ENVIRONMENTAL EVALUATION AND ANALYSIS IN OPPOSITION TO PROPOSED MEASURING POINT AND AMOUNT OF MINIMUM FLOW ON WHITEHORSE CREEK

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WATER RESOURCES DEPT
SALEM, OREGON

prepared and presented by
THE WHITEHORSE RANCH and
CAMPBELL-CRAVEN ENVIRONMENTAL CONSULTANTS

October 8, 1984

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I. INTRODUCTION

Whitehorse Creek begins in the Trout Creek Mountains and flows northward into the sands of the Alvord Lake/Coyote Lake area. The Trout Creek Mountains are Bureau of Land Management land. Approximately 35 miles of the Whitehorse Stream are located on BLM land; the balance of the stream is located on land owned by The Whitehorse Ranch.

The DEQ and DFW have submitted an application to the Water Policy Review Board asking that the Board establish a minimum flow of 5 cfs on land owned by The Whitehorse Ranch. The proposed measuring point is located approximately three miles north of the boundary between Bureau of Land Management Land and Whitehorse Ranch land.

The Whitehorse Ranch suggests that the facts submitted by the DEQ and DFW do not support either the need for a 5 cfs flow or the decision to place the measuring point three miles into Whitehorse Ranch property. The Ranch suggests that the measuring point be placed at the boundary of Whitehorse Ranch land and Bureau of Land Management land. This suggestion is based upon the fact that there is very little fish habitat located north of the boundary on Ranch property; the fact that the survival of the fish population is not dependent upon the stream on Ranch land; and finally, the fact that the Ranch would be adversely economically impacted if a 5 cfs flow was established at the DEQ and DFW proposed point of measurement.

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II. REVIEW OF STAFF REPORT

The Staff report submitted by the Water Resources Board staff fails to reflect the facts necessary to support a decision by the Board that a 5 cfs flow be established and that the flow be measured three miles into Ranch property. The report acknowledges that there is no data regarding stream flows except for "miscellaneous measurements"; that there are "no reliable annual precipitation comparisons"; that no water use program has been adopted for Malheur Lake Basin; there have been no investigations of potential storage sites; nor has there been any study regarding the amount of water necessary to support the native cutthroat trout.

In an effort to supply some of these missing facts, the Whitehorse Ranch has employed Campbell-Craven Environmental Consultants, and their report is included in section V in this report.

The staff report can be best analyzed by separately discussing the point of measurement and the amount of water flowing past that point.

A. Point of Measurement

The staff report indicates that the original point of measurement (by Whitehorse Road) was moved upstream approximately four miles. This was done since there is no "natural creek channel" from the major diversion down to Whitehorse Road.

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The conclusion of the report (set forth on page 15 of the "Proposed Minimum Perennial Stream Flows Malheur Lake Basin" report) states: "establishment of the minimum perennial stream flow from the confluence with Little Whitehorse Creek to the Whitehorse Ranch diversion structure appears to be more appropriate because of the lack of downstream habitat." Aside from this remark, there are no facts set forth in the staff report indicating that there is "suitable fish habitat" below the confluence of Little Whitehorse Creek with Whitehorse Creek. (The confluence of Whitehorse Creek and Little Whitehorse Creek is approximately three miles further south of the proposed point of measurement, very close to the border of the BLM land and The Whitehorse Ranch land.)

As the study done by Campbell-Craven indicates, there is very little fish habitat below the boundary between The Whitehorse Ranch property and Bureau of Land Management property. Establishing the minimum flow measuring point three miles into Whitehorse Ranch property is clearly unsupported by facts as required by ORS 536.325(1).

This statute states that the "application" submitted by the DEQ and DFW "shall include data on the quantities of water necessary to support fish life or to minimize pollution . . . ." The application submitted and the staff report provided does neither.

If the intent of ORS 536.325 is to protect fish

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habitat, the legislative purpose would be satisfied by placing the point of measurement at the boundary between Ranch land and Bureau of Land Management land. This is so since the majority of the fish habitat is located on Bureau of Land Management land and further since the reach of stream below (northward) the boundary is not necessary to the continued survival of the native trout.

