Application for NPDES General Permit for CAFOs in New Mexico

U.S. EPA – Region 6

Prepared For:

7H Feeders, Inc.

State Hwy 406
Clayton, NM 88415

Prepared By:

DOUBLE OUGHT ENGINEERING
P. O. Box 941 • Dalhart, Texas 79022
806.333.6520 • www.oo-engineering.com

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Union County, New Mexico

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Form Approved
OMB No. 2040-0250

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

FORM 2B NPDES	**EPA**	U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES

I. GENERAL INFORMATION

Applying for: Individual Permit ☐ Coverage Under General Permit ☒

A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
☒ 1. Concentrated Animal Feeding Operation (complete items B, C, D, and Section II) ☐ 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/or Operator Name: 7H Feeders, Inc Telephone: (806) 333-6915 Address: P.O. Box 220 Facsimile: (575) 374-8342 City: Clayton State: NM Zip Code: 88415	☒ 1. Existing Facility ☐ 2. Proposed Facility

D. FACILITY INFORMATION

Name: 7H Feeders Telephone: (575) 374-2591
Address: State Hwy 406 Facsimile: (575) 374-8342
City: Clayton State: NM Zip Code: 88415
County: Union Latitude: 36-28-58 N Longitude: 103-7-40 W

If contract operation: Name of Integrator: _____
Address of Integrator: _____

II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS

A. TYPE AND NUMBER OF ANIMALS

1. TYPE	2. ANIMALS: NO. IN OPEN CONFINEMENT	2. ANIMALS: NO. HOUSED UNDER ROOF
☐ Mature Dairy Cows		
☐ Dairy Heifers		
☐ Veal Calves		
☒ Cattle (not dairy or veal)	40,000	
☐ Swine (55 lbs. or over)		
☐ Swine (under 55 lbs.)		
☐ Horses		
☐ Sheep or Lambs		
☐ Turkeys		

B. Manure, Litter and/or Wastewater Production and Use

1) How much manure, litter and wastewater is generated annually by the facility? 54000 tons 95 ac-ft gallons

2) If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? 500 acres

3) How many tons of manure or litter, or gallons of waste-water produced by the CAFO will be transferred annually to other persons? tons/gallons (*circle one*) 54000 tons

❑ Chickens (Broilers)		
❑ Chickens (Layers)		
❑ Ducks		
❑ Other Specify _____		
3. TOTAL ANIMALS	40,000	

C. ☒ TOPOGRAPHIC MAP

D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY

1. Type of Containment	Total Capacity (in gallons)
❑ Lagoon	
☒ Holding Pond	22,280,000
❑ Evaporation Pond	
❑ Other: Specify _____	

2. Report the total number of acres contributing drainage: 158 acres

3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
❑ Anaerobic Lagoon		
❑ Storage Lagoon		
☒ Evaporation Pond	365	22,280,000
❑ Aboveground Storage Tanks		
❑ Belowground Storage Tanks		
❑ Roofed Storage Shed		
❑ Concrete Pad		
❑ Impervious Soil Pad		
❑ Other: Specify _____		

E. NUTRIENT MANAGEMENT PLAN

Note: Effective February 27, 2009, a permit application is not complete until a nutrient management plan is submitted to the Permitting Authority.

1. Please indicate whether a nutrient management plan has been included with this permit application. ☒ Yes ☐ No

2. If no, please explain:

3. Is a nutrient management plan being implemented for the facility? ☒ Yes ☐ No

4. The date of the last review or revision of the nutrient management plan. Date: 11/30/09

5. If not land applying, describe alternative use(s) of manure, litter, and or wastewater:

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OMB No. 2040-0250

F. LAND APPLICATION BEST MANAGEMENT PRACTICES
Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:

☒ Buffers ☒ Setbacks ☒ Conservation tillage ☐ Constructed wetlands ☐ Infiltration field ☐ Grass filter ☐ Terrace

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS

A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.

1. Outfall No.	2. Flow (*gallons per day*)		
	a. Maximum Daily	b. Maximum 30 Day	c. Long Term Average

B. Indicate the total number of ponds, raceways, and similar structures in your facility.

1. Ponds	2. Raceways	3. Other

C. Provide the name of the receiving water and the source of water used by your facility.

1. Receiving Water	2. Water Source

D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.

1. Cold Water Species			2. Warm Water Species		
a. Species	b. Harvestable Weight (*pounds*)		a. Species	b. Harvestable Weight (*pounds*)	
	(1) Total Yearly	(2) Maximum		(1) Total Yearly	(2) Maximum

