RANGELAND HEALTH ASSESSMENT

HIGHWAY ALLOTMENT # 904

Standards for Rangeland Health and Guidelines for Livestock Grazing Management
In the states of Oregon and Washington.
August 12, 1997

HIGHWAY ALLOTMENT (# 904) OVERVIEW

Permittee: Kenneth V. Kruse

Public Acres: 2,420 **Other Acres:** 989

Category: M

AUMs of Authorized Livestock Use: 118 AUMs

Season of Use: 5/1-10/27

Grazing system: Deferred Rotation

7.5 Minute Topographic Map: Fort Rock, Schuab Lake

Locations: See Attached Map

Special Status Species: The allotment provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. Species of high public interest occurring within the allotment are elk, mule deer, and antelope.

ESI Data and Vegetation Summaries: See Attached Table (Appendix A)

Vegetation: The vegetation within the Highway Allotment includes basin big sagebrush, bluebunch wheatgrass, needleandthread, Thurber's needlegrass, saltgrass, rabbitbrush, juniper, greasewood, and cheatgrass.

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HIGHWAY ALLOTMENT # 904

I. BACKGROUND AND GENERAL ALLOTMENT INFORMATION

The Highway Allotment is located 2 miles east of Fort Rock, Oregon (See Map 1). There is one grazing permit within this allotment, held by Kenneth V. Kruse.

This allotment contains 2,420 acres of Bureau of Land Management (BLM) administered land and 989 acres of private land. These are encompassed in three pastures (See Map 2)

The vegetation within the Highway Allotment includes basin big sagebrush, bluebunch wheatgrass, needleandthread, Thurber's needlegrass, saltgrass, rabbitbrush, juniper, greasewood, and cheatgrass (See Map 3).

There are no known special status plant species in the allotment. This area has been surveyed and no special status plants were found.

The Highway Allotment supports a diversity of wildlife species. The allotment provides habitat for raptors, some BLM and state sensitive wildlife species, and federally listed species. There are also three species with high public interest. These are mule deer, elk, and pronghorn antelope.

There are no perennial or major intermittent surface waters on BLM administered lands within the Highway Allotment; however, there are twenty-six acres of lacustrine wetlands found in the allotment.

There has been no Evaluation or Allotment Management Plan completed for the Highway Allotment to date.

The Highway Allotment consists of three pastures including Kelly Use, South Highway, and West Schuab Lake. The grazing system in the Highway Allotment is defined in the Lakeview Resource Management Plan and Record of Decision (RMP/ROD), 2003, Table 5, page 49 as a deferred rotation.

Actual use data shows that the grazed defer system was followed prior to 1992. After 1992, grazing occurred during the growing season (May and June). The Kelly Use Pasture was used during the growing season 8 years since 1992 (from actual use data). Non-use was taken on the allotment for 2 years since 1992, and two years of actual use data is missing between 1992 and 2007. The active preference is shown in the following table (1).

Table 1: Permitted Use

Permittee	*Active Permitted Use*	*Suspended Use*	*Total Use*	*Season of Use*
Kenneth V. Kruse	118	0	118	5/1-10/27

Monitoring

There is one long-term trend monitoring plot (# H-3 [PS-49]) located in the Kelly Use Pasture of the Highway Allotment. Originally there were two additional trend plots located in the North Highway Pasture. However, the North Highway and McGee Seeding Pastures (originally within the Highway Allotment) were sold in 1993.

The last time the photo trend plot H-3 (PS-49) was read (prior to 2006) was in 1990. This trend plot was established in 1967 to record the vegetation changes in the Kelly Use Pasture. Photos were taken at this trend plot in 1967, 1969, 1977, 1980, 1982, 1990, and 2006.

Increasing rabbitbrush is the major change between the 1967 and the 1990 photographs. Grass species in the 1967 photo do not show noticeable change through the 1990 photos, and did not noticeably decreased in abundance.

The major change in photographs between 1990 and 2006 is the decrease in grass species and the increase in shrub species. Grass species have noticeably decreased in size and abundance since 1990. The overall apparent trend at this range site is downward. Grazing use has occurred in the Kelly Use Pasture during the growing season since 1992 with no deferment and little (2 years) rest. The downward trend is attributed to drought, an increase of shrub species, and livestock grazing management.

