Animal Waste Management Plan

June 2004

Fred Esplin Feedlot

172957
0477

Operated by:

Fred Esplin
792 Alberta Ave.
Nyssa, OR 97913
(541) 372-2558

Facility Address:
792 Alberta Ave.
Nyssa, OR 97913

Operation:

Beef Feedlot
Large Federal CAFO

As owner and operator of the Fred Esplin Feedlot. I intend to manage in accordance with the practices and operation and maintenance described in this Animal Waste Management Plan.

Signature Fred Esplin Date 6/16/04

OREGON DEPARTMENT OF AGRICULTURE

CAFO ANIMAL WASTE MANAGEMENT PLAN or NUTRIENT MANAGEMENT PLAN SIGNATURE SHEET

Facility name: Cannon Hill Feeders

Facility address: 792 Alberta Ave.

Nyssa, OR 97913

Operator's name: John Hepton

Mailing address: 909 N Robinson Blvd.

Nampa, ID 83687

Complete if different than the operator

Legal landowner: Wilson Family Trust

Mailing address: PO Box 220

Star, ID 83669

As the Operator of Cannon Hill Feeders, I agree to manage this facility in accordance with Animal Waste Management Plan (AWMP)/Nutrient Management Plan (NMP) #04177 on file with ODA and maintain those practices as described in the plan. This signed AWMP is incorporated into the CAFO NPDES and WPCF General Permits by reference (Permit Condition S3.A.2.).
If changes are made to the animal population, facilities or change in the type of manure system of the CAFO, a new AWMP/NMP must be submitted to ODA for approval at least 45 days before the modification is implemented unless a different schedule is allowed by ODA in writing (Permit Condition S3.D.1and 2).

Operator's signature	Date	ODA USE ONLY
	5/19/21	MA#_____
Operator's name (Please print clearly)		AWMP#_____
John Hepton		Received Date_____
		Approval Date_____

GENERAL NARRATIVE DESCRIPTION

The Fred Esplin Feedlot is located at 792 Alberta Ave. in Nyssa, Oregon and is owned by Fred Esplin. The operation is a custom feeding backgrounding feedlot and is set on 169 acres available for manure application in Malheur County. The beef feedlot is in full operation from October through April at which time, animal numbers may reach 2,000 head. The cattle are of mixed breeds. A majority of young animals are brought on to the feedlot each fall at a weight of approximately 450 pounds. Most animals are shipped off the operation in the spring at approximately 875 pounds. The average weight of the animals during the confinement period is 675 pounds.

Manure Collection Methods

All cattle are confined in earthen pens. The manure is collected in the pens where it is dehydrated and used as bedding for the cattle. When the cattle are removed from the facility, the pens are cleaned and the dry manure is used as a soil amendment. Some manure is left in the pens, mounded and packed for bedding in the fall.

One small and one large evaporation pond exists for the operation. These ponds are maintained to catch contaminated runoff that may occur during a large winter storm event. All liquid in the ponds evaporates by fall. Earthen berms are maintained around the pens to reduce potential for runoff during a storm.

Manure Storage Facilities and Transfer

The manure generated at the facility is handled in a dry solid form. Dry manure is scraped and stacked within feedlots during the confinement period, and then land applied in the Spring prior to the growing season. All manure will be contained within the facilities.

Two evaporation ponds are available to catch contaminated rainwater that falls on the pens. All liquid that is collected in the evaporation ponds evaporates due to the dry climate (9.97" average annual rainfall, 40.23" average annual evaporation). Solids that are collected in the ponds are cleaned out every five years, or as needed. The solids are applied to crop ground.

The solid manure is stored within the dry lots. Solid manure is transported to fields using a 500 cubic foot manure spreader.

Corn silage is stored in a 40' x 200' silage pit. A clean water diversion ditch exists above this pit to prevent contamination.

Manure Utilization

The land available for manure application is owned by Fred Esplin. There are 169 acres available for manure application. Currently, 69.9 acres of alfalfa which yields 6 tons per acre, 38.8 acres of alfalfa/grass which yields 6.0 tons per acre, 44.5 acres of grain corn which yields 4 tons per acre, and 15.8 acres of pasture which yields 2 tons per acre. Winter and spring wheat are added to the crop rotation during some years, and yield approximately 110 bushels per acre. The crops are used as feed in a high roughage ration for the cattle. Additional feedstuffs are imported to the feedlot.

Manure is applied via a 500 cubic foot solid manure spreader. Dry manure will be spread in a wheat-corn silage-corn grain rotation. Manure will also be applied to the alfalfa, alfalfa/grass, and pasture as needed. Variance exists due to the fact that this operation sometimes operates well below the 2,000 head capacity. None of the dry manure is exported off the farm at this time.

Manure is not only used for nutrient benefits, but also to improve soil tilth via the inputs of organic material. This plan is balanced for nitrogen production and use.

SPECIFIC DESCRIPTIONS AND CALCULATIONS

Land Application Areas

Aerial photos showing numbered field locations for all manure application acreage and surface water features, a topography map and a schematic of the feedlot headquarters are included in this Animal Waste Management Plan.

There are 7 soil types found on the property including: 11C Frohman silt loam (5-8% slopes), 21A Nyssa silt loam (0-2% slopes), 21B Nyssa silt loam (2-5% slopes), 21C Nyssa silt loam (5-8% slopes), 23B Nyssa-Malheur silt loams (2-5% slopes), 24D Otoole silt loam, and 36F Xeric Torriorthents, very steep. A soils map and soil map unit descriptions for all manure application areas are included in this Animal Waste Management Plan.

Manure and Waste Volumes

Calculated volumes of all manure, bedding, wash water, silage leachate, and contaminated storm water have been completed using an excel worksheet based from the NRCS Agricultural Waste Field Handbook. The worksheet is included in this Animal Waste Management Plan.

Nutrient Content of Manure, Little and Process Waste Water

The same excel worksheet was used to estimate volume of manure. On farm manure test results are used in the worksheet to estimate manure nutrient content.

Farm Nutrient Balance

The excel worksheet also includes calculated data for nutrient balance for the operation. Fred Esplin Feedlot is balancing for nitrogen which is the most limiting nutrient as determined by the NRCS Phosphorus Index, which indicated a Site Vulnerability Class of MEDIUM.

Application Schedule and Limitations

Solid manure is applied and incorporated into the soil primarily in the spring and fall of each year. Manure applied to the corn ground is incorporated and planted, if applied in the spring. Manure applied to corn ground in the fall is incorporated, then the soil is bedded for the corn which is planted the following spring. Manure applied to the wheat ground is incorporated and planted. Manure applied to the alfalfa and pasture ground is applied in the fall when necessary and lightly disked for incorporation.

Irrigation water from the Owyhee Irrigation District is used on all of the manure application acreage. Siphon and gated pipe irrigation is used from April through October. To reduce potential for runoff and leaching, irrigation water is applied at approximately 1 inch per application. PAM is also applied to each crop field in order to reduce the potential for irrigation-induced erosion. No tile lines or other form of artificial drainage are used on the property.

Manure application occurs at a distance of 35 feet or greater from surface water throughout the operation. This area is generally naturally vegetated with grasses.

Animal Mortality Management

Deceased animals are removed from the facilities by Darling Delaware, a local contracted rendering service company.

Record Keeping and Reporting

Soil samples will be taken in each field, once every 5 years. One representative manure sample will be taken yearly just prior to field application. If exporting manure, a manure sample will be taken and provided to the manure recipient. Protocol for sampling and testing soil, manure and crops are included in this Animal Waste Management Plan.