E. Report the total pounds of food during the calendar month of maximum feeding.

1. Month	2. Pounds of Food

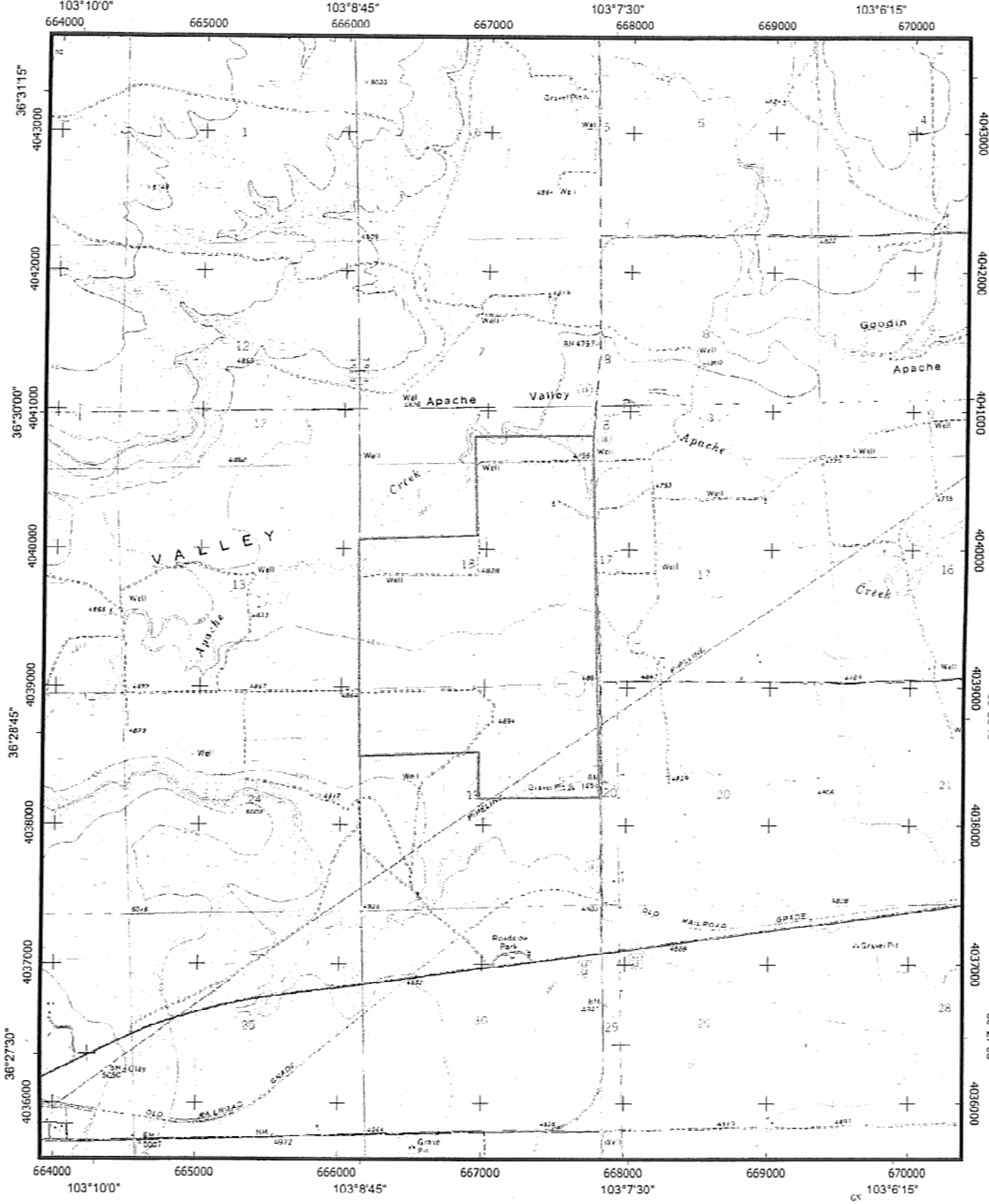
IV. CERTIFICATION

806 333-691

Bob Podzemny, Owner

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Name and Official Title (*print or type*)	B. Phone No. (806) 333-6915
C. Signature R. J. Podzemny	D. Date Signed 12/2/09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4043000
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4040000
4039000
4038000
4037000
4036000
Apache
Valley
Creek
VALLEY
Apache
Goodin
Apache
Creek
PIPELINE
OLD RAILROAD GRADE
Roadside Park
Gravel Pit
Well
1:35000 Scale
Universal Transverse Mercator (UTM) Projection Zone13
North American Datum of 1983 (NAD83)

CONTROL FACILITIES AND EQUIPMENT

The following control facilities and equipment are in place:

☒ Waste Storage Pond (WSP) No. of WSPs: 10
The terms "Waste Storage Pond (WSP) and Retention Control Structure (RCS) can be used interchangeably to describe wastewater retention facilities.

☒ Diversion berms/terraces to divert freshwater run-on from the WSP(s).

☒ Collection ditches/channels and berms/terraces to collect feedyard runoff in the WSP(s).

☐ All WSPs are designed for total evaporation.

☒ One or more WSP is designed to be dewatered, as needed.
WSP #1-8 & 10 are total evaporation. WSP #9 is evap./dewatering

Wastewater is managed using the following systems:

☒ Dewatering pumps No. of pumps: 1

☒ Irrigation pipelines

☐ Center pivot sprinkler systems No. of center pivots: _____

☐ Big gun sprinklers No. of big guns: _____

☒ Flood irrigation

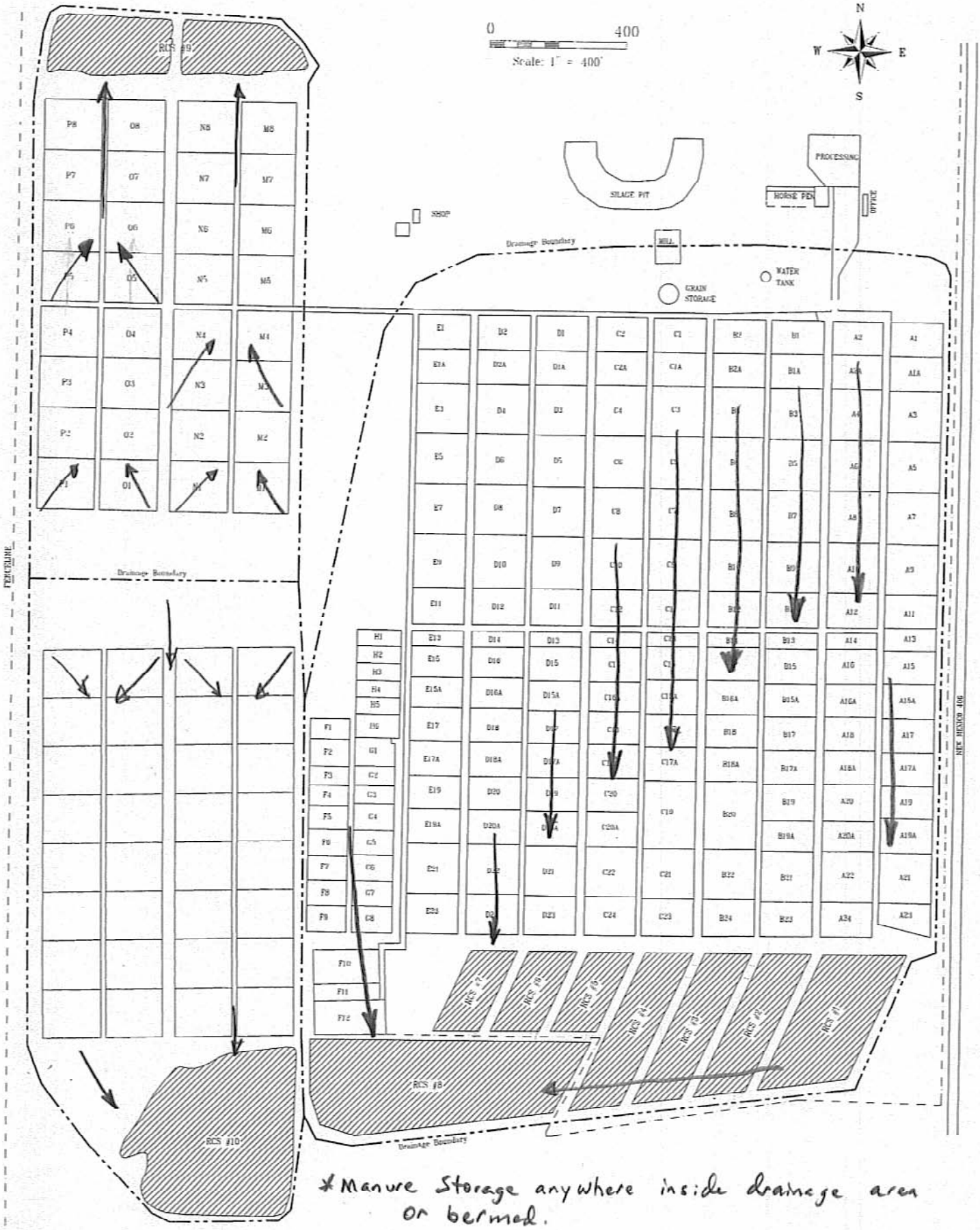
☐ Applied to compost

Comments: 7H Cattle Feeders is divided into two separate drainage areas and includes a total of 10 WSPs. The "southeast" drainage area is stored in WSP #1-#8, which is an evaporation pond system. Drainage areas and required capacities are as follows: WSP #1—17.9 ac., 4.89 ac-ft; WSP #2—9.3 ac., 2.55 ac-ft; WSP #3—9.8 ac., 2.58 ac-ft; WSP #4—9.8 ac., 2.6 ac-ft; WSP #5—8.3 ac., 2.18 ac-ft; WSP #6—8.6 ac., 2.29 ac-ft; WSP #7—8.1 ac., 2.15 ac-ft; WSP #8—21.6 ac., 5.5 ac-ft. The "southwest" drainage area (33 acres) is stored in WSP #10 (required capacity=11.28 ac-ft), which is an evaporation pond. The "northwest" drainage area (25.21 acres) is stored in WSP #9 (required capacity=6.72 ac-ft). A portable pump in used as needed to dewater WSP #9 to LMU #2.