Utilization has exceeded the utilization standard of 50% (defined in the Lakeview Resource Management Plan [RMP] and Record of Decision [ROD], Appendix E3: page A-147) seven times (were utilization data was available) in the Highway Allotment, since 1980. This occurred three times in Kelly Use Pasture, and four times in the South Highway Pastures, and did not occur consecutively. Three times that utilization has been exceeded in the Kelly Use Pasture (which is where H-3 [PS-49] is located) occurred after 1992 High utilization levels have also contributed to the downward trend at this photo plot.

II. STANDARDS FOR RANGELAND HEALTH

STANDARD 1 - Watershed Function -Uplands

Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

This standard has not been achieved.
If standard was not achieved, was livestock a significant factor? Yes, livestock grazing use has occurred during the growing season since 1992 with no deferment and little growing season rest.

Indicators used to evaluate this standard are Soil Surface Factor (SSF) which documents erosion class and soil susceptibility to accelerated erosion; plant community composition, and existing vegetation monitoring (forage utilization and trend studies) which indicate plant and root health. Ecological Site Inventory (ESI) (used for estimation purposes only). Field surveys to determine ESI were done in 1995 and 2000. Please refer to allotment specific table (Appendix A) with the ESI summary for full vegetative information including plant species, soil surface factor, observed apparent trend and ecological status.

SSF data is available on 63% of the allotment. The acreage without data represents vegetative areas too small to be mapped, transition zones between vegetative communities and soil types, and rock outcrops. The majority of the area (71%) has an SSF rating of slight, 23% stable, and 5% moderate. Overall SSF data indicates the soils in the assessment area are slightly susceptible to wind or water erosion.

There is only one photo trend plot (H-3) located within the Kelly Use Pasture of the Highway Allotment. This photo trend plot was last read (prior to 2006) in 1990. As described under the monitoring section above, photo analysis indicates a definite increase in shrub species and decrease in grass species. Grass species remain in the area and are visible in the 2006 photograph, but have decreased in size and abundance as compared to the 1990 photos. The downward trend is compromising the capabilities of this site to store and retain moisture. Growing season use with little rest has decreased the number of grass plants in the area, and weekend their root systems. This limits the efficiency of moisture storage, and increased the susceptibility to erosion. The lack of vegetation in the interspaces is not adequately protecting the soil surface from raindrop impact. Therefore this standard has not been achieved.

STANDARD 2 – Watershed Function - Riparian/Wetland Areas

Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

This standard has been achieved.

Standard two has been achieved for Watershed Function Riparian/Wetland areas. There are twenty-six acres of lacustrine wetlands found in the allotment. All twenty-six acres are in proper functioning condition. Livestock grazing does not appear to be a factor liniting Riparian/Wetland function.

STANDARD 3 – Ecological Processes

Healthy productive and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.

This standard has not been achieved.
If standard was not achieved, was livestock a significant factor? Yes, livestock grazing use has occurred during the growing season since 1992 with no deferment and little growing season rest.

Indicators used to evaluate this standard include animal populations, trend studies, vegetative composition, presence of weed species, botanical reports, ecological status, Observed Apparent Trend (OAT), Seral Stage and PNC from the Lake County ESI survey (which is being used for estimation proposes, because the survey has not been published). Field surveys for ESI were completed in 1999 through 2000. Please refer to Appendix A for a summary of the ESI data.

The ESI survey compares the current plant composition to a defined Potential Natural Community for the identified soil type and precipitation zone. The 1999-2000 ESI data indicates that 31% of the plant communities are in Late Seral, 64% are in Mid Seral, and 3% are in early seral.

Observed Apparent Trend is a one time trend reading for the area determined in the 1999-2000 ESI survey. Totals for the surveyed acreage, show 8% had an OAT indicating upward trend, 54% had a Static trend and 21% had a downward trend.

There is only one photo trend plot (H-3) located within the Kelly Use Pasture of the Highway Allotment. This photo trend plot was last read (prior to 2006) in 1990. As described under the monitoring section above, photo analysis indicates a definite increase in shrub species and decrease in grass species. Grass species remain in the area and are visible in the 2006 photograph, but have decreased in size and abundance as compared to the 1990 photos. Trend plot H-3 lacks dimensions of plant composition and community structure, which limits the capability of the site to photosynthesize, cycle nutrients, and accumulate plant litter. Since 1992, plants have been grazed during the growing season (May and June) without

deferment or adequate growing season rest. This has created a downward trend. The downward trend is inhibiting the site to photosynthesize effectively consistent with the potential/capability of the site. Therefore this standard has not been achieved.