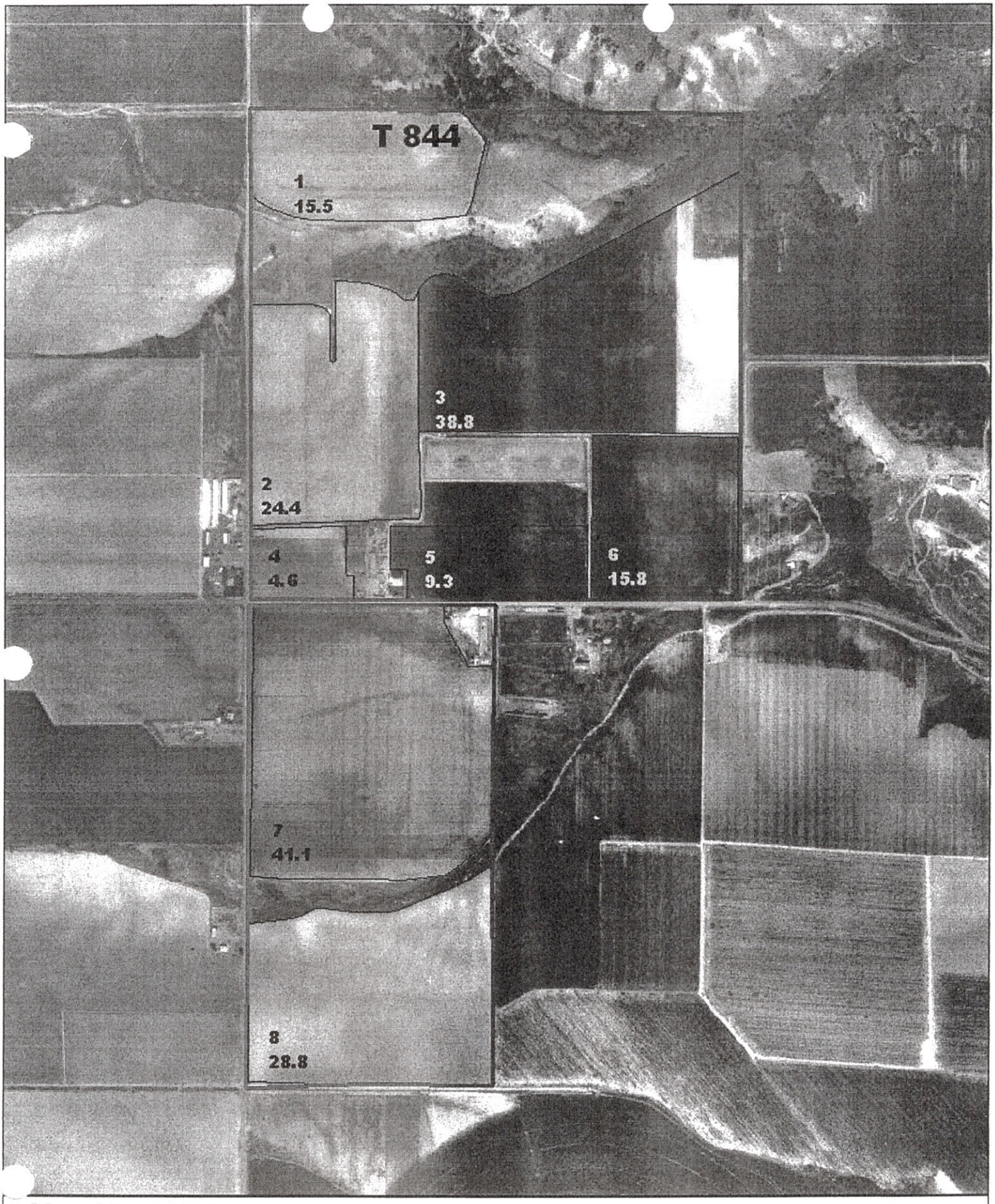
Fred Esplin Feedlot records the date and amount of manure applied to each field. As a large Federal CAFO, the following inspections will occur and records kept:

	FREQUENCY OF INSPECTIONS	ITEM(S) TO BE INSPECTED
INSPECTIONS:	DAILY	• Water lines
	WEEKLY	• Run-off diversions • Storage structures • Storage structure volume
	PERIODIC	• Application equipment leaks / holes

Record results of:

1) Daily inspections.
2) Weekly inspections.
3) Periodic inspections.
4) Corrective actions taken, explain those not corrected.
5) Actual crop yields.
6) Weather conditions at the time of manure application and 24 hours before and after application.
7) Total amount of manure or wastewater transferred to other persons, including date and amount of each transfer and the name and address of each recipient. Nutrient content data will be given to the recipient.

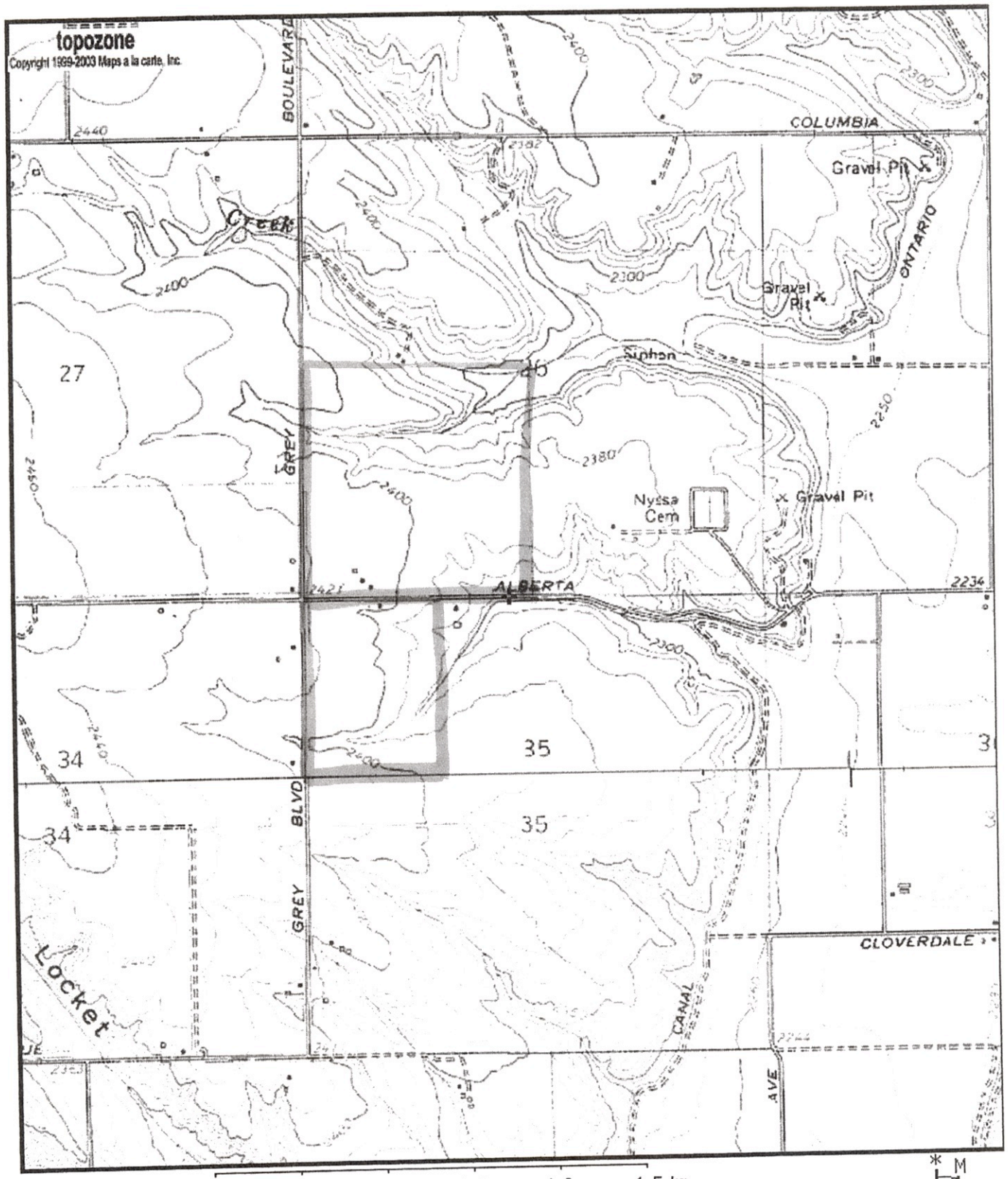
Fred Esplin Feedlot will report any discharge within 24 hours to the Oregon Department of Agriculture. Annual reports including amount of manure applied and exported will be submitted to ODA each year.