SOIL EROSION

The PPP shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion. If these areas have the potential to contribute pollutants to surface water in the state, the pollution prevention plan shall identify measures used to limit erosion and pollutant runoff.

Area(s) of Erosion Identified	Erosion Control Measures
No significant areas	



*Manure Storage anywhere inside drainage area or bermed.

Double A Feeders -7H Clayton, NM Union County	Site Map Updated: August 2007	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

WATERS OF THE U.S. / CONSERVATION PRACTICES

The following measures will be implemented:

Prohibition on direct animal contact with Waters of the U.S.

☒ Animals confined at the CAFO shall not be allowed to come into direct contact with waters of the United States. Fences may be used to restrict such access.

Set-back requirements for down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to waters of the United States.

☐ Not applicable

Description	100 ft. setback	35 ft. veg. buffer	Alternative measures
Unnamed waterbody northwest of LMU 2 and LMU 4	☐	☒	
Agricultural Irrigation Well – located northwest of pivot point of LMU 2	☐	☒	Well is protected with a cement block around the wellhead and drainage is directed away from well.
Agricultural Irrigation Well – located north/northeast of LMU 2	☐	☒	Well is protected with a cement block around the wellhead and drainage is directed away from well.
Agricultural Irrigation Well – located northwest of LMU 4	☐	☒	Well is protected with a cement block around the wellhead and drainage is directed away from well.
Agricultural Irrigations Well— located west of LMU 1	☐	☒	Well is protected with a cement block around the wellhead and drainage is directed away from well.
	☐	☐	

7H Cattle Feeders

POTENTIAL POLLUTANT SOURCES

Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals or contaminants. All wastes from dipping vats, pest and parasite control units, and other facilities utilized for the management of potentially hazardous or toxic chemicals shall be handled and disposed of in a manner sufficient to prevent pollutants from entering the manure, litter, or process wastewater retention structures or waters of the United States. Include references to any applicable chemical handling protocols and indicate that other protocols included in the NMP will be reviewed.

The following potential pollutant sources have been identified at this location:

Potential pollutant (√) (check all that apply)	Measures used to prevent contamination, as necessary (√) (provide description of "other" at the bottom of this page)			
☒ **Manure:**	☒ In drainage area	☐ Bermed	☒ Land applied	☒ Other Applied Off-site
☒ **Sludge:**	☒ In RCS	☐ Bermed	☒ Land applied	☒ Other Applied Off-site
☒ **Wastewater:**	☒ In RCS	☒ Evaporation	☒ Land applied	☐ Other_____
☒ **Silage stockpiles:**	☒ In drainage area	☐ Bermed	☒ Other_____	
☒ **Fuel storage tanks:**	☒ In drainage area ☐ Secondary containment		☒ Good housekeeping ☐ Other_____	
☐ **Pesticide storage:**	☐ In drainage area	☐ Stored inside	☒ Other None on-site	
☒ **Lubricants:**	☒ In drainage area ☐ Secondary containment		☒ Stored inside ☐ Other_____	
☒ **Dead animal disposal:**	☐ Renderer	☒ Compost	☐ Burial	☐ Other_____
☒ **Compost:**	☐ In drainage area	☒ Bermed	☒ Land applied	☒ Other Applied Off-site

Additional practices and/or details on the practices listed above:_____

_____

_____

_____

_____

_____

_____

POTENTIAL POLLUTANT SOURCES (Continued)

Spills: Appropriate measures necessary to prevent spills and to cleanup spills of any toxic and other pollutants shall be taken. Handling procedures and storage for these materials must be specified in the NMP. Procedures for cleaning up spills shall be identified, and the necessary equipment to implement clean up shall be made available to facility personnel. All spills and cleanup activities must be documented. Documentation of spills and clean-up must be kept with the NMP.

Spill Clean-up Procedure
(for toxic pollutants, such as fuel, oil, and pesticides)

Primary emergency response number: **9 1 1 .**

Local emergency/hazardous materials entity: Clayton Fire Department

Phone number: 9 1 1

Equipment available to contain spill until emergency help arrives:

- ☒ Front-end loader ☐ Back-hoe ☐ Bulldozer ☐ Paddle scraper
- ☒ Tractor ☒ Box blade ☐ Truck ☐ Maintainer
- ☒ Absorbent material (cotton burrs, hay, soil, etc.) ☐ Skid loader
- ☐ Other _____

List of Significant Spills

Date of Spill	Material	Quantity Spilled	Reason for Spill	Cleanup actions

COMMENTS: _____

WEEKLY REPORT

MONTH:_____ **YEAR:**_____

Weekly Levels:

WSP No./Name	1st	2nd	3rd	4th	5th

Weekly Levels:

WSP No./Name	1st	2nd	3rd	4th	5th

NOTE: Some months have 5 weeks

CONTROL FACILITIES

1st week		2nd week		3rd week		4th week		5th week			"Y" = Yes / "N" = No / "N/A" = Not Applicable
Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**N/A**	
											Embankment free of visible seepage
											Embankment free of significant cracks
											Embankment vegetation maintained according to plan
											Embankment free of significant erosion
											Livestock entry prohibited (fenced)
											Trees excluded within root zone distance
											Permanent depth marker(s) in place
											Wastewater level maintained at required level
											Run-on diversion berms in place and functional
											Run-off diversion berms in place and functional
											Solids settling basins in place and functional
											Rain gauge in place and functional

EQUIPMENT FOR LAND APPLICATION OF MANURE AND/OR WASTEWATER

Y	N	Y	N	Y	N	Y	N	Y	N	N/A	
											Pump(s)/Motor(s)/Engine(s) in place/operational
											Fuel and/or electrical systems operational
											Center pivot sprinkler in good condition/operational
											Big gun sprinkler in good condition/operational
											Row or flood irrigation system operational
											Flow line, valves, check valves installed/operational

Water Line Repairs: Date(s) repaired:_____
Location(s) repaired:_____

Monthly Inspection: Changes made to mortality management? ____ Yes ____ No
Changes made to chemical storage area? ____ Yes ____ No

COMMENTS:_____

_____

_____

Name (printed):_____ **Signature:**_____

	1st week	2nd week	3rd week	4th week	5th week
Initials:	_____	_____	_____	_____	_____
Date:	_____	_____	_____	_____	_____

Calendar Year:_____

MANURE REMOVAL LOG

(manure removed by a contract manure hauler or composter)

The most recent nutrient analysis of the manure must be made available to any hauler.

Date	Name of Recipient	Address of Recipient	Amount (tons or cu. yds.)

RAINFALL LOG

A rain gauge shall be kept on site and properly maintained. A log of all measurable rainfall events shall be kept with the NMP.