B. Amount of Minimum Flow

The DEQ and DFW have suggested a 5 cfs flow. There are no facts in the record or reports supporting the need for this amount of flow. The arbitrary use of the 5 cfs figure is best recognized when viewed against the recommended minimum flows for fish life suggested in the 1967 Malheur Lake Basin study produced by the State Water Resources Board.

Although the report set forth in that study refers to Trout Creek, the applicability of the study on Trout Creek to flows on Whitehorse Creek is apparent, especially when the DFW and DEQ have stated that flows and drainage in Trout Creek are quite similar to those in Whitehorse Creek. (Staff report, at page 12.)

Keeping in mind the similarities in drainage areas, the following language from Table D of the 1967 Malheur Lake Basin Study highlights the arbitrary setting of the 5 cfs amount. Table D provides:

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Trout Creek - March-May 4.0 cfs; June 4.0-2.0 cfs; July-February 1.5 cfs.

Note: Listed flows are primarily for trout production, but would also accommodate warm water game fish an (sic) provide fair conditions for angling. Quantities listed are not necessarily the flows which would be recommended below existing or future impoundments. Data source: Oregon State Game Commission.

This table reflects the fact that the Oregon State Game Commission, predecessor to the DFW, believed that 1.5 cfs was sufficient for eight months of the year. Their suggestion that 5 cfs is necessary is not only unsupported by facts, but is also clearly incorrect based upon their previous analysis. (A copy of Table D is attached hereto as Appendix A.)

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III. ECONOMIC IMPACT

The Whitehorse Ranch would be significantly adversely economically affected if the minimum flow of 5 cfs was established three miles below the ranch's boundary with the Bureau of Land Management. The adverse economic impact would be felt in two ways. The first is based upon the multi-year efforts made by the ranch in acquiring the land located between the BLM boundary and the suggested point of measurement. After many years of hard work, the ranch was successful in acquiring ownership of the canyon floor between approximately the confluence of Little Whitehorse Creek and the proposed point of measurement. This land was acquired by trading similar stream border property located on Willow Creek for the stream border property located on Whitehorse Creek. This trade was carried out for the express purpose of acquiring sole ownership of the canyon floor from the confluence of Whitehorse Creek and Little Whitehorse Creek to the proposed point of measurement so that the canyon floor could be improved. Establishment of the suggested minimum flow at the suggested measuring point would, in all probability, make it economically unfeasible to develop the land so acquired.

Secondly, if a source of water could not be assured, it is highly doubtful that the Whitehorse Ranch would invest the time, money, and effort necessary to improve the canyon floor so that cattle and pasture could be raised along the

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stream. If the ranch were to improve the land to grow alfalfa or some other similar pasture crop, the 200 acres of ground located between the boundary and the suggested point of measurement would raise somewhere around $52,000 worth of hay per year. If the minimum flow is established in the amount and at the place suggested by the DEQ and DFW, this economic improvement will probably not occur, and the ranch and the state will sustain an economic impact somewhere in the $50,000 per year range.

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IV. POSSIBLE DEVELOPMENT AND IMPROVEMENT IF POINT OF MEASUREMENT ESTABLISHED AT BOUNDARY BETWEEN BLM AND WHITEHORSE RANCH

If the minimum flow point of measurement was not established three miles into the ranch owned property, it is probable that the ranch would have the economic incentive to assist in improving the streambed. As indicated in various reports submitted to the Water Resources Board, the streambed is currently digging a channel deep into the canyon floor. In order to successfully raise meadow, willows, and other erosion prevention crops and plants along the stream, it will be necessary to raise the streambed back to the canyon floor level. If the ranch was assured of having water throughout the irrigation season (something that cannot be assured if the minimum flow point is established three miles below the ranch boundary), it would be economically inviting to assist in installing rock dams, riprap, willow plantings, controlled grazing, etc. Gradually, over a period of years, the stream could be raised to a level near the canyon floor, with a resultant increase in fish habitat, increased shoreline growth, "subbing" into adjacent meadowland, etc. This would benefit both the rancher and the fish.