Flora

From 1895 to 1910, the Fort Rock Basin received a large amount of precipitation. Early homesteaders flocked into the area to establish dryland farming. From studies done by the NRCS in the latter part of the 1990's, no fields were left unturned and farming was established everywhere where there was arable soils. By 1920, most of the farms had been abandoned when the "normal" precipitation regime returned and there was not enough rainfall to sustain the farming. In the 1930's, a dustbowl existed in the Basin and blowing winds and dust contributed large amounts of sand to the sand dunes in the northeast corner of the Basin; fields were barren and too dry to even allow grazing by livestock. This background establishes a baseline upon which to analyze the native plant communities and vegetation in the Highway Allotment. (Allen 1987)

In late September, 2007, during the (interdisciplinary team) allotment tour, the different native plant communities were observed to be in healthy condition and limited effects of livestock grazing or hoof action was noted. The present day native plant communities appear to be associated with corresponding soils in a positive sense according to Natural Resource Conservation Service (NRCS) data. (Hickman 1998)

This allotment has a small percentage of sanddunes. Some of the dunes are still active.

Fauna

Standard three is being met for animal populations. The allotment is supporting the current and proposed number of mule deer and pronghorn antelope identified by Oregon Department of Fish and Wildlife (ODFW) management plans.

Weeds

Standard three is not being met, but noxious weeds are not a causal factor.

Noxious weeds are not known to occur in the Highway Allotment; however, diffuse and spotted knapweeds are present in the nearby town of Fort Rock. The close proximity of this allotment to the town of Fort Rock and the associated well traveled roads presents the likelihood that these knapweed species will spread along the roads bounding and within the allotment in the future. The area is under annual surveillance because of this likelihood. In the event that noxious weeds are discovered, they will be treated in accordance with the methods and management direction described in the Lakeview RMP/ROD (2003), Lakeview Resource Area's Noxious Weed Management Program Environmental Assessment (EA No. OR-010-2004-03) and decision record (2004), and the Record of Decision for the Vegetation Treatments Using Herbicides Programmatic Environmental Impact Statement (2007).

STANDARD 4 – Water Quality

Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

This standard is not applicable.

There are no perennial or major intermittent surface waters on BLM administered lands within the Highway Allotment therefore the water quality standard is not applicable to the assessment area.

STANDARD 5 - Native, T&E, and Locally Important Species.

Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.

This standard is being achieved

Fauna

Standard five is being met for native, T&E and locally important wildlife species. The mule deer and pronghorn populations are healthy and increasing in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health.

The allotment also provides habitat for numerous small and nongame birds and mammals common to the Great Basin, as well as, sage grouse. There are no known sage grouse leks found within the allotment, however, sage grouse have been seen using the allotment at different times of the year. Sage grouse populations like the rest of southeastern Oregon are stable to declining. The allotment also provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, possibly pygmy rabbits, and various sensitive bat species. Livestock grazing does not appear to be limiting wildlife habitat within the allotment.

V. GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

The Highway Allotment was provided with adequate growing season rest (under the deferred rotation grazing system) prior to 1992. After 1992, use occurred during the growing season (May and June) and the allotment was not provided with adequate growing season rest. This allotment is not meeting the requirements of providing adequate cover for infiltration, moisture storage, and maintaining plant communities. Livestock grazing management in the Highway Allotment is not conforming to the Guidelines of Livestock Grazing Management (August 12, 1997).

IV. TEAM PARTICIPANTS AND TITLE

Jayna Ferrell	Rangeland Management Specialist
Vern Stofleth	Wildlife Biologist
Erin McConnell	Natural Resource Specialist, Weeds
Alan Munhall	Fisheries Biologist
Lucile Housley	Botanist
Theresa Romasko	Assistant Field Manager

V. DETERMINATION

( ) Existing grazing management practices or levels of grazing use on the Allotment promote achievement of significant progress towards the Oregon Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

(X) Existing grazing management practices or levels of grazing use on the Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