Beginning		**Ending**		
Date	Time	Date	Time	Rainfall (in.)

WEATHER CONDITIONS DURING ONSITE
LAND APPLICATION OF MANURE OR WASTEWATER

Weather Conditions must be recorded for the day of application and 24 hours prior to on-site land application and 24 hours after onsite land application of manure or wastewater. Weather conditions can be kept manually or data can be obtained from a weather station (onsite/nearby location) or from a weather report (internet, newspaper, TV, radio station).

Rainfall events must be recorded in the "Rainfall Log" using an on-site rain gauge.

Date	Manure or Wastewater	Air Temperature	Cloud Cover	
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			
_____	☐ Manure ☐ Wastewater	Low Temp:____ ^{o}F High Temp:_____ ^{o}F	☐ Clear ☐ Mostly cloudy	☐ Partly cloudy ☐ Overcast
	Comments:_____			

ANNUAL REPORT

Visual Inspection of Recordkeeping

Yes	No	N/A	
_____	_____	_____	Facility maps
_____	_____	_____	Rainfall Log
_____	_____	_____	Weekly Reports
_____	_____	_____	Manure Removal Log
_____	_____	_____	Wastewater Removal Log
_____	_____	_____	Weather Conditions
_____	_____	_____	Employee Training
_____	_____	_____	Annual Reports (recordkeeping/visual inspection)
_____	_____	_____	Annual Reports (regulatory agency)
_____	_____	_____	Nutrient Management Plan
_____	_____	_____	Soil/Manure/Wastewater/Water Well Analysis (as required)
_____	_____	_____	Potential Pollutant Sources/Spill Recorded
_____	_____	_____	Liner and Embankment Certification
_____	_____	_____	Five Year Reports
_____	_____	_____	Capacity Certification
_____	_____	_____	Discharge Reports

Visual Inspection of Feedyard and Land Management Units

Yes	No	N/A	
_____	_____	_____	Control Facilities and Equipment as outlined in the PPP
_____	_____	_____	Land Management Units as outlined in the PPP
_____	_____	_____	Rain gauge in place
_____	_____	_____	Permanent marker(s) in Retention Control Structure(s)
_____	_____	_____	Manure application areas as outlined in NMP
_____	_____	_____	Wastewater application areas as outlined in NMP
_____	_____	_____	Description of potential pollutant sources is accurate
_____	_____	_____	Potential pollutant sources are properly stored
_____	_____	_____	All significant spills of potential pollutant materials have been properly cleaned up
_____	_____	_____	Controls outlined in PPP to reduce pollutants are being implemented and are accurate
_____	_____	_____	Discharge sampling equipment is available

COMMENTS:_____

_____

_____

_____

_____	_____	_____
Name (printed)	**Signature**	**Date**

EMPLOYEE TRAINING

Employees with environmental management and recordkeeping responsibilities will be trained at the time those responsibilities are assigned to an employee. Training will be conducted at least once during each calendar year.

Topic(s) Discussed:

- ☐ Daily inspection of water lines and documenting repair of water lines in the Weekly Reports section of the PPP,
- ☐ Proper operation and maintenance of the facility,
- ☐ Good housekeeping,
- ☐ Material management practices,
- ☐ Spill response and clean up.
- ☐ Rainfall Log
- ☐ Weekly Reports
- ☐ Manure Removal Log
- ☐ Wastewater Removal Log
- ☐ Nutrient Management/Utilization Plans
- ☐ Discharge Sampling and Reporting

☐ Other Topics Discussed:

_____

_____

_____

Employee(s) Present:

Name (printed)	Signature
Name (printed)	Signature
Name (printed)	Signature
Name (printed)	Signature
Name (printed)	Signature

TRAINER:

Name (printed)	**Signature**	**Date**

SOIL ANALYSIS

Soil Testing. Representative samples of soil for all fields under the control of the CAFO operator where manure and wastewater may be applied must be collected and analyzed for phosphorus content at least once every five (5) years. Samples shall be collected and shipped to an agronomic testing laboratory, in accordance with the protocols established by the laboratory and in accordance with guidance provided by New Mexico NRCS, NMED, or New Mexico State University Extension.

A representative soil sample shall be collected from each field included in the NMP. Each sample area should consist of only one general soil type or condition, unless the area is manage the same as one unit (i.e., center pivot). If a field varies in slope, color, drainage or texture, and if those areas can be fertilized separately, collect and analyze a separate sample for each area.

Avoid sampling in old fence rows, dead furrows, low spots, feeding areas, and other areas that might not provide representative results. Soil samples shall not be taken when the soil is saturated or frozen or shortly after applying lime or fertilizer. Collect at least 10 soil cores for small areas and up to thirty (30) cores for larger fields. Take the soil cores randomly, by grid sampling, or GPS sampling throughout the sampling area and combine the cores into a single sample. An individual sample should represent no more than twenty (20) acres, except when soils, past management, and cropping history are uniform.

Sampling frequency for manure, litter, process wastewater and soil shall be consistent with the New Mexico NRCS Conservation Practice Standard Code 590 (Nutrient Management).

SOIL ANALYSIS REPORTS WILL BE KEPT THIS SECTION

MANURE ANALYSIS

Manure Testing. At least one representative manure sample shall be collected and analyzed for nutrient content, including nitrogen and phosphorus, at least annually. Samples shall be collected and shipped to an agronomic testing laboratory, in accordance with the protocols established by the laboratory.

At a minimum, manure sampling and analysis shall be conducted prior to the first land application event each year of permit coverage. Steps must be taken to ensure the collection of a representative sample. The sample shall be sent for analysis as soon after collection as practical and, where necessary, specific preservation procedures shall be utilized to prevent the degradation of the sample.

MANURE ANALYSIS REPORTS WILL BE KEPT THIS SECTION

WASTEWATER ANALYSIS

Wastewater Testing. At least one representative wastewater sample shall be collected and analyzed for nutrient content, including nitrogen and phosphorus, at least annually. Samples shall be collected and shipped to an agronomic testing laboratory, in accordance with the protocols established by the laboratory.

At a minimum, wastewater sampling and analysis shall be conducted prior to the first land application event each year of permit coverage. Steps must be taken to ensure the collection of a representative sample. The sample shall be sent for analysis as soon after collection as practical and, where necessary, specific preservation procedures shall be utilized to prevent the degradation of the sample.

WASTEWATER ANALYSIS REPORTS WILL BE KEPT THIS SECTION

Composting Mortalities – General Procedure

Place a base of compost materials (manure and/or straw/old feedstuffs) 1.5 feet deep on the ground to initiate the compost pile. The carcass should then be placed on top of the base and laid flat. Completely cover the carcass with at least 1.5 feet of manure and/or old feedstuffs.

After 30 days, the volume of the original pile will decrease and may be combined with adjacent piles/windrows. Ensure any remaining carcasses are completely covered after any turning or movement of the pile. After 6 months, the composting process should be completed, and the product is ready for land application.

If the compost piles are located outside of the drainage area of the retention facilities, maintain adequate berms to prevent run-on and/or run-off of stormwater.