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V. [1] AN EVALUATION OF THE FISHERIES HABITAT IN SELECTED REACHES OF WHITEHORSE CREEK FOR THE WHITEHORSE RANCH

The Oregon Water Policy Review Board is considering adoption of minimum perennial streamflows in the Malheur Lake Basin. Within the Malheur Lake Basin there are "subbasins" that do not drain into Malheur Lake.

The "Whitehorse Sub-Basin" is an enclosed basin with three perennial streams: Antelope, Willow, and Whitehorse Creeks. All streams flow northerly from the Trout Creek Mountains onto a playa, Coyote Lake, east of the Steens Mountains and are therefore isolated from Malheur Lake.

The Board is considering the adoption of minimum flow for Willow and Whitehorse Creeks.

The Whitehorse Ranch has retained Campbell-Craven Environmental Consultants to review the proposed flow and measuring point for Whitehorse Creek. The scope of our study was to review the existing information and prepare a report that addressed the minimum flow recommendation under consideration.

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[1] Submitted by Campbell-Craven Environmental Consultants, Tigard, Oregon, October 7, 1984. (Evaluation prepared and researched by Richard E. Craven. Mr. Craven's qualifications are outlined in Appendix B.)

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Fish numbers range from 175 to 500 fish per mile upstream from the confluence with Little White Horse Creek (Sweeney Ranch). Fish numbers decrease between the Sweeney Ranch and Whitehorse Road due to the impacts of farming and low flows (OWRD, 1984).

Habitat - The distribution of trout is related primarily to habitat availability although floods have redistributed the fish throughout the system. Spawning gravel is marginal and widely scattered throughout Whitehorse Creek particularly between the Sweeney Ranch and about 7 miles upstream (ODFW, 1970). All gravel surveyed was classed as marginal because of the silt and sand content. ODFW also concluded that there must be some good spawning areas as indicated by the high percentage of small fingerling trout in the 1970 population samples.

The stream was observed in 1980 by the BLM. The habitat conditions were found to be similar to those described in 1970 by the ODFW (BLM 1981).

Rearing areas, such as pools undercut banks, beaver ponds, root wads, and overhanging vegetation, apparently have not been in abundance according to the ODFW and BLM surveys of 1970 and 1980, respectively. The area from the Sweeney Ranch downstream to the Whitehorse diversion, about 3 miles, appears to be in considerably worse condition than the areas south of the Sweeney Ranch. Field observations

during September 1984 (Campbell-Craven) revealed riffle to pool ratios of about 98 to 2, no or little riparian vegetation for cover and shading, few undercut banks, and no beaver ponds. In addition the stream has eroded the channel so that there are canyons up to 20 feet deep in some areas. The soil walls are vertical and susceptible to further sloughing and erosion.

The ODFW (1970) recommended that certain areas of Whitehorse Creek would benefit from habitat development, specifically by the creation of pool areas for resting or holding trout. The areas recommended were from about 1 mile upstream of the Sweeney Ranch to 8 miles upstream. No improvements were recommended for the area of the Sweeney Ranch or the BLM land between the Sweeney Ranch and the Whitehorse property downstream.

Until 1983, the BLM owned the area between the Sweeney Ranch and the Whitehorse property about 3 miles downstream. This 3 mile stretch was traded to the Whitehorse Ranch for an equivalent area on Willow Creek after 14 years of discussions and negotiation. The BLM (1981) made reference to this land exchange and the plans for the Whitehorse Ranch to build an irrigation reservoir in the canyon. No mention was made of potential damage to the Whitehorse trout habitat and populations possibly because of the existing degraded habitat and the few fish present. In addition the BLM

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(1980) stated that the proposed exchange would be beneficial to the Whitehorse trout because the exchange would bring nearly 100% of the known Whitehorse trout habitat under BLM control. The potential irrigation reservoir also was seen as beneficial because the trout could benefit from the additional habitat, particularly in drought years. Armantrout and Crouse (n.d.) stated that other isolated populations of western trouts achieve weights of several kilograms when introduced to caves and reservoirs, and that it would be interesting to see the response of Whitehorse trout in a reservoir.