Field Manager, Lakeview Resource Area

4/16/08
Date

VII. REFERENCES

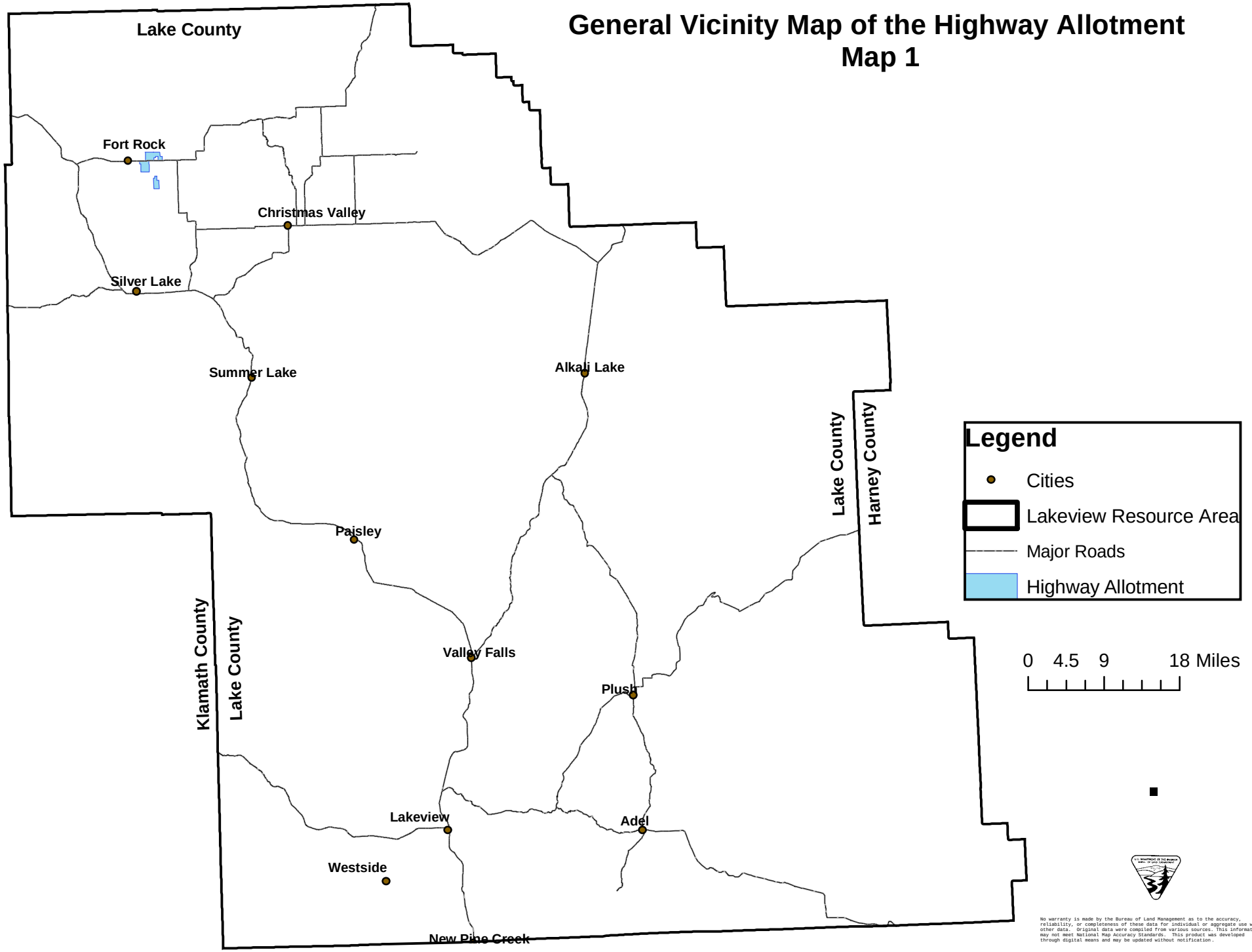
Allen, Barbra. 1987. *Homesteading the High Desert*. Salt Lake City, UT: University of Utah Press