2009-2010
Nutrient Management Plan

Developed for

7H Cattle Feeders, Inc
Union Co, NM

In accordance with

New Mexico NRCS Practice Standard Code 590

for NPDES General Permit for Discharges from CAFOs in New Mexico
NMG010000

The following plan has been reviewed, discussed, and presented for implementation for the 2009-2010 crop year. It is my intention to implement the practices described in the plan. I understand the record keeping requirements and agree to provide all data pertinent to review of the 2009-2010 NMP and subsequent re-certification for a 2010-2011 NMP.

Bob Podzemny — 12/2/09

Bob Podzemny
Owner

Date

As a Certified Specialist recognized by New Mexico USDA-NRCS, I certify that I have reviewed the following documents for technical adequacy and determined the elements of the plan to be compatible and can be reasonably implemented.

30 Nov 2009

Kyle Keim CCA, CNMS, TSP-03-1117
Certified Specialist—CNMP (New Mexico)

Date

I certify that the following plan is an accurate representation of planned activities and has been developed using the methods and specifications described in the New Mexico NRCS Practice Standard Code 590, unless described otherwise. A full review of soil tests, actual application totals, yields, and total crop removal will be reviewed prior to re-certification for the 2010-2011 crop year.

11-30-09

Shad McDaniel, TSP-03-2296

Date

2011-2012 Nutrient Management Plan (NMP)

7H Feeders continues to maintain a Pollution Prevention Plan in accordance with the 1993 Region VI EPA CAFO permit. A description of the runoff control facilities, potential sources of pollutants, sampling protocols, and records regarding land application and manure transfer have been and continue to be maintained on-site.

The attached documents pertain to planned land application activities at the facility for the 2011-2012 crop year. Updates to the NMP will be made as necessary. Specifically, the NMP will be updated when: new sampling data is obtained (soil, effluent, and manure will be sampled at least annually), a new crop plan or plan of crop management is determined, and/or crop yield potential has changed.

The descriptions below summarize how the Land Application Information tables (Table 1.1) and Nutrient Management Budgets (Table 1.2) meet the requirements of Part III.A.3.g.ii of the NPDES General Permit.

Maximum Application Rates Part III.A.3.g.ii(A)(1)

A series of Nutrient Management Budgets have been generated for each field covered in the NMP. The budgets listed in Table 1.2 illustrate the nutrient requirements of the crop to be grown and the planned application rates (Column J), which are based on the crop nutrient requirements. Updates to soil samples, effluent samples, and manure samples will change application targets and will be considered prior to land application. Actual application rates may differ from planned application by as much as 20% given calibration of land application equipment, fertigation equipment, and management practices.

Growing crops will be checked regularly. If symptoms of nutrient deficiency are observed, samples of plant tissue and soil will be analyzed. Additional nutrient application will be based on lab recommendations.

The current summary of the planned application rates listed in Tables 1.2 for 7H Feeders list effluent application goals of 20.5 in/ac for LMU #2. This equates to a total volume of 2,604 ac-in with plant available nutrient totals of 25,800 #N and 111,400 #P2O5. Manure application goals include 10.2 tons/ac for LMU #1, 10.7 tons/ac for LMU #2, 11.3 tons/ac for LMU #3, and 11.6 tons/ac for LMU #4. This equates to a total weight of 5,472 tons of manure with plant available nutrient totals of 103,400 #N and 230,400 #P2O5.

If desired by the producer at any time, effluent application and fertilizer application could be replaced with manure application. All additional manure will be stockpiled and hauled off-site by a contract manure hauler for land application on neighboring farmland.

Site-Specific Phosphorus Index (PI) Part III.A.3.g.ii(A)(2)

A Phosphorus Index (PI) has been developed for each field covered in the NMP. The PI considers source and transport factors to determine a rating. All PI's resulted in a Medium P Hazard Class rating equating to nitrogen application limits.

Crop Plan and Yield Goals Part III.A.3.g.ii(A)(3) and (4)

A 2011 Crop Plan Map has been developed illustrating the crops to be planted.

The data in Table 1.2 illustrates the yield goal for each crop by field. The yield goals are based on actual expected crop production. No adjustment has been made to increase estimated yields above historical averages.

Potential alternative crops to be planted and corresponding yield goals (both irrigated and dryland) are listed in Tables 1.1 and Tables 1.2 for inclusion in the site specific permitting terms. Potential yield goals for any crop will be based on realistic yield goals customary to the area and consistent with the level of inputs and management provided.

Nitrogen and Phosphorus Recommendations Part III.A.3.g.ii(A)(5)

The yield goals listed in Tables 1.2 for each crop are utilized to determine the crop nutrient requirements. Crop nutrient requirements were obtained from the Texas Code 590 S_crops.xls datasheet and are applicable for similar crop systems in eastern New Mexico. These recommendations are an EPA approved source and are available at http://nmp.tamu.edu.

Methodology Part III.A.3.g.ii(A)(6)

The methodology utilized in Table 1.2 accounts for soil test nitrogen credits, all sources of nitrogen and phosphorus (commercial fertilizers, other sources, etc.), the actual amounts of plant available nutrients in the effluent and manure to be land applied, multi-year phosphorus application (if a field is limited to a phosphorus based application rate), and single-year applications that supply more than the crop's annual phosphorus requirement.

Results of Soils Tests Part III.A.3.g.ii(A)(6)(a)

The results of annual soils test are utilized to determine the amount of soil test nitrogen in the profile and to monitor changes in soil test phosphorus. Results of annual soils test are input into Table 1.2 and utilized to determine Amounts to Apply (Column J).

Credits for all Sources and Forms of Nitrogen and Phosphorus Part III.A.3.g.ii(A)(6)(b) and (e)

The Nutrient Management Budgets detailed in Tables 1.2 recognize soil test nitrogen in the top profile (Column C) as plant available nitrogen. Totals listed as Potential Crop Nitrogen Application Needed (Column E) have been reduced by the soil test nitrogen credit and any planned inorganic fertilizer application. Therefore, these budgets account for all sources of nitrogen and phosphorus, including soil test residual nitrogen and inorganic fertilizers.

Multi-year Phosphorus Application Part III.A.3.g.ii(A)(6)(d)

All fields in the 2011-2012 NMP are classified as nitrogen based application. If in the future, a field is classified as phosphorus based application, rates of application will be based on the annual phosphorus application limits as described in the New Mexico Phosphorus Index. If desired by the producer (for practical/logistical application of manure and/or effluent) a biennial application which equates to twice the phosphorus application limit may be made. The biennial application should not exceed 2 times the actual crop nitrogen requirement. Furthermore, no additional sources of organic phosphorus should be applied for 2 years, unless soil tests, tissue

tests, and/or field observations indicate additional nutrients are needed to maximize yield potential.

Timing and Method of Land Application Part III.A.3.g.ii(A)(6)(f)

The Land Application Information tables (Table 1.1) describe the method of land application (spreader or pivot) and the frequency, timing, and level of incorporation following land application.

The facility is located in an area with an average annual lake evaporation total greater than 60 inches and an average annual precipitation total of only 15 inches. The storage ponds experience significant evaporation and are only pumped when necessary to maintain storage volume for the 25-yr, 24-hr storm event.