Dangers to the Whitehorse cutthroat Trout

The present dangers to the continued existence of the trout are as follows:

1. Overfishing
2. Floods
3. Stream bank erosion and habitat degradation
4. Droughts
5. Interbreeding with introduced trout
6. Water withdrawal
7. Water Resource Development

Although the BLM (1984) does not think that the Whitehorse cutthroat trout is in danger of immediate extinction, steps should be taken to reduce the probabilities.

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Fishing - Fishing is limited in the area because of access. The only public access is from the Willow Creek drainage or over the rimrock. The Whitehorse Ranch has limited the access through its property. The 1984 flood probably reduced the population considerably.

Floods - Catastrophic floods that remove all beaver dams, riparian habitat, and pools have been detrimental to the population. Large floods occurred in 1978 and again in 1984. These floods apparently devastated Whitehorse Creek and had an impact on whitehorse Ranch operations as well. According to the ranch manager, Mr. Brit Lay, there were dead trout everywhere near the ranch headquarters.

There were very few pools, holding areas, or trout observed in a field review of the area from the Whitehorse diversion to Sweeney Ranch and from Sweeney Ranch to Fifteen Mile Creek during September 1984 (Campbell-Craven). There was considerable evidence of channel change and removal of riparian willows and beaver dams. In addition there was an eroded channel 6 to 8 feet deep and several hundred feet long about 1/2 mile upstream from the Sweeney Ranch. The deep channel terminated at its upstream end with a vertical "waterfall" about 8 feet high. According to Brit Lay, this had not been present before the flood.

Droughts - Stream dewatering will limit the populations to areas where they can survive, such as pools and undercut banks. There is a paucity of these in the streams. With adequate pool areas, even low summer flows can sustain fish for long periods of time.

Interbreeding with Introduced Trout - There apparently have not been introductions of trout to the Whitehorse drainage. This must continue to be prevented so that the subspecies is not lost. In the event a reservoir is built, only trout from the Whitehorse subbasin should be planted. In addition, barriers to upstream migration should be installed to prevent any unauthorized introductions of other trout species from moving above the impoundment.

Stream Bank Erosion/Habitat Degradation - The BLM has actively engaged in improving the habitat in Willow and Little White Horse Creeks as well as in the middle reaches of White Horse Creek. There have been no efforts by the BLM in the area below Sweeney Ranch even though this was BLM land until 1983. Continued efforts to stabilize these drainages above the Sweeney ranch will help to prevent extinction of the Whitehorse cutthroat trout. However, catastrophic floods will continue to occur and other effects from droughts, interbreeding, and overfishing are all continuing problems.

The stream reaches that would appear to have the most potential to provide suitable habitat are in the middle to upper reaches of Whitehorse Creek above the Sweeney Ranch. These areas lack pools, riparian vegetation, instream boulders, and other necessities for successful trout habitat. But, these areas do have low banks, wide channels, and an abundance of gravel that appears fairly clean compared to the areas near the Sweeney Ranch.

Water Withdrawal - Withdrawal of water from the drainage could result in less suitable habitat so that survival of the Whitehorse cutthroat trout population would be threatened. However, nearly 100% of the most suitable habitat is under BLM control and partially in a wilderness study area. In addition there are no existing withdrawals upstream of the Sweeney Ranch.

The withdrawal of water at the Sweeney Ranch to irrigate the newly acquired land from the BLM - Whitehorse Ranch trade would possibly reduce the flows below 5 cfs during portions of the year in a dry year. This would result in a loss of a minimal amount of habitat in the affected reach since the most valuable habitat is in the middle to upstream reaches of the stream.

The present value of the habitat is low as compared to upstream areas, as previously mentioned. The habitat could be restored but it will take years and a considerable effort

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to build up the stream elevations. In the short-term, there could be a better return if efforts are concentrated in the upstream reaches where conditions are better.

The Whitehorse Ranch has an excellent record of cooperation with the BLM in restoring riparian conditions. It would be to their advantage and that of the ODFW to restore the stream-bed elevations and riparian corridor in the newly acquired area because of the possiblity of increased availability of water that could result from such efforts. The water would benefit irrigation interests as well as provide fisheries habitat.