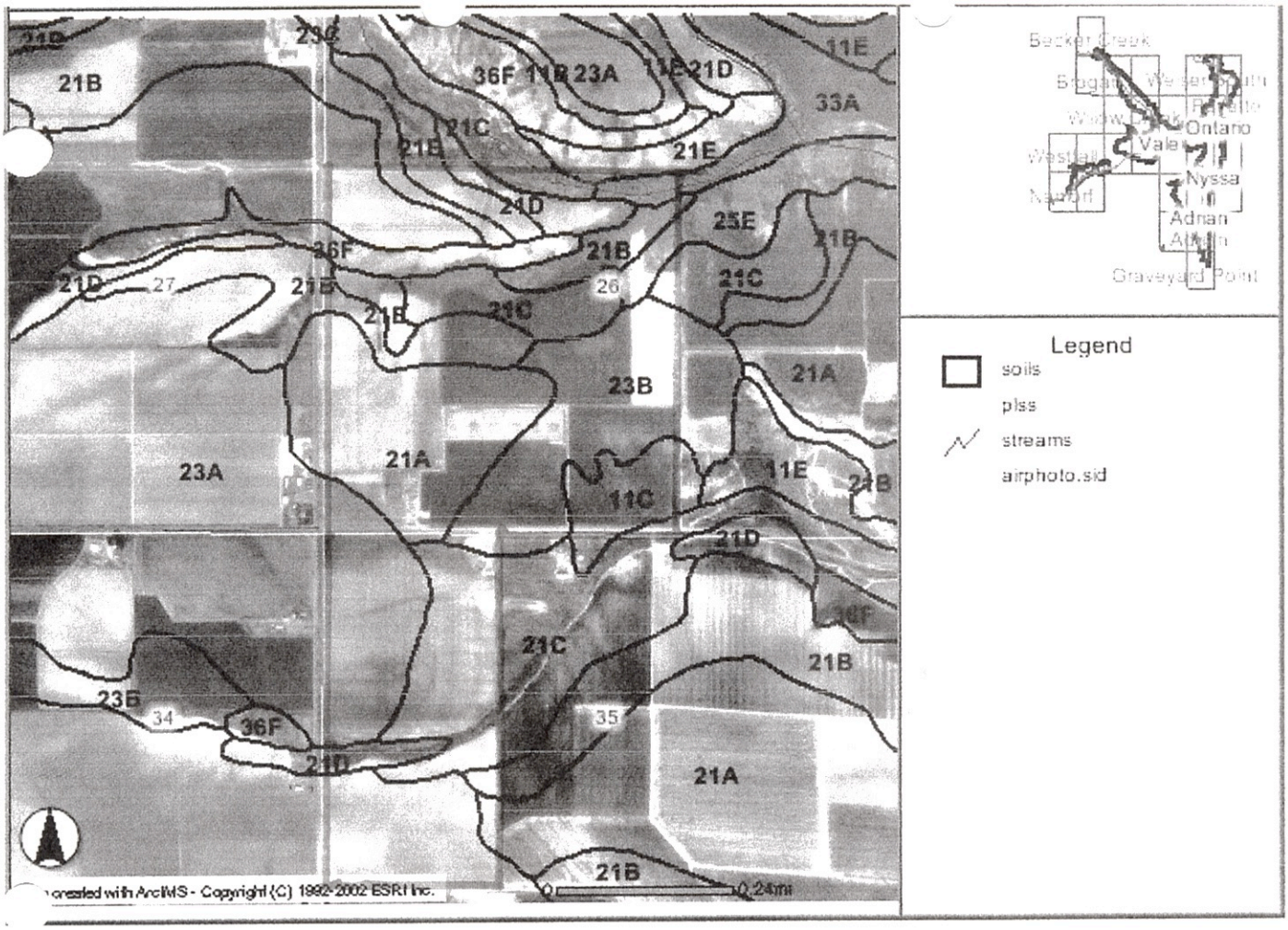
Map of Tract #844
Malheur County

0.0 Calculated Acres
HEL, NHEL Status - NHEL

N



Map center is UTM 11 495387E 4858617N (WGS84/NAD83)
Cairo quadrangle
Projection is UTM Zone 11 NAD83 Datum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11B
23A
11E
21D
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36F
21B
21D
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Becker Creek
Ontario
Vale
Nyssa
Adrian
Graveyard Point
Legend
soils
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Soils Data for the Eastern Oregon Phosphorus Index

SOIL SURVEY AREA NO.	SOIL SURVEY AREA NAME	MAP UNIT SYMBOL	COMPONENT NAME	COMP. PCT.	HYD. GROUP	SLOPE LOW (%)	SLOPE HIGH (%)	P INDEX RUNOFF CLASS	SURFACE TEXTURE	Kw	Kf
OR642	Malheur	1A	AHTANUM	85	D	0	2	medium	SIL	0.55	0.55
OR642	Malheur	3A	BULLY	85	B	0	2	low	SIL	0.43	0.43
OR642	Malheur	4A	CENCOVE	85	B	0	2	low	FSL	0.20	0.20
OR642	Malheur	4B	CENCOVE	85	B	2	5	low	FSL	0.20	0.20
OR642	Malheur	4C	CENCOVE	85	B	5	8	medium	FSL	0.20	0.20
OR642	Malheur	4D	CENCOVE	85	B	8	12	medium	FSL	0.20	0.20
OR642	Malheur	5A	CHILCOTT	85	D	0	2	medium	SIL	0.49	0.49
OR642	Malheur	5B	CHILCOTT	85	D	2	5	medium	SIL	0.49	0.49
OR642	Malheur	5C	CHILCOTT	85	D	5	12	high	SIL	0.49	0.49
OR642	Malheur	7A	FALK VARIANT	85	B	0	2	low	FSL	0.24	0.24
OR642	Malheur	8A	FELTHAM	85	B	0	2	low	LFS	0.20	0.20
OR642	Malheur	8B	FELTHAM	85	B	2	5	low	LFS	0.20	0.20
OR642	Malheur	8C	FELTHAM	85	B	8	12	medium	LFS	0.20	0.20
OR642	Malheur	9B	FELTHAM	85	B	2	5	low	SL	0.28	0.28
OR642	Malheur	9C	FELTHAM	85	B	5	8	medium	SL	0.28	0.28
OR642	Malheur	9D	FELTHAM	85	B	8	12	medium	SL	0.28	0.28
OR642	Malheur	10A	FELTHAM VARIANT	85	A	0	2	negligble	LFS	0.20	0.20
OR642	Malheur	11A	FROHMAN	85	C	0	2	medium	SIL	0.49	0.49
OR642	Malheur	11B	FROHMAN	85	C	2	5	medium	SIL	0.49	0.49
OR642	Malheur	11C	FROHMAN	85	C	5	8	high	SIL	0.49	0.49
OR642	Malheur	11D	FROHMAN	85	C	8	12	high	SIL	0.49	0.49
OR642	Malheur	11E	FROHMAN	85	C	12	20	high	SIL	0.49	0.49
OR642	Malheur	11F	FROHMAN	85	C	20	40	very high	GR-SIL	0.37	0.49
OR642	Malheur	12A	GARBUTT	85	B	0	2	low	SIL	0.49	0.49
OR642	Malheur	12B	GARBUTT	85	B	2	5	low	SIL	0.49	0.49
OR642	Malheur	12C	GARBUTT	85	B	5	8	medium	SIL	0.49	0.49
OR642	Malheur	12D	GARBUTT	85	B	8	12	medium	SIL	0.49	0.49
OR642	Malheur	13A	GREENLEAF	85	B	0	2	low	SIL	0.49	0.49
OR642	Malheur	13B	GREENLEAF	85	B	2	5	low	SIL	0.49	0.49
OR642	Malheur	14A	HARANA	85	B	0	2	low	SIL	0.32	0.32
OR642	Malheur	15A	HARANA	85	B	0	2	low	SICL	0.32	0.32
OR642	Malheur	15B	HARANA	85	B	2	5	low	SICL	0.32	0.32
OR642	Malheur	16A	HARANA	85	B	0	2	low	SICL	0.32	0.32
OR642	Malheur	17A	KIESEL	85	C	0	2	medium	SIL	0.43	0.43
OR642	Malheur	17B	KIESEL	85	C	2	5	medium	SIL	0.43	0.43
OR642	Malheur	18A	KIMBERLY	85	B	0	2	low	FSL	0.32	0.32
OR642	Malheur	19A	MCLOUGHLIN	85	B	0	2	low	SIL	0.55	0.55
OR642	Malheur	19B	MCLOUGHLIN	85	B	2	5	low	SIL	0.55	0.55
OR642	Malheur	19C	MCLOUGHLIN	85	B	5	8	medium	SIL	0.55	0.55
OR642	Malheur	20A	NOTUS	60	C	0	2	medium	COSL	0.28	0.28
OR642	Malheur	20A	FALK VARIANT	40	B	0	2	low	FSL	0.24	0.24
OR642	Malheur	21A	NYSSA	85	C	0	2	medium	SIL	0.37	0.37
OR642	Malheur	21B	NYSSA	85	C	2	5	medium	SIL	0.37	0.37
OR642	Malheur	21C	NYSSA	85	C	5	8	high	SIL	0.37	0.37
OR642	Malheur	21D	NYSSA	85	C	8	12	high	SIL	0.37	0.37
OR642	Malheur	21E	NYSSA	85	C	12	20	high	SIL	0.37	0.37
OR642	Malheur	22A	NYSSA	85	C	2	5	medium	SIL	0.37	0.37
OR642	Malheur	22C	NYSSA	85	C	5	8	high	SIL	0.37	0.37
OR642	Malheur	22D	NYSSA	85	C	8	12	high	SIL	0.37	0.37
OR642	Malheur	22E	NYSSA	85	C	12	20	high	SIL	0.37	0.37
OR642	Malheur	23A	NYSSA	50	C	0	2	medium	SIL	0.37	0.37

Data is from the NASIS database as of 7/2001

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SOIL SURVEY AREA NO.	SOIL SURVEY AREA NAME	MAP UNIT SYMBOL	COMPONENT NAME	COMP. PCT.	HYD. GROUP	SLOPE LOW (%)	SLOPE HIGH (%)	P INDEX RUNOFF CLASS	SURFACE TEXTURE	Kw	Kf
OR642	Malheur	23A	MALHEUR	40	C	0	2	medium	SIL	0.49	0.49
OR642	Malheur	23B	NYSSA	45	C	2	5	medium	SIL	0.37	0.37
OR642	Malheur	23B	MALHEUR	40	C	2	5	medium	SIL	0.49	0.49
OR642	Malheur	23C	NYSSA	45	C	5	8	high	SIL	0.37	0.37
OR642	Malheur	23C	MALHEUR	40	C	5	8	high	SIL	0.49	0.49
OR642	Malheur	24A	OTOOLE	85	C	0	2	medium	SIL	0.43	0.43
OR642	Malheur	25A	OWYHEE	85	B	0	2	low	SIL	0.49	0.49
OR642	Malheur	25B	OWYHEE	85	B	2	5	low	SIL	0.49	0.49
OR642	Malheur	25C	OWYHEE	85	B	5	8	medium	SIL	0.49	0.49
OR642	Malheur	25D	OWYHEE	85	B	8	12	medium	SIL	0.49	0.49
OR642	Malheur	25E	OWYHEE	85	B	12	20	medium	SIL	0.49	0.49
OR642	Malheur	26A	PODEN	85	B	0	2	low	SIL	0.28	0.28
OR642	Malheur	28A	QUINCY	85	A	0	2	negligble	LFS	0.32	0.32
OR642	Malheur	28B	QUINCY	85	A	2	5	negligble	LFS	0.32	0.32
OR642	Malheur	28C	QUINCY	85	A	8	12	very low	FS	0.17	0.17
OR642	Malheur	30A	SAGEHILL	85	B	0	2	low	FSL	0.37	0.37
OR642	Malheur	30B	SAGEHILL	85	B	2	5	low	FSL	0.37	0.37
OR642	Malheur	30C	SAGEHILL	85	B	5	8	medium	FSL	0.37	0.37
OR642	Malheur	31A	STANFIELD	85	C	0	2	medium	SIL	0.55	0.55
OR642	Malheur	32A	TRUESDALE	85	C	0	2	medium	FSL	0.24	0.24
OR642	Malheur	32B	TRUESDALE	85	C	2	5	medium	FSL	0.24	0.24
OR642	Malheur	32C	TRUESDALE	85	C	5	8	high	FSL	0.24	0.24
OR642	Malheur	32D	TRUESDALE	85	C	8	12	high	FSL	0.24	0.24
OR642	Malheur	33A	TURBYFILL	85	B	0	2	low	FSL	0.28	0.28
OR642	Malheur	33B	TURBYFILL	85	B	2	5	low	FSL	0.28	0.28
OR642	Malheur	33C	TURBYFILL	85	B	5	8	medium	FSL	0.28	0.28
OR642	Malheur	33D	TURBYFILL	85	B	8	12	medium	FSL	0.28	0.28
OR642	Malheur	35A	VIRTUE	85	C	0	2	medium	SIL	0.32	0.32
OR642	Malheur	35B	VIRTUE	85	C	2	5	medium	SIL	0.32	0.32
OR642	Malheur	35C	VIRTUE	85	C	5	8	high	SIL	0.32	0.32
OR642	Malheur	44A	WINGDALE	85	D	0	2	medium	SIL	0.28	0.28
OR642	Malheur	45A	JETT	85	B	0	2	low	SIL	0.24	0.24
OR642	Malheur	52A	WINGVILLE	85	D	0	2	medium	SIL	0.28	0.28
OR642	Malheur	53A	JUNTURA	85	D	0	2	medium	SIL	0.32	0.32
OR642	Malheur	62A	VEAZIE	45	B	0	3	low	GR-L	0.28	0.37
OR642	Malheur	68A	NEWELL	85	B	0	3	low	SIL	0.37	0.37
OR642	Malheur	75A	HOOPAL	85	D	0	2	medium	SIL	0.43	0.43
OR642	Malheur	80A	POWVAL	85	B	0	3	low	SIL	0.37	0.37
OR642	Malheur	81A	WELCH	85	D	0	2	medium	SIL	0.32	0.32
OR642	Malheur	84A	JOEVAR	85	B	0	3	low	SIL	0.37	0.37
OR642	Malheur	87A	LAWEN	85	B	0	3	low	FSL	0.17	0.17
OR642	Malheur	132A	TURBYFILL	85	B	0	2	low	FSL	0.28	0.28
OR642	Malheur	132B	TURBYFILL	85	B	2	5	low	FSL	0.28	0.28
OR642	Malheur	132BC	TURBYFILL	85	B	5	8	medium	FSL	0.28	0.28
OR642	Malheur	200A	TUCKER	85	C	0	2	medium	SIL	0.43	0.43
OR642	Malheur	201A	ZOLA	85	C	0	2	medium	L	0.32	0.32
OR642	Malheur	205A	TUCKER	45	C	0	2	medium	SIL	0.43	0.43
OR642	Malheur	205A	ZOLA	40	C	0	2	medium	SIL	0.37	0.37
OR642	Malheur	208A	WELCH	50	D	0	2	medium	SIL	0.32	0.32
OR642	Malheur	208A	ZOLA	40	C	0	2	medium	L	0.32	0.32
OR642	Malheur	209A	WITHERS	85	C	0	2	medium	SICL	0.37	0.37