Volatilization and Mineralization Part III.A.3.g.ii(A)(6)(c) and (g)

Volatilization rates and mineralization rates are utilized to determine the plant available nitrogen and phosphorus in both the effluent and manure nutrient sources. Plant available nutrients are utilized to determine actual application targets. Calculations used to determine the plant available nutrients are listed in footnote 5 of Table 1.2.

NMP Summary

The following plan recommends manure application to LMU 1, LMU 2, LMU 3, and LMU 4. Effluent application can be made to LMU 2 as needed; although historically, this has not been necessary. Primary crop rotation is continuous corn. As described in the attached tables, any crop may be utilized for grazing, hay, silage, and/or grain. These management decisions will be made by the producer based on weather conditions and economic forecasts. The producer reserves the ability to graze any crop.

In the event that organic nutrients (effluent and manure) are not applied, crops should be monitored for nutrient deficiencies and commercial fertilizers utilized as needed to supplement crop nutrient requirements to maximize yield potential and crop management goals. Additional acreage (owned/operated by other producers) is available for off-site land application of manure and can be utilized as an alternative to on-site land application or once on-site land application goals have been met. The maximum application goals/rates described in this NMP should not be exceeded at any time. Application above these rates could result in nutrient buildup and further limit nutrient application in the next growing season.

7H Feeders -- Union Co, NM
2011-2012 Crop Plan

Double-Ought Engineering
Dalhart, TX 79022
806.333.6520
Printed: 11/24/2011
1 in : 999.99 ft

Table 1.1

LAND APPLICATION INFORMATION

Facilty Name: 7H Feeders

This spreadsheet shall be filled out for each field to which manure, slurry, or effluent will or may be applied.

Field ID	Crop 1 (a)	Crop 2 (a)	Alternative Crops (b)	Irrigated	Dryland	Phosphorus Risk Assessment (c)	Time of Year when Application will Occur (season)	Potential Application Frequency (per month)	Form of Nutrient Source (liquid, solid or slurry)	Method of Application (pivot, spreader, etc.)	Solid Manure (incorporated or broadcast)	Frequency of Application (annual, biannual, or biennial)
LMU 1	Corn Grain	Corn Grain		x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Corn Grain	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend	x		Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend	x		Medium	Spring/Summer	2	Solid	Spreader	Broadcast	Annual
			Wheat Forage / Corn grain	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Corn Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Sorgh Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Grain		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual

(a) Current planned crop rotation.

(b) Alternative crops that may be planted.

(c) Assessment shall be conducted for each field to which manure, slurry, or efluent will or may be applied on an annual basis. Refer to the Phosphorus Index Worksheet for each field.

Table 1.1

LAND APPLICATION INFORMATION

Facilty Name: 7H Feeders

This spreadsheet shall be filled out for each field to which manure, slurry, or effluent will or may be applied.

Field ID	Crop 1 (a)	Crop 2 (a)	Alternative Crops (b)	Irrigated	Dryland	Phosphorus Risk Assessment (c)	Time of Year when Application will Occur (season)	Potential Application Frequency (per month)	Form of Nutrient Source (liquid, solid or slurry)	Method of Application (pivot, spreader, etc.)	Solid Manure (incorporated or broadcast)	Frequency of Application (annual, biannual, or biennial)
LMU 2	Corn Grain	Corn Grain		x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Corn Grain	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend	x		Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend	x		Medium	Spring/Summer	2	Solid	Spreader	Broadcast	Annual
			Wheat Forage / Corn grain	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Corn Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Sorgh Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Grain		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Small Grain (SG) Silage	x		Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Corn Silage	x		Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Corn Grain	x		Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Sorghum Forage/Silage	x		Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Wheat Forage	x		Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Forage - other Small Grains	x		Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Forage - cool season grass blend	x		Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Forage - warm season grass blend	x		Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Wheat Forage / Corn grain	x		Medium	Fall/Spring	1	Liquid	Pivot	N/A	Annual
			Wheat Forage / Corn Silage	x		Medium	Fall/Spring	1	Liquid	Pivot	N/A	Annual
			Wheat Forage / Sorgh Silage	x		Medium	Fall/Spring	1	Liquid	Pivot	N/A	Annual
			Small Grain (SG) Silage		x	Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Corn Silage		x	Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Corn Grain		x	Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Sorghum Forage/Silage		x	Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Wheat Forage		x	Medium	Spring/Summer	2	Liquid	Pivot	N/A	Annual
			Forage - other Small Grains		x	Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Forage - cool season grass blend		x	Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual
			Forage - warm season grass blend		x	Medium	Fall/Spring	2	Liquid	Pivot	N/A	Annual

(a) Current planned crop rotation.

(b) Alternative crops that may be planted.

(c) Assessment shall be conducted for each field to which manure, slurry, or efluent will or may be applied on an annual basis. Refer to the Phosphorus Index Worksheet for each field.

Table 1.1

LAND APPLICATION INFORMATION

Facilty Name: 7H Feeders

This spreadsheet shall be filled out for each field to which manure, slurry, or effluent will or may be applied.

Field ID	Crop 1 (a)	Crop 2 (a)	Alternative Crops (b)	Irrigated	Dryland	Phosphorus Risk Assessment (c)	Time of Year when Application will Occur (season)	Potential Application Frequency (per month)	Form of Nutrient Source (liquid, solid or slurry)	Method of Application (pivot, spreader, etc.)	Solid Manure (incorporated or broadcast)	Frequency of Application (annual, biannual, or biennial)
LMU 3	Corn Grain	Corn Grain		x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Corn Grain	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend	x		Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend	x		Medium	Spring/Summer	2	Solid	Spreader	Broadcast	Annual
			Wheat Forage / Corn grain	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Corn Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Sorgh Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Grain		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
LMU 4	Corn Grain	Corn Grain		x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Corn Grain	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage	x		Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains	x		Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend	x		Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend	x		Medium	Spring/Summer	2	Solid	Spreader	Broadcast	Annual
			Wheat Forage / Corn grain	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Corn Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Wheat Forage / Sorgh Silage	x		Medium	Fall/Spring	1	Solid	Spreader	Incorporated	Annual
			Small Grain (SG) Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Silage		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Corn Grain		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Sorghum Forage/Silage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Wheat Forage		x	Medium	Spring/Summer	2	Solid	Spreader	Incorporated	Annual
			Forage - other Small Grains		x	Medium	Fall/Spring	2	Solid	Spreader	Incorporated	Annual
			Forage - cool season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual
			Forage - warm season grass blend		x	Medium	Fall/Spring	2	Solid	Spreader	Broadcast	Annual

(a) Current planned crop rotation.

(b) Alternative crops that may be planted.

(c) Assessment shall be conducted for each field to which manure, slurry, or efluent will or may be applied on an annual basis. Refer to the Phosphorus Index Worksheet for each field.

Table 1.2
NUTRIENT MANAGEMENT BUDGETS
7H Feeders
Union County, NM
2011 - 2012 Crop Year

			A	B	C	D	E		F	G	H	I	J	K
Field ID	**Crop**	**Yield**	**Crop N Req' mt lb/Ac (1)**	**Crop P2O5 Removal Rate lb/Ac (1)**	**0-24" Soil Test NO3-N lb/Ac (2)**	**0-6" Soil Test P (Bicarb P) ppm (2)**	**Potential Crop N Application Needed lb/Ac (3)**	**Source**	**Plant Available N (4) (5)**	**Plant Available P2O5 (4) (5)**	**P Loss Risk (6)**	**Com. Fert. Rate N lb/Ac**	**Amount to Apply (7)**	**P2O5 Application (PI Adjusted) lb/ac (8)**
Manure									**(lb/ton)**	**(lb/ton)**			**(tons/ac)**	
LMU 1	Corn Grain	220 bu	250	75	57	121	193	Stockpile	18.9	42.1	1	0	**10.2**	430
	(budgets for some alternative crops/combinations below)													
LMU 1	Wheat Forage / Corn grain	6T/180bu	450	105	57	121	393	Stockpile	18.9	42.1	1	0	20.8	875
LMU 1	Small Grain (SG) Silage	12T	160	67	57	121	103	Stockpile	18.9	42.1	1	0	5.4	229
LMU 1	Corn Silage	25T	350	96	57	121	293	Stockpile	18.9	42.1	1	0	15.5	653
LMU 1	Corn Grain	220 bu	250	75	57	121	193	Stockpile	18.9	42.1	1	0	10.2	430
LMU 1	Sorghum Forage/Silage	20T	280	74	57	121	223	Stockpile	18.9	42.1	1	0	11.8	497
LMU 1	Wheat Forage	6T	240	37	57	121	183	Stockpile	18.9	42.1	1	0	9.7	408
LMU 1	Forage - other Small Grains	6T	240	37	57	121	183	Stockpile	18.9	42.1	1	0	9.7	408
LMU 1	Forage - cool season grass blend	4T	240	43	57	121	183	Stockpile	18.9	42.1	1	0	9.7	408
LMU 1	Forage - warm season grass blend	6T	200	35	57	121	143	Stockpile	18.9	42.1	1	0	7.6	319
LMU 1	Wheat Forage / Corn Silage	6T/25T	590	133	57	121	533	Stockpile	18.9	42.1	1	0	28.2	1187
LMU 1	Wheat Forage / Sorgh Silage	6T/20T	520	111	57	121	463	Stockpile	18.9	42.1	1	0	24.5	1031
LMU 1	Small Grain (SG) Silage	4T	55	25	57	121	-2	Stockpile	18.9	42.1	1	0	0.0	0
LMU 1	Corn Silage	8T	85	38	57	121	28	Stockpile	18.9	42.1	1	0	1.5	62
LMU 1	Corn Grain	50 bu	70	25	57	121	13	Stockpile	18.9	42.1	1	0	0.7	29
LMU 1	Sorghum Forage/Silage	8T	145	40	57	121	88	Stockpile	18.9	42.1	1	0	4.7	196
LMU 1	Wheat Forage	3T	60	12	57	121	3	Stockpile	18.9	42.1	1	0	0.2	7
LMU 1	Forage - other Small Grains	3T	60	12	57	121	3	Stockpile	18.9	42.1	1	0	0.2	7
LMU 1	Forage - cool season grass blend	1.5T	85	20	57	121	28	Stockpile	18.9	42.1	1	0	1.5	62
LMU 1	Forage - warm season grass blend	2T	120	17	57	121	63	Stockpile	18.9	42.1	1	0	3.3	140
Effluent									**(lb/ac-in)**	**(lb/ac-in)**			**(in/ac)**	

Notes:

(1) Crop Nitrogen Requirement (nutrient needs), lbs/ac and based on Crop Requirement tables utilized by the Texas 590-633 Nutrient Managment - Nutrient Utilization Worksheets. New Mexico specific information is non existant and cropping systems/climates are simlar for west Texas and eastern NM.

(2) Obtained from annual soil tests results for each field.

(3) Column A-Column C-Column I = Potential Crop N Application Needed to be supplied by organic source. Negative value indicates residual is higher than crop N requirement which will result in no planned nutrient application.

(4) Site specific effluent analysis dated 11/29/2010. Total-N =100 ppm, Org-N = 52 ppm, NH3-N = 48 ppm, P2O5 = 210 ppm. Manure analysis (11/29/2010) Total N = 36.8#/ton, Org N = 28.2#/ton, NH3-N = 8.4#/ton, P2O5 = 46.8 #/ton

(5) Availability of N is estimated utilizing the USDA Ag Waste Management Handbook, Chapter 11. Plant Available N = (Organic * 52%) + (Ammonia * 35%); Manure Available N = (Organic * 52%) + (Ammonia * 50%); Effluent and Manure P2O5 Available = 90% Total P2O5.

(6) Calculated using the New Mexico Phosphorus Index Worksheet (1=Very Low, Low, Medium (Max rate = N rate), 2=High (Max rate = 1.5 P removal), 3=Very High (Max rate = P removal), 4=Excessive (no application))

(7) The amount of each nutrient source (inches/ac for effluent and tons/ac for manure) to apply based on analysis of Potential Crop N Applicaton Needed and PI rating/limits. For P Loss Risk = 1, Column E / Column F = Amount to Apply. For P Loss Risk = 2, Column B * 1.5 / Column G = Amount to Apply if Column E > 0, For P Loss Risk = 3, Column B / Column G = Amount to Apply, if Column E > 0.

(8) Potential total P2O5 (lb/ac) to be applied by total in Column J. If P Loss Risk (Column H) is 1 then application rate is at the N rate. If P Loss Risk is greater than 1 then Column J is adjusted to meet PI Rating Class as described in footnote (6) above.

Table 1.2 A
NUTRIENT MANAGEMENT BUDGETS
7H Feeders
Union County, NM
2011 - 2012 Crop Year