Water Resource Development - There is no development planned in the drainage except the possibility of a dam for storage of irrigation water in the newly acquired area (BLM 1980). The impact of this would be loss of the same marginal habitat as discussed previously. The status of this plan for irrigation storage is not known but it could have a considerable beneficial impact on the Whitehorse cutthroat trout as discussed by the BLM (1980). In addition, a storage reservoir could decrease the loss of Whitehorse cutthroat trout in flood years by trapping them in the reservoir.

CONCLUSIONS

1. The majority of the habitat for the Whitehorse cutthroat trout exists in the middle to upper reaches of Whitehorse

Creek, Willow Creek, and Little Whitehorse creek. The BLM concluded that the land trade with the Whitehorse Ranch would allow nearly 100% of the habitat to be controlled by BLM.

2. The three mile reach of creek from the Sweeney Ranch downstream is not good Whitehorse cutthroat trout habitat. It is marginal at best. This area (previously BLM land) will continue to degrade unless stabilized by bank and channel restoration. Consequently, the Whitehorse cutthroat trout will not benefit.

3. The complete loss of the three mile section would not result in extinction of the Whitehorse cutthroat trout and would not significantly affect present populations.

4. The amount of water necessary to support the Whitehorse cutthroat trout in the three mile section is not documented. The limiting factor for survival when waterflow is low may be presence of adequate pool areas to sustain the Whitehorse trout during low water years as well as for rearing when waterflows are higher. The 5 cfs recommendation appears excessive for this purpose.

5. A habitat protection plan could be implemented in an agreement among the BLM, Whitehorse Ranch, and the ODFW. The plan could have the following generic points:

a) Move the minimum flow points upstream to the BLM

boundary and establish separate flows for Whitehorse Creek and Little Whitehorse Creek;

b) Develop and implement a habitat restoration plan for the reach of stream between the BLM boundary down to the downstream end of the traded land. The plan should consider the possibility of a reservoir; the tax incentives should be investigated with the ODFW;

c) Develop and implement a habitat restoration plan for other areas leased from BLM that would restore stream riparian habitat that would, in time, help to reduce the effects of major floods.

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VI. CONCLUSION

The DEQ and DFW have submitted an application which is unsupported by facts, studies, or appropriate analysis. The Whitehorse Ranch has submitted information indicating that both the economic goals of the State of Oregon and the continued existence of the native Whitehorse cutthroat trout would be best served by establishing the measuring point at the boundary of the Whitehorse Ranch and the Bureau of Land Management property.

Establishing the minimum flow measuring point at the boundary would increase the probability of developing the stream from the boundary down to the current point of diversion and proposed measuring point. Such improvement would result in a benefit both economically and environmentally.

The report of Campbell-Craven environmental consultants included in this document, and the attached statements of Britt Lay (attached as Appendix D) and Art Cherry (attached as Appendix E), clearly reflect the economic and environmental impacts of the suggested point of measurement and the benefits of moving that measuring point to the boundary of Bureau of Land Management land and Whitehorse Ranch land.

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APPENDIX A

TABLE 3

OREGON STATE GAME COMMISSION
RECOMMENDED MINIMUM FLOWS FOR FISH LIFE
CFS

STREAM	MAINSTEM	FORK	TRIBUTARY	LOCATION
SUMMER AND BEULAH RIVER:				
Donner und Blitzen River				Flows not determined
SILVER BASIN				
Silver Creek	1.0	1.0 3.0	1.0	One mile below Copper Creek
Silver Creek	1.0	3.0 3.0	2.0	[illegible] above Rm. 4030
Nicoll Creek	3.0	3.0 1.5	0.5	Mouth
Emmill Creek	3.0	3.0 1.5	0.7	Mouth
SILVIES RIVER				
Silvies River	15.0	15.0 12.0	10.0	2 miles above Flak Gulch
Silvies River	15.0	15.0 12.0	10.0	[illegible] above Rm. 3935
Deer Creek	12.0	12.0 9.0	6.0	2.3 miles below Little Deer Creek
Deer Creek	12.0	12.0 9.0	6.0	Mouth
Emigrant Creek	12.0	12.0 9.0	6.0	Mouth
Deer Canyon Creek	2.0	2.0 1.0	0.5	Below Blue Creek
Crawford Creek	3.0	3.0 1.5	1.0	Mouth
Little Emigrant Creek	3.0	3.0 2.0	1.0	Mouth
Sawtooth Creek	4.0	4.0 3.0	1.0	Mouth
Whisky Creek	3.0	3.0 2.0	Dry	Mouth
Battleaxe Creek	3.0	3.0 2.0	1.0	1.5 miles below West Fork Battleaxe Creek
Trout Creek	4.0	4.0 2.0	1.0	Above Bear Creek

Note: Listed flows are primarily for trout protection, but would also accommodate warmwater game fish and provide fair conditions for resting. Conditions listed are not necessarily the flows which would be the minimum below existing or future improvements.

Data Source: Oregon State Game Commission

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APPENDIX B

QUALIFICATIONS OF
RICHARD E. CRAVEN

Education:

Bachelor of Science Zoology 1965
Master of Science Zoology/Fisheries 1967
Further studies in fisheries as a PhD candidate

Professional Affiliations:

American Fishery Society
American Institute of Fisheries Research Biologists
Northwest Small Hydroelectric Association

Mr. Craven has a broad range of training, expertise, and education. He has twelve years experience as an environmental consultant and two years experience as a college instructor. He has a B.S., M.S. and was a Ph.D. candidate. His academic training in aquatic biology, including water quality, benthic, macroinvertebrates, and fisheries provides the basis for his ability to participate on a broad range of studies as an environmental consultant. Twelve years in the consulting business has provided Mr. Craven with a view of industry and regulatory agency problems. Mr. Craven has worked as a consultant on numerous projects including nuclear, hydroelectric, and fossil-fueled power plants, as well as on mining projects for the molybdenum, copper, zinc-silver, and uranium industries. Included in these projects was the preparation of numerous reports.

Mr. Craven has been certified for the Instream Flow Incremental Methodology by the Western Energy Land Use Team, U.S. Fish & Wildlife Service, Fort Collins, Colorado. This certification consisted of attendance and participation in several short courses for field techniques, stream habitat analysis, use of the computer-based physical habitat simulation system, and stream habitat analysis as applied to water management. He has also been certified by the U.S. Fish & Wildlife Service in habitat evaluation procedures.

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APPENDIX C

LITERATURE CITED

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United States Department of the Interior

IN REPLY REFER TO:
2220 (943)
CR-18773

BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
825 NE Multnomah Street
P.O. Box 2965
Portland, Oregon 97208

April 9, 1984

Mr. Arthur B. Cherry
9601 Wilshire Boulevard
Beverly Hills, California 90210

Dear Art:

This letter is a follow up of the telephone conversations you had with Mr. Robert Rivers, Deputy State Director for Operations, concerning the Whitehorse Ranch Exchange (OR-18773) involving lands in Harney County, Oregon.

By decision dated February 29, 1984, the Bureau accepted title to the lands offered in exchange by the Whitehorse Ranch. In that same decision, the Bureau agreed to issue patent to the Federal lands selected in the exchange by Whitehorse Ranch.

The Federal lands in Harney County selected by the ranch were segregated from filing of other application under the Public Lands Laws and the Mining Laws by the "Notice of Realty Action" (NORA) published in the Federal Register, dated March 25, 1983. This segregation is effective for two years or until patent is issued.

The exchange process will be completed May 1, 1984; only minor adjudicative items and the noting of the Master Title Plats remain. The Bureau will have the patent completed and as discussed will be presented to the Whitehorse Ranch at the Commemoration of the 50th Anniversary of the Taylor Grazing Act and recognition of the ranch improvements on the Vale project in Jordan Valley on May 24, 1984.

My staff and I certainly appreciate the cooperation, assistance, patience and understanding we have received from you and Joe Thackaberry on this exchange over the many years it has been pending.

Thanks again! Look forward to visiting with you on May 24.

Sincerely yours,

State Director

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Exhibit 1 to STATEMENT OF ART CHERRY