Data is from the NASIS database as of 7/2001

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SOIL SURVEY AREA NO.	SOIL SURVEY AREA NAME	MAP UNIT SYMBOL	COMPONENT NAME	COMP. PCT.	HYD. GROUP	SLOPE LOW (%)	SLOPE HIGH (%)	P INDEX RUNOFF CLASS	SURFACE TEXTURE	Kw	Kf
OR642	Malheur	230B	MORFITT	85	B	2	5	low	L	0.37	0.37
OR642	Malheur	230C	MORFITT	85	B	5	12	medium	L	0.37	0.37
OR642	Malheur	230E	MORFITT	85	B	12	20	medium	L	0.37	0.37
OR642	Malheur	260A	VICKERY	85	C	0	2	medium	SIL	0.49	0.49
OR642	Malheur	260B	VICKERY	85	C	2	5	medium	SIL	0.49	0.49
OR642	Malheur	260C	VICKERY	85	C	5	8	high	SIL	0.49	0.49
OR642	Malheur	260D	VICKERY	85	C	8	12	high	SIL	0.49	0.49
OR642	Malheur	455B	BROWNSCOMBE	85	C	2	8	medium	SIL	0.32	0.32
OR642	Malheur	516C	VIRTUE	60	C	1	10	high	SIL	0.32	0.32
OR642	Malheur	560BC	VIRTUE	85	C	1	10	high	SIL	0.32	0.32
OR642	Malheur	610B	MADRAS	85	B	2	8	low	CB-L	0.20	0.32
OR642	Malheur	615B	ENCINA	85	B	2	5	low	SIL	0.32	0.32
OR642	Malheur	615C	ENCINA	85	B	5	12	medium	SIL	0.32	0.32
OR642	Malheur	710B	DAVEY	85	B	0	8	low	SL	0.20	0.20
OR642	Malheur	770C	GOLDRUN	55	A	2	12	very low	LS	0.17	0.17
OR642	Malheur	785B	MCCONNEL	85	B	3	8	medium	GR-FSL	0.32	0.64

Data is from the NASIS database as of 7/2001

Fred Esplin Soils

Soil Survey Area: Malheur County, Oregon, Northeastern Part
Survey Status: Maintenance needed
Correlation Date: 12/01/1975
Distribution Date: 08/13/2002

Map Unit: 11C FROHMAN SILT LOAM, 5 TO 8 PERCENT SLOPES
Description Category: SOI
The Frohman soil is over 60 inches deep to bedrock, a hardpan is at 10 to 20 inches. It is loamy, well drained and occurs on plateaus. Water erosion is a potential hazard.

Map Unit: 21A NYSSA SILT LOAM, 0 TO 2 PERCENT SLOPES
Description Category: SOI
The Nyssa soil is over 60 inches deep to bedrock, a hardpan is at 20 to 40 inches. It is silty, well drained and occurs on terraces. This soil is alkaline. Water erosion is a potential hazard.

Map Unit: 21B NYSSA SILT LOAM, 2 TO 5 PERCENT SLOPES
Description Category: SOI
The Nyssa soil is over 60 inches deep to bedrock, a hardpan is at 20 to 40 inches. It is silty, well drained and occurs on terraces. This soil is alkaline. Water erosion is a potential hazard.

Map Unit: 21C NYSSA SILT LOAM, 5 TO 8 PERCENT SLOPES
Description Category: SOI
The Nyssa soil is over 60 inches deep to bedrock, a hardpan is at 20 to 40 inches. It is silty, well drained and occurs on terraces. This soil is alkaline. Water erosion is a potential hazard.

Map Unit: 24 OTOOLE SILT LOAM
Description Category: SOI
The Otoole soil is over 60 inches deep to bedrock, a hardpan is at 10 to 20 inches. It is loamy, somewhat poorly drained and occurs on terraces. Permeability is rapid. This soil is alkaline. This soil is subject to flooding. A water table is present during late spring, summer and early fall.

Map Unit: 36F XERIC TORRIORTHENTS, VERY STEEP
Description Category: SOI
Xeric Torriorthents are over 60 inches deep to bedrock. They are silty to clayey, well drained and occur on plateaus. Permeability is variable. Water erosion is a potential hazard.

Plan for Nitrogen → have Jennifer fix this.

PHOSPHORUS INDEX WORKSHEET – **EASTERN** OREGON

Producer: Fred Esplin County: Malheur Tract No. _____ Field No(s). _____ Date: 6/16/04

Soil Map Unit(s): 21A, B, C, D; 36F; 11C; 23B Soil Test P: _____ ppm Lab. Method: _____ Sample Depth: _____

Crop Rotation: Perm. Pasture; Alfalfa (4-5yrs); Corn (2yrs); Wheat (1yr) (Spring/Winter) Nutrient Application Method(s) Surface Application

Planner: J. Martin Notes: _____

		PHOSPHORUS LOSS RATING					Weighted Rating Value	
TRANSPORT FACTORS	Factor Weight	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	**Current**	**Planned**
Soil Erosion – tons/ac/yr (RUSLE and/or WEQ)	1.50	< 1 (0)	1 – 3 (1.5)	4 – 6 (3.0)	7 – 15 (6.0)	> 15 (12.0)	3	3
Soil Erosion from Sprinkler Irrigation	0.25	No sprinkler irrigation (0)	Application rate < infiltration rate OR No visible runoff at field borders (0.25)	Application rate = infiltration rate OR Little to no visible runoff at field borders (0.5)	Application rate > infiltration rate OR Visible runoff at field borders (2.0)	Application rate > infiltration rate OR Excessive runoff visible at field borders. Rills and gullies present. (4.0)	0	0
Soil Erosion from Surface Irrigation – tons/ac/yr (SISL)	1.00	< 1 (0)	1 – 3 OR tail water return flow in place (1.0)	4 – 6 (2.0)	7 – 15 (4.0)	> 15 (8.0)	2	2
Runoff Class	1.00 – nonirri-gated 0.50 - irrigated	Negligible (0)	Very low or low (0.5 IRR, 1.0 NIRR)	Medium (1.0 IRR, 2.0 NIRR)	High (2.0 IRR, 4.0 NIRR)	Very High (4.0 IRR, 8.0 NIRR)	1	1
Distance to Perennial Surface Waters / Buffer Widths	0.50	> 500 feet OR buffer > 30 ft. wide (or meets NRCS standards) next to surface waters (0)	300 – 500 feet OR buffer 20 - 30 ft. wide next to surface waters (0.5)	200 – 299 feet OR buffer 10 -19 ft. wide next to surface waters (1.0)	100 – 199 feet AND buffer < 10 ft. wide next to surface waters (2.0)	< 100 feet AND No buffer next to surface waters OR Return flow from surface irrigation occurs with no buffer (4.0)	0	0

not correct 2.

PHOSPHORUS INDEX WORKSHEET – **EASTERN** OREGON

Subsurface Drainage	0.50	No tile drains (0)	Tile drains present Soil Test P (Olsen) < 40 ppm (0.5)	Tile drains present Soil Test P (Olsen) 40 - 120 ppm (1.0)	Tile drains present Soil Test P (Olsen) 121 - 170 ppm (2.0)	Tile drains present Soil Test P (Olsen) > 170 ppm (4.0)	0	0
						Transport Factors Subtotal (TFS)	6	6

Tract 844 Fields _____

SOURCE FACTORS	Factor Weight	**PHOSPHORUS LOSS RATING** None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	**Weighted Rating Value** Current	Planned
Soil Test P – 0-12" ppm (Olsen $NaHCO_3$)	1.00	(Soil Test P – 20) x 0.10 (_____ - 20) x 0.10 = _____ (Soil Test P) Assign 0 points if Soil Test P < 20 ppm						
Commercial P Fertilizer Application Rate	1.00	lbs/ac P_2O_5 x 0.02 _____ x 0.02 = _____ (lbs/ac P_2O_5)						
Commercial P Fertilizer Application Method	1.00	None Applied (0)	Placed with planter OR Injected deeper than 2 inches OR Incorporated by plowing (1.0)	Incorporated deeper than 3 inches by disking, chiseling, etc. (2.0)	Incorporated less than 3 inches deep by harrowing, etc. (4.0)	Surface applied – not incorporated prior to irrigation or winter precipitation (8.0)	1	1
Organic P Source Application Rate	1.00	lbs/ac P_2O_5 x 0.02 _____ x 0.02 = _____ (lbs/ac P_2O_5)					0	0
Organic P Source Application Method	1.00	None Applied (0)	Injected deeper than 2 inches OR Incorporated immediately (1.0)	Incorporated deeper than 3 inches by disking, chiseling, etc. within 5 days of application (2.0)	Incorporated less than 3 inches deep by harrowing, etc. within 21 days of application (4.0)	Surface applied – not incorporated prior to irrigation or winter precipitation (8.0)	0	0

Total Rating Value TFS x SFS	**Site Vulnerability Class**

	Current	**Planned**
Transport Factors Subtotal (TFS)		
Source Factors Subtotal (SFS)		

PHOSPHORUS INDEX WORKSHEET – **EASTERN**

< 30	**Low**
30 – 100	**Medium**
100 – 400	**High**
> 400	**Very High**

Total Rating Value (TFS **x** SFS)		
Site Vulnerability Class		

WATER, WASTE, AND NUTRIENT COMPUTATIONS

Number of Animals

	Animals	Avg. Weight lb	Total 1000# Animal Units	Confinement Period (Days)
1	2000	675	1350	181
2			0	
Total	**2000**	**675**	**1350**	

Solid Storage (Feedlot pen size)

			Total acres
Pens 1-16	19	Acres	19
	0	Acres	
	0	Acres	

Evaporation Ponds for storm runoff

	Length in feet	Width in feet	Depth in feet	Total cubic feet	Acre Inches of Storage
Pond 1	130	80	6	62400	17.19
Pond 2	400	400	9	1440000	396.69
				0	0.00
				0	0.00
			Total	1502400	413.88

Manure Produced

Total weight and volume of manure produced during confinement

*Estimated values from NRCS Agricultural Waste Management Handbook)

	lb/day/Animal Unit	Total Weight ton (as excreted)	Total Weight ton (at application)
1	58.2	7111	2133
2	0.0	0	0
		Total **7111**	**2133**

	Cu ft/day/Animal Unit	Total Volume Cu ft
1	0.93	227246
2	0	0
		Total **227246**

Total Nutrient Production

*Estimated values from NRCS Agricultural Waste Management Handbook

	Nutrients Produced lb/day	Total Nutrients Produced lb
Nitrogen	0.30	73305
Phosphorus	0.10	24435
Potassium	0.20	48870

Nutrient Losses

*Estimate from NRCS ORAWM Program and OSU Extension Publication EC 1094

Loss	Remaining N	Remaining P	Remaining K
Storage	50%	70%	60%
Application	70%	100%	100%
Denitrification	95%	100%	100%

Loss	Remaining N lbs	Remaining P lbs	Remaining K lbs	
Storage	36653	17105	29322	
Application	25657	17105	29322	
Denitrification	**24374**	**17105**	**29322**	Available for crop production

Nutrients Utilized

*Estimate from NRCS ORAWM Program

Crop	Acres	Yield Units per acre	Yield	N Utilized (lbs/acre)	P Utilized (lbs/acre)	K Utilized (lbs/acre)
Alfalfa	69.9	ton	6	180	40	180
Alfalfa/Grass	38.8	ton	6	156	47	165
Corn, grain	44.5	ton	4	129	51	39
Pasture	15.8	ton	2	68	25	83
Total	**169**					

Volume and Nutrients Exported

0%	of manure is exported to neighboring farmers

Exported tons	N exported lbs	P exported lbs	K exported lbs
0	**0**	**0**	**0**

Nutrients remaining for crop production on farm **after** export

Remaining N lbs	Remaining P lbs	Remaining K lbs
24374	**17105**	**29322**

Crop Utilization

Crop	Acres needed	lbs of N applied	lbs of P applied	lbs of K applied
Alfalfa	69.9	12582	2796	12582
Alfalfa Grass	38.8	6052.8	1823.6	6402
Corn, grain	44.5	5740.5	2269.5	1735.5
Pasture	15.8	1074.4	395	1311.4
Total	**169**	**25449.7**	**7284.1**	**22030.9**

Gross Nutrient Balance	Acres	lbs of N	lbs of P	lbs of K
	0	**-1076**	**9820**	**7291**

Climatic and Hydrologic Data

Climatic Station- Malheur Branch Experiment Station

25 year- 24 hour storm rainfall [1.8] inches

Month	Average Monthly in Inche Precipitation	Evaporation	Precipitation- Evaporation	% Lot Runoff Factors Concrete*	Unpaved
January	1.26	0.74	0.52	100	0
February	0.98	1.09	-0.11	100	0
March	0.92	2.06	-1.14	100	0
April	0.70	3.79	-3.09	100	0
May	0.98	5.12	-4.14	100	0
June	0.83	6.08	-5.25	100	0
July	0.19	7.62	-7.43	100	0
August	0.38	6.51	-6.13	100	0
September	0.49	4.03	-3.54	100	0
October	0.71	1.98	-1.27	100	0
November	1.21	0.50	0.71	100	0
December	1.32	0.71	0.61	100	0
Annual	**9.97**	**40.23**			

*No concrete lot runoff contributing to the manure system.

storage needed to contain the entire 25 year 24 hour event onsite

34.2	acre inches
2.85	acre feet
124146	cubic feet of storage

		Needed Storage
124146	minus existing storage=	-1378254

Soil profile storage

ANIMAL WASTE MANAGEMENT PLAN
MINIMUM REQUIRED ELEMENT

ANIMAL MORTALITY

Management of Animal Mortalities for: Fred Esplin Feedlot
NAME OF OPERATION

Animal mortalities will be disposed of in a manner that will comply with local, state and federal regulations. Please mark and describe the method(s) of animal mortality management used on this operation:

☒ REMOVAL SERVICE: Darling Delaware

☐ COMPOSTED: _____

☐ INCINERATED: _____

☐ BURIED: _____

☐ OTHER: _____

Signature of Legally Authorized Representative: Fred Esplin

Print Name: Fred Esplin Date: 6/16/04

DRAFT

ANIMAL WASTE MANAGEMENT PLAN
MINIMUM REQUIRED ELEMENT

RECORD KEEPING AND REPORTING TO OREGON DEPARMENT OF AGRICULTURE

RECORD KEEPING:

a) Applications of manure, litter and process waste will be kept, including the date and the amount of N and P applied during each application.
b) Records of exporting manure, litter and process waste will also be kept.

REPORTING TO OREGON DEPARTMENT OF AGRICULTURE (ODA):

a) Any discharge will be reported orally to ODA within 24 hours. Within 5 days, a written statement describing this discharge will also be submitted to ODA.
b) The amount of manure, litter and process waste applied will be reported annually.
c) The amount of manure, litter and process waste exported will be reported annually.

Signature of Legally Authorized Representative: Fred Esplin

Print Name: Fred Esplin Date: 6/16/04

Manure application record sheet

Field I.D. ______ Nitrogen requirement for field [lb/ac/y] Application basis (Circle one)

Year ______ Phosphorus requirement for field [lb/ac/y] Nitrogen Phosphorus

Date	Amount	X	nitrogen content per unit	=	Nitrogen applied		amount applied x phosphous content per unit	=	Phosphorus Applied	Total N Applied	Total P applied
				=				=			
				=				=			
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Manure export record sheet

Date	Name	Address	Amount Tons, yards,or gallons

Facility Inspection Report

Oregon Department of Agriculture
635 Capitol Street N.E.
Salem, OR 97301-2532

INSPECTION TYPE:

- [x] Routine
- [ ] Follow-up
- [ ] Complaint
- [ ] Educational Review
- [ ] EPA
- [ ] Planning Assistance
- [x] Announced
- [ ] Unannounced
- [ ] Other: _____

Date: 4-9-04 Arrival Time: 10 AM License Number: 172957 Permitted Number of Animals: 2000

Assumed Business Name: _____

Operator's Name: FIGGS ESTATE E-mail Address: _____

Address: 792 ALBANY AVE.

City: NYSSA Zip: 97913 County: MALHEUR

Phone Number: GPS:

A Confined Animal Feeding Operation inspection was made at your facility on this date. Items found in non-compliance with Oregon Revised Statutes and/or Oregon Administrative Rules are identified below.

LEGEND: C=Compliance N=Non-compliance NA=Not Applicable NE=Not Evaluated M=Modification *=See Remark

ITEM	REMARKS
C 1. Livestock Inventory: 206 FEEDERS Total: 206	*3+4) FACILITY VERY CLEAN AND WELL MANAGED. 25 YEAR 24 HOUR FLOOD EVAPORATION POND ONLY GOT SMALL RUN OFF FROM 1 ST POND. THIS WAS WETTEST WINTER IN THIS AREA IN 11 YEARS. FIC
N/A 2. Parlor, Milk House, Holding Pen a. Milk parlor/bulk tank waste water not properly drained b.	
* C 3. Animal Confinement Facilities a. Liquid manure accumulation on unprepared bare-earth surfaces b. Excessive uncontained manure accumulation on animal access lanes c. Openings through which manure or run-off can escape d.	
* C 4. Manure and Silage Containment Facilities a. Uncontained manure stockpiled prior to or during rainy weather b. Uncontained manure stockpiled in or near drainageways c. Uncontained contaminated runoff from silage bunker or feedstuffs d. Liquid manure facilities overflowing e. Manure storage facilities not emptied/prepared for start of rainy season f. Capacity of liquid manure facilities reduced by accumulation of solids g. Earthen embankments not properly maintained or leaking h. Facilities have openings through which manure or runoff can escape i. Roof runoff system failure can or does produce uncontained contaminated runoff or reduces manure storage capacity j. Pumps or agitators inoperable k.	
C 5. Manure Application Areas Acres: 180 a. Manure applied to soils that are saturated, flooded, or standing water b. Manure applied to soils likely to be flooded in the next couple of months c. Liquid manure ponding on soils d. Contaminated surface and subsurface effluent from drainage tiles e. Manure or contaminated runoff flowing toward or into waters of the state f. Deposits of manure that cover vegetation or are several inches thick g. Liquid manure applied during heavy rainfall h. Manure applied during autumn or winter to soils with no growing crop i. Manure applied to frozen or snow-covered soils j. Liquid manure transfer lines separated or leaking k.	
N/A 6. Animal Waste Management Plan (AWMP) and Record Keeping a. Soil-sampling results b. Manure-sampling results c.	

CONCLUSIONS:

- [x] a. Facility in compliance. Thank you for your cooperation in protecting the quality of Oregon's surface waters and groundwaters.
- [ ] b. On Schedule.
- [ ] c. Planning Assistance.
- [ ] d. Educational Review.
- [ ] e. Concern(s) identified. See attached Water Quality Advisory.
- [ ] f. Violation(s) identified. See attached Notice of Noncompliance and/or Plan or Correction.

Ken Jorgensen
Inspector Signature

Operator Signature

ANIMAL WASTE MANAGEMENT PLAN
MINIMUM REQUIRED ELEMENT

ADDITIONAL REQUIREMENTS FOR LARGE FEDERAL CAFOs

Fred Esplin Feedlot
NAME OF OPERATION

	FREQUENCY OF INSPECTIONS	ITEM(S) TO BE INSPECTED
A) INSPECTIONS:	DAILY	• Water lines
	WEEKLY	• Storm water diversions • Run-off diversions • Waste transport • Storage structures • Storage structure volume
	PERIODIC	• Application equipment leaks

B) RECORD KEEPING:

Record:

1) Daily inspections.
2) Weekly inspections.
3) Periodic inspections.
4) Corrective actions taken, explain those not corrected.
5) Expected crop yields (if not in the plan).
6) Weather conditions at the time of manure, litter or process water application and 24 hours before and after application.
7) Total amount of manure or wastewater transferred to other persons, including date and amount of each transfer and the name and address of each recipient.

C) OPERATION REQUIREMENTS:

1) Must have depth markers in all surface liquid impoundments (i.e. lagoons, ponds, tanks). Markers must indicate:
   a. Maximum design volume.
   b. Minimum capacity necessary to contain 25-year, 24 hours rainfall event.
   c. Depth of manure and process wastewater.
2) Maintain setback area within 100 feet of any down gradient surface water, open tile line intake structure, sinkholes, agricultural wellheads, or other conduits to surface waters where manure, litter, and other process wastewaters are prohibited. As a compliance alternative, and if demonstrated to the satisfaction of ODA, the permittee may:
   a. Establish a 35 ft vegetated buffer where manure, litter and other process waste waters are prohibited: or
   b. Demonstrate that a setback or vegetated butter is not necessary or may be reduced.

D) MONITORING:

1) Collect and analyze manure, litter and other process wastewaters annually for nutrient content, including nitrogen and phosphorus.
2) At least once, during the term of the permit, collect and analyze representative soil samples for phosphorus and nitrogen content from all fields where manure, litter and other process waste waters are applied

Signature of Legally Authorized Representative: Fred Esplin

Print Name: Fred Esplin Date: 6/16/04

Western Laboratories, Inc.

211 Highway 95 • P.O. Box 1020 • Parma, ID 83660
800-658-3858 • FAX 208-722-6550
http://www.westernlaboratories.com

Dealer: 1-102 42
Reported: 6/23/2004
Test #: 1
Grower: **Fred Esplin**
Field ID: **North of House** #3

Lab #:
42630

SV #:

COMMERCIAL SOIL REPORT

pH		Soluble Salts	Organic Matter	Lime
SOIL	BUFFER	ECe	PERCENT	PERCENT
8.5		0.15	1.8	6.5
Strongly Basic		308	57,600	208,000

Nitrates - N	Ammonium - N	Phosphorus	
ppm	ppm	BICARB	BRAY
7	2	6	
POUNDS PER ACRE FOOT			
22	6	19	

Potassium	Calcium	Magnesium	Sodium
ppm	ppm	ppm	ppm
111	3974	423	101
MILLI-EQUIVALENTS PER 100 GRAMS			
0.28	19.87	3.53	0.44
POUNDS PER ACRE FOOT			
355	12,717	1,354	323

Zinc	Iron	Manganese	Copper
ppm	ppm	ppm	ppm
1.8	3	2	0.7
POUNDS PER ACRE FOOT			
5.76	9.60	6.40	2.24

Sulfate - S	Boron	Texture
ppm	ppm	
19	1.0	Silty Clay Loam
POUNDS PER ACRE FOOT		
60.80	3.20	

Cation Exchange Capacity Analyzed CEC	32
Sum of Cations Calculated CEC	24
Percent Base Saturation	75

BASES	IDEAL	YOURS
Calcium - % of CEC	65-80%	62
Magnesium - % of CEC	10-20%	11
Potassium - % of CEC	2-6%	.9
Sodium - % of CEC	< 5%	1.4
Hydrogen - % of CEC	< 15%	25

Nutrient Suggestions Pounds per Acre		
Crop	Alfalfa	Alfalfa
Yield Goal	7	10
Past Crop	Alfalfa	
Acres	30	
Nitrogen	66	108
Phosphate	232	352
Potash	204	339
Sulfates	18	42
Elemental Sulfur	177	
Gypsum		
Lime		
Dolomite		
Magnesium		
Zinc	3	8
Iron		
Manganese	7	12
Copper	1	3
Boron	1	2

Ratio	Ideal	Yours	Evaluation	Recommendations
N:S	10:1	0:1	OK	
Ca:Mg	6-20:1	9:1	OK	
Ca:K pH >7	15:1	36:1	Low	
Ca:K pH <7	10:1	:1		
Ca:P pH >7	100:1	662:1	High	Watch P
Ca:P pH <7	40:1	:1		
P:Zn	15:1	3:1	OK	
P:Mn	4:1	3:1	OK	
P:Cu	25:1	9:1	OK	
Zn:Cu	2:1	3:1	High	Watch Cu
Mn:Zn	3:1	1:1	OK	
Mn:Cu	5:1	3:1	OK	
K:B	200:1	111:1	OK	
Mg:K	2:1	4:1	High	Watch P

Parts per Million	1st Ft	2nd Ft	3rd Ft	4th Ft
Nitrates	7			
Ammonium	2			

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800-658-3858 • FAX 208-722-6550
http://www.westernlaboratories.com

Dealer: 1-102 42
Reported: 6/23/2004
Test #: 1

Lab #:
42628

SV #:

Grower: **Fred Esplin**
Field ID: **N. Field** #7

COMMERCIAL SOIL REPORT

pH		Soluble Salts	Organic Matter	Lime
SOIL	BUFFER	ECe	PERCENT	PERCENT
8.3		0.14	2.3	5.5
Moderately Basic		287	73,600	176,000

Nitrates - N	Ammonium - N	Phosphorus	
ppm	ppm	BICARB	BRAY
8	2	31	
POUNDS PER ACRE FOOT			
26	6	99	

Potassium	Calcium	Magnesium	Sodium
ppm	ppm	ppm	ppm
114	3386	344	95
MILLI-EQUIVALENTS PER 100 GRAMS			
0.29	16.93	2.87	0.41
POUNDS PER ACRE FOOT			
365	10,835	1,101	304

Zinc	Iron	Manganese	Copper
ppm	ppm	ppm	ppm
4.7	3	2	0.5
POUNDS PER ACRE FOOT			
15.04	9.60	6.40	1.60

Sulfate - S	Boron	Texture
ppm	ppm	
16	0.7	Silt Loam
POUNDS PER ACRE FOOT		
51.20	2.24	

Cation Exchange Capacity Analyzed CEC	20
Sum of Cations Calculated CEC	21
Percent Base Saturation	103

BASES	IDEAL	YOURS
Calcium - % of CEC	65-80%	85
Magnesium - % of CEC	10-20%	14
Potassium - % of CEC	2-6%	1.5
Sodium - % of CEC	< 5%	2.1
Hydrogen - % of CEC	< 15%	

Nutrient Suggestions Pounds per Acre		
Crop	Alfalfa	Alfalfa
Yield Goal	7	10
Past Crop	Alfalfa	
Acres	34	
Nitrogen	62	104
Phosphate	32	152
Potash	201	336
Sulfates	24	48
Elemental Sulfur	119	
Gypsum		
Lime		
Dolomite		
Magnesium		
Zinc		
Iron		
Manganese	7	12
Copper	2	4
Boron	1	2

Ratio	Ideal	Yours	Evaluation	Recommendations
N:S	10:1	1:1	OK	
Ca:Mg	6-20:1	10:1	OK	
Ca:K pH >7	15:1	30:1	Low	
Ca:K pH <7	10:1	:1		
Ca:P pH >7	100:1	109:1	High	Watch P
Ca:P pH <7	40:1	:1		
P:Zn	15:1	7:1	OK	
P:Mn	4:1	16:1	High	Watch Mn
P:Cu	25:1	62:1	High	Watch Cu
Zn:Cu	2:1	9:1	High	Watch Cu
Mn:Zn	3:1	0:1	OK	
Mn:Cu	5:1	4:1	OK	
K:B	200:1	163:1	OK	
Mg:K	2:1	3:1	High	Watch P

Parts per Million	1st Ft	2nd Ft	3rd Ft	4th Ft
Nitrates	8			
Ammonium	2			

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800-658-3858 • FAX 208-722-6550
http://www.westernlaboratories.com

Dealer: 102 42
Reported: 6/23/2004
Test #: 1
Grower: Fred Esplin
Field ID: South 30 - #8

Lab #:
42629

SV #:

COMMERCIAL SOIL REPORT

pH		Soluble Salts	Organic Matter	Lime
SOIL	BUFFER	ECe	PERCENT	PERCENT
8.2		0.17	2.4	4
Moderately Basic		349	76,800	128,000

Nitrates - N	Ammonium - N	Phosphorus	
ppm	ppm	BICARB	BRAY
9	3	45	
POUNDS PER ACRE FOOT			
29	10	144	

Potassium	Calcium	Magnesium	Sodium
ppm	ppm	ppm	ppm
160	3219	436	104
MILLI-EQUIVALENTS PER 100 GRAMS			
0.41	16.10	3.63	0.45
POUNDS PER ACRE FOOT			
512	10,301	1,395	333

Zinc	Iron	Manganese	Copper
ppm	ppm	ppm	ppm
1.8	6	2	1.3
POUNDS PER ACRE FOOT			
5.76	19.20	6.40	4.16

Sulfate - S	Boron	Texture
ppm	ppm	
17	0.9	Silt Loam
POUNDS PER ACRE FOOT		
54.40	2.88	

Cation Exchange Capacity Analyzed CEC	19
Sum of Cations Calculated CEC	21
Percent Base Saturation	108

BASES	IDEAL	YOURS
Calcium - % of CEC	65-80%	85
Magnesium - % of CEC	10-20%	19
Potassium - % of CEC	2-6%	2.2
Sodium - % of CEC	< 5%	2.4
Hydrogen - % of CEC	< 15%	

Nutrient Suggestions Pounds per Acre		
Crop	Alfalfa	Alfalfa
Yield Goal	7	10
Past Crop	Alfalfa	
Acres	30	
Nitrogen	55	97
Phosphate		40
Potash	155	290
Sulfates	22	46
Elemental Sulfur	102	
Gypsum		
Lime		
Dolomite		
Magnesium		
Zinc	3	8
Iron		
Manganese	7	12
Copper		
Boron	1	2

Ratio	Ideal	Yours	Evaluation	Recommendations
N:S	10:1	1:1	OK	
Ca:Mg	6-20:1	7:1	OK	
Ca:K pH >7	15:1	20:1	Low	
Ca:K pH <7	10:1	:1		
Ca:P pH >7	100:1	72:1	OK	
Ca:P pH <7	40:1	:1		
P:Zn	15:1	25:1	High	Watch Zn
P:Mn	4:1	23:1	High	Watch Mn
P:Cu	25:1	35:1	High	Watch Cu
Zn:Cu	2:1	1:1	OK	
Mn:Zn	3:1	1:1	OK	
Mn:Cu	5:1	2:1	OK	
K:B	200:1	178:1	OK	
Mg:K	2:1	3:1	High	Watch P

Parts per Million	1st Ft	2nd Ft	3rd Ft	4th Ft
Nitrates	9			
Ammonium	3			

P.O. Box 1020
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Parma, ID 83660

WESTERN LABORATORIES, INC.

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Compost, Manure & Humus Testing

Dealer No: 00-00
Name: Fred Esplin
792 Alberta Avev
Nyssa OR 97913

Grower: Fred Esplin (Feed Lot)
Field ID: Espin Feedlot
Reported: 9/30/2004
Lab No: 303894
Test #: NPK

	100% DRY	AS SPREAD	POUNDS/TON
pH	8.0		
EC - mmhos (SS)	0.6		
Dry Matter- Percent	96.1		
Moisture - Percent	3.9		
Carbon - Percent			
Nitrogen - Percent	0.99	.95	19
Nitrate -PPM			
Ammonium -PPM			
Phosphorus - Percent	0.18	0.170	3.400
Potassium - Percent	0.45	0.430	8.600
Calcium - Percent			
Magnesium - Percent			
Sodium - Percent			
Sulfur- percent			
Chloride - percent			
		OUNCES	**OUNCES/TON**
Zinc - ppm			
Copper - ppm			
Manganese - ppm			
Iron - ppm			
Boron - ppm			
Carbon to Nitrogen Ratio	Ideal 20:1	0:1	
Compost Maturity	MATURE		