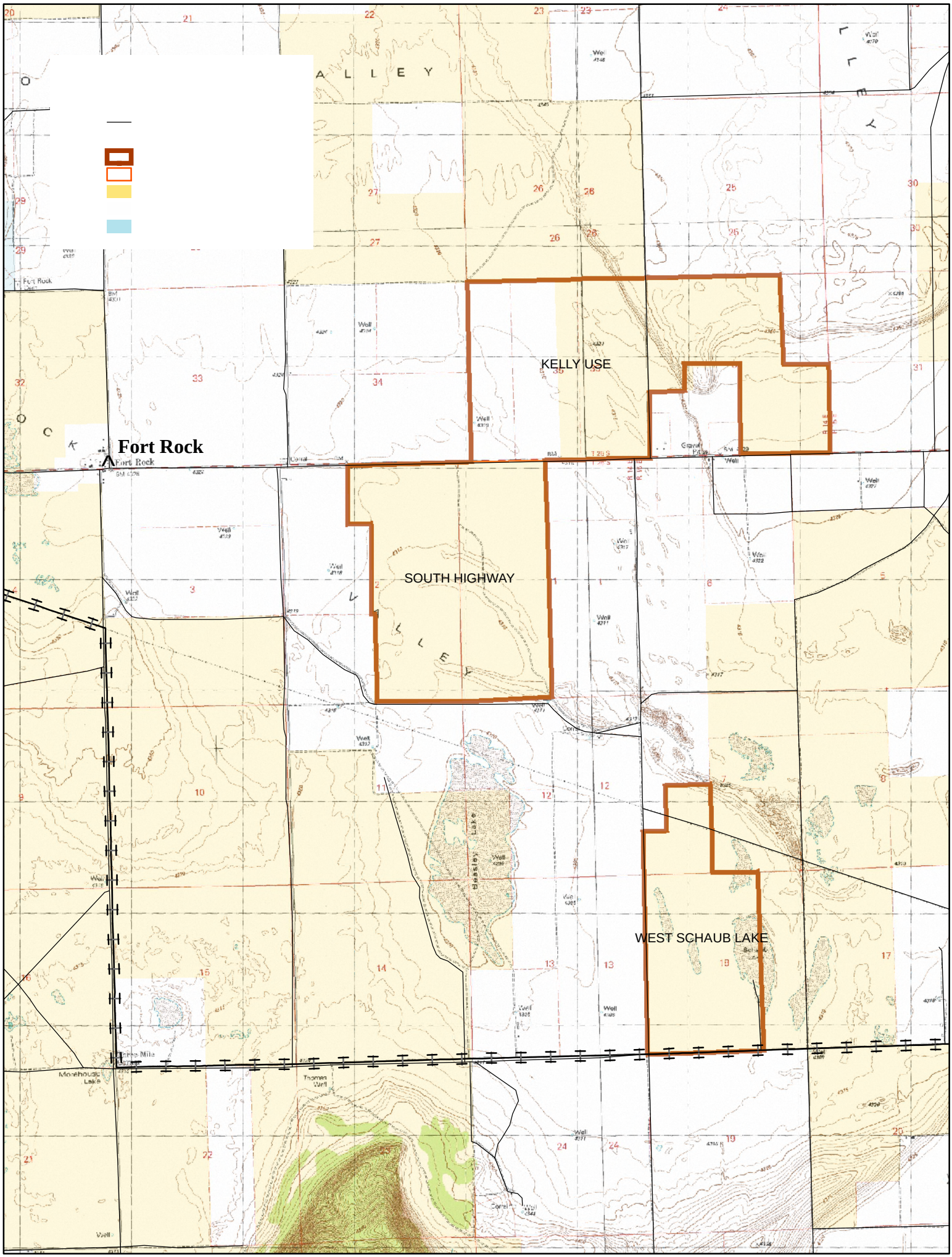
Hickman, Gene. 1998. *Fort Rock Pluvial Basin, Oregon.* USDA/NRCS disc on file at Lakeview BLM

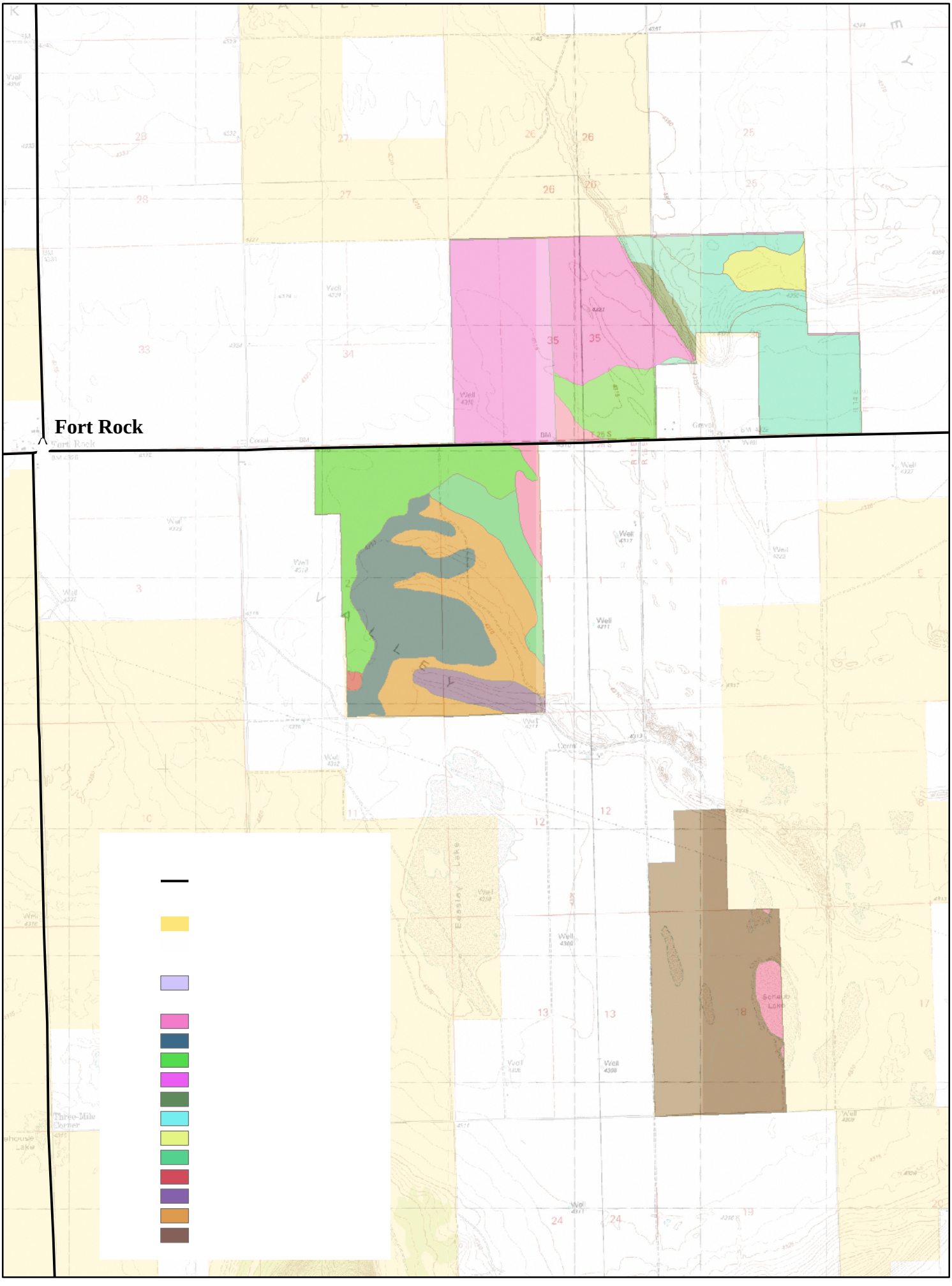
Summary of ESI Data – Highway Allotment # 904			**Appendix A**											
Vegetation Community	Total Acres	% of total acres	SSF Acres					OAT Acres			Acres of Vegetative Community in Seral Stage			
			Stable	Slight	Moderate	Critical	Severe	Down	Static	Up	PNC	Late	Mid	Early
ARTR/STOC2 big sagebrush/western needlegrass	200	13		200					200				200	
CHNA2/ELEL5 Grey rabbit brush/squirreltail	288	19	44	244					272				288	
CHNA2/STTH2 Grey rabbitbrush/Thurber's needlegrass	40	3	40							40				40
CHNA/LECI4 Grey rabbitbrush/basin wild rye	145	10		145					69	76		76	69	
ARTR/BRTE Big sagebrush/cheatgrass	180	12		180				180					139	
CHNA/ BRTE Grey rabbitbrush/cheatgrass	19	1		19				16				19		
ARTRT/ELEL5 Basin big sagebrush/squirreltail	272	18	272						272				272	
SAVE4/DISPS2 Greasewood/saltgrass	80	5			80			80				80		
CHVI8/DISP2 Green rabbitbrush/Cheatgrass	45	3		45				45				45		
CHVI8/AGCR Green rabbitbrush/crested wheatgrass	4	.3		4					4					4
SAVE4/LECI4 Greasewood/squirrltail	246	16		245	2							246		
Total	1,519	100	356	1,082	82	0	0	321	817	116	0	466	968	44

(Please refer to Map 4 for a map of the soils in the Highway Allotment.)

General Vicinity Map of the Highway Allotment
Map 1




KELLY USE
SOUTH HIGHWAY
WEST SCHAUB LAKE
Fort Rock
Fort Rock
Beasley Lake
Moorehouse Lake
Three Mile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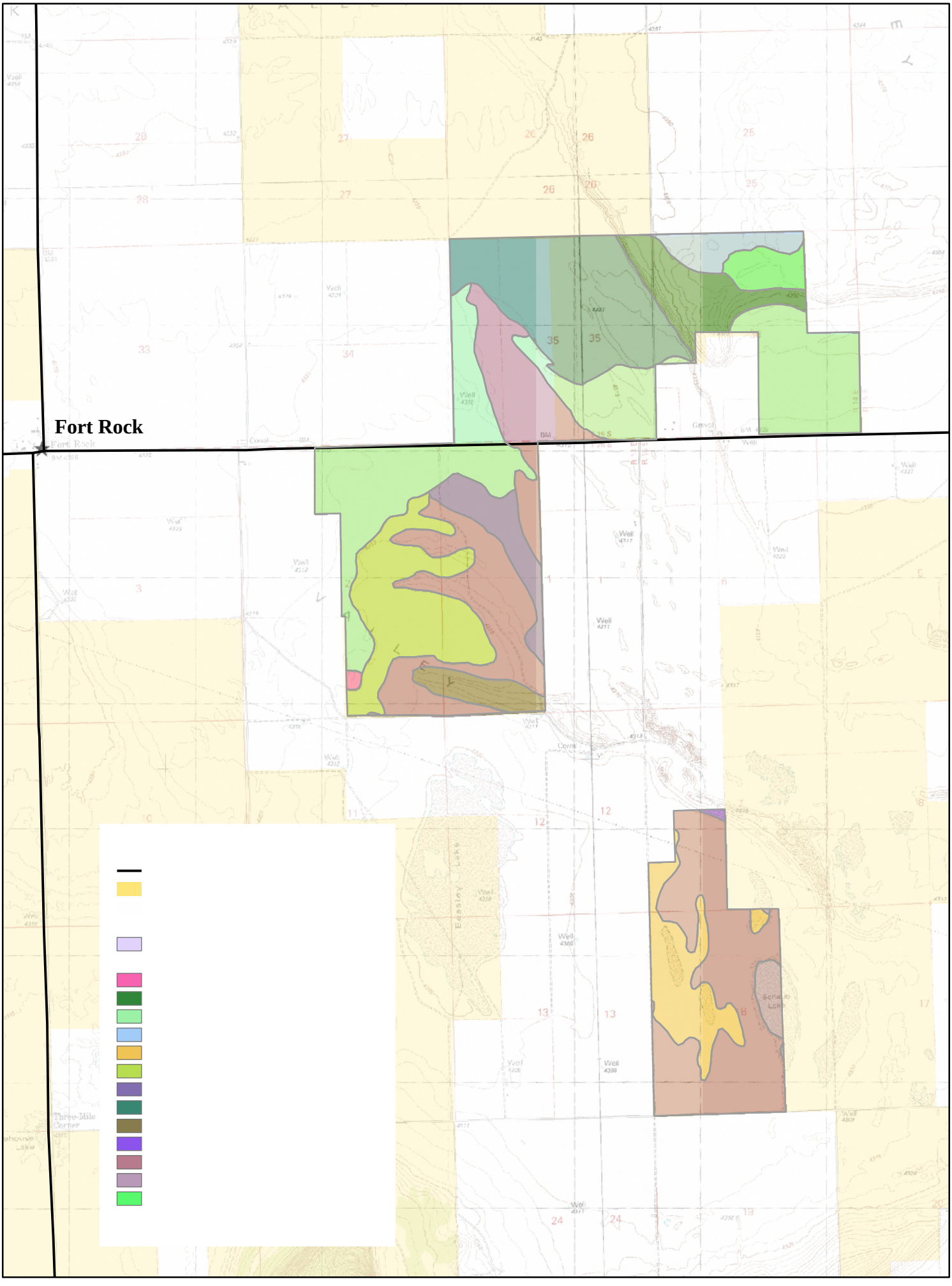
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