			A	B	C	D	E		F	G	H	I	J	K
Field ID	**Crop**	**Yield**	**Crop N Req' mt lb/Ac (1)**	**Crop P2O5 Removal Rate lb/Ac (1)**	**0-6" Soil Test NO3-N lb/Ac (2)**	**0-6" Soil Test P (Bicarb P) ppm (2)**	**Potential Crop N Application Needed lb/Ac (3)**	**Source**	**Plant Available N (4) (5)**	**Plant Available P2O5 (4) (5)**	**P Loss Risk (6)**	**Com. Fert. Rate N lb/Ac**	**Amount to Apply (7)**	**P2O5 Application (PI Adjusted) lb/ac (8)**
Manure									**(lb/ton)**	**(lb/ton)**			**(ton/ac)**	
LMU 2	Corn Grain	220 bu	250	75	47	139	203	RCS	18.9	42.1	1	0	**10.7**	452
	(budgets for some alternative crops/combinations below)													
LMU 2	Wheat Forage / Corn grain	6T/180bu	450	105	47	139	403	RCS	18.9	42.1	1	0	21.3	898
LMU 2	Small Grain (SG) Silage	12T	160	67	47	139	113	RCS	18.9	42.1	1	0	6.0	252
LMU 2	Corn Silage	25T	350	96	47	139	303	RCS	18.9	42.1	1	0	16.0	675
LMU 2	Corn Grain	220 bu	250	75	47	139	203	RCS	18.9	42.1	1	0	10.7	452
LMU 2	Sorghum Forage/Silage	20T	280	74	47	139	233	RCS	18.9	42.1	1	0	12.3	519
LMU 2	Wheat Forage	6T	240	37	47	139	193	RCS	18.9	42.1	1	0	10.2	430
LMU 2	Forage - other Small Grains	6T	240	37	47	139	193	RCS	18.9	42.1	1	0	10.2	430
LMU 2	Forage - cool season grass blend	4T	240	43	47	139	193	RCS	18.9	42.1	1	0	10.2	430
LMU 2	Forage - warm season grass blend	6T	200	35	47	139	153	RCS	18.9	42.1	1	0	8.1	341
LMU 2	Wheat Forage / Corn Silage	6T/25T	590	133	47	139	543	RCS	18.9	42.1	1	0	28.7	1210
LMU 2	Wheat Forage / Sorgh Silage	6T/20T	520	111	47	139	473	RCS	18.9	42.1	1	0	25.0	1054
LMU 2	Small Grain (SG) Silage	4T	55	25	47	139	8	RCS	18.9	42.1	1	0	0.4	18
LMU 2	Corn Silage	8T	85	38	47	139	38	RCS	18.9	42.1	1	0	2.0	85
LMU 2	Corn Grain	50 bu	70	25	47	139	23	RCS	18.9	42.1	1	0	1.2	51
LMU 2	Sorghum Forage/Silage	8T	145	40	47	139	98	RCS	18.9	42.1	1	0	5.2	218
LMU 2	Wheat Forage	3T	60	12	47	139	13	RCS	18.9	42.1	1	0	0.7	29
LMU 2	Forage - other Small Grains	3T	60	12	47	139	13	RCS	18.9	42.1	1	0	0.7	29
LMU 2	Forage - cool season grass blend	1.5T	85	20	47	139	38	RCS	18.9	42.1	1	0	2.0	85
LMU 2	Forage - warm season grass blend	2T	120	17	47	139	73	RCS	18.9	42.1	1	0	3.9	163
Effluent									**(lb/ac-in)**	**(lb/ac-in)**			**(in/ac)**	
LMU 2	(refer to Table 1.2 B)													

Notes:

(1) Crop Nitrogen Requirement (nutrient needs), lbs/ac and based on Crop Requirement tables utilized by the Texas 590-633 Nutrient Managment - Nutrient Utilization Worksheets. New Mexico specific information is non existant and cropping systems/climates are simlar for west Texas and eastern NM.

(2) Obtained from annual soil tests results for each field.

(3) Column A-Column C-Column I = Potential Crop N Application Needed to be supplied by organic source. Negative value indicates residual is higher than crop N requirement which will result in no planned nutrient application.

(4) Site specific effluent analysis dated 11/29/2010. Total-N =100 ppm, Org-N = 52 ppm, NH3-N = 48 ppm, P2O5 = 210 ppm. Manure analysis (11/29/2010) Total N = 36.8#/ton, Org N = 28.2#/ton, NH3-N = 8.4#/ton, P2O5 = 46.8 #/ton

(5) Availability of N is estimated utilizing the USDA Ag Waste Management Handbook, Chapter 11. Plant Available N = (Organic * 52%) + (Ammonia * 35%); Manure Available N = (Organic * 52%) + (Ammonia * 50%); Effluent and Manure P2O5 Available = 90% Total P2O5.

(6) Calculated using the New Mexico Phosphorus Index Worksheet (1=Very Low, Low, Medium (Max rate = N rate), 2=High (Max rate = 1.5 P removal), 3=Very High (Max rate = P removal), 4=Excessive (no application))

(7) The amount of each nutrient source (inches/ac for effluent and tons/ac for manure) to apply based on analysis of Potential Crop N Applicaton Needed and PI rating/limits. For P Loss Risk = 1, Column E / Column F = Amount to Apply. For P Loss Risk = 2, Column B * 1.5 / Column G = Amount to Apply if Column E > 0, For P Loss Risk = 3, Column B / Column G = Amount to Apply, if Column E > 0.

(8) Potential total P2O5 (lb/ac) to be applied by total in Column J. If P Loss Risk (Column H) is 1 then application rate is at the N rate. If P Loss Risk is greater than 1 then Column J is adjusted to meet PI Rating Class as described in footnote (6) above.

Table 1.2 B
NUTRIENT MANAGEMENT BUDGETS
7H Feeders
Union County, NM
2011 - 2012 Crop Year

			A	B	C	D	E		F	G	H	I	J	K
Field ID	**Crop**	**Yield**	**Crop N Req' mt lb/Ac (1)**	**Crop P2O5 Removal Rate lb/Ac (1)**	**0-24" Soil Test NO3-N lb/Ac (2)**	**0-6" Soil Test P (Bicarb P) ppm (2)**	**Potential Crop N Application Needed lb/Ac (3)**	**Source**	**Plant Available N (4) (5)**	**Plant Available P2O5 (4) (5)**	**P Loss Risk (6)**	**Com. Fert. Rate N lb/Ac**	**Amount to Apply (7)**	**P2O5 Application (PI Adjusted) lb/ac (8)**
Effluent									**(lb/ac-in)**	**(lb/ac-in)**			**(in/ac)**	
LMU 2	Corn Grain	220 bu	250	75	47	139	203	RCS	9.9	42.8	1	0	**20.5**	878
	(budgets for some alternative crops/combinations below)													
LMU 2	Wheat Forage / Corn grain	6T/180bu	450	105	47	139	403	Stockpile	9.9	42.8	1	0	40.7	1742
LMU 2	Small Grain (SG) Silage	12T	160	67	47	139	113	Stockpile	9.9	42.8	1	0	11.4	489
LMU 2	Corn Silage	25T	350	96	47	139	303	Stockpile	9.9	42.8	1	0	30.6	1310
LMU 2	Corn Grain	220 bu	250	75	47	139	203	Stockpile	9.9	42.8	1	0	20.5	878
LMU 2	Sorghum Forage/Silage	20T	280	74	47	139	233	Stockpile	9.9	42.8	1	0	23.5	1007
LMU 2	Wheat Forage	6T	240	37	47	139	193	Stockpile	9.9	42.8	1	0	19.5	834
LMU 2	Forage - other Small Grains	6T	240	37	47	139	193	Stockpile	9.9	42.8	1	0	19.5	834
LMU 2	Forage - cool season grass blend	4T	240	43	47	139	193	Stockpile	9.9	42.8	1	0	19.5	834
LMU 2	Forage - warm season grass blend	6T	200	35	47	139	153	Stockpile	9.9	42.8	1	0	15.5	661
LMU 2	Wheat Forage / Corn Silage	6T/25T	590	133	47	139	543	Stockpile	9.9	42.8	1	0	54.8	2348
LMU 2	Wheat Forage / Sorgh Silage	6T/20T	520	111	47	139	473	Stockpile	9.9	42.8	1	0	47.8	2045
LMU 2	Small Grain (SG) Silage	4T	55	25	47	139	8	Stockpile	9.9	42.8	1	0	0.8	35
LMU 2	Corn Silage	8T	85	38	47	139	38	Stockpile	9.9	42.8	1	0	3.8	164
LMU 2	Corn Grain	50