WEIBULLS	22.65	05	21	81	3	
PICEA, SP. FOLIAGE WEIBULLS	22.6900	06	10	81	2	
PINUS (, SP.) RATIO WEIBULLS	22.9000R	08	25	82	2	
PINUS (, SP.) WEIBULL DISTS.	22.9000	08	25	82	2	
PINUS (HARD/SOFT) WEIBULL DISTS	22.9001	02	07	83	4	
PINUS (PINYON) FOL. ANAL. + WEIBULLS	22.939	06	28	85	4	
PINUS (SOUTHERN, SPP.) FOL. RATIO WEIBULLS	22.930R	08	09	80	1	
PINUS (SOUTHERN, SPP.) FOL. WEIBULL DISTS	22.930	06	28	77	1	
PINUS ALBICAULIS FOLIAGE	22.05	08	31	82		
PINUS ALBICAULIS FOLIAGE	22.10	06	28	85		
PINUS ARISTATA FOLIAGE	22.10	06	28	85		
PINUS ATTENUATA FOLIAGE	22.05	08	31	82		
PINUS ATTENUATA FOLIAGE	22.10	06	28	85		BAGDUET TAILINGS
PINUS ATTENUATA FOLIAR ANALYSES & WEIBULLS	22.935	06	27	85	4	
PINUS BALFOURIANA FOLIAGE	22.10	06	28	85		
PINUS BALFOURIANA LITTER	22.05	08	31	82		

Title	Fiche	Mo	Da	Yr	Co	Notes
PRECIPION STUDIES	22.00	08	31	82		
PSEUDOTSUGA MACROCARPA FOLIAR ANAL. + WEIBULL	1.963	04	02	85	5	
PSEUDOTSUGA MENZIESII FOL. WEIBULL DISTS.	1.961	04	04	85	6	
PSEUDOTSUGA MENZIESII FOLIAGE	22.10	06	28	85		BADGER HILL SEED ORC
PSEUDOTSUGA MENZIESII FOLIAGE	22.10	06	28	85		
PSEUDOTSUGA MENZIESII FOLIAR ANALYSES	1.96	04	05	85	3	
PSEUDOTSUGA MENZIESII LITTER RATIO WEIBULLS	1.728	07	28	78		
PSEUDOTSUGA MENZIESII LITTER WEIBULLS	1.72	07	28	78		
PSEUDOTSUGA MENZIESII SEEDLINGS	22.10	06	28	85		HAN NURSERY
PSEUDOTSUGA MENZIESII SERPENTINE WEIB. DISTS	1.9611	04	05	85	2	
PSEUDOTSUGA MENZIESII SITE TREE WEIBULL DISTS	20.95	04	08	77	1	SITE TREE WEIGHTS
PSEUDOTSUGA MENZIESII SOILS DOT. MOR. WEIBULL	1.81532	01	30	78	1	
PSEUDOTSUGA MENZIESII SOILS SURF. MOR. WEIB.	1.81522	01	30	78	1	
PSEUDOTSUGA MENZIESII TWIGS WEIBULL DISTS.	1.962	07	10	78	2	
PSEUDOTSUGA MENZIESII TWIGS WEIBULLS (RATIOS)	1.962R	07	13	78	2	
PSEUDOTSUGA MENZIESII WOOD & BARK RATIO WEIB.	1.752R	07	27	78		
PSEUDOTSUGA MENZIESII WOOD & BARK WEIBULLS	1.752	06	10	77		
PSITTACANTHUS CALYCULATUS TISSUE ANALYSES	22.00	08	31	82		
PUERTO RICO: LUQUILLO FOREST - MANGROVE BO	16.1					
PUERTO RICO: VIEQUES IS. FOL. + CORAL ANAL.	22.41	01	14	82	1	
PUERTO RICO: VIEQUES IS.: VEGETATION ANALYSES	26.15	08	26	78	1	
QUERCUS AGRIFOLIA FOLIAGE	22.00	08	31	82		
QUERCUS AGRIFOLIA FOLIAGE	22.10	06	28	85		
QUERCUS CHRYSOLEPIS FOLIAGE	22.00	08	31	82		
QUERCUS CHRYSOLEPIS FOLIAGE	22.10	06	28	85		
QUERCUS DOUGLASII FOLIAGE	22.00	08	31	82		
QUERCUS DUMOSA SOILS SURF. MOR. WEIBULLS	2.2723	02	02	78	1	
QUERCUS DURATA FOLIAGE	22.00	08	31	82		
QUERCUS DURATA FOLIAGE	22.10	06	28	85		
QUERCUS GARRYANA FOLIAGE	22.00	08	31	82		
QUERCUS KELLOGGII FOLIAGE	22.00	08	31	82		
QUERCUS KELLOGGII V. FRUCTESCENS FOLIAGE	22.00	08	31	82		
QUERCUS LOBATA FOLIAGE	22.00	08	31	82		
QUERCUS MARILANDICA FOLIAGE	22.10	06	28	85		
QUERCUS VACCINIFOLIA FOLIAGE	22.00	08	31	82		
QUERCUS WISLIZENII FOLIAGE	22.00	08	31	82		
R. BAMFORD DISSERTATION - SOILS	17.95	06	26	85	2	
REDWOOD DISTURB. STD CUN. NUT. STOR.VAR.	3.02	06	30	77	2	
REDWOOD DISTURB. STD STAT. COMPARISONS	3.03	06	30	77	4	
REDWOOD DISTURB. STDY SOIL WEIBULL DISTS	3.01	06	22	77	1	
REDWOOD DISTURB. STUDY SOIL DATA	3.00	06	21	77	6	
REDWOOD FOL. ANAL. + WEIBS.	3.61	03	13	85	3	
REDWOOD GROWTH RING PERIODICITY WEIBULLS	3.621	09	25	78	1	
REDWOOD LITTER WEIBULL DISTS.	3.72	10	10	75	1	
REDWOOD SEDIMENT WEIBULL DISTS.	3.91	01	30	78	1	
REDWOOD SITE 102 SOIL AND VEGETATION	3.65	04	29	83	1	
REDWOOD SOILS (ALL) WEIBULL DISTS.	3.92	10	02	78	1	
REDWOOD SOILS DOT. MOR. WEIBULLS	3.905	01	31	78	1	
REDWOOD SOILS LOG/UNLOG COMPARISON	3.8	09	15	76	1	

Title	Fiche	Mo	Da	Yr	Co	Notes
REDWOOD SOILS SURFACE WEIBULLS	3.90	01	31	78	1	
REDWOOD STUDY SOILS	3.1	06	26	75	5	3.1-3.5
REGRESSION (TEST) - BULK DENSITY	29.4.24	07	11	00	2	
REGRESSION - BULK DENSITY = F (C,DEPTH)	29.4.2	06	00	00	4	29.4.2-29.4.23
REGRESSIONS C TO 1 M BY C 20 CM	29.4.1	06	03	00	1	
RHAMNUS CALIFORNICA FOLIAGE	22.00	08	31	82		
RHODODENDRON, SP. FOLIAGE	22.00	08	31	82		
RHUS DIVERSILOBA FOLIAGE	22.00	08	31	82		
S.C.S. SOIL DATA - NEVADA	19.411	12	12	79	2	
S.C.S. SOIL DATA - WASHINGTON	30.72	04	01	82	4	
S.C.S. SOIL DATA CALIFORNIA - 1	19.11	02	28	75	2	19.11-19.15
S.C.S. SOIL DATA COLORADO	19.21	02	23	75	5	19.21-19.25
S.C.S. SOIL DATA MONT., NEV., WYO.	19.41	02	27	75	2	19.41-19.45
S.C.S. SOIL DATA OREGON	19.81	10	29	76	5	19.81-19.85
S.C.S. SOILS CALIF. - 2 - METER DEPTH SUMMARY	19.151	10	26	76	1	
S.C.S. SOILS CALIF. - 2: NUTRIENT STORAGE	19.111	10	26	76	3	
S.C.S. SOILS CALIF. - 2: STANDARD DEPTH-CM.	19.131	10	26	76	3	
S.C.S. SOILS CALIF. - 2: STANDARD DEPTH-IN.	19.121	10	26	76	3	
S.C.S. SOILS CALIF.- 2 EQUIVALENT DEPTHS	19.141	10	26	76	1	
S.E. U.S. FOR. SOILS DOT. MOR. WEIBULLS	19.585	06	28	78	1	
S.E. U.S. FOR. SOILS CARBON STORAGE	19.51.9	06	28	78	1	
S.E. U.S. FOR. SOILS SURF. MOR. WEIBULLS	19.58	06	28	78	1	
SALIX NIGRA FOL + TWIG RATIO WEIBULLS	20.18	12	22	78	1	
SALIX NIGRA FOL + TWIG WEIBULL DISTS	20.1	12	21	78	1	
SALIX NIGRA FOLIAGE	22.00	08	31	82		
SALIX, SP. FOLIAGE	22.10	06	28	85		GARDNET TAILINGS
SALVIA SONOMENSIS FOLIAGE WEIBULL DIST	23.60	06	07	79	1	
SAND DUNE STUDY SOIL MOIST. STORAGE	4.7	01	21	77	1	
SAND DUNE STUDY SOILS	4.1	06	24	75	2	4.1-4.5
SAND DUNE STUDY VEG. ANALYSES	4.6	08	31	82	1	
SARAWAK / CEYLON SHIFTING CULTIVATION SOILS	30.65	06	08	83		
SARCODES SANGUINEA TISSUE ANALYSES	22.00	08	31	82		
SASSAFRAS ALBIDUM FOLIAGE	22.10	06	28	85		
SEQUOIA SEMPERVIRENS SEEDLINGS	22.10	06	28	85		HAN NURSERY
SEQUOIADENDRON GIGANTEUM FOL. ANAL. + WEIBS.	5.6	08	00	82	4	
SEQUOIADENDRON GIGANTEUM SEEDLINGS	22.10	06	28	85		HAN NURSERY
SEQUOIADENDRON GIGANTEUM SOILS AND VEGETATION	5.1	04	29	83	1	5.1-5.5
SERPENTINE SOILS DATA + WEIBULLS	27.3	11	00	78	4	
SLIDE INVENTORY	0.1	04	00	00	1	
SOIL C STORAGE BY HOLDRIDGE CLASSES	29.5	08	29	00	1	
SOIL CARBON STORAGE -GLOBAL SUMMARY	29.9	02	21	83	2	
SOIL NUT STOR BY LAT 10-DEG MOVING AVG	29.7	12	05	82	1	
SOIL SURVEY LAB. MEM. 2 SOILS	30.25	05	22	81	5	
SOIL SURVEY LAB. MEMORANDUM 1	19.61	05	02	75	3	19.61-19.65
SOIL TAX. AG HDK 436 SOIL PROFILE DATA	30.70	03	03	82	6	
SOIL-VEG MAPS - CAL. (42% REDUCTION)	21.2	08	00	75	5	
SOIL-VEG. SURVEY ANNUAL GRASS CLIPPGS	25.6	01	06	77	1	
SOIL-VEG. SURVEY EQUIVALENT DEPTHS	20.4	02	03	75	2	
SOIL-VEG. SURVEY FINE EARTH SOIL MOIST	20.6	05	22	75	4	

Title	Fiche	No	Da	Yr	Co	Notes
SOIL-VEG. SURVEY FRESNO COUNTY SOILS	20.02	11	10	78	1	
SOIL-VEG. SURVEY HERB. TYPE ACRE PLTS	25.7	03	12	77	1	
SOIL-VEG. SURVEY METER DEPTH SUMMARY	20.7	02	26	75	1	
SOIL-VEG. SURVEY NUTRIENT STORAGE	20.1	02	03	75	5	
SOIL-VEG. SURVEY PLOT + SOIL DATA	20.92	02	04	76	10	
SOIL-VEG. SURVEY PLOT DATA (BY QUADS)	20.93	02	11	76	10	
SOIL-VEG. SURVEY PLOT INVENTORY	20.0	05	02	78	1	INCL. SUPP. 1
SOIL-VEG. SURVEY SOIL MOIST MEID/SITE	20.515	10	10	76	4	
SOIL-VEG. SURVEY SOIL MOISTURE STOR.	20.5	02	20	75	4	
SOIL-VEG. SURVEY SPECIES SYMBOL KEY	20.94	00	02	76	1	
SOIL-VEG. SURVEY STANDARD DEPTH - CM.	20.3	02	03	75	5	
SOIL-VEG. SURVEY STANDARD DEPTH - IN.	20.2	02	03	75	5	
SOIL-VEG. SURVEY SUPP A PLOT DATA BY QUADS	20A.93	04	10	79	2	
SOIL-VEG. SURVEY SUPP A PLOT DATA BY SERIES	20A.92	04	14	79	2	
SOIL-VEG. SURVEY SUPP B SOILS DATA	20B.1	02	07	80	1	20B.1-20B.5
SOIL-VEG. SURVEY SUPP. 1 FINE EARTH SOIL H2O	20A.65	05	10	78	1	
SOIL-VEG. SURVEY SUPP. 1 SOIL MOISTURE STOR.	20A.6	05	01	78	1	
SOIL-VEG. SURVEY SUPPLEMENT 1 SOILS	20A.1	04	27	78	5	20A.1-20A.5
SOIL-VEG. SURVEY VEG WITH PROFILES	20.91	09	00	75	1	
SOIL-VEG. SURVEY WEIB. SOIL BY SITE	20.81	09	20	76	4	
SOIL-VEG. SURVEY WEID.-F.E. SOIL H2O	20.52	10	10	75	1	
SOIL-VEG. SURVEY WEIB.-SOIL MOIST.	20.51	10	00	75	1	
SOIL-VEG. SURVEY WEIBULL DISTR. -SOIL	20.8	00	07	75	1	
SOIL-VEGETATION MAPS (12% REDUCTION)	21.4	00	00	76	34	
SOIL-VEGETATION MAPS (24% REDUCTION)	21.45	00	00	76	9	
SORBUS, SP. FOLIAGE	22.10	06	20	85		
SOUTHERN REG. PROJ. R-14	19.51	02	23	75	1	19.51-19.55
SPAIN FOREST SOILS	30.36	06	07	83	2	
SPODOSOLS, CENTRAL APPALACHIAN MTS.	30.71	03	02	82	1	
STAMBENBERGEN W.B. THESIS SOILS	30.73	00	04	82	1	
STAMBENBERGEN THESIS APPENDICES A-F	11.99	04	00	79	3	
STD DEPTH FREQ DATA FOREST SOILS	20.311	01	25	77	2	
STD DEPTH FREQ TBL CHAPARRAL SOILS	20.3131	12	04	76	2	
STD DEPTH FREQ TBL NON-CALCIC BAM SOILS	20.3121	12	04	76	1	
STD DEPTH PERCNTILES CHAPARRAL SOILS	20.313	12	02	76	2	
STD DEPTH PERCNTILES NON-CALCIC BAM SOIL	20.312	12	02	76	2	
SUGAR PINE CREEK STUDY - VEGETATION DATA	8.8	02	24	78	1	
SWITZERLAND: LIMESTONE SOILS	30.90	04	01	82		
TAXUS BACCATA FOLIAGE	22.10	06	20	85		ITALY
TAXUS BREVIFOLIA FOL.	22.10	06	20	85		BARNHET MTN
TAXUS BREVIFOLIA FOL. ANAL. + WEIBS.	22.45	04	29	82	3	
TECTONA GRANDIS LEAF FOLIAR ANALYSES	23.700	07	17	80	1	
TENN.: GREAT SMOKY MTS - J. WOLF THESIS SOILS	19.90	07	10	00	1	
TENNESSEE TEST SITE - SOIL ANALYSES	29.6	01	00	81	1	
THAILAND - PROJECT BIOTROP - SOIL ANALYSES	30.61	05	13	81	5	
THAILAND FOREST SOIL SOIL CARBON STORAGE	15.1.9	04	04	78	1	
THAILAND FOREST SOILS	15.1	04	26	75	5	15.1-15.5
THAILAND FOREST SOILS - WEIBULL DISTS.	15.71	00	14	75	1	
THAILAND SHIFTING CULTIVATION STUDY - SOILS	14.1	05	19	83	2	14.1-14.5

Title	Fiche	No	Da	Yr	Co	Notes
THAILAND TROPICAL FORESTS - FIGURES	15.81	00	00	75	1	
THAILAND: BAN PA PAE - VEGETATION ANALYSES	14.6	00	31	82	1	
THUJA PLICATA FOL. ANALYSES + WEIBULLS	22.33	09	25	81	3	
THUJA PLICATA FOLIAGE	22.10	06	20	85		
TIBBALL, R. THESIS	19.71	02	27	75		
TORREYA CALIFORNICA FOLIAGE	22.05	00	31	82		
TROPICAL FORESTS VEGETATION	15.6	04	07	75	1	
TROPICAL RAIN FOREST SOIL WEIBULLS	29.8	00	21	84	1	
TROPICAL SOILS (MISC.)	18.1	02	17	75	4	18.1-18.4
TROPICAL SOILS (MISC.) NUTRIENT STORAGE	30.40	05	29	81	1	
TSUGA CANADENSIS FOLIAGE	22.05	00	31	82		
TSUGA CANADENSIS FOLIAGE ANAL. & WEIBULLS	22.63	06	20	85	4	
TSUGA HETEROPHYLLA FOL. RATIO WEIBULLS	22.610R	02	06	00	2	
TSUGA HETEROPHYLLA FOLIAGE	22.05	00	31	82		
TSUGA HETEROPHYLLA FOLIAGE WEIBULLS	22.610	02	06	00	2	
TSUGA MERTENSIANA FOL. RATIO WEIBULLS	22.620R	02	05	00	2	
TSUGA MERTENSIANA FOLIAGE	22.05	00	31	82		
TSUGA MERTENSIANA FOLIAGE	22.10	06	20	85		CRATER LAKE
TSUGA MERTENSIANA FOLIAGE WEIBULLS	22.620	02	05	00	2	
TSUGA, SP. FOL. RATIO WEIBULLS	22.60R	02	05	00	2	
TSUGA, SP. FOLIAGE WEIBULLS	22.60	02	15	00	2	
TSUGA, SP. TISSUE ANALYSES	22.6	02	09	00	1	
TULE ELK HAIR WEIBULLS	23.95	11	20	82	2	
U.S. - CHARLTON SOIL SERIES	30.231	06	02	83		
UMBELLULARIA CALIFORNICA FOLIAGE	22.00	00	31	82		
US: OLDFIELD SOILS (HARVARD FOREST BULL. 15)	30.90	04	01	82		
USFS INTERMOUNTAIN EXP. STA. MISC. PUB. 7	19.31	02	23	75	2	19.31-19.35
USFS LAKE STATES EXP STA. STA. PAPER 38 SOILS	30.21	05	12	81	6	
USFS N.E. EXP.STA. RES PAPER NE260 SOILS DATA	19.99	02	07	00	1	
USFS NORTHEAST EXP STA. STA. PAP. 09 SOILS	30.22	05	12	81	6	
USSR SOILS (MISC.) NUTRIENT STORAGE	30.3	05	29	81	1	
USSR: EUROPEAN FOREST SOILS	30.3	05	29	81		
USSR: KAZAKHSTAN PINE FOREST SOILS	30.31	06	10	81	1	
USSR: KAZAKHSTAN SOILS	30.3	05	29	81		
USSR: SIBERIA BULK DENSITY REGRESSIONS	29.4.241	11	17	00	1	
USSR: SIBERIA TAIGA SOILS ANALYSES	30.15	07	31	00	5	
USSR: SIBERIA TAIGA SOILS ANALYSES - PART 2	30.151	11	26	00	6	
USSR: SIBERIA TUNDRA SOILS ANALYSES	30.1	07	29	00	1	
USSR: WEST. SIBERIA TAIGA SOIL ANALYSES	30.17	11	26	00	5	
VENEZUELA SOILS - R. SANFORD DISSERTATION	17.95	05	11	85	2	
VERBASCUM THAPSIS TISSUE ANALYSES	22.00	00	31	82		
WARM SPRS. INDIAN RES. FOLIAR ANALYSES	22.42	01	14	82	1	
WASHINGTON: CEDAR RIVER AREA (DICE THESIS)	30.23	05	13	81		
WEST. CON. FOR. SOIL BOT. NOM. WEIBULLS	1.0153	01	25	78	1	
WEST. CON. FOR.SOILS SURF. NOM. WEIBULLS	1.0152	01	27	78	1	
WYOMING: G.C.O. SOIL DATA	19.41	02	27	75		
YOSEMITE STUDY SOILS	6.1	01	09	75	2	6.1-6.5
YOSEMITE STUDY VEGETATION	6.6	02	13	75	1	
YUGOS: TROPICAL SOILS & SOIL SURVEY	30.40	05	29	81		

PUBLICATIONS

The publications which have resulted from my research work are in the following publication list. The general theme of the work has been to develop relationships in a systematic way between the properties of soils and the vegetation which they support. The general theme is that the vegetation influences the soil, and the properties of the soil derive from the chemical properties of the vegetation, foliage, and leaf litter. The other general theme is that the foliage composition can be used as a site specific indicator of probable soil conditions. My experience with studies in widely varying regions from California (30,36,37). Italy and Greece (68,46), Thailand(52), the Brasilian Amazon, Zaire, Mexico has lead toward evolving generalizing themes relating the site specific properties of the soil and vegetation of a location to the fit into the global range of these properties. Recent papers have been leading toward this theme, capitalizing upon the rich data base which has been obtained (3,4).

At present some of the more fundamental questions in the field of Forest Influences deal with the role of forests on a global basis. Questions such as how much change will be induced in the world carbon balance by changing the tropical and temperate zone forests on a global basis. Using the data base which I have gradually accumulated over the years I have been developing a series of papers which have the theme of exploring these soil and vegetation properties on a global basis (35, 13, 20, 9). The work on a global basis involves teamwork with a group at OakRidge National Laboratory with my data as a basis for testing worldwide carbon and nitrogen cycle models developed at ORNL.

My research has had a general hydrologic theme in terms of the Influences of Forests upon soil moisture (89, 61, 50, 42) and hydrologic processes.

My research at the local site level has involved the patterns of influence which trees in a forest have upon soil properties (75,75), and the storage quantities of such essential elements as nitrogen which develop and the associated site productivity (78,79,65,56,29,27,22,21,17).These papers run the range from the influence of the trees, to the effects of various management and harvest practices on site fertility. I have entered into a team study using nitrogen isotope addition to the soil associated with young sapling ponderosa pine trees at Blodgett forest to determine the uptake and distribution rates of nitrogen in single trees (2,11). This further extends earlier teamwork research I had been engaged in with regard to nitrogen isotope uptake by nitrogen fixing species in the forest (27,65).

Finally, research is needed that allows the forester to utilize the site specific data which is available, or which that forester may have analyzed for a situation. I have developed a series of data aggregated as ranges using the Weibull cumulative distribution to organize foliar and soil analyses into ratings of

cumulative probability for a given chemical or physical soil or foliar property. (3,4,21,23,30). In addition the microfiche data dealing with many species which have been analyzed in the work here in the laboratory have been made available to foresters for use.

My extra mural research support has come mainly from grants from National Science Foundation for work on shifting cultivation in Thailand, from National Science Foundation through OakRidge Nat. Lab. for work on carbon and nitrogen storage in forest and wildland soils, and from NSF through ORNL for a current study on litter storage. In addition, through committee work with the National Aeronautics and Space Authority (NASA), I recently brought about a $250,000 a year grant to the Space Sciences laboratory. I am a co-investigator in this to avoid conflicts of interest. Randy Thomas of the Space Sciences Lab. and Russ Congalton of the Forestry faculty are principal investigators. In addition I have received grants from the State of California Division of Forestry for nutrient drain from forests with intensive harvest, and for Growth model studies using the Forcyte Model to evaluate nutrient cycling with A.G. Stangenberger.

PROFESSIONAL ACTIVITIES

I am a registered licensed forester in the State of California (#836), and in that context I have carried out consulting activities which usually involve the theme of vegetation evaluation, impacts of changing vegetation on environmental conditions, soil constraints on management operations, evaluation of relation of landslide processes to land use, soil vegetation relationships and maps, and activities on numerous committees. During the formulation of the current California State Forest Practice Act, I served as part of a committee formulating the current method of assessing erosion potential of soils.

The following is a list of my professional activities with a list of numbered professional reports and papers which accompanying these activities.

PROFESSIONAL ACTIVITIES

I am a registered licensed forester in the State of California (#836), and in that context I have carried out consulting activities which usually involve the theme of vegetation evaluation, impacts of changing vegetation on environmental conditions, soil constraints on management operations, evaluation of relation of landslide processes to land use, soil vegetation relationships and maps, and activities on numerous committees. During the formulation of the current California State Forest Practice Act, I served as part of a committee formulating the current method of assessing erosion potential of soils.

The following is a list of my professional activities with a list of numbered professional reports and papers which accompany these activities.

See publication file & reprints!

Publications update, 1980 to date.

PAUL J. ZINKE

1. Zinke, P. as member ESSC Comm. 1986. Earth Systems Science -- A Preview 8 pp. Earth Systems Science Comm. U.S. National Aeronautics and Space Agency. Univ. Corp. for Atmos. Res. P.O. Box 3000 Boulder Co. 80207.

2. Zinke, P., J. Bertenshaw, R. Sanford. 1986. ^{15}N uptake and distribution by young Ponderosa pine trees. Ann. Rept. 1985-1986. Process Controls and Nitrogen Transformations in Terrestrial Ecosystems. Edited by Smith, J. & M. Firestone. pp. 136-142

3. Zinke, P.J. 1986. Problems related to Site Specific Chemical Assessment of Soil. Proc. Div.1 Int. Union of Forest Res. Organizations, 18th World Congress, Lubljana,Yugo. Vol. 1 pp.405-414

4. Zinke, P.J. 1986. Site-Specific Assessment of Forest Soil Conditions in California. Soc. Amer Foresters Calif. Section. 15 pp. 1fig. 9Tables. IN PRESS

5. Zinke, P.J. 1986. Soil Hydrology in Relation to Land Use Planning 5pp. Int. Symp. on Tropical Forest Hydrology, Chiang Mai, Thailand. June ,1986. In Press for Proceedings.

6. Zinke, P.J. 1986. SUMMARY STATEMENTS- Tropical Forest Hydrology. 2pp. Summarizing "International Symposium on Tropical Forest Hydrology" Chiang Mai, Thailand, June 11-14, 1986.

7. Zinke, P.J. as ESSC Comm. member. 1986. Earth System Science-Overview- A program for Global Change Earth Systems Science Committee U.S. National Aeronautics & Space Agency. Washington, D.C. 48 pp.

8. Editor, Technical Review. 1985. Description of work by P.Zinke on detecting shifting cultivation patterns from sequential Landsat observation over a period of years. Technology Review 88:8 pp. 80-81

9. Post, W.M. J. Pastor, P. Zinke, & A. G. Stangenberger. 1985. Global Patterns of Soil Nitrogen Nature: vol317 17 Oct.1985 pp.613-616.

10. Zinke, P.J. 1985. The recurrence of Fire and Flood Problems on Chaparral Covered Land. The Stages and Their Recognition pp. 16-20 in Proc. Conf. on Living in the Chaparral of Southern California. Oct. 1984 Nat.Found. For Environ.Safety Los Angeles.

11. Zinke, P.J., J. Bertenshaw, & J.L. Smith. 1985. Study Site Soil Characteristics-U.C. Sierra Foothill Range & Blodgett Forest. p. 6-16. in "Process Controls and Nitrogen Transformations in Terrestrial Ecosystems" edited by J.L. Smith & J.L. Paul. Prog. Rept. 1984-1985

October 9, 1986

12. Zinke, P.J. 1984. Soil Ecology, An Overview (effects of herbicides on soils). Chapter 4C pp.75-81 in "Herbicides in War" edited by A.H. Westing. Taylor & Francis. London & Philadelphia.

13. Zinke, P.J., A.G. Stangenberger, W. Post, W. Emanuel, J.S. Olson. 1984. Worldwide Organic Soil Carbon and Nitrogen Data. Oakridge Nat. Lab. Env.Sci. Div. Publ. No. 2212 141pp. U.S. Nat. Tech. Info. Service. U.S. Dept. of Commerce. Paper & microfiche.

14. Zinke. P. 1984. Forest Environments: Science Objectives for the 1990's. Earth Observing System Vol. 1. part 2 pp. 18-20. Tech. Memo. 86129 U.S. Nat. Aeronautics & Space Adm. Goddard Space Flight Center, Greenbelt, Maryland 20771.

15. Bertenshaw, J., P.J. Zinke, D. Rhodes. 1983. Gasquet Mountain Revegetation Program 154 pp. + map appendix sheet Dames & Moore, San Francisco.

16. Zinke, P. & C.C. Delwiche. 1983. Soils and Climate Chap. 3, pp. 42-64 in A Guide Book to California Agriculture, Edited by A.F. Scheuring. Univ. of California Press, Berkeley.

17. Zinke, P.J. 1983. Forest Soil Properties Related to Nutrient Storage, and their change in the harvest of Old Growth, and the regrowth and harvest of Second Growth Redwood Forests. Proc. Soc. of Amer. Foresters 1983 National Convention, Portland Oregon. pp. 210-215.

18. Zinke, P.J. 1983. Soils of the Eastside Pine Type and their Properties in Relation to Forest Management. pp. 17-28 in "Management of the Eastside Pine Type in Northeastern California". Soc. of American Foresters Symposium". Reno, Nevada.

19. Zinke, P.J. 1983. Effets des Defoliants sur Les Terres du Sud Vietnam. Proc. Int. Symp. Herbicides & Defoliants. pp. 171-200. Hanoi, Viet Nam.

20. Post, W.M., Emanuel,W.R., P.J. Zinke & A.G. Stangenberger. 1982. Soil Carbon Pools and World Life Zones. Nature vol. 298 8 July 1982 pp. 156-159.

21. Zinke, P.J. 1982. Fertility Element Storage in Chaparral Vegetation, Leaf Litter, and Soil. pp. 297-305 Gen. Tech. Rep. PSW-58 U.S.D.A. U.S. Forest Service Berkeley, Ca.

22. Zinke, P.J., A. G. Stangenberger, M.J. Fox, B. Parker, & R Stone. 1982. Elemental drain of fertility from a Sierra Mixed Conifer Forest Site due to intensive harvest of Fuels. State of Calif. Calif. Div. of Forestry Forestry Note #82. 9pp

23. Thaiutsa, B, P.J. Zinke, J.J. Granhof. 1981. Weibull probability distributions for foliar nutrients of Pinus kesiya as related to seed sources. 38 pp. Forest Res. Bull #84 Fac. of Forestry, Kasetsart Univ. Bangkok, Thailand.

24. Zinke, P.J. 1981. Cumulative Impacts on Watershed Processes and Soil Productivity. pp. 25-35 in Div. of Agr. Sciences Univ. of Calif. Special Publication #3268. Berkeley, Ca.

25. Zinke, P.J. 1981. Floods, Sedimentation and alluvial Soil Formation as Dynamic Processes maintaining Superlative Redwood Groves. Symp. Watershed Rehabilitation in Redwood Nat. Park. pp. 26-49 U.S. Nat. Park Service. Crescent City, Ca.

26. Zinke, P.J. 1980. Influence of Chronic Air Pollution on Mineral Cycling in Forests. pp. 88-99 in General Tech Report PSW-43 U.S.D.A. U.S. Forest Service, Berkeley, Ca.

Publications list

Paul J. Zinke

Delwiche, C.C., P. Zinke, C.M. Johnson, R.A. Virginia. 1979. Nitrogen Isotope Distribution as a Presumptive indicator of Nitrogen fixation. Botanical Gazette 140 (Suppl.) S65-S69.

Zinke, P. 1979. Design for development of Integrated Watershed and Social forest Management for the Mae Chaem Watershed, Thailand. 50pages + appendix. USAID, U.S. State Department, Bangkok, Thailand.

Zinke, P., A Stangenberger, W. Colwell. 1979. The Fertility of the Forest. pp.10-11 California Agriculture May, 1979.

Zinke, P.J. A.G. Stangenberger. 1979. Ponderosa pine and Douglas fir foliage analyses arrayed in probability distri butions. p221-225 Proc. of Conf. on Forest fertilization, Union, Wash. Sept. 1979. Univ. of Washington, Seattle.

Zinke, P.J., P. Kundstadter, W. Drew. 1979. Integrated Highland Area Development Project, Mae Chaem Watershed, Chiang Mai Province, thailand. 37pp. U.S. State Dept. USAID, Bangkok, Thailand.

Gessel, S.P., P. Zinke. 1978. Significance to Forestryof the Dahlem Conference on Global chemical Cycles and their alteration by man. Jour. of forestry 76:1 48-49.

Heady, H.F. & P. Zinke. 1978. Vegetational Changes in Yosemite Valley.25pp. U.S. National Park Service Occ. Paper no. 5.

Zinke, P.J., Sanga Sabhasri, P. Kundstadter. 1978. Soil FertilityAspects of the Lua' Forest FallowSystem of shifting Cultivation. pp.134-159 in Farmers in the Forest published by East West Center. Univ. of Hawaii Press, Honolulu.

Zinke, P. 1977. Man's activities and their effect upon the limiting nutrients for primary productivity in Marine and Terrestrial Ecosystems. pp. 89-98 in Global Chemical Cycles and their Alterations by man. Ed. W. Stumm. Berlin. Dahlem Conf. Proc. 1977.

Zinke, P. 1977. Minteral Cycling in fire type Ecosystems . pp. 85-94 in Proc. ofSymp. on Environmental consequences of fire and fuel management in Mediterranean Ecosystems. U.S.D.A. For Serv. Gen Tech. Paper WO-3.

Zinke, P. 1977. The Redwood Forest and Associated North Coast Forests. Chap. 19, pp.679-697 in Terrestrial Vegetation of California. ed. by M. Barbour & J. Major. John Wiley N.Y.

September 17, 1980

Zinke, P. 1976. Soil-Vegetation Interrelationships in Mangrove Forests. In Proc. Workshop on Mangrove Ecology, UN Educational Scientific & Cultural Organization pp.10-17 Part 2 Vol.1 Phuket Marine Biological Centre.

Zinke, P. 1976. The Banyan Trees of Kish Island, Iran. 31pp. Kish Island Develop. Corp., Teheran, Iran.

Powers, R., K. Isik, P. Zinke. 1975. Adding Phosphorus to Forest Soils: Storage Capacity and Possible Risks. Bull. of Environmental contamination and Toxicology 14:3 257-264.

Zinke, P. 1975. Edaphic aspects of Secondary Succession. pp.131-134 in Fragile Ecosystems, Springer Verlag, N.Y.

Zinke, P. 1975. The Depletion of Soil Moisture Storage in Forest Soils. Chap.3 pp.27-35 in forest Soils and Forest Land Management Proc. of 4thNorth American Forest Soils conference, Laval Univ. Press Quebec.

Zinke, P. 1974. Effects of Herbicides on Soils of South Vietnam. 39pp. Part B The Effects of Herbicides in South Vietnam. National Academy o Sciences. Wash. D.C.

Zinke, P. 1974. I Suoli Montani D'Italia e La Produttivita Forestale. 2 page Abst. in Il Legno Supl. Nov. 1974.

Zinke, P. 1974. The Mountain Soils of Italy and Forest Productivity. 11p 4 tables, 5 figs. Assoc. per Lo Svillupo della Silvicultura. Roma, Italia. Oct. 17.

Zinke, P. 1973. Analogies between the Soil and Vegetation Types ofItaly, Greece, and California. pp. 61-80 in Mediterranean Type Ecosystems Ed by DiCastri & Mooney Springer Verlag. N.Y.

Zinke, P. 1973. Experiences with a Nitrogen analyzer. pp.53-54 in Conf. Proc. Advances and Innovations in Procedures for Soil, Plant, and Water Analysis. Univ. of Calif. Div. of agricultural Sciences.

E.C. Stone, R.F. Grah, P.J. Zinke. 1972. Preservation of the Primeval Redwoods inn the Redwood National Park. PartI American Forests 78:4 pp. 50-55; Part II. 78:5 pp.48-56.

Zinke, P. 1970. Forestry and Erosion Control in the Tahoe basin. 5pp Talk to California Regional Water Quality Control Board, Lahontan Region, South Lake Tahoe Calif.

Zinke, P. 1970. Soil Moisture in Forests. 11pp. Joint FAO/USSR Int. Symposium on Forest Influences and Watershed Management. Moscow, August 1970.

Zinke, P. 1970. Use and Management of Natural Areas by Educational Institutions. pp.27-30 Symposium Proceedings on Natural Areas. N.W. Pacific Scientific Assoc. 43rd Annual meeting. A Continuing Education book, Corvallis, Oregon.

Zinke, P., S. Sabhasri, P. Kundstadter. 1970. Soil Fertility Aspects of the Lua Forest Fallow system of shifting Cultivation. Proc. Int. Sem.on Shifting Cult. & Economic Development in Northern Thailand. Chiang Mai Univ. pp.251-293. Publ. by Land Development Dept. Bangkok, Thailand.

Zinke, P. 1970 Soil as a Balance Wheel for the Ecosystem. pp.17-18 in Conf. Proc. on Crises and Conflicts in Agro-Ecosystems. Univ. of Calif. Div. of Agricultural Sciences.

Stone, E.C., R.F. Grah, P. Zinke. 1969. An Analysis of the buffers and the watershed management required to preserve the redwood forest and associated streams in the Redwood National Park. 106pp. Report to the U.S. National Park Service.

Zike, P. 1969. The Skin of our Earth. pp.9-13 Conf. Proc. Soils and Land Use Planning. Oct. 1969 San Diego, Ca. U.C. Ag. Ext. Service.

Zinke, P. 1969. Nitrogen Storage of Several California Forest Soil-Vegetation Systems. pp. 40-53 Conf. Proc. Biology and Ecology of Nitrogen Nat. Acad. of Sciences Wash. D.C.

1968. 1968. Foliar Analysis to determine Nutrient Status of Christmas Trees. California Christmas tree Growers Assoc. AnnualMeeting notes.

Zinke, P. 1968. Clean Water from a working forest. Proc. 59th Western Forestry Congress. pp.69-75

Et Al. & Zinke, P. (as committee member). 1967. Education in Hydrology in United States Universities. 44 Pages. Report of Univ. Committee on Survey of Educational programs in Hydrology.

Zinke, P. 1967. Soil and Water aspects of Brush Conversion. pp. 21-27 Proc. Calif. Advisory Board. Dept. of Interior, Bureau of Land Management. Sacramento.

Zinke, P. 1966. Forest Interception Studies in the United States. Int. Symposium on forest hydrology proceedings. pp. 137-161. Pergamon Press, New York.

Zinke, P. 1966. Some effects of climate and soil on the quantities of major fertility elements in California Timber Crop Species. pp. 27-31 Proc. Statewide Conf. on climate and Plant Nutrition. Univ. ofCalif. Div. of Agric. Sciences.

Zinke, P. 1966. The Physiography of the Watershed (Bull Creek) in relation to Redwood Preservation. pp. 3-12 in Proc. ofsymposium on Management for Park Preservation. School of Forestry Univ. of Calif. Berkeley, California.

Zinke, P. 1966. Wood Qualities as affected by fertilization. pp.14-17 in Proc. Statewide conf. on Crop Quality as influenced by Plant Nutrition. Univ. of Calif. Div. of Agricultural Sciences.

Delwiche, Cc., P. Zinke, C.M. Johnson. 1965. Nitrogen Fixation by Ceanothus. Plant Physiology 40:6 pp. 1045-1047.

Quashu, H., P. Zinke. 1965. The influence of vegetation on soil thermal regime at the San Dimas lysimeters. Soil Sci. Soc. of Amer. Proc. 28:5 703-706.

Zinke, P. 1965. Influence of land use on floods inrelattion to runoff and peak flows. Proc. Calif. State Board of Forestry. Feb. 1965 pp.47-52.

Zinke, P. 1965. Mediterranean Analogs of California Soil Vegetation-Types. U.S. Army Natick Lab. Project. IK025001A129 227pp. Mimeo.

Zinke, P. 1965. Tree Analysis to determine nutrient status. Proc. 4th Calif. Forest Soil Fertility Conf. May 1965 pp.30-44.

Perry, E.P., P. Zinke, J.R. Heater. 1964. Some Relationships between cation Exchange Capacity and Carbon Content of soils under Forest vegetation in California. 8Th Intern. Cong. of Soil Science. Bucharest, Romania. Vol.III pp.363-377.

Zinke, P. 1964. Soils and Ecology of the Redwoods. Forestry Seminar Series. Fall-Winter 1964. U.C. Agric. Extension pp.26-44.

Zinke, P., W. Colwell. 1964. Some general relationships among California forest Soils. Proc. 2nd North American Forest Soil Conference. pp 353-365.

Zinke, P. 1963. Potassium and Magnesium in California forests. Proc. Potassium Magnesium Conference, Univ. of Calif. Riverside.

Zinke, P., Earl Alexander. 1963. The soil and vegetation of Yosemite Valley. Report to the U.S. National Park Service, San Francisco. 86pp. 2 maps.

Zinke, P. 1962. The pattern of influence of individual forest trees on soil properties. Ecology 43:1 130-133.

Zinke, P. 1962. The pattern of influence of individual forest trees on soil properties. Recent Advances in Botany, Section 14 pp. 1641-1646. IX Int. Bot. Cong.

Zinke, P. 1962. Vegetation change at recreation sites in the Redwood Region. Proc. 14th Ann. Univ. of Calf. Ext Forestry Field School. "Recreation in Wildland Management" 12pp. April 1962.

Zinke, P., R.L. Crocker. 1962. The influence of Giant Sequoia on soil properties. Forest Science 8:1 2-11.

Zinke, P. 1961. Forest Site Quality as related to soil nitrogen content. Int. Soc. of Soil Science. Seventh Int. Congress Transactions. Commission IV pp. 411-418.

Zinke, P. 1961. Lysimeter Studies of Evapo-Transpiration by California Chaparral and Forest Vegetation. Abstract no. 44 pp.126-138 Western Society of Soil Science 1961 meeting.

Zinke, P. 1961. Physical & Biological Aspects of Chaparral Management. pp. 21-25 in Man, Fire, Chaparral. Proc. of A conference on S. Calif. Wildland research Problems. Feb. 1961 Wildland Res. Center, Calif Ag. Exp. Sta.

Zinke, P., G. Laure, S. Oiene. 1961. A burning test on cistus chaparral in Sicily. Lasca Leaves XI:3 67-72 July-L.A. County Arboretum publication.

Crocker, R.L. & P. Zinke. 1960. Soil and Vegetation Sequences on coastal dunes in Northern California. Ecological Society of America Bulletin, Vol. 41 No. 2 p.56.

Zinke, P. 1960. Properties of alluvial soils developed under conditions of intermittent sedimentation in old redwood forests in N.W. California. Abstract no.41, Western Soil Science Soc. Meeting, June13-16, 1960.

Zinke, P. 1960. The Soil-Vegetation Survey as a means of classifying land for multiple use forestry. Fifth World Forestry Congress. Proceedings I. U.S.A. S pecial paper no. 56 10pp.

Zinke, P., S.V. Griffith, R.H. Howe. 1960. Photo interpretation in hydrology and watershed management. Chapter 10, pp. 539-560, Manual of Aerial Photographic Interpretation. Amer. Soc. of Photogrammetry.

Anderson, H.W., Coleman, G.B. and P.J. Zinke 1959. Summer Slides and Winter Scour. U.S.D.A. Forest Service, Pacific S.W. For. & Range Exp. Stat. Tech. Paper no. 36. 12pp.

Zinke, P. 1959. Nitrogen Balances of soil and vegetation in lysimeters growing 10 year old cover of various California chaparral and forest species. Abstract no. 10, Western Soil Science Soc. Meeting, June 15-18, 1959.

Zinke, P. 1959. The influence of a stand of Pinus coulteri on the soil moisture regime of a large San Dimas Lysimeter in southern California. Intern. Assoc. of Scientific Hydrology. Hann. Munden Symp. Publ. no. 49 pp.126-138.

Zinke, P. 1959. The pattern of Influence of individual forest trees on soil properties. Proc. IX Int. Botanical Congress, Sect. IIA. Abstract. P.41. Montreal, Canada.

Zinke, P. 1958. Nitrogen content of California forest soils and associated mature ponderosa pine, incense cedar, and Douglas fir trees. Soil Science Soc. Amer. annual meeting abstracts, August, 1958. Agronomy Abstracts.

Zinke, P. 1958. Site Quality for Douglas fir and Ponderosa pine in Northwestern California as related to climate, topography, and soil. Proceedings, Society of American Foresters, Annual Meeting, October, 1958.

Zinke, P. 1958. Soil and Vegetation Properties Associated with Serpentine & Peridotite Rock in forest Areas of Northwestern California and S. W. Oregon. Abstracts, Western Soil Science Soc. Meeting June, 1958, Abstract #35.

Begg, E., P. Zinke. 1957. Soil Vegetation classification & survey. Lodoga Quadrangle, N.W., #48B-2, Glenn County, California. California soil Vegetation Survey.

Colwell, W., J. DeLapp, P. Zinke. 1957. Soil Vegetation classification & survey. Iaqua Buttes quadrangle, S.W., #26C-3, Humboldt County, California. California Soil Vegetation survey.

Zinke, P.,. 1957. Soil & vegetation Classification in Wildland Areas. Proceedings Pacific Science Congress, Bangkok Thailand.

Colwell, W. J. Mallory, P. Zinke. 1956. Soil Vegetation Classification & Survey. Scotia Quadrangle, N.W., #28A-2, Humboldt County, California. California soil Vegetation Survey.

Colwell, W., J. Mallory, P. Zinke. 1956. Soil Vegetation Classification & survey. Cape Mendocino quadrangle, N.E., #28B-1, Humboldt County, Calif. California Soil Vegetation Survey.

Colwell, W., J. Mallory, P. Zinke. 1956. Soil Vegetation Classification & Survey. Weott Quadrangle, N.E., #29B-1, Humboldt County, California. California Soil Vegetation Survey.

Colwell, W., J. Mallory, P. Zinke. 1956. Soil Vegetation classification & survey. Blocksburg Quadrangle, N.W. , #29A-2, Humboldt county, California.

Colwell, W., J. Mallory, P. Zinke. 1956. Soil Vegetation classification & survey. Scotia Quadrangle, S.E., #28A-4, Humboldt County, California. California Soil Vegetation Survey.

Colwell, W., P. Zinke. 1956. Soil Vegetation classification & survey. Cape Mendocino quadrangle, N.W., #28B-2, Humboldt County, California. California Soil Vegetation Survey.

Zinke, P.J. 1956. The magnitude and variation of certain soil properties associated with three tree species in California. xii plus 234pp. PhD Thesis, Soil Science, University of California, Berkeley.

Begg, E., K. Bradshaw, R. Nelson, P. Zinke. 1955. Soil-Vegetation classification & survey. Stonyford quadrangle, N.E. #47A-1, Glenn County, Calif. Calif. soil vegetation survey.

Begg, E., P. Zinke. 1955. Soil Vegetation classification & survey. Lodoga quadrangle, N.W., #48B-2, Glenn County, California. California Soil Vegetation Survey.

Begg, E., P. Zinke. 1955. Soil Vegetation classification & survey. Fruto quadrangle,S.W., #41C-3, Glenn County, California. California Soil Vegetation Survey.

Begg, E., R. Nelson, P. Zinke. 1955. Soil Vegetation classification & Survey. Elk Creek Quadrangle, N.E., #42D-1, Glenn County, California. California Soil Vegetation Survey.

Colwell, W., J. Mallory, P. Zinke. 1955. Soil Vegetation classification & survey. Scotia quadrangle, N.E., #28A-1, Humboldt County, California. California Soil Vegetation Survey.

Colwell, W., J. Mallory, P. Zinke. 1955. Soil Vegetation classification & survey. Weott Quadrangle, N.W., #29B-2, Humboldt County, California. California Soil vegetation Survey.

Hoffman, W., R. Nelson, P. Zinke. 1954. Vegetation - soil classification & survey. Eden Valley quadrangle, S.E. #43D-4, Mendocino & Lake Counties, California. California Soil Vegetation Survey.

Zinke, P. 1954. Soil-Vegetation classification & survey. Elk Creek Quadrangle S.W., #42D-3, Glen & Lake Counties, California. California Soil Vegetation Survey.

Zinke, P. 1954. Vegetation Soil Classification & Survey. Elk Creek Quadrangle S.W., Lake County, Calif. Calif. Soil Vegetation Survey.

Zinke, P. 1954. Vegetation soil classification & survey. Hull Mountain Quadrangle, S.W., #42-C-3, Lake County, California. Californa Soil Vegetation Survey.

Zinke, P. 1954. Vegetation soil classification & survey. Hull Mountain quadrangle S.E., #42C-4, Lake County, Calif. California Soil Vegetation Survey.

Cuff, K., R. Nelson, P. Zinke. 1952. Vegetation soil classification & survey. Lakeport Quadrangle N.W., #47C-1, Lake County, California. California Soil vegetation Survey.

Zinke, P., R. Nelson. 1952. Vegetation-Soil Classification & Survey. Lakeport quadrangle, S.E., #47C-4, Lake County, California. California soil Vegetation Survey.

Cuff, K., P. Zinke. 1951. Vegetation soil classification & survey. Lower Lake quadrangle, N.W., #60A-2, Lake County, California.

Cuff, K., R. Neuns, P. Zinke. 1951. Vegetation Soil classification & survey. Lower Lake quadrangle S.E., #60A-4, Lake County, Calif. California Soil Vegetation Survey.

Nelson, R., P. Zinke. 1951. Vegetation - soil classification & survey. Gorda quadrangle N.E., #28C-1, Humboldt County, California. California Soil vegetation Survey.

Nelson, R., P. Zinke. 1951. Vegetation soil classification & survey. Calistoga Quadrangle, N.W. #60D-2, Lake County, Calif. California Soil Vegetation Survey.

Zinke, P. 1951. Vegetation soil classification & survey. Calistoga quadrangle, N.E., #60D-1, Lake County, Calif. California soil Vegetation Survey.

Zinke, P. 1951. VegetationSoil classification & survey. St. Helena quadrangle, N.W. #59C-2, Lake County, California. California Soil Vegetation Survey.

Zinke, P. 1951. Vegetation-soil classification & survey. Lower Lake quadrangle, N.E., #60A-1, Lake County, Calif. California Soil Vegetation Survey.

Zinke, P., R. Nelson. 1951. Vegetation soil classification & survey. Bartlett Springs Quadrangle S.W., #47D-3, Lake County, California. California Soil Vegetation Survey.

Cuff, K., P. Zinke. 1950. Vegetation Soil classification & survey. Harris quadrangle, S.W. , #29D-3, Humboldt County, California.

Cuff, K., P. Zinke. 1950. Vegetation-Soil Classification & Survey. Covelo quadrangle S.E., #43A-4, Mendocino county, Calif. California Soil Vegetation Survey.

Cuff, K., P. Zinke. 1950. Vegetation-Soil Classification & Survey. Point Delgado quadrangle N.W., #28D-2,3, Humboldt County, California. California Soil vegetation Survey.

Cuff, K., P. Zinke. 1950. Vegetation-Soil classification & survey. Point Delgado quadrangle N.E., #28D-1, Humboldt County, California. California Soil & Vegetation survey.

Cuff,K. P. Zinke. 1950. Vegetation-Soil classificationn & Survey. Harris Quadrangle, S.E., #29D-4, Humboldt & Trinity Counties, California. California Soil Vegetation Survey.

Neuns, R., G. Tourtillot, P. Zinke. 1950. Vegetation - Soil classification & survey. Kelseyville quadrangle S.W., #60B-3, Sonoma County, Ca. California Soil vegetation Survey.

Neuns, R., G. Tourtillot, P. Zinke. 1950. Vegetation-Soil classification & survey. Kelseyville quadrangle S.E., #60B-4, Mendocino-Lake-Sonoma Counties, California. California Soil Vegetation Survey.

Tourtillot, G., P. Zinke. 1950. Vegetation-Soil classification & survey. Briceland quadrangle N.W., #29C-2, Humboldt County, California. California Soil Vegetation Survey.

Zinke, P. 1950. Vegetation-Soil Classification & Survey. Covelo Quadrangle, N.W. , #43A-2, Mendocino, Trinity counties, Calif. California Soil Vegetation Survey.

Zinke, P. 1950. Vegetation-Soil Classification & Survey. Hopland Quadrangle S.E. #61A4, Sonoma -Mendocino Counties, California. California Soil Vegetation Survey.

Cuff, K. P. Zinke. 1949. Vegetation-Soil Classification & Survey. Cummings quadrangle N.W., #44A-2, Mendocino Co., Calif. California soil vegetation Survey.

Cuff, K., P. Zinke. 1949. Vegetation-Soil Classification & Survey. Cape Vizcaino Quadrangle S.E., #44C-4, Mendocino County, Calif. California Soil Vegetation Survey.

Cuff, K., P. Zinke. 1949. Vegetation-Soil classification & survey. Brnanscomb quadrangle S.W., #44D-3, Mendocino Co., Calif. California Soil Vegetation Survey.

Cuff, K., P. Zinke. 1949. Vegetation-Soil classification & survey. Covelo Quadrangle S.W., #43A-3, Mendocino County, Calif.. California Soil-Vegetation Survey.

Cuff, K., R. Neuns, P. Zinke. 1949. Vegetation-Soil Classification & survey. Cummings Quadrangle N.E., #44A-1, Mendocino & Trinity Counties, California. California Soil Vegetation Survey.

Cuff, K., R. Neuns, P. Zinke. 1949. Vegetation-Soil classification & Survey. Branscomb quadrangle N.E., #44D-1, Mendocino Co., Calif.. California Soil Vegetation Survey.

Cuff, K., R. Neuns, P. Zinke. 1949. Vegetation-Soil classification & Survey. Kenny Quadrangle, N.W., #44B2&, Mendocino County, Calif. California Soil Vegetation Survey.

Cuff, K., W. Hoffman, P. Zinke. 1949. Vegetation-Soil Classification & Survey. Branscomb quadrangle S.E., #44D-4, Mendocino Co., Calif. California Soil Vegetation Survey.

Cuff, K., W. Hoffman, P. Zinke. 1949. Vegetation-Soil classification & survey. Eden Valley quadrangle N.W., #43D-2, Mendocino Co., Calif. California Soil Vegetation Survey.

Gilman, J., R. Neuns, P. Zinke. 1949. Vegetation-Soil classification & Survey. Hopland Quadrangle S.E. #61A-3, Mendocino-Sonoma Counties, California. California Soil Vegetation Survey.

Zinke, P. 1949. Vegetation - Soil Classification & Survey. Kelseyville quadrangle N.W., #60B-2 , Lake County, California. California Soil-Vegetation Survey.

Zinke, P. & W. Hoffman. 1949. Vegetation - Soil classification & Survey. Eden Valley quadrangle N.E., #43D-1, Mendocino Co. Calif.. California Soil-Vegetation Survey.

Cuff, K., R. Nelson, P. Zinke. 1948. Vegetation-Soil Classification & Survey. Point Arena Quadrangle, #62A-1, Mendocino Co., Calif. Soil Veg. Survey.

Gilman, J. & P. Zinke. 1948. Vegetation-Soil Classification & Survey. Glenblair Quadrangle, #45A-4, Mendocino Co., California. California Soil Veg Survey.

Gilman, J., R. Nelson, P. Zinke. 1948. Vegetation-Soil classification & survey. Orrs quadrangle, #46C-2, Mendocino County, Calif. California Soil and Vegetation Survey.

Gilman, J., R.Nelson, P. Zinke. 1948. Vegetation-Soil Classification & Survey. Saddle Point quadrangle, #45D-1, Mendocino Co., Calif. California Soil Vegetation Survey.

Nelson, R & P. Zinke. 1948. Vegetation-Soil Classification & Survey. Ornbaum quadrangle, #61B-2, Mendocino county, Ca. Calif. Soil Vegetation Survey.

Nelson, R., & P. Zinke. 1948. Vegetation-Soil classification & Survey. Saddle point quadrangle, #45D-4, Mendocino County, Ca. Calif. Soil Vegetation Survey.

Neuns, R.P., P. Zinke, J. Gilman. 1948. Vegetation Soil Classification & Survey. Ornbaum quadrangle (SE), #61B-4, Mendocino - Sonoma Counties, California. California Soil Vegetation Survey.

Zinke, P. 1946. An evening in the Grand Canyon. Living Wilderness Mar.1976 No.16, pp.28,29.

Zinke, P. 1945. Sawmill in Valbruna Jour. of For. 43:10 759-760.

See professional papers + reports file!

CURRENT PROFESSIONAL ACTIVITIES

I]

PAUL J. ZINKE
Registered Professional Forester #836
State of California
(listed by client & date)

1 Brett & Daugert. 1986. Observations on the Marblemount Slide. Field Work & Report. Marblemount Slide and Cascade River Park Recreation Area. Skagit County, Washington.

2 Brett & Daugert Attorneys, Bellingham, Wa. 1986. Field Observations of the Austin Creek Debris Flow Channels and Sources. Field work and Report Preparation. Whatcom Lake Flood damage.

3 Brett & Daugert Attorneys, Bellingham, Wa. 1986. Observations on the Olsen Creek Debris Flow Field Work & Report Preparation, Whatcom Lake Flood Damage.

4 Nature Conservancy & Dawn Associates, Berkeley, Ca. 1986. Soil Properties--Ring Mountain Restoration Area, Marin County. Field Evaluation, Soil sampling & Analyses, Report 21pp.

5 Pacific Gas & Electric Co., San Francisco, Ca. 1986. A critique of the Land & Resource Management Plan, Plumas National Forest Plan review, Supervisors office staff conference, and Report 10pp. May 6, 1986

6 Pacific Gas & Electric Co., San Francisco, Ca. 1986. A critique of the Land & Resource Management Plan, Sequoia National Forest. Plan review, Supervisors Conference, Report 6pp. April 23, 1986.

7 Pacific Gas & Electric Co., San Francisco, Ca. 1986. A Critique of the Land & Resource Management Plan, Tahoe National Forest. Review of plan for watershed management content, Supervisors office staff conference, Report 13pp, + 7pp appendix.

8 Pacific Gas & Electric Co., San Francisco, Ca. 1986. The Watershed Management and Water Facilities Aspects of the Lassen National Forest Land & Resource Management Plan. Plan Review, Forest Supervisors office conference, and Report 5pp. +18pp appendix. July 10, 1986

9 Pacific Gas & Electric Company-San Francisco. 1986. A critique of the Land & Resource Management Plan-Stanislaus National Forest with regard to Water Resource Management Plan Review and 6pp. report. April 4, 1986

Steve Lambert, Hamel & Park, Washington, D.C. 1986. Review of soil and forest site productivity of Redwood National Park Lands taken from L.P. Corp., and comparable property sales. Trial Preparation, Depositions, Expert Witness Court Appearances. L.P. Corp. V. U.S.

I] Professional reports annotated by number

October 8, 1986

Transamerica Realty Services Inc. San Francisco. 1986. Establish vegetation conditions in Redwood Forests along Post Creek Near Big Sur, Monterey County, California. A base line for evaluation of effects of water removal as supply for Ventana Inn, Big Sur.

Brett & Daugert Attorneys, Bellingham, Wa. 1985. Evaluation of sources of Anderson Creek mudslide, Whatcom, County, Washington.

R.B. Stringer, Attorney at law, San Francisco. 1985. Evaluation of H & H Forest Nursery soil fertility and groundwater conditions relative to damage to redwood and Douglas fir nursery stock. H & H Nursery, Sebastopol, Ca. Field Work, Deposition, & Expert Witness. Black V. Foremost-McKesson

Update on Professional Activities
PAUL J.ZINKE
Registered Professional Forester #836
State of California
(listed by client and date)

10 Attorney General, State of California. 1984. Plant Communities and Soil Conditions in relation to the lowering of the Level of Mono Lake, Mono County, Ca. California vs. U.S. (Mono Lake Title Case)

Howell & Hallgrimson; J. DiCiuccio att. San Jose. 1984. Evaluation of timberharvest conditions and erosion potential, Soquel Creek Watershed, Santa Cruz Co., Ca. County of Santa Cruz et al vs Jerry Partain, CDF & Calif State board of forestry

J. Michael Bewley att. San Jose, Ca. 1984. Evaluation of erosion potential of timber harvest operations on Moody Gulch, Santa Clara County, Ca. Santa Clara Co. vs. Jerry Partain, CDF & State Board of Forestry

J.Michael Bewley att. San Jose, Ca. 1984. Evaluation of erosion potential of timber harvest operations on Lompico Creek Watershed, Santa Cruz Co., Ca. Santa Cruz Co. vs. Jerry Partain CDF

Wang, Paul, Architect. 1984. Evaluation of second growth Redwood stand along Russian River and the Environmental impact of housing development.

Dames & Moore Engineers, San Francisco. 1983. Potential Erosion hazard plot evaluation, Gasquet Mt. site of Cal-Nickel Corp. Six Rivers National Forest, Del Norte Co., Ca.

Del Davis & Assoc. San Rafael, Ca. 1983. Assessment and report on the range carrying capacity of the soils of the Young Ranch, Santa Clara County, Ca.

Gibson, Dunn, & Kretchen attorneys. 1983. Evaluation of relationship of forest condition to earthslide in Marin County. Standard Fire Insurance vs. Holster

Henson, A. Att. Carmel, Ca. 1983. Evaluation and testimony concerning stream stream channel and erosion conditions along the Carmel River, Carmel Valley, Ca. Reimers vs. Calif. Water Co. et al. Superior Court Salinas, Ca.

Louisiana Pacific Corp. Standard Ca. 1983. Evaluation of soil and fertilization problems in the Duckwall area, Tuolumne Co. Ca.

Wilkinson Cragun & Barker, Washington, D.C. 1983. Soil aspects of forest productivity and erosion hazards associated with lands in the Redwood Creek Basin, Humboldt Co., Ca. Louisiana Pacific Corp. vs United States

10 American Forest Products Corp. 1982. Soil and Site Evaluation of the Pincushion Area, San Joaquin River Watershed. Sierra National Forest, California.

Rothhaar, D.K. attorn. 1982. Site Evaluation of tree mortality due to high ground water conditions. Aitro v. East Bay Municipal Utility District

Schwabe, Williamson, Wyatt, Moore & Roberts Portland Ore. 1982. Evaluation of erosion control measures related to wind erosion of sand dunes along the route of the Alberta-California gas transmission pipe line near Pendleton, Ore. BAFUS vs PACIFIC GAS TRANSMISSION

12 (maps) U.S. National Park Service Channel Is. Nat. Park, Oxnard,Ca. 1982. Vegetation Type Map of Santa Rosa and Eastern Santa Cruz Islands. 5 quadrangles.

13 Confederated Tribes, Warm Springs Indian Reservation. 1981. Field review of Soil Survey of Warm Springs Indian Reservation Warm Springs, Oregon.

Pillsbury Madison & Sutro (Vaughn Walker Attor.). 1981. Evaluation of erosion hazards and environmental aspects of timber harvest. Santa Clara County Vs. Walsh

14 U.S. Dept. of Justice (Shari Silver att. Los Angeles). 1981. Evaluation of channel and slope conditions relative to flooding and erosion sources Middle Fork Mill Creek, Angeles National Forest Hidden Springs vs. U.S.

15 ~~##~~ <

16 Forest Range & Watershed Management Consultants Inc. Carson City Nevada. 1980. Report on soil and water conditions at Brockway Springs, Lake Tahoe, California.

Professional Activities Listed by Client

Paul J. Zinke

17 Douglas Timber Operators Inc., Roseburg, Ore. 1980. Assessment of BLM withdrawal of Lands from Timber Harvest Base due to soil fragility, Coos, Curry Counties, Oregon.

Big Creek Lumber Co., Santa Cruz County. 1979. Evaluation of effects of timber harvest on soil and water aspects of environment, and testimony to Santa Clara Co. Board of Supervisors on subject.

18 Calaveras County Water District, San Andreas, Calif. 1979. Observations concerning the effect on trees of increased summer flowi in the North Fork of the Stanislaus River in Calaveras Big Trees State Park. 3pp report.

19 Dames & Moore, Salt Lake City, Utah. 1979. Base line soil conditions, Classification, Survey & Properties, Gasquet Mountain , Six Rivers N.F., Del Norte, County, Ca. Rehabilitation measures for Serpentine and Peridotite soils subject tostrip mining for Nickel.

20 E G & G Associates, Wash. D.C. & U.S. Navy. 1979. A study of Mangrove Forest decline on Vieques Island, Spanish Virgin Islands, Puerto Rico.

Holmes Lumber Co., Santa Cruz Co., Ca. 1979. Observations concerning the proposed timber harvest on Novitiate Lands on Aldercroft, Collins, Webb, and Dyer Creek Watersheds, Santa Clara Co.

21 National Academy of Sciences, Committe on Res. Priorities Tropical Bio. 1979. Soil aspects of Tropical Biology ResearchPriorities.

U.S. Dept. of State, USAID. Bangkok, Thailand. 1979. Team leader for Design of Integrated Watershed Management for Mae Chaem Watershed, Changwat Chiang Mai, Thailand.

Asplundh Environmental Services, P.O. Box1571 Ann Arbor Mich. 1978. Characterization of ecological effects of overhead transmission Rights of Way. AES Project #95-0053.

Dames & Moore, Westwood, Ca. 1978. Preparation of Summary report and environmental data evaluation for Environmental Impact Report, Independence Lake Project, Sierra County, Ca.

Institute for Inv. of Biological Resources, Xalapa, V.C. Mexico. 1978. Research project cooperation on soil-vegetation fertility as a determinant of carrying capacity for human populations with varying inputs of management intensity.

Lousiana Pacific Corp. Ukiah Div. P.O. Box 120 Ukiah, Calif. 1978. Soil Types on possible Demonstration Forest Areas in Marin and Napa Counties, California.

23 CABAX Mills, Grants Pass, Ore. 1977. Review of watershed aspects of Chapman Creek Timber Sale, Bureau of Land Management, Josephine County, Oregon. Report-An evaluation of Environmental aspects of the Chapman creek Timber Sale.

22 ERDA U.S.A. Wash. D.C. 1979. Role of Forest Vegetation and Soil in Storing Carbon Dioxide produced by fossil fuel consumption. Comm. Report Proc. Miami Conf. April, 1977.

Institute for Investigations of Biological Resources, Xalapa,. 1977. Instructor in courses on land use planning in Developing Latin American Countries.

22A
22B Robert Dollar Lumber Co. 1977. Assessment opotential violation of Oregon State Forest Practice Act in connection with logging on Graves Creek, Josephine County, Oregon. Expert witness at subsequent trial. Grants Pass Oregon.

EDAW INC. 1976. Vegetation aspects of the Project Seafarer Michigan Test Bed-Detailed Alignment.

Earth Satellite Corp. Berkeley, Ca. 1976. Advisor on land and soil classification for project providing Govt. of Mali Africa with basic soil and vegetation resource data for the Dilly Area.

Fallen Leaf Lake Home Owners Assoc. Fallen Leaf Lake. 1976. Study of the capacity of soils to receive sewage effluent at Fallen Leaf Lake, Tahoe Basin, Calif.

L P Corporation, Covelo & Ukiah, Ca. 1976. Review of timber harvest practices with regard to water quality aspects at Hoxie Crossing, Middle Fork of the Eel River, Mendocino Co.,Ca. Annotated references, field reports, Report to State Water Quality Control Board, Sacramento.

25 Mason, Bruce, & Girard, Consulting foresters, Portland, Oregon. 1976. Soil aspects of the Josephine Master Unit BLM O & C lands. Study regarding removal from timber cutting base of fragile soils for the O & C counties association, Roseburg and Grants Pass, Oregon.

Mitchell, Dedekam, & Angell, Attorneys Eurreka, Ca. 1976. Review of Redwood Creek Information relating to logging and watershed conditions.

26 SWA group, Sausalito, Calif. 1976. Contribution on Soils, Vegetation, and hydrology to the Griffith Park Master Plan Phase I & Phase II Report. 92 pp. Maps & Figs.

27 Society of American Foresters Task Force on Water Quality. 1976. Member of Task Force drafting report on definition of point-non point pollution sources, water quality standards in relation to forest management recommendations for improvement, and recommendations to SAF council.

U.S. Forest Service, Intermountain Region. 1976. Soils lectures to Silvicultural Certification school, Utah State Univ., Logan.

29 Calaveras County Water District & EDAW INC. 1975. Environmental Report Vol. I & II FPC Project 2409 Hydroelectric Development on North Fork Stanislaus River.

30 Dames & Moore, Westwood, Ca. & W.E.Disney Enterprises Burbank, Ca. 1975. Evaluation of Mitigation measures needed tomaintain environmental quality and investment integrity at the Independence Lake Ski Area Development, Sierra County, Ca.

31 EDAW INC. 1975. Soil & Vegetation Aspects. Sunriver Forestry Program. Sunriver Development Bend, Oregon.

32 Gray, Cary, Ames, & Fry, Attorneys. 1975. A study of tree height growth around the south Tahoe airport, and report on same in connection with a plane crash.

32A SWA Group, Sausalito, Calif. 1975. Vegetation, Soil, & Hydrologic conditions of Griffith Park, Los Angeles, California. '75-1976.

U.S.Forest Service, Intermountain Region. 1975. Soils lecture to accreditation course for silviculturists at Utah state Univ. Logan, Utah.

33 Eckbo, Dean, Austin & Williams, INC. San Francisco. 1974. Environmental impact assessment manual for underground power lines in the United States. For Electric Power Res. Institute.

34 Eckbo, Dean. 1974. Vegetation data collection and type map synthesis for Llano Texas region Project Sanguine Study site. Vegetation Map from 98°12'30"W to 99° 30'W; 30°15'N to 31°07'30"N. Plus report.

35 International Engineering Company, San Francisco & Earth Satellite Corp. Berkeley. 1974. Survey of Soil Bearing Capacities on DC Powerline Route from the mouth of the Congo River to Lubumbashi 1200 Miles) Zaire based on field reconnaissance and aerial photo interpretation. Report, Preliminary legend for Photo Interpretation Inga-Kolwezi transmission line.

36 Russian River Sanitation District, & James Montgomery & Associates,. 1974. Feasibility Study for Effluent Disposal on the old Korbel property redwood forest & Northwoods Golf course near Guerneville, Sonoma County, Ca.

37 Souther, Spaulding, Kinsey, William & Schwabe attorneys-for Schwabe. 1974. Evaluation of the effect of the abandonment of the Butler valley Dam, Humboldt Co., Ca. Report on Damages to land, and rehabilitation measures needed at the site of the Butler Valley dam on the Mad River.

Telluride Company, Telluride, Colorado. 1974. Evaluation of Forest Ecology problems related to the development of the Telluride Ski Area. Report.

U.S. Forest Service, California region, San Francisco. 1974. Soils lectures to Silvicultural Certification Course

37A

38 Eckbo, Dean, Austin & Williams, San Francisco. 1973. Vegetation data collection and type map synthesis for Upper Michigan Peninsula for Project Sanguine Site Study. Vegetation map of Upper Michigan from 90° 30'W to 87° 60'W; and 45° 25'N to 47° 00'N.

39 U.S. Env. Protection Agency, PAX Arsenic Advisory Comm. 1973. Report on Arsenic Trioxide and Lead Arsenate in Soil. As part of Committee report, Section 2 12pp.

40 U.S. National Park Service, Redwood National Park. 1973. Member of Special Study Team on Environmental Monitoring of Stream Systems in Redwood National Park.

41 <

41A <

44 ↗ Bull, Field, Volkmann & Stockwell-Architects , San Francisco. 1972. Environmental impact analyses of the Lake Merced Hill Development, San Francisocco.

42 Eckbo, Dean, Austin & Williams, San Francisco. 1972. Soil and Vegetation Evaluation for Environmental Impact Statement, Mount Hermon-Soda Spring Transmission Lines, Pacific Gas & Electric Co. Santa Cruz, Santa Clara Counties, Calif.

Souther, Spaulding, Kinsey, Williamson & Schwabe. Portland, Ore. 1972. Effect of timber harvest operations on Grays Creek Watershed, Washoe County, Nevada & reconciliation with Nevada Forest Practices Act through Nevada State Forester.

43 Southern Pacific Land Co. San Francisco, & Dillingham corp. S.Lake Tahoe. 1972. Evaluation of tree and snow hazard atproposed Alpine Peaks development, Ward Creek, Lake Tahoe Basin.

45 Trimont Land Development Corp, Fiberboard Corp. 1972. The Ecological Impact of the Proposed Flick Point Pumping Station on the Soil, Vegetation, and Aesthetic Environment. Lake Tahoe.

46 Republic of Brasil, Dept. of Mines and Energy. 1971 (two years). Advisor to Projetto Radam; the radar map of the Amazon Basin covering about 2 million square kilometers. In 1972,in field chief of party of advisors from Earth Satellite Corp. Wash. D.C. Report on legends for delineation of radar imagery for soils, vegetation, hydrology, and geology.

47 Southern Pacific Land Company, San Francisco. 1972. Review of erosion aspects of Logging operations near Trinity Alps Resort, Stuart Fork of the Trinity River, Trinity County, Ca. Expert witness at court hearing, Weaverville Sept.1972

Carmel Valley Property Owners Assoc. Carmel Valley, Ca. 1971. Effect of lowering ground water level on riparian vegetation along the Carmel River. Report of effects on trees in the riparian zone of ground water fluctuations due to water district wells.

46 Dept. of Mines & Energy Government of Brasil. 1971. Homogeneous area--land system delineation of Radar Imagery; A first approximation of possible land systems on Area A of Projeto Radam for development of a legend for land system delineation.16pp.

48 Patricia F. Winston, Berkeley, Ca. 1971. Evaluation of watershed problems above Truitt Lake, Flower Ranch between Milton & Copperopolis, Calaveras County, Ca. Report on effects of a second home development.

49 Samuel E. Wood & Assoc. Sacramento, Ca.,. 1971. Soil and Vegetation aspects of MY Ranch Development Plan, Round Valley, Mendocino County, 52< Ca. Dec.70-Jan.71.

50 Hydrocomp International, Palo Alto, Calif. 1970. Vegetation aspects of the Santa Ynez River watershed applied to a computer simulation of the flow prediction of the river. Input to computer simulation model. Oct.69-July 1970.

Matthews-Heimbach & Walker Timber Co. Richmond, Ca. 1970. Evaluation of effects of Redwood Timber Harvest on Watershed Conditions; Rhighetti Ranch, Marin County, Calif. Report and Deposition, Expert Witness at Court Trial, Alameda County Courthouse.

51 Sasaki Walker & Assoc. San Francisco, & Richard Reynolds, Sausalito. 1970. Soils map of the Eastern Half of Marin County for Route Selection, Marin County Rapid Transit District. Map & Report.

53-59 Trimont Land Company, Fiberboard Corp. San Francisco. 1970. Ecological Evaluation and Site Planning for the NorthStar Ski Development Truckee, Ca. 1970-1972.Numerous reports.

J.A. Roberts & Assoc. Sacramento, Ca. 1969. Evaluation of the Trail Peak Ski Development, and Capacity of Meadow Soils to absorb sewage effluent from development. Report on Peaty meadow soils. Oct-Dec.

South Tahoe Public Utility District. 1969. Assessment of the soil and fertility aspects of trees sprayed with sewage effluent from the South Tahoe Public Utility District. Aug.Sept..

Stone & Associates, Berkeley, Ca. 1969. Evaluation of soil, hydrology, & microclimatology of buffer areas around Redwood National Park, Humboldt & Del Norte Co. Calif.

Water Resources Engineers, Walnut Cr. Ca. 1969. Advice, Organization, and Preperation of Worldwide Erosion Control Manual for U.S. Army Air Corps. Feb.-Aug.

Raymond F. Murphy & Assoc. & Boise Cascade Corp. S.F. 1968. Erosion Control Methods for Use at Incline Vlage Nevada.

Shafco Corporation. 1968. Timberstand delineation of Shasta Forests Properties n Lassen Co. Calif.

Lawrence Halprin & Assoc., San Francisco. 1963. Report on the Soil Vegetation types of the Del Mar ranch, in preparation for development of the Sea Ranch Estates, Sonoma County, Ca.

Codding, Bruce- Bar Z Ranch. 1953. Timber Stand Map of T25N R12W Mt. Diablo Base & Meridian.

Phelps, W.E. 1953. Assembly of Timber Stand Map of Northern Mendocino and Southern Humboldt Counties. Map May 1953.

Southern Pacific Lnd Co. 1952. Soil Survey of the Mears Burn. Conducted June,July,1952 report.

Public Service Activities since 1980

PAUL J. ZINKE

(Listed by agency, organization, or group by year & month)

1. Columbia University-Center for Study of Global Habitability. 1986. Tropical Forests & Human Ecology Talk to Asian Regional Seminar on Global Habitability- Bangkok, Thailand, June 2-5, 1986

2. Goddard Space Flight Center. 1986. Global Soil and Vegetation Properties: Limits and Boundaries. Talk to Earth Sciences Seminar, Goddard Space Flight Center, Greenbelt, Md. Jan 22, 1986

3. Columbia University-Center for Study of Global Habitability. 1985. Tropical Forests & Global Habitability Talk to Latin American Regional Seminar on Global Habitability, Buenos Aires, Argentina, August 5-8, 1985.

4. U.S. Forest Service Region 5. 1985. Restoration of Problem Areas & Eroded Sites Talk to Training Session for Regional Hydrologists & Soil scientists, U.S. For. Serv. Santa Barbara, Ca.

5. Univ. of California, Berkeley. 1984.2. Soils from the Arctic to the Equator Talk to Symposium to honor Prof. Hans Jenny, Feb. 11, 1984 U.C. Berkeley.

6. University of California Extension,. 1984.2. Program Chairman, Course on Soil, Water, and Plant Relationships. Feb. 4-8, Berkeley, Ca.

7. Society of American Foresters Joint Northern & Southern California section meeting. 1984.12. Wood for Energy, Soil & Fertility Implications Invited talk to joint annual meeting, San Luis Obispo, Ca. December 7,8.

8. California State Dept. of Parks and Recreation. 1984.11. Effects of fire on Soil, Water Quality, and Water Yield. Talk to Training Session for State Park personnel, Asilomar, Ca.

9. Univ of Washington, College of Forest Resources. 1984.11. Soil Influences on Ecosystem Productivity. Talk to Ecosystems Northwest, Fall Seminar Series. November 20, 1984

10. U.S. National Aeronautics and Space Administration. 1984.10. Working Group on Land Processes. Committee input on Land Processes, Complex Systems Group, Univ. of New Hampshire, Durham.

11. California Foresters Alumni Assoc. 1984. Reminiscenses of a Cal-Forester since graduation with the class of 1942. Dinner Talk to Cal. For. Alumni Assoc meeting, Nov. 30, 1984

12. International Congress on Volcanic Soils. 1984. Carbon Storage in Andosols from a Worldwide perspective. Talk to Congress - Tenerife, Canary Is. Spain, July 1984.

13. U.S.N.A.S.A. 1983.9. Systems Z Advisory Board Meeting Columbia, Maryland September 14,15, 1983.

14. Univ. of California Santa Cruz. 1983.9. Ecology of the Redwoods Talk to Ecology Seminar sponsored by Prof. J. Langenheim.

15. California Forest Soils Council. 1983.7. Characteristics of the Shasta Soil Series and Forest Soil characteristics. Field tour Talks McCloud, California July 29-July30, 1983.

16. U.S. N.A.S.A. 1983.7. Systems Z Advisory board meeting Lake Tahoe, Ca. July 7, 1983.

17. U.S. National Aeronautics and Space Administration. 1983.5. Advisory and Organization meeting. Currently member. Easton Maryland meeting May, 1983.

18. National Foundation For Environmental Safety,. 1983.4. Board of Directors organization meeting. Currently member of board of directors. May, 1983.

19. Soc. American Foresters Redwood Coast Chapter. 1983.11. Ecology of Redwood Forests Talk to combined Audubon Society, Soc. Amer. Foresters dinner meeting Ukiah Cal.Nov. 11, 1983.

20. U.C. Berkeley, CRS-100 Course. 1983.11. Shifting Cultivation in Tropical Forests Talk to class.

21. Society of American Foresters. 1982.6. Seminar on Soils of the Eastside Pine are of California. U.C. Coop Ext., Soc. Amer. For., U.S.F.S. PSW Exp.Sta. Organizing meeting. Susanville, Ca.

22. Seven Hills Unitarian Church, Portland Oregon. 1982.3. Shifting Cultivation in Tropical Forests as a way of Forest Management Talk to church on Tropical Forestry Problems. March 14.

23. California Forest Soils Council. 1981.8. Talks on Soils at various stops on field tour of soils of Shasta and Siskiyou Counties. Field tour talks at First Forest Soils Council Field meeting.

24. U.S. National Park Service Conference on Watershed Rehabilitation. 1981.8. Talk on Floods, Sediment, and Redwood Groves Arcata California Conference, August 27, 1981

25. California Division of Forestry. 1981.4. Forest Soils A talk to Calif. Div. of Forestry Inspecting Foresters Ione Field School April 28, 29.

26. Assoc. Graduate Students, Dept. of Forestry & Res. Man. U.C. Berkeley. 1981.2. Forest Site Evaluation through soil and foliar nutrient analyses. First of New Seminar Series. Thur. Afternoons. 4 February 1981

27. U.S. Forest Service, Shasta Trinity Nat. Forest. 1981.11. Advisory Participation at field tour of marginal sites for Timber Sales in the Upper Trinity River Watershed. Invited as Forest Soils Adviser by Regional Forester, Region 5.

28. Pacific North West Forest Fertilization Cooperative. 1981.10. Probability Distributions of Elemental Content in foliage of coast and mountain hemlock, Tsuga heterophylla and Tsuga mertensiana. Talk to Meeting at Pack Forest, Univ. of Washington, Eatonville, Washington October 15, 1981.

29. Soil Conservation Society of America, California Chapter. 1981.10. California Forest Soils Dinner Talk to Annual Meeting, Redding California, October 14, 1981.

30. Society of American Foresters, U.C. Coop Extension. 1981.1. Specific examples of nutrient storage in California Forest Soils. Talk to Forest Nutrition School for Foresters by U.C. Coop Extension, U.S. Pacific S.W. For. & Range Exp. Sta., & Soc. of Amer. Foresters.

31. California Dept. Natural Resources, Div. of Forestry,. 1981. Erosion Committee Member 1981 to 1986.

32. California Division of Forestry. 1981. Nutrients and Soil Organic Matter in Relation to Soil Erosion. Report to Soil Erosion Advisory Committee, Div. of Forestry.

33. Edgewood Watershed Conf. Berkeley. 1980.6. Examples of Cumulative Impacts on Forested Watersheds. Talk to conference, and discussion groups.

34. Society of American Foresters Soil Fertility School Redding, Ca. 1980.5. Specific Examples of Nutrient Storage in California Forest Soils Sponsored by U.C. Coop Extension, Soc. Amer. Foresters, U.S. F.S. Pac.S.W. For. & Range Exp. Sta.

35. Univ. of Calif. Extension. 1980.2. Soil Factors involved in productivity for forest and rangeland uses. Talk and workshop Feb. 4,1980 Soil, Water, and Plant Relationships Course

36. Univ. of California Extension. 1980.2. Chemical properties of soils in relation to wildland management and assessment. Talk and Workshop during Soil, Waler, and Plant Relationships course.

37. Society of American Foresters. 1980.12. Wood Energy- an Outlook for Forest Management. Annual Meeting, Northern Calif. Section, Redding, Ca.

38. Calif. Div. of Forestry. 1980.11. California Forest Soils. Talk to Training school for Timber Harvest Plan Inspectors. Ione, Ca. Nov. 18, 1980.

39. U.C. Cooperative Extension, Soc. of Amer. Foresters, Harsh site Regeneration school. 1980.10. Soil as a factor determining harsh sites. Talk to extension school in Redding, Ca.

Public Service Activities

Paul J. Zinke

U.C. Berkeley, Strawberry Creek College. Conservation Problems in the Redwoods. Talk. April 10. Sierra Club, Tropical Forest Committee. 1980

American College of Investment Analysts, Long Beach, Ca. 1980.10. Review of Conversions of Tropical Forests to Pastures. Oct.27,28,29, Costa Mesa, Ca.

Univ. of Cal. Extension, Dept. of Forestry & Res. Man. 1980.02. Chemical properties of soils in relation to wildland management and assessment. talk to Soil,Water, Plant Relations workshop. Feb. 6.Berkeley.

Univ. of California Extension, Dept. of forestry & Res. Man. 1980.02. Talk on Soil Development in Forested areas as the basis for local soil variability. Soil Water Plant Relations workshop. Berkeley. Feb.4

University of California Extension, Dept. of Forestry & Res. Man. 1980. Organization of Soil Water, and Plant Relations course. Feb. 4-8 Berkeley.

U.C., Davis Ecology 230 Seminar. 1979.12. Watershed Forestry and Nutrient flow in tropical Forests. Talk. Dec.4, Davis.

U.C. Coop. extension, Soc. Amer. Foresters, N.Ca. Section. 1979.10. Talk on Development of Forest Soils, and Field Trip leader, Shaver Lake School,Oct. 19,20.

Institute for environmental Education; Weyerhaeuser Co. Foundation. 1979.09. Outline of chapter III, concerning the Forest Environment.

Society of American foresters N.Cal. Section Annual Meeting Lake Almanor. 1979.06. Banquet talk, "Forests as Carbon sinks in a world with increasing Carbon dioxide.".June 1.

Society of American foresters, Training session on Forest Soils,. 1979.06. Training session on Soil Fertility and Nutrient cycling. June 1, Lake Almanor.

Crown Zellerbach Forestry Research division, Wilsonville, Oregon. 1979.04. Seminar on Current Results in Foliage Analyses of Western Conifer tree species. April 20, Wilsonville, Oregon.

California State Senate, Comm. on Vegetation Management, Senator Rose. 1979.02. Report on current information regarding data on California Soil and Vegetation. Feb. 14 Committee meeting. Sacramento, Ca.

Oakridge National Lab. Oakridge, Tenn. 1979.01. Talk:"Probability distributions of Carbon Content in World Forest Soils". Jan. 16, Oakridge, Tenn.

Soil Conservation Society of America, 21 Annual Meeting Banquet speaker. 1979.01. "A look at Soils Problems around the World." Jan. 17. Redding, California.

U.C. Berkeley Dept. of Soils & Plant Nutrition. 1978.05. The role of Forests and their soils in the Global Carbon Cycle. Dept. Seminar May 3.

Oakridge National Lab. Oakridge, Tenn. 1978.02. Talks on an approach to evaluation of Carbon Storage in soil and trees of World Forests. Feb. 6-10. Oakridge, Tenn.

U.C. Davis Botany 221. 1977.11. Seminar on Foliage Analyses of California Forest trees arranged in probability distribution ranking.

California Native Plant Society. 1977.10. Talk on California Chaparral Vegetation and its Analogs in Italy and Greece. Oakland Museum Oct. 26, 1977.

Institute of research on Biological Resources, Xalapa, VeraCruz, Mex. 1977.09. Week long Course on Land Classification; Soil, Soil Classification, Land systems, Remote Sensing. 21Nov-12Dec., 1977.

San Jose State Univ. Colloquium on Biological Sciences. 1977.09. Soil in relation to natural Ecosystems 21 Sept., 1977.

Soc. of Amer. Foresters Calif. Chapter. 1977.09. Input to SAF Section Policy statement concerning expansion of the Redwood National Park.

U.S.F.S. Region 5, Silvicultural Certification program. 1977.06. Advanced forest soils field school.

Calif. State Water Quality Control Board. 1977.04. Review of effect of Big Butte Road, Mendocino Cnt. on water quality of Middle Eel River. Sacramento meeting.

U.S. District Court, Spokane Wash. U.S. vs Dickey Farms. 1977.04. Testimony for Dickey Farms regarding effects of raising the level of the Bonneville Reservoir pool on soil productivity.

U.S.Dept. of Energy, Carbon Dioxide in the Environment Conf. 1977.02. Discussant and Participant, Role of Forests in the World Carbon Dioxide Cycle Miami Florida, Feb. 7-10.

Wood Science & Tech. 10 Class. 1977.02. Guest lecture on effects of Timber harvest on the environment.

U.S. National Academy ofSciences Biology Subcommittee Tropical Forests. 1976.3. Effects of clearing tropical forests on forest soils-A review for Newport Beach, Ca. meeting March 9, 1976.

U.S.F.S. Intermtn. Region Silvicultural Cert. Prog. 1976.12. Talks on forest soils in relationship to forest productivity. Logan Utah.

UC Coop Extension,Calif. Fert. Assoc. Conference -Forest Nutrition. 1976.12. Panel Moderator Soil Variability and its Assessment in determination of Fertility needs of Calif. Timber Species.

Dahlem Foundation; Conference on Global Chemical Cycles. 1976.11. Discussant on role of forests in global systems, and paper on Effect of man on productivity of world ecosystems.

U.C. Seminar on California Forest Resources: Policy issues. 1976.10. Creation of a state forest data bank with automated retrieval systems-a description of current microfiche data bank.

UC Seminar Calif. Forest Resources. 1976.10. Effects of Forest Practices on Soils, Productivity & the Environment-Session III October 29.

SAF Co. Cal. Section & U.C. Ext. 1976.03. Soils of the southern California region. Talk at Field School on Forest Soils. Oak Grove April 22.

SAF, U.C. Coop Ext. Field School on Forest Soils. 1975.09. Lectures and Field trips concerning forest soils. Sept.25-27, Shaver Lake, Ca.

U.C. Berkeley, CNR 10 class. 1975.05. Developmental problems in Tropical Forests. Lecture May 13.

U.C. Coop Ext. & S.A.F. 1975.05. Forest Soils of Southern California. Talk . May 3, , Pasadena, Ca.

U.C. Geography Dept. Graduate Student Seminar. 1975.05. Tropical Forest Soil Fertility Problems-Talk. May 13.

U.S.F.S. Region 5 Silvicultural Certification School. 1975.05. Forest Soils in Forest Management & field examples. Lecture & field day, Quincy, Ca. May 22,23, 1975.

Contra Costa County League of Women Voters. 1975.04. Talk on Soils information in Land Use Planning, Concord, Ca. April 30.

Sierra Club, Tropical Forest Committee. 1975.04. Soils aspects of tropical forest conservation, input to report. April 25, 26 San Juan Puerto Rico.

U.S.F.S. Pac. S.W. For & Range Expt Sta. Noon seminar. 1975.03. Shifting Agriculture in S.E. Asia & Similarities to Soil Nutrient Balances in California. Seminar. Mar.6.

Watershed Managers Educators Conference. 1975.02. Curriculum and courses taught relative to watershed management at U.C. Berkeley Talk and discussion Feb. 20, Las Vegas, Nevada.

U.S.F.S. Pac. S.W. R.E.S. San Dimas Forest Seminar. 1975..03. Soil-Vegetation Relationships in Chaparral. Glendora, Ca. March 21.

U.C. Coop. Ext. Soils School. 1974.11. Forest Soils of Northern California Lectures & Field Trip. Nov.8,9 Redding, Ca.

Assoc. Per lo Sviluppo della Silvicultura, Rome, Italy. 1974.10. Productivity of Italian Forest Soils. Talk & input to position papers, Oct 16-19, Roma & Milano, Italy.

Oakland Museum Docents. 1974.10. The Sequoias of California. Talk. Oct. 12, Oakland, Ca.

U.C. Berkeley, course IDS 10A. 1974.10. Shifting Cultivation by a native tribe in Thailand. Lecture Oct. 22.

U.S.F.S. Region 7 Silv. Certification School. 1974.10. Forest Soils. Lectures. Nov.6,7. Logan Utah.

U.S. F.S. Region 5 Silvicultural Accredia. 1974.09. Forest soils, Lectures and Field School. Quincy, Ca. Sept. 13-16.

National Wildlife Federation. 1974.08. Talks on "Trees of Monterey County" & "Enjoyment of the Redwoods" at Asilomar, Ca. Aug. 6-10.

Sierra Club, Tropical Forest Committee. 1974.08. Discussion and position statements on Problems of Development in Tropical Forest Areas. Caracas Venzuela meeting Aug. 22-23.

U.C. Forestry Forum. 1974.04. Defoliation effects in south Vietnam. April 10.

U.S.F.S. Region 5 Soil and Geologists meeting. 1974.02. Information system for California Forest Soils-microfiche retrieval system for soils data. Fresno, Ca. Feb.26,27, 1975.

Agronomy Soc. of California. 1974.01. Forest Fertilization in California. Talk to annual meeting. Fresno, Jan. 1.

Cambridge Univ., Cambridge England Anthropology Dept. Symposium. 1974.01. The Tropical Rain Forest and Human Ecology. in Symposium on future of primitive societies. Dec.13-20, 1974.

U.C. Coop. Extension Soils School. 1974.01. Forest Soils of Northwestern California, Talks & Field Trip.Eureka, Ca. Jan.28-30.

Oakland Museum Docents. 1973.09. Talk and Guided tour to Calaveras Big Trees. Sept. 29.

Mexico, Consejo Nacional De Ciencia Y Technologia joint with AAAS. 1973.06. Effect of Shifting Cultivation on Soil Fertility. Invited Paper to International Meeting. June 30.

Society of American Foresters, Northern California Section Annual. 1973.06. Field trip organizer and participant regarding "Assessment of forest plant growth in response to soil conditions". Soil fertility and nutrient cycling. June 2, Plumas County.

American Meteorological Society, Northern Nevada Chapter meeting. 1973.05. Tree Ring Analysis applied to floods and flood forecasting. Talk. Verdi, Nev. May 31.

Extension Class, Redwood Assoc. & Sonoma State College, Ukiah, Ca. 1973.05. Ecology of the redwoods. Talk reviewing personal research in redwoods.

Earth Satellite Corporation & visiting Iranian Hydrologists. 1973.03. Remote sensing of hydrologic resources. Seminar. March 2, evening.

National Science Foundation, Tropical Ecology Symposium, Turrialba, Costa Rica. 1973.03. Soil Problems in tropical Ecology. Talk and contributions to position paper on Fragile Ecosystems. March 26-30.

U.C. Berkeley, Dept. of Botany Colloquium. 1973.03. Mangrove Forests and their soils. Talk on current personal research work. March2, afternoon.

Univ. of Calif. Dept. of Botany Seminar. 1973.03. Radar mapping of the vegetation of the Amazon Basin. March 9, Berkeley.

Univ. of California Alumni Association Annual Meeting. 1973.03. Conservation, ecology, and environment--some reasons for optimism. Talk March1, Pasadena, California.

Utah State College Symposium for evaluation of carrying capacity in outdoor recreation. 1973.02. The physical and Biological factors involved in determination of carrying capacity of land for recreational uses. Talk. Feb. 14 Park City, Utah.

Soc. Amer. Foresters. Feather River Forest Forum. Dinner talk. 1973.01. Radar Mapping of the Amazon Forest. Jan. 19. Paradise, Butte County, Ca.

U.C. Dept. of Soils & Plant Nutrition Seminar, Davis, Ca. 1973.01. Soil and Vegetation of Mangrove forests.Jan.31.

California Alumni Foresters annual banquet meeting talk. 1972.12. Tropical forestry.

U.C. Irvine, lecture in Social Science X400. 1972.10. The vegetation of the wilderness in California. October 12.

Kasetsart Univ. School of Forestry Bangken, Bangkok, Thailand. 1972.08. Lecture: "Forest Influences, a review of the field." August 9 to Forest Ecology class, Professor Sanit Aksornkoae.

Kasetsart Univ., School of Forestry Bangken, Bangkok, Thailand. 1972.08. Forest Soils, a world wide view. Lecture to Forest Ecology class. August 10.

U.S. National Park Service Research Review Program. Lodgepole, Sequoia. 1972.08. Carrying Capacity of the High Sierra Wilderness. Talk on research work Aug.29.

U.C. Committee for Arts & Lectures Noon Lectures. 1972.05. Burning Forests for Food. Noon lecture. May23, Berkeley.

U.C. Davis, Soil Science Group Seminar. 1972.05. Radar Mapping of Soils in the Amazon Basin. May, 8, Davis.

U.C. Berkeley, Soils & Plant Nutrition Dept. Seminar. 1972.03. Radar Mapping of Soils in the Amazon Basin.

U.C. Geography Dept. Seminar. 1971.11. A legend for mapping the Amazon Forest. Talk. Nov. 10, Berkeley, Ca.

Tahoe Regional Planning Agency,. 1970.05. Statement on criteria needed in conservation planning at Lake Tahoe. S. Lake Tahoe meeting. May 4.

Assoc. of Private Foresters. 1970.04. Review of Site Quality in relation to Tax assessment of cutover land.April 16, Whitmore Calif.

Coop U.C. Ext. & Soil Consv. Soc. ofAmer. 1970.04. Soils in the Environment. Talk to Soils and Land Use Planning conference. April 24, Willits, Ca.

Coop. U.C. Ext. & Soil Consv. Soc. Amer. 1970.04. Soils in the Environment, talk to Soil & Land Use Planning Conference, Modesto, Ca. April 30.

Coop. U.C. Ext. and Soil consv. Amer. 1970.04. Soils in the Environment, talk to Soil & Land Use Planning Conf. Chico, Ca. May1.

U.C. Berkeley Civil Engineering Seminar CE290L. 1970.04. Some land management aspects of hydrology in forested areas. April 14.

Univ. Calif. Alumni Assoc. So. San Joaquin Chapter. 1970.04. The Sierra Redwood and the Environment. Talk to dinner meeting April 29, Bakersfield, Ca.

Northwest Scientific Association. 1970.03. Educational Institutions and Natural Areas, Talk contributed to symposium on natural areas and their managment. March. 27, Salem, Ore.

Soc. Amer. Foresters, High sierra Chapter. 1970.03.

Soc. Amer. Foresters, High Sierra Chapter. 1970.03. Australian Forestry. Talk to evening meeting. March 6.

U.C. Berkeley, Landscape Design Class. 1970.03. The tree as an expression of site. Lecture. Mar. 2, Berkeley.

Committee for Green Hills-San Mateo County. 1970.02. Managing our natural landscapes. Lecture Feb. 13, Menlo Park.

Forest Fertilization Coop Council. 1970.02. The fertilization of forests. Review talk. Feb. 19, Ukiah, Calif.

International Shade Tree Conference. 1970.02. The relation of trees to soil and climate. Talk to Conference, Feb. 6, San Francisco.

Pacific Southwest Station, Entomology Group Davis meeting. 1970.02. The effect of sewage effluent on foliar analyses of trees at Lake Tahoe. February 16.

U.C. Davis, Forestry 10 course. 1970.02. Lecture Managing the water crop.

U.C. Extension Course in Conservation. Berkeley. 1970.02. Lecture and Field trip on Watershed Management.Feb. 14, Berkeley.

Thailand Dept. of Land Development. 1970.01. Soil fertility aspects of the Lua Forest Fallow System of shifiting cultivation.talk -Jan. 19, Chiang Mai, Thailand.

U.C. Forestry Grad. Students Group. 1970..02. Shifting Cultivation by a hill tribe. Feb. 19, U.C. Berkeley. seminar.

California Natural Areas Coordinating Council. 1970. One Hundred and twentyproposals for natural reserves in California-a report. Feb. 6, San Francisco.

U.C. Santa Cruz. Seminar in Natural Resources. 1970. Tropical forests and shifting cultivation. Seminar. April 8.

San Mateo County Forest Resources Committee. 1969.12. Logging in Urban areas. Talk on environmental effects. Dec.13, San Mateo.

U.C. Davis, Ecology Seminar. 1969.12. Land Classification and planning in wildland areas. Dec. 8, Davis.

U.C. Davis. 1969.11. Talk to Land Res. Evaluation Workshop. Role of School of forestry in Conservation and land use planning. Nov. 7, Davis.

S.A.F. National Meeting, Div. of Watershed Management. 1969.10. Some remote sensing aids for determination of the water balance of forested watersheds. Oct. 13, Miami Fla.

Michigan State Univ., Dedication of Plant Biology Laboratories. 1969.09. Managing the productivity of the Ecosystem by Ritual. A talk on shifting cultivation. Sept. 26, East Lansing Mich.

California State Board of forestry. 1969.08. Erosion Control in the Tahoe Basin. Talk. Aug. 15, S.Lake Tahoe.

U.C. Dept. of Davis.

Adventures, Inc.

102

January 11, 1988

Office of the Director
Bureau of Alcohol, Tobacco and Firearms
United States Department of the Treasury
Washington, D.C. 20026

Joanne DePuy
President

Gentlemen:

As I advised in an earlier letter regarding the Stag s Leap appellation, I take many guests through the Napa Valley and Sonoma every year and point out the Stag s Leap region to them. I have always included the area from Yountville Crossroad to Clos du Val and from the mountain to the river.

My clients include various types of oenophiles from corporation Board of Directors, public relations representatives, writers, medical groups, food and wine societies to wine store operators and wine retailers and distributors. My best guess is that my company has escorted on the average 2,500 guests per year through the wine country in the past ten years. Enclosed find brochure.

Wine Adventures, Inc. arranges the entire visit for our clients while in the wine country from transportation to meals to lodging and of course winery visits.

I feel that the only amicable conclusion to the boundary dispute would be to include the properties from the Yountville Crossroad south and from the Napa River to the Stag's Leap range to the east. Please let me know if I can be of any further assistance to you.

Sincerely,

Joanne DePuy
President

Encls.

Administration:
707/944-8468
P.O. Box 3273
Yountville
CA 94599

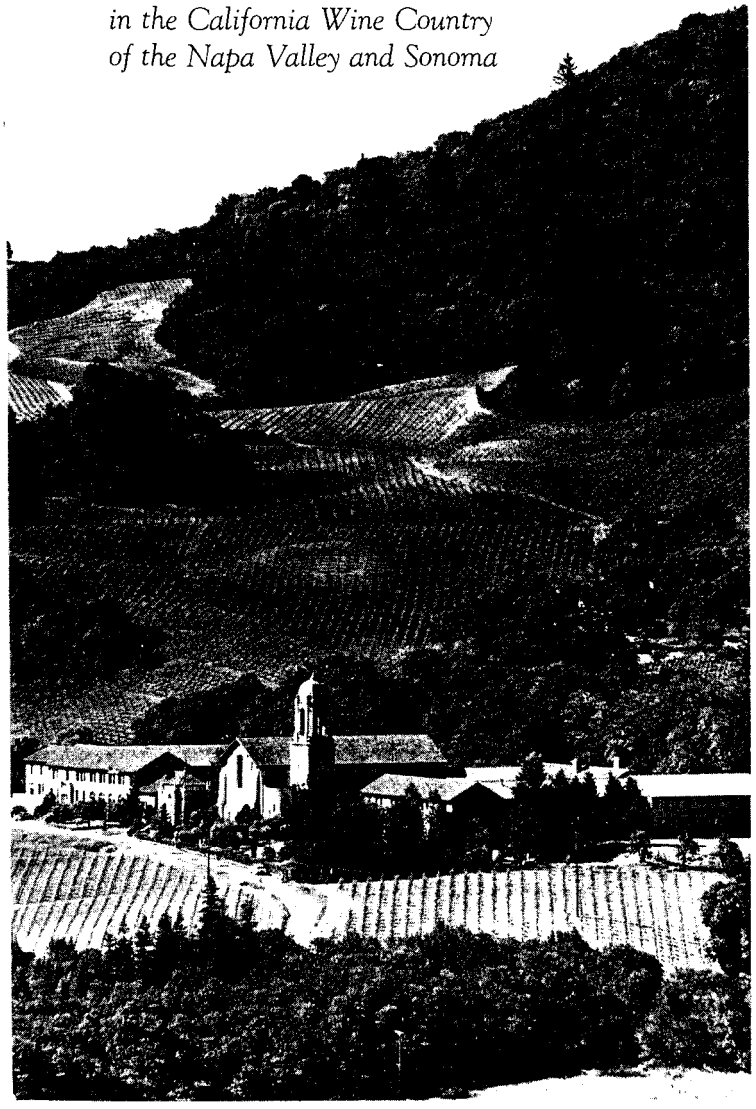
Wine Adventures, Inc.

presents

CALIFORNIA WINE ADVENTURES

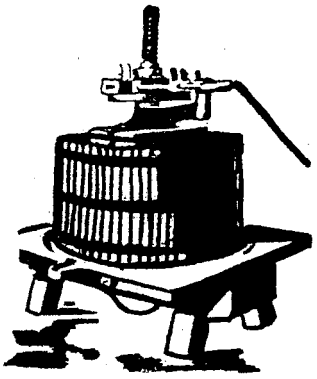
a series of
exclusive and unique
Wine Tours and Tastings

in the California Wine Country
of the Napa Valley and Sonoma



103

Charles L. Sullivan
107 Belvale Dr.
Los Gatos, CA. 95030



January 10, 1987

Mr. William Drake
Wine and Beer Branch
Bureau of Alcohol, Tobacco and Firearms
P.O. Box 385
Washington DC 20044-0385

Dear Mr. Drake:

When I testified before your committee at the 12/2/87 Stags Leap appellation hearing I indicated some very serious reservations I had about the historical research contained in the original petition and in subsequent additions. The day had been long and I stated that I did not think there was time or inclination then to go into the details of my complaint. At that time you asked me to submit in writing a more complete statement of my criticism concerning the history, and also about the geologic and climate reports given the previous day to support the petition. In response to your request and to the call in the BATF notice of 11/23/87 I make these comments.

There are several levels to my criticism about the historical research presented in the original petition and in subsequent papers. I should like to repeat my belief, before going into them, that the entire question of history concerning the designation of the Stags Leap District (SLD) should be restricted to recent years, particularly since the 1960s. I believe that the material presented for the years before this time has virtually no bearing on whether the BATF should grant the appellation. There is, in my view, virtually no connection between this rather mundane viticultural history stretching back into pre-Prohibition years and the recent development of a national and international reputation for a part of this area.

At the first level there is the occasional instance of garbling of the record based on the researcher's ignorance or improper methodology. I think the most amusing example of this comes in the 8/22/85 petition, which contains a 1/84 study on the Stags Leap Resort, given by Mr. Heintz to support the petition. On page 11 (76) of my copy he attempts to date a brochure in order to make a point about pre-Prohibition activities there. He notes there is no Golden Gate or Bay Bridge yet, and goes on to state that people coming to the place by train or stage could be met by SL employees. He fails to note that the Carquinez Bridge is mentioned and concludes that "stage" refers to horsedrawn stagecoaches. He thus dates the brochure to the pre-1920s. The image that emerges is almost laughable. We are to believe that Pacific Greyhound's "stagecoaches" ran back and forth at that time, galloping from Oakland to Napa across the Carquinez Bridge. But that bridge was built in 1927 and "stage" in this conext, from about 1910 through the 1940s, meant highway buses. The brochure actually dates from 1934-35. In the same study a movie, "Hold Back the Dawn" is said to have been made in the early 1930s (it was 1941) and that Clark Gable was in it (it was Charles Boyer). All these are items of no special importance, except that they imply fairly sloppy research techniques.

More to the point are Mr. Heintz's references to old directories which list winegrowers. Note in his letter to you 5/21/87, page 3, he refers to the fact that the "United States mail has been delivered out of Napa City to the Stags Leap area. . . since the 1880s." This is not true. The places listed in these directories did not state exactly where the persons lived, but where they picked up their mail. Mr. Heintz seems unaware of the fact that Rural Free Delivery (RFD) had not been instituted and would not even emerge as an experimental program until 1896 in West Virginia. A person went into town to pick up his own mail and he picked whatever post office he liked for the delivery. That was what was listed in those directories. This is an important point and improper inferences should not be made from such data.

On another level of historical research I find Mr. Heintz continually drawing improper inferences from insufficient or mishandled data. One perfect example can be seen on page 26 of the 8/22/85 petition. In the main paragraph here he reverses the normal manner of logical proof by stating the conclusion first. A Mr Porter in 1886 refers to the area he is describing as "our section." Heintz concludes that this statement makes the SLD a "distinct section." If one reads the 8/13/1886 letter it should be clear that its author means nothing more than the area where he lives. Anyone anyplace might say that about wherever he was; everyone lived in his "section" of the valley. Then Heintz goes on from this early conclusion to list many of the people there who were in winegrowing, implying that this was not only a distinct section, it was a distinct winegrowing section. This is a subtle, clever, seemingly plausible manner of reasoning, but it is basically unsound and misleading. In other words it fits perfectly the definition of historical sophistry.

Along the same line in the 6/26/86 Second Amendment, page 12, the author is discussing the development of the Stags Leap name in the public mind. The first item refers to a court document, which would have had no impact on the wine drinking public, nor reflect any awareness. The next item in the paragraph refers to a quote from a Bob Thompson book of 1976, California Wine. We are told that the author alluded to the growing reputation of the SLD. When I tried to check this reference I was completely stymied. I could find no such book. I called the publishers of the 1973 Thompson book by that name and they could give me no help. We went over everything he had written for them in those years and nothing fit the passage suggested. I then acquired a copy of the footnotes to the report and discovered that a totally different book was cited there, one by Thompson and Hugh Johnson, published by William Morrow in 1976 and titled The California Wine Book. In it on page 51 I did find a reference to the idea that the area between Clos du Val and Winiarski's operation was showing signs of an "identity of its own." But that was it-- nothing more. Then the author finishes marshaling his evidence by citing a winery brochure mentioning the SL "regional designation," a citation that has absolutely nothing to do with what wine writers were saying. From these three items, only one of which has the most casual relationship to the conclusion, the author states that " presumably the wine press picked up the term and began using it by extension to refer to the grape growing region." Nothing was presented to support this puffed generalization. And to check the documentation was complicated by the sloppy reference.

Even more shocking to me is the tendency I find in this historical writing that is contrary to the basic canons of historiography in our society. When the historian presents himself as a scholar and expert he does so in a special context. The historian should come to his conclusions employing all the material bearing on the question he is attempting to answer. He cannot just use that which happens to fit some prearranged notion. In this the historian's task is different from that of a lawyer, who is quite correct to select just that which supports his side, supposing that the system will lead to the truth. For scholars this is an improper approach. It is my opinion that the historical evidence marshaled in the

SLD petition has been selected, organized and emphasis given in such a manner to support a prearranged hypothesis. As I stated before, I think the entire Pre-Prohibition presentation is irrelevant. But as I stated to your committee, if you think it is relevant, then violations of sound research principles should be considered.

There is no better example of the selective approach I have mentioned than in Mr. Heintz's handling of the question of the division of the Napa Valley into sub-districts in the 1880s and 1890s. On page 2 of his 5/21/87 letter to you he indicates that this division of the Napa Valley took place in 1880-81. He states that this was "apparently at the request of the Board" of State Viticultural Commissioners. He gives no evidence to support this contention. But it would be to Heintz's advantage to tie this early division to publications published years later by the Board. He then cites three publications, but none of them makes any reference to this 1880-81 dividing up of the valley. Heintz simply takes it for granted, post hoc ergo propter hoc, an all too common error in logic. In fact we do not "know precisely how the county was divided" in 1880-81 by looking at publications printed years later.

It is important for Mr. Heintz to be able to tie the establishment of these sub-districts to higher authority and then cite publications of that authority, sort of manufacturing historical cement in the process. One cannot tell whether he consulted the reports or the minutes of the Board for 1880 or 1881, but if he had he would have searched in vain for the request he indicates. I find no mention of local commissioners being called on to divide up their districts into sub-districts. In his 12/28/1880 report President Haraszthy goes to some lengths concerning the Board's attempts to gather acreage information, but he notes that the response was so poor that "Commissioners where therefore left to gather information as best they could. . . ." I find no instructions concerning sub-districts, nor do I find any mention of them in Commissioner Charles Krug's first two annual reports to the Board. This example of mishandled data is of particular importance to the BATF.It seems to me that you are at a serious disadvantage when it comes to responding to this type of "research." I cannot see how you can be expected to see behind such things, checking each important reference. It would be nice if you had my indexed file of the proceedings of the old Board, but you don't. But I hope you will accept my heartfelt caveat in the case of future applications.

Heintz then cites two articles on a survey of the southern part of the county in 1880-81. And from these mishandled data he improperly concludes that "Stags Leap really took on its own identity. . . ."

He cites a 6/24/1881 article in the Napa Register concerning the survey which would take place in the portion of the Napa District "south of Yountville." The person doing the job on the east side of the valley south of Yountville was not present at the local meeting reported on. Then an 8/5/1881 article mentions that Mr. Grigsby made a partial report. Since he lived on the east side of the valley south of Yountville Crossroad, Heintz concludes that his district was for that part of the valley. There is not a word in these two articles to suggest precisely what the boundaries of Grigsby's sub-district were. But in his oral presentation on 12/1/87 Heintz suggested that the Grigsby sub-district would coincide with that on the west side of the valley, south of Yountville.

In all of this Heintz is careful not to quote from 6/24/1881 that material which did not suit his purpose. Even though the survey was supposed to be of those vineyards south of Yountville, Mr. Coates' survey on the west side was actually to cover from Yountville to Napa, "including from one to two miles north and northeast of Yountville." (Emphasis added) This might have meant that the socalled Grigsby "district," whatever it was, would have extended well north of the

Yountville Crossroad. If this were the case, all the vineyards in the proposed northern extension of the SLD would have been included in this sub-district which set a "historical boundary drawn more than one hundred years ago," in Mr. Heintz's words, after which he admonishes the BATF that "any change. . . should be approached with caution."

What we have here is a historical pastiche, carefully constructed with a preconceived purpose. I do not mean to imply that this misuse of sources gives any special credence to the notion that the properties just south of the Yountville Crossroad should be part of SLD. I simply want to call into question the entire historical process presented to you, for which these misuses of data form a basis. I am convinced that there are far better reasons to include the properties just south of the road in the SLD than can be found in historical meanderings into the last century. I suggest that soil and climate offer proper criteria on which to make this judgement.

I noted in my statement to your committee on 12/2/87 that I was also very concerned about "expert" testimony provided by persons in other fields on 12/1/87. I should like to draw particular attention to the geographer supporting the petitioners' position. Shortly before she spoke Mr. Shafer mistakenly stated that the Napa River was a good western boundary for the SLD since it divided distinct soil types. He can be excused for providing this misinformation. A scholar in the field can not, as she later did.

Of even more consequence were her gratuitous remarks concerning the soils on the south side of the Yountville Crossroad. Without having examined them she decided that the standard soil map of the area was incorrect and that this soil was not Rhyolite derived Bale loam, the basic soil type associated with many of the great Cabernetsvineyards of the SL area. The basis for this conclusion came from her examination of soils north of the Crossroad. She found that the intermittent flooding from Rector Creek was evidenced by boulders in the alluvial fan of the creek, and that this soil was not Bale loam. What she did not say, or understand, is the fact that the explosive effects of Rector Creek flooding would be decreased exponentially as one moved to the south of the main outlet. In fact, but a few score yards can make a tremendous difference in the effects of such phenomena. To infer a soil condition several hundred yards to the edge of the fan by examining soils in the center of the fan is, in my opinion, poor reasoning. Far more important is the fact that the tiny knobs that rise to the south of the road are some kind of rhyolite extrusions and that every time it rains here, for thousands of years, these knobs have been contributing to the makeup of the soils directly in their downwash. But I am not a geologist; I suggest that the way to determine the soil in that area is to examine it. The rounded rocks in the drainage ditch along the road are not evidence as to the soil type in nearby vineyards. But that is what we were told.

I am also concerned about the presentation of the meteorologist for the petitioners. I infer from the testimony of 12/1/87 that he was hired to examine the weather t two stations, one set up on the Napa River side of SLD and one in the original etition area, to see whether heat summations were similar, this to justify the ddition of the Silverado vineyards to the original petition. I don't even think hat this observation was properly undertaken, since it examined a period of time mething like two months. There is no way that proper climate generalizations n be made from anything less than a full growing season. Actually, several asons are necessary to be able to make judgements on climate. My point here that this person was hired as a meteorologist and then asked to make eralizations expected of a climatologist. Climate is a generalization of ther. It is climate that is a criterion for establishing a viticultural trict, not a one time observation of weather.

I am also concerned at the weather flow wind map presented to the Board on 12/1/87. It was not made as the result of scientific observation. The result is, for me, an unbelievable array of wine direction arabesques that might defy the imagination of a climatologist and certainly flies in the face of my experience in the Napa Valley over the last quarter century. What these arrows did do, like so much of the "expert" testimony on the petitioners' side, was to hew to an apparently preconceived notion concerning the future boundaries of the SLD. I call this poor scholarship.

I think that my observations speak for themselves, but I should like to draw a general view from them that I find disturbing. My impression of this presentation by the original petitioners was one of almost complete, single-minded orchestration. This is perfectly understandable when lawyers rise to speak for their clients and when clients speak for themselves. But scholars in their fields should be expected to present the best truth they can infer from all the data available. I suggest that this is a severe problem which the BATF may face continually. When a petition for appellation is not contested, who can expect your committee to inspect all the footnotes? And when there is a contest, there may be twice the number to inspect.

I apologize for the length of this letter, but had I complained of the tactics of the petitioners with slight evidence I should have been guilty of the type of scholarship at which I was aiming my complaint.

Please feel free to contact me on matters concerning this issue, if you feel I might have more information you might find useful. I give you my best wishes in this difficult matter, knowing from previous experience that your final resolution of this complicated problem will result from an attempt to be fair to all involved.

Very sincerely,

CHARLES L. SULLIVAN

Education:

B.A., History, U. C. Berkeley, 1954 - Honors
M.A., History, San Jose State University, 1964

Employment:

1979 - present:	DeAnza College, Instructor, Viticultural History
1958 - present:	San Jose Schools, Instructor, American and European History

Official Historian of the Society of Wine Educators

In House Historian for the following wineries:

Almaden	Inglenook
Italian Swiss Colony	Paul Masson

and for the:

California Brandy Board
Napa Valley Vintners Assn.

Publications:

Author or Co-Author of:

Like Modern Edens, a History of Winegrowing in the Santa Clara Valley and Santa Cruz Mountains, 1982

Late Harvest, a History of Winegrowing in the Santa Cruz Mountains

Inglenook, 100 years, 1979

More than 100 articles on California Wine History in:

Wines & Vines
Journal of the International Wine and Food Society
Wine Spectator
California Historical Quarterly
New West
Vintage Magazine
Journal of the American Wine Society
California Winelands
Practical Winery
Wines of the Americas
Wine West
Redwood Rancher
Chronicle of the Society of Wine Educators
Journal of the Medical Friends of Wine
Vinifera Wine Growers Journal
Wine and Spirits Review

Other Experience:

Historical presentations before the BATF regarding appelations of origin

Santa Cruz Mountains	San Ysidro (1988)
El Dorado	Lake County (in the North Coast controversy)
Howell Mountain	

104

January 14, 1987

Chief
FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
P.O. Box 385
Washington D.C. 20044-0385

Dear Sir,

I would like to thank you for the time and patience that you and your colleagues have spent over the many months. I am certain that this is one of the smaller issues with which you must contend, but it is an issue that is extremely important to my family and me.

The group of wineries banded together under the Stag's Leap Appellation Committee appears to have made a conscious effort to link themselves with the Stag's Leap District, or the Stag's Leap Area, or the Stag's Leap Palisades. This effort appears to have been worthwhile, for the name has begun to be linked and now many agree that this area should indeed be so designated. We have all legally applied for such a designation and await your decision. The problem comes when one tries to say that this self-generated promotion is the independent judgement of the people and that any who have not been involved in this marketing campaign cannot be in Stag's Leap. An appellation by self-acclamation, so to speak, and those not wise enough to have jumped on the band-wagon, or were willfully excluded, cannot join the band.

It is a dangerous precedent when self-acclamation is entered into evidence as a meaningful fact. 2,100 self-generated references do not by their weight create an undeniable and closed truth. 2,100 references only mean that a group of wineries has carefully presented themselves over the last few years as a cohesive area. It does not mean that such wineries are or should be the definers of the area or even that they have satisfied any legal right to be placed in such an area. John Shafer even admitted as much when he stated in the September 23, 1987 issue of *The Napa Register*, when asked about his use of the term Stag's Leap, "...BATF came along and told us we couldn't do that, BATF also told us if we wanted to have Stag's Leap on the label, then there was a certain process we had to follow."

S. Anderson

1473 YOUNTVILLE CROSSROAD
NAPA, CALIFORNIA 94558
(707) 944-8642 • (213) 792-6195

S. Anderson

Perhaps this ban on the use of the term Stag's Leap as an area does not extend to brochures. The attached brochures, that were collected at a tasting in Sacramento, CA, on November 21, 1987, each clearly state that the wineries described are located in the Stag's Leap District or Area. It is publications such as these that further enforce the Stag's Leap District idea with the press and the public.

Stag's Leap appears to have become a district of public relations before it has become a district of law.

A few publications have made mention of Stag's Leap as an area, but just as many have not recognized it at all. Leon Adams, the dean of American wine historians, makes no mention of the Stag's Leap District or Appellation. He only speaks of Stag's Leap as a rocky promontory in his *The Wines of America* (third edition, New York: McGraw-Hill, 1985). Jancis Robinson in her book *Vines, Grapes and Wine* (New York: Alfred A. Knopf, Inc., 1986) tells a great deal about the proposed Rutherford Bench but makes no such distinction for Stag's Leap. The most interesting of all is an article titled California's Silverado Trail by Rod Smith in the July, 1986 issue of *Gourmet Magazine* which discuss each of the wineries in the Proposed Stag's Leap District as well as others located on the Silverado Trail, without ever discussing or making reference to anything they might have in common other than being located on the Trail.

It would be difficult for the vineyards in the proposed Northern Extension to compete with these wineries in an attempt to link themselves through public-relations with the Stag's Leap name. They either provide the grapes to the above wineries and contribute to their reputation or sell their grapes to wineries too large to want to make a separate "Stag's Leap" product of their wines.

S. Anderson Vineyard could have mounted such a campaign and tied itself to the name, but we have always chosen to abide by BATF regulations and only discuss our legal appellation, Napa Valley. Perhaps we have been ill-advised and should have wrapped ourselves in Stag's Leap long ago. It may have proven to our advantage. Only time will tell.

As an example of the ease with which one can place themselves in an area simply be mentioning it, we submit the following. A bottle of S. Anderson Vineyard champagne was distributed this past Christmas to some 2,000 of Wine Finders (a sort of wine of the month club) members in Illinois and California. Along with their bottle, a leaflet describing the winery and the wine was included. As is often the case, The people at Wine Finders requested information from the winery so that they could create the leaflet. The information we supplied and the text of the leaflet produced are attached.

S. Anderson

In our information as to location we submitted that we are located "on the Yountville Crossroad at the northern edge of the Stag's Leap Area." The leaflet text sent out to each of these over 2,000 consumers reads "...located at the northern edge of the Stag's Leap area of the Napa Valley near the town of Yountville." The text is re-arranged but suddenly S. Anderson Vineyard is tied to Stag's Leap. Can you imagine if S. Anderson Vineyard had been saying Stag's Leap to 2,100 sources for the last 3 years instead of just this one?

Stag's Leap District, as any proposed appellation, should be considered on its merits of unique character not the ability of wineries to create public relations.

Sincerely,

Stanley B. Anderson

SILVERADO VINEYARDS. In the mid-1970's, Lillian Disney and Ron and Diane Miller bought two vineyards – one in the Stag's Leap area, already well-known for its Cabernet and Merlot, the other in Yountville, noted for its Chardonnay. They expanded the Chardonnay and Cabernet plantings and added a new variety, Sauvignon Blanc. After several vintages of selling top-quality grapes to Napa's best wineries (which were winning awards with the results), they began to feel the valley work its magic. The temptation to produce their own e became too great to resist and a winery was begun. Silverado Vineyards, the result he Disney family's efforts, now spans the valley from Stag's Leap to Yountville, 180 acres steep gravelly terraces, sandy slopes, and alluvial loams. The early-California-style stone ery, established in 1981, stands on a knoll above the Silverado Trail. While its architecture aditional, the winery is equipped for modern careful winemaking. Production is limited abernet Sauvignon, Chardonnay, Sauvignon Blanc, and Merlot, four varieties which thrive ilverado's unique combination of soils and microclimates. "We are striving for elegant, nced wines which reflect the character of the grape and the quality of our vineyards," Winemaker John Stuart. Silverado is an old name in the Napa Valley, evoking the early ing days made legendary by Robert Louis Stevenson. Today it also symbolizes the Disney

WELCOME TO

Chimney Rock

NAPA, CALIFORNIA

PINE RIDGE WINERY

Wines of Uncompromising Quality

PINE RIDGE

1984

Napa Valley

CABERNET SAUVIGNON

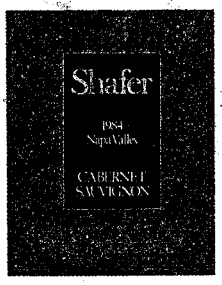
Rutherford Cuvée

Our 1984 Cabernet Sauvignon consists of 89% Cabernet Sauvignon, 8% Merlot and 3% Cabernet Franc from grapes grown in Rutherford. The grapes were harvested the first and second weeks of October at an average Brix of 23.0° and .89g/100ml acid. The wine contained .71g/100ml acid and a pH of 3.42 at bottling in July, 1986. This vintage produced 83,775 bottles.

R. Gary Andrus

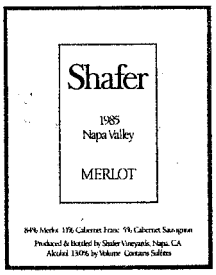
PRODUCED AND BOTTLED BY PINE RIDGE WINERY
NAPA, CALIFORNIA • BW 5012 • ALCOHOL 12.8% BY VOLUME

FALL 1987 RELEASE



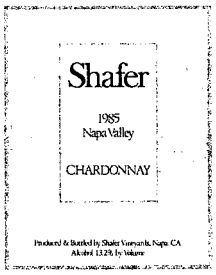
1984 Cabernet Sauvignon

Our 1984 vintage depicts the true character of our steep, hillside vineyards—dramatic fruit. The expressive aroma offers berry, spice, cedar and a hint of mint. The wine is alive with Cabernet charm. Rich, well-defined flavors are balanced with sweet oak and a supple finish. Our 'Napa' Cabernet Sauvignon reflects an intricate Bordeaux-style blend of 93% Cabernet Sauvignon, 5% Merlot and 2% Cabernet Franc. Gold Medal and Best of Region, Best of Class at the California State Fair. Gold Medal: Les Amis Du Vin. Magnums available.



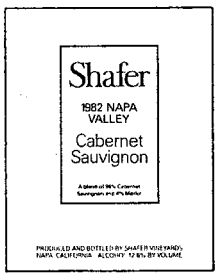
1985 Merlot

We are dedicated to producing Merlot in an elegant style, reflecting its true varietal character. Velvety and accessible, the 1985 vintage is a stellar example of the increasing popularity of Merlot. Often Merlot is made in a heavier Cabernet-style that demands greater bottle aging. We, however, create our Merlot to be enjoyed earlier. Rich flavors—reminiscent of berries and mint—complement soft tannins and reflect our signature in winemaking. A blend of 84% Merlot, 11% Cabernet Franc and 5% Cabernet Sauvignon.



1985 Chardonnay

The long, cool growing season of 1985 produced exceptionally high quality grapes with ripe flavors and lively, natural acidity. This vintage is vibrant and fresh, showing a lovely green apple fruitiness with clean floral aromas, balanced by subtle oak qualities due to seven months aging in French barrels. Crisp acidity and the underlying creamy texture make this wine an ideal match with shellfish and other seafoods. Half bottles (375ml) available.



1982 Cabernet Sauvignon (Re-release)

Winner of six medals, including a Double Gold at the California State Fair. A big, persistent, firm, ripe Stags Leap District style of Cabernet. This wine has been held two extra years for re-release. A blend of 96% Cabernet Sauvignon and 4% Merlot. Very limited availability.

THE WINE SPECTATOR — 6/85 "Highly Recommended"

San Francisco Chronicle — 12/85 "One of the best wines of 1985 —outstanding and lush with a rich finish."

Los Angeles Times — 1/85 "Strong Cab intensity, persistent flavor and fine aging ability."—*Nathan Chroman*

SPRING 1988 RELEASE

1983 Hillside Select Cabernet Sauvignon

1986 Chardonnay

1984 CABERNET SAUVIGNON

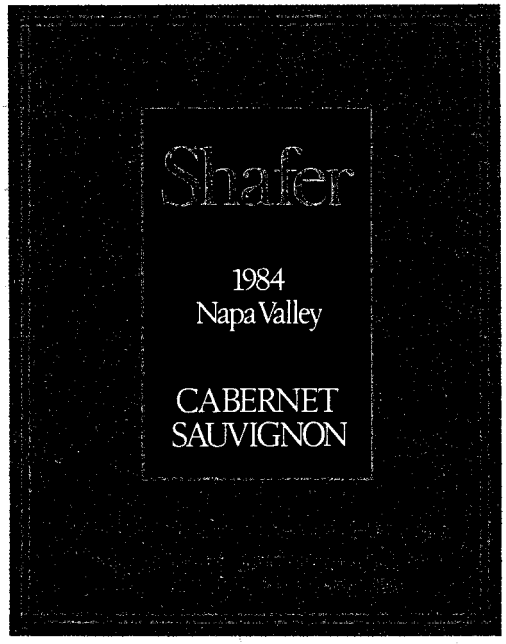
The 1984 Vintage

The warm growing conditions and considerable heat at harvest during 1984 presented the possibility of producing a big, over-ripe Cabernet. However, in line with our evolution toward sleeker, more stylish wines, we harvested at lower sugars giving us wines of good flavor intensity and balance without being heavy or aggressive.

Winemaker's Comments

"This wine is consistent with our objective of producing rich, yet elegant Cabernets. Wonderfully forthright aromas suggest blackberries, cherries, cinnamon and cedar, while the palate is well balanced with a soft entry, supple middle and lengthy finish. The acid and tannin levels are sufficient to see it through several years cellaring."—*Doug Shafer*

A blend of 93% Cabernet Sauvignon, 5% Merlot and 2% Cabernet Franc.



Shafer Cabernet Sauvignon

With the majority of grapes from our steeply-terraced, hillside vineyards in our Stags Leap District location, this wine reflects our regional characteristics of abundant, dramatic fruit coupled with soft tannins. These qualities enable our Cabernets to drink well upon release, as well as age handsomely for five to ten years.

Awards and Reviews

Gold Medal—Best Wine of Napa Valley (Region), Best Cabernet (Class)
1987 California State Fair

Gold Medal
1987 Les Amis Du Vin Annual Wine Judging

The WINE ADVOCATE
6/86
"Open knit, accessible with a chocolaty, ripe, fruity character that is already attractive."
—*Robert M. Parker, Jr.*

Release Date	September 1, 1987, available through Summer, 1988
Oversize Bottles	Magnums
Harvested	9/3–9/14, 1984 @ 23.2° Brix
Fermented	72.5°F for 5 days
Oak Cooperage	2/3 Nevers, 1/3 American 60-gal. oak barrels for 18 months
Alcohol	12.8%
pH	3.42
Total Acid	0.65
Bottled	May 12, 1987

Shafer Vineyards 6154 Silverado Trail Napa, California 94558 707/944-2877

Steltzner

PRODUCER: **STELTZNER VINEYARDS**

LOCATION: 5998 Silverado Trail
Napa, California 94558
(707) 252-7272

STELTZNER VINEYARDS is seven miles north of the town of Napa, in the heart of a microclimate created by a ring of hills bounded on the east by Stag's Leap.

PRODUCTION:

1983 Cabernet Sauvignon	3,000 cases produced
1986 Sauvignon Blanc	400 cases produced

HISTORY: The decision to enter the wine business led to a first small crush in 1977 in space leased.

In 1983 Steltzner Vineyards established its own modest facility with a current capacity of 7,500 cases. Steltzner Vineyards used only its own estate grown grapes for its production and does not purchase grapes from any outside sources.

VINEYARD PHILOSOPHY: Steltzner Vineyards selects only part of its total Cabernet Sauvignon production for winery use. At present the wines are vinified from vines with an average age of 17 years.

Dick's years of vineyard management have helped him refine a method for getting the best possible quality from his vineyard. He has carefully matched root stocks to soil type, a step that lowers pH in the grapes. After extensive research, he has selected and planted the optimal clones of Cabernet Sauvignon, Cabernet Franc and Merlot. The final cuvee will be varied yearly for optimum flavor but will have a minimum weighted average vine age of 15 years.

WINEMAKING PHILOSOPHY: Traditional methods and modern equipment are used to produce a fine food wine with excellent aging potential. To accomplish these goals, Steltzner Vineyards advocates carefully controlled fermentations at moderate temperatures and with moderate cap manipulation. The wine is then aged in a mixture of a new and older French cooperage to soften it and intensify the desirable regional characteristics. Fining and filtration are kept to the minimum required for proper finishing. A year of bottle aging under ideal cellar conditions completes the traditional vinification process.

A TASTE OF CALIFORNIA

CONNOISSEUR'S SELECTION

California "Champagne" / Methode Champenoise

Champagne has a well deserved reputation as the wine of wit and the choice for celebration. Though the name technically refers to sparkling wine from the French Champagne district and most countries prohibit the use of the name, the United States does not. American "champagnes" may be made in several ways. The finest (and the most expensive) are produced by a centuries old French process called "methode champenoise." This method uses the traditional grape varieties of the French Champagne district (Pinot Noir and Chardonnay) and is the most costly way to produce sparkling wine. It also involves the most hand labor, patience, time, delicate operations and expensive equipment.

California sparkling wines produced by this method will be labeled "methode champenoise" and/or "Naturally fermented in this bottle." The harvest and the first fermentation (the converting of grape sugar into alcohol and carbon dioxide) is the same as for still wines. In the fall the wine is blended, yeast and sugar are added and the wine is bottled in heavy glass to begin a second fermentation which takes place over many months. The gas bubbles from the second fermentation are trapped within the bottle producing the natural sparkle (the gas accelerates the passage of alcohol into the circulatory system at a much faster rate than still wines which explains sparkling wines' reputation for producing light-headedness quicker than still wines). The wine is then allowed to age from one to three years.

Next a process known as riddling (once done entirely by hand but increasingly being done by machine) takes place where each bottle is gradually put into a vertical position with its neck down and shaken so that the yeast and sediment settles into the neck of the bottle. The next step is called disgorging in which the bottle neck is frozen in a cold brine solution. The bottle is then stood upright, the temporary closure removed and the pressure of the carbon dioxide used to expel the frozen yeast and sediment leaving behind the clear wine. The bottle is now refilled to replace any lost wine from the disgorging process and a small smount of sugar may be added to give the wine its desired sweetness. The bottle is then given its permanent cork and its protective wire hood. Finally, the bottles are washed, labeled and cased. After several months the wine is ready for distribution.

1984 S. Anderson, Blanc de Noirs, Napa Valley

This small family vineyard and winery is located at the northern edge of the Stag's Leap area of Napa Valley near the town of Yountville. It was founded in 1971 by Dr. Anderson, a retired Los Angeles dentist, and his wife Carol. Their son John has recently joined the business and lends a hand with the marketing responsibilities. All operations strictly follow the French "Methode Champenoise"

Tasting Notes

S. Anderson Vineyard was founded in 1971 with the planting of 20 acres of Chardonnay on the Yountville Crossroad at the northern edge of the Stags Leap area. Small test batches of wine were produced from the first year the vines bore fruit, but it was not until 1979 that owners and winemakers Stanley and Carol Anderson were convinced that the Chardonnay had the maturity to produce an S. Anderson wine. Additional fruit for the Champagnes would come from Pinot Noir and Pinot Blanc planted in 1980.

Centuries of experience have prove the superior nature of underground storage for wine and with this in mind, in 1983 S. Anderson Vineyard carved a 7,000 square-foot cave into one of the knolls overlooking the vineyard. The cave's wide rooms and 18 foot ceilings permit aging of the Champagnes on the yeast and riddling by hand without having to remove them from this perfect subterranean environment. The cave's cool, steady temperature also controls the barrel fermentation and aging of S. Anderson still Chardonnay to perfection.

S. Anderson Vineyard will always continue to strive toward the production of wines of superior quality and maintain our reputation as one of the finest producers of Chardonnay and Champagne by the traditional Methode Champenoise.

S. Anderson Vineyard Blanc de Noirs Champagnes have been widely acclaimed as among the best produced in the United States. The winemaker describes the 1984 Blanc de Noirs as, "A wine of great complexity with a velvety balance." Careful blending of Pinot Noir grapes from four vineyards and two years on the yeast in the perfect environment of the S. Anderson Caves have come together to form a noble Champagne. The exclusive use of the Pinot Noir grape produces a cuvee with a richness of flavor and a boldness of character that has been carefully balanced by yeast aging. A wine full on the palate, but with creaminess and elegance, is the result.

105

STREET ADDRESS:
6867 STUART LANE SOUTH
JACKSONVILLE, FLORIDA 32205

STREET ADDRESS:
REGENCY INDUSTRIAL PARK
10999 ROCKET BOULEVARD
ORLANDO, FLORIDA 32824

AMERICAN DISTRIBUTORS

MAILING ADDRESS:
P.O. BOX 60489
JACKSONVILLE, FLORIDA 32236-0489
TELEPHONE (904) 783-1320

MAILING ADDRESS:
P.O. BOX 590447
ORLANDO, FLORIDA 32859-0447
TELEPHONE (305) 855-7610

January 13, 1988

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

John D. Balden
American Distributors of Florida

JDB/sa

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558
PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

106

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

JON S. ENGEN

EXECUTIVE DIRECTOR

GRAND NATIONAL WINE COMPETITION

3330 South 700 East
Suite 2
P.O. Box 15749
Salt Lake City, Utah 84115

107

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

[signature]

Sales Manager - Union Liquor
3247 S. Kedzie
Chicago, Ill. 60623

Union Liquor Company
3247 Kedzie Avenue
Chicago IL 60623

(108)

January 12, 1988

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Thomas W. Gory

Thomas W. Gory

THOMAS GORY
Wine Warehouse
800 EAST NINTH STREET
LOS ANGELES, CALIFORNIA 90021

109

CARNEROS CREEK WINERY

1285 Dealy Ln.
Napa, California 94559
(707) 253-WINE

January 10, 1988

Director, FAA Beer and Wine Branch
Bureau of Alcohol, Tobacco, and Firearms
Federal Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20226

Gentlemen:

As a Director and former President of the Carneros Quality Alliance, I would like to comment about the important decision that you are currently undertaking to define the Stag's Leap District. In the last three years, the Carneros Appellation has come forward from obsurity to become a leader in how an Appellation can be projected as an educational experience. This has been rewarding to the growers and vintners of the CQA, but more importantly has been the realization that our program truly serves the consumers' interests. There is a style in the wines of Carneros that reflect the soil, climate, and geography. This understanding allows the designation of Carneros on a label to be a guide for the consumer as to what they should expect. This consumer understanding is the heart of the Appellation Program and should be a major goal of your committee in granting approval to any appellation.

I have been a purchaser of Cabernet Sauvignon and Merlot grapes from the Fay,Turnbull, Steltzner,Phelps and Clos du Val Vineyards since 1972. Over the years, I can honestly say that I have come to know of a Stag's Leap Style, which can only lead me to conclude that they share a uniqueness of soil, climate, and geography. I support the work that was done by the Stag's Leap Petition Committee. Their work fulfills the criteria that that you agency requires for an Appellation designation, if it

adopted without change I believe it will stand the test of time in the minds of the consumer. And, is this not what the agency's program is all about? You did a wonderful job in the Carneros, I hope you follow in that tradition.

Sincerely,

Francis Mahoney

Francis Mahoney
President

110

LOUIS R. GOMBERG
Wine Industry Consultant

703 Market Street, Suite 2101
San Francisco, CA 94103
(415) 957-5071

December 28th, 1987

Chief
Wine and Beer Branch
Bureau of Alcohol, Tobacco and Firearms
P. O. Box 385
Washington, D. C. 20044-0385

Attention: Notice No. 644

Dear Sir or Madam:

Kindly refer to your files and records relating to the "Stags Leap District" viticultural area, public hearing concerning which was held on December 1 and 2 at the Veterans Home of California, Yountville, California.

The purpose of this letter is simply to offer the writer's comments concerning the "viticultural areas" concept generally, and the ATF's basic objectives in this context as they relate to the "Stags Leap District" specifically.

Based upon the writer's 50-plus years of experience in the wine industry, first as Wine Institute research director and, for the past 40 years, as industry consultant, the desirability of establishing viticultural areas from the standpoint of both consumer and industry interests cannot be overstated. As is well known, the growing of grapes for wine and the production of the finished product involve a high degree of complexity. Hence, anything that can be done to clarify and enhance both consumer and trade understanding of the finished wine is in the public interest. The viticultural areas policy and practice admirably serve such interest, in the writer's opinion.

With respect to the specific factors involved in the delineation of the "Stags Leap District" boundaries, such as topographic configuration, meteorological distinctiveness, soil character and uniqueness, and the numerous other considerations that must be taken into account in arriving at geographic delimitations best serving the public interest, ATF is obviously in the only position to judge. The sole comment the writer has to offer in this connection is that the final decisions should be neither too narrow so as to exclude deserving interests, nor too broad as to render the viticultural designation less meaningful than it should be. Just where to draw these fine lines only ATF is fully qualified to decide.

Opportunity to express these comments is greatly appreciated.

Sincerely yours,

Louis R. Gomberg

LRG:1

PINE RIDGE

January 12, 1987

Mr. James P. Ficaretta
FAA, Beer and Wine Branch
Bureau of Alcohol, Tobacco, and Firearms
Post Office Box 385
Washington, DC 20044-0385

Dear Jim:

I believe you are in receipt of the letter from Fred Hermann (copy enclosed) from whom I purchase grapes regarding his belief that his vineyard is located in the area known as Oak Knoll and not Stags Leap District.

I concur with his assessment and have never used the grapes in our Chardonnay designation Stags Leap Cuvee. The grapes are excellent but different in structure and grape chemistry.

In addition, Jim Murray, my maintenance supervisor, and I are planting a vineyard just south of the Hermann Vineyard and north of John Shafer's Oak Knoll Vineyard and George Altamura this spring. When we acquired the property, we never considered it to be in the Stags Leap District. While I am uncertain what the quality of the wine will be from these grapes as we are just now developing the parcel, we do not wish to be included in the Stags Leap District.

Very truly yours,

R. Gary Andrus
Operating Partner/Winemaker

RGA/sg
Enclosure

December 2, 1987

Mr. Jim Ficaretta
Bureau of Alcohol, Tobacco and Firearms
Post Office Box 385
Washington, DC 20044-0385

Attention: Hearing Notice No. 644
Chief, FAA, Wine and Beer Branch

Dear Sir:

My name is Fred Hermann. My wife and I own a small vineyard located at 5200 Silverado Trail, which is also our home. Our vineyard is planted to Chardonnay grapes and was planted in 1980.

Since 1985 I have sold my total production to Pine Ridge Winery. In 1982 and 1983 we sold our grapes to St. Clement Vineyards and in 1984 we sold them to Cartlidge & Brown. We have known Pine Ridge Winery and our friends Jerry and Pay Taylor's vineyard to be within the proposed Stags Leap District. We are not.

Since 1985 we have produced grapes which are part of Pine Ridge's Oak Knoll or Knollside Cuvee, as our vineyard is located just north of the Oak Knoll Avenue.

We are extremely proud of producing part of the grapes which have won gold medals and international acclaim as produced by Pine Ridge Winery.

We do not believe it is appropriate for us to be included in the Stags Leap District since our grapes have different tastes and produce different wines than those of the Stags Leap District.

I submit this to be used as evidence in the Stags Leap District Appellation Hearing.

Sincerely,

Fred Hermann

Fred Hermann

112

UNIVERSITY OF
Miami

Department of Geography
P.O. Box 248152
Coral Gables, Florida 33124-8152
(305) 284-4087

December 31, 1987

Bureau of Alcohol, Tobacco and Firearms
Chief, F.A.A., Wine and Beer Branch
P.O. Box 385
Washington, D.C. 20044-0385

Attention: Hearing Notice 644

Please allow me to introduce myself. As a professional geographer I have taken an active interest in BATF's AVA program. My area of research specialization is regional geography, that is, the identification of discrete regions and subregions on the basis of stated criteria. One of my books, Geography: Regions and Concepts is a standard work in this field. I have offered a course entitled Geography of Viticulture annually over the past ten years, and I have lectured in the United States and in many other areas of the world on regional-viticultural issues. I have referred to the BATF AVA program in several publications, including my book Wine: a Geographic Appreciation (Totowa: Rowman & Allanheld, 1983). As a former Board Member of the Society of Wine Educators I chaired a symposium on the Viticultural Area program during the Society's Annual Meeting in San Luis Obispo in 1984.

Regional geographers in general have been concerned that the guidelines for Viticultural Area determination were, in their original proclamation, insufficiently precise. Several of my colleagues, however, have commented on the meticulous detail that formed part of the deliberations leading to the approval of many Viticultural Areas; in many instances the criteria brought to bear on the issue went well beyond those initially announced. There has been inconsistency, though, and this is reflected by the current map of AVAs in the United States.

One area of concern lies in what might be called "nested" Viticultural Areas, that is, viticultural areas within

larger viticultural areas. This is a problem that occurs quite frequently in regional geography. A set of criteria that is sufficient to define and delimit a major region does not suffice when subregions must be identified. Such regionalization really is a form of spatial classification, and the bases for recognition of subregions must be more detailed and explicit than for the region as a whole. For example, the criteria for the delimitation of macro-, meso-, and microclimatic regions become increasingly specific. The interpreter of a regional map expects that such layering of requirements formed part of the analysis.

When the Napa Valley Viticultural Area was established, it was what might be called a macro-VA. Like the Medoc, the Napa Valley is a well established wine region in the minds of consumers, and the criteria -- the rules -- could be bent to include growers in eastern valleys whose grapes (if not their locales) are part of that image. But the Napa Valley, again like the Medoc, includes smaller, more distinct viticultural areas, several of which were part of oenophiles' mental maps long before the Napa Valley VA came into being. For these smaller, commune-like viticultural areas, the geographic rules should not be violated. These are the ultimate designations of distinctiveness. Any dilution of this perceived distinctiveness would be injurious to the public's confidence in the emerging system, and possibly fatal to what has already been achieved.

In my opinion, BATF guidelines for boundary definition for these smaller viticultural areas are inadequate. But the process of VA recognition goes on, which raises the possibility that errors in judgment may be made that will endure for many years to come. I have followed the debate concerning one such case, the proposed Stags Leap District Viticultural Area, with interest and concern -- interest, because this is a classic geographic problem, and concern, because published reports indicate that boundaries of this proposed Viticultural Area may be "extended" to include grape and wine producers whose vineyards lie beyond what I have always perceived as the Stags Leap District. At the level of scale of the Napa Valley, such "extensions" matter rather less. In such instances as the Stags Leap District, they are crucial to the integrity not only of the viticultural area itself but of the entire AVA program.

I have examined the boundaries in the petition of the Stags Leap District Appellation Committee, and have studied the alternatives

proposed by other petitioners, as far as I have been able to interpret them and their justifications. In particular, I cannot support the proposed expansion of the Stags Leap VA in the northwest. From a geographic perspective there simply does not exist an alternative to the delimitation proposed in the original petition; to extend the Stags Leap District (arbitrarily, it seems) to a road (the Yountville Cross Road) has no recognizable geographic merit. In the first place, the parcel so added to the proposed District has not formed an integral part of the Stags Leap image in the past; and secondly, it raises the question of the other side of that road. On the basis of the very general criteria now operative, it might soon be argued that the climate on the other side of the road is similar; that there are historic associations (to connect the two sides of the road); and soon the Stags Leap identity and integrity will be lost in a larger, amorphous subregion.

When it comes to historic-geographic toponyms as venerable as Stags Leap, I argue that it is in the interest of the public, the industry, and BATF to adhere to strict geographic constructionism. I urge you to adhere to the boundary framework as proposed by the Stags Leap District Appellation Committee in approving this prestigious Viticultural Area.

Sincerely,

H. J. de Blij, Ph.D.
Professor

(113)

RICHARD P. MENDELSON

DICKENSON, PEATMAN & FOGARTY
A PROFESSIONAL LAW CORPORATION
809 COOMBS STREET
NAPA, CALIFORNIA 94559-2977
TELEPHONE 707 252-7122

January 15, 1988

VIA TELEFAX

Mr. Richard Mascolo
Chief, FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
1200 Pennsylvania Avenue, N.W., Room 6237
Washington, D.C. 20226

Re: Stags Leap District

Dear Rich:

Enclosed please find the soil excavation report by Professor Deborah Elliott-Fisk, completed yesterday. I will forward the original for your files.

Sincerely,

Richard Mendelson

RM:lm
Enclosures

Select Soils of Stags Leap District and Neighboring Vineyard Areas

by Assistant Professor Deborah L. Elliott-Fisk
Department of Geography, University of California, Davis
January 14, 1988

On the 14th of January, 1988, I sampled a select suite of soils in the proposed Stags Leap District and in neighboring areas under the guidance of the Stags Leap District Appellation Committee. I was accompanied by one of my graduate students who is a specialist in soils geomorphology (Mr. Terry W. Swanson), by a back-hoe operator, and Mr. John Shafer, Mr. Jack Stewart, Mr. Bob Egan and others.

Back-hoe trenches through the soil and into the subsoil were excavated at the following sites, which are shown on the attached U.S.G.S. map:

(1) The Simonson property north of the proposed northern boundary and west of Silverado Trail (Yountville 7.5 min. topographic quadrangle, 38°25'20" N., 112°20'05" W.). The USDA-SCS Napa County soil survey shows this as Soil 105, Bale clay loam. This site is in the northern area proposed by S. Anderson, et al. This area is is on the Rector Canyon fan.

(2) The Egan property just south of the proposed northern boundary and west of Silverado Trail (Yountville 7.5 min. topographic quadrangle, 38°25'10" N., 112°20'05" W.). The USCA-SCS Napa County soil survey shows this as Soil 104, Bale clay loam. This site is within the proposed Stags Leap District. This area is in the old (former) Napa River channel.

(3) The Silverado Vineyards property along the central western rim of the proposed Stags Leap District and about 75 yds. east of the proposed western boundary, the Napa River (Yountville 7.5 min. topographic quadrangle, 38°23'45" N., 112°20'30" W.). The USDA-SCS Napa County soil survey shows this as Soil 169, Perkins gravelly loam. This site is within the proposed Stags Leap District. Perkins gravelly loam soils rim the western and central Stags Leap hillsides on both sides of Silverado Trail.

(4) The Egan property north of the Yountville Cross Road and immediately west of State Lane (Yountville 7.5 min. topographic quadrangle, 38°25'30" N., 112°20'50" W.). The USDA-SCS Napa County soil survey shows this as Soil 104, Bale clay loam. This site is immediately north of S. Anderson et al.,'s proposed northern extension and mapped as Bale clay loam (Soil 104) as much of the Anderson et al. properties are. This area, as is site (1), is on the Rector Canyon fan.

(5) The Shafer Oak Knoll Vineyard south of the proposed Stags Leap District boundary and immediately north of Oak Knoll and east of the Silverado Trail (Napa 7.5 min. topographic quadrangle, 38°22'28" W., 122°-18'00" W.). The USDA-SCS Napa County soil survey shows this as Soil 146, Haire Loam. This soil is south of the proposed Stags Leap District but within 1/2 mile of Mr. Altamura's proposed extension of the southern boundary; both areas are on the Soda Canyon fan and

designated Bale clay loams). The profile was Ap/A1/AB/2B1/2B2/3B to a depth of 50+ inches (Ap represents a soil horizon which has been ripped or disked, destroying the natural soil characteristics). The sediments from 22-50+ inches were gravelly to very gravelly; iron mottles, both reduced and oxidized (that is, orange stains) throughout this section attest to water-logging and a fluctuating ground water table. This very likely affects the rooting depth of the vines, restricting the majority of the roots to the upper 41". This soil most closely matches the description for Soil 103, the Bale loam, though the water table is higher than stated in the county soil survey. The texture of the lower units (22-50+") is clay loam, which is associated with the Rector Canyon fan. In summary, this composite profile does not exactly match the descriptions in the Napa County soil survey. The topsoil and subsoil are different than the soils at site (2) [see below], which is a Bale clay loam (Soil 104).

(2) The soil on Egan's Cabernet Sauvignon vineyard within the proposed Stags Leap District boundaries is a typical Bale clay loam (and mapped as such: 104). Our soil colors, textures, structure, and pH values closely approximate those described in the county soil survey. Extensive ripping in 1983 created a deep Ap horizon (Ap1/Ap2/Ap3) to 46", with a massive, heavy, very well-weathered 2Bt horizon below to 60+". The

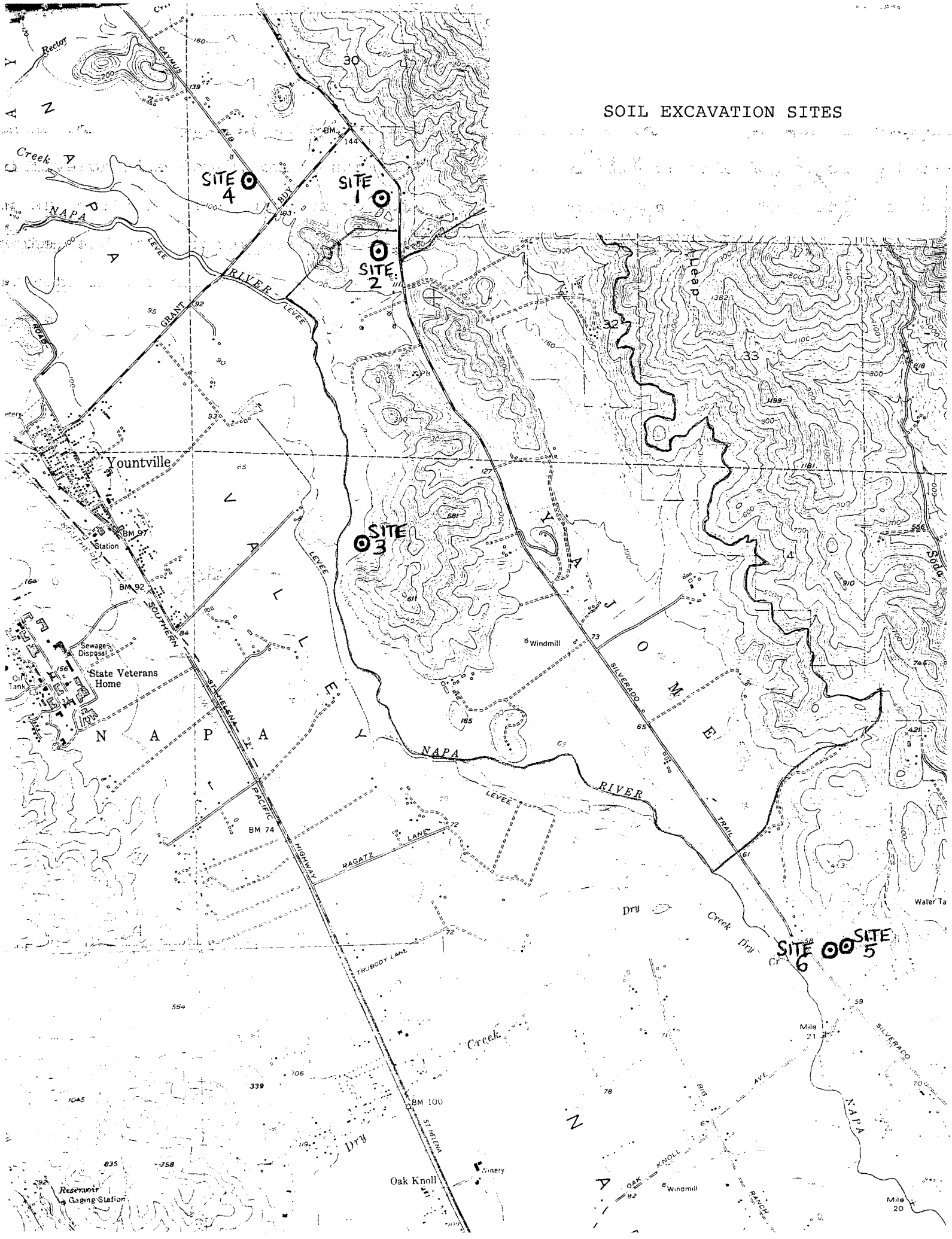
parent material here is rhyolitic/andesitic older alluvium, with a few small weathered volcanic river gravels. The soil was much better drained than at site (1). No mottling was present in the profile. The soils are typical of what should be found in the old Napa River Channel not covered by fan deposits.

(3) The soil at the Silverado Vineyards site is a Perkins gravelly loam (Soil 169), formed from weathered rhyolite and a small fraction of andesite. This material is slopewash that grades into an older Napa River terrace. These soils are well-drained and deep. We did not encounter the groundwater table. This particular site was ripped to approximately 3 feet in 1969/70 and again in 1983. It is planted in Cabernet Sauvignon. A few mottles are scattered throughout the profile, attesting to the moderate age of this soil and its progressive development. This is not a young river floodplain/terrace soil. The profile is Ap1/Ap2/Ap3/B1t/2B2t to 72+". It is important to point out that the representative ("type") profile for this soil series in the Napa County Soil Survey occurs on the Silverado Vineyards property 50 feet west of Silverado Trail. The profile here is very similar (A11/A12/B1t/B21t/B22t/C), the only difference being that the "type" represents an undisturbed profile versus our ripped site; soil colors, texture, and structure are nearly identical. Our pH values are slightly more acidic, but our laboratory

methods are more precise than the field pH methods used and presented for the representative profile. In terms of relative profile depth, our B horizons occur in a similar position. This attests to soils of the same series, and as such our western margin sites are similar to many other toeslope (that is, lower slope) sites in the central portion of the proposed Stags Leap District. These western margin soils are not the same as those west of the river (Yolo loam and Cole silt loam).

(4) The soil on Egan's State Lane Cabernet Sauvignon vineyard is mapped as Bale clay loam (Soil 104). This soil is at the outer margin of the Rector Canyon Fan and the outer margin of the Napa River flood-plain/historic terrace. The soil here was exceptionally deep (70+"), with a Ap1/Ap2/AB/Bt1/Bt2/2BC/3C profile. Ripper influence extents to approximately 28" just into the Bt1 horizon. The soil here is composed of very fine, organic-rich, flood (e.g. levee) deposits from 0-22". [Note: This upper section is disked every year). The depositional unit immediately below is sandy river alluvium from 22-48", with strong clay development. A sandy coarse unit of distal fan sediment or river sendiment forms a 2BC horizon from 48-56", within the rooting depth of the vines. Larger cobbles and stones to approximately 10" diameter are found below this in the 3C horizon to a depth of 70+". This horizon has abundant manganese concretions.

SOIL EXCAVATION SITES



(114)

WHOLESALE WINE DISTRIBUTOR
GOVERNMENT CONTRACTOR • BONDED WHISKIES & CIGARETTES • SLOP CHEST STORES

broudy-kantor co. inc.
ESTABLISHED IN 1895

OFFICE & WAREHOUSE
BROUDY-KANTOR COMPANY, INC.
3501 E. PRINCESS ANNE ROAD
P.O. BOX 12739
NORFOLK, VA. 23502
PHONE (804) 855-6081
CABLE ADDRESS "BKCORP"

JANUARY 7, 1988

MR. RICHARD A. MASCOLO
CHIEF, FAA, WINE & BEER BRANCH
BATF
1200 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20026

RE: PROPOSED STAGS LEAP APPELLATION

DEAR MR. MASCOLO:

I AM WRITING TO URGE YOUR APPROVAL OF THE PROPOSED STAGS LEAP APPELLATION BOUNDARIES AS PRESENTED BY THE STAGS LEAP APPELLATION COMMITTEE.

I BELIEVE APPELLATIONS SHOULD REFLECT NATURAL BOUNDARIES THAT HAVE IMPORTANT VITICULTURAL INFLUENCE AND DISTINGUISH THE AREA FROM SURROUNDING AREAS. BOUNDARIES FOR THESE SMALL APPELLATIONS MUST BE BASED ON DISTRICT GEOGRAPHICAL, GEOLOGICAL AND CLIMATIC FEATURES.

TO RULE OTHERWISE WOULD BE MISLEADING TO THE CONSUMER AND WOULD VERY SERIOUSLY UNDERMINE THE WHOLE MEANING OF APPELLATION IN THE UNITED STATES.

SINCERELY,

BROUDY-KANTOR CO., INC.

J. JERRY KANTOR
PRESIDENT

JJK/B

115

CLOS DU VAL WINE COMPANY LTD.
P.O. BOX 4350
5330 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

PHONE 707-252-6711 - TELEX 353197 (ARETI UD)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Paul D Meyer

Branded Liq. Inc
46 Harvard St
Westwood Ma
02090

Wholesale Wines & Spirits
435 Eldora
Wichita, KS 67202
316-264-1354

116

AB SALES, INC.

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Bruce C. Lawley

AB SALES, INC.

435 Eldora

Wichita, Kansas 67202

Wholesale Wines & Spirits
435 Eldora
Wichita, KS 67202
316-264-1354

AB SALES, INC.

117

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

AB SALES, INC.

435 Eldora

Wichita, Kansas 67202

118

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Gary Hamilton

Wichita, Kansas 67202

Wholesale Wines & Spirits
435 Eldora
Wichita, KS 67202
316-264-1354

AB SALES, INC.

(119)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

Norman L Stagg

AB SALES, INC.

435 Eldora

Wichita, Kansas 67202

Wholesale Wines & Spirits
435 Eldora
Wichita, KS 67202
316-264-1354

AB SALES, INC.

(120)

December 28, 1987

Mr. Richard A. Mascolo
Chief, FAA, Wine & Beer Branch
BATF
1200 Pennsylvania Avenue, N.W.
Washington, DC 20026

Re: Proposed Stags Leap Appellation

Dear Mr. Mascolo:

I am writing to urge your approval of the proposed Stags Leap Appellation boundaries as presented by the Stags Leap Appellation committee.

I believe appellations should reflect natural boundaries that have important viticultural influence and distinguish the area from surrounding areas. Boundaries for these small appellations must be based on distinct geographical, geological and climatic features.

To rule otherwise would be misleading to the consumer and would very seriously undermine the whole meaning of appellation in the United States.

Sincerely,

AB SALES, INC.
435 Eldora
Wichita, Kansas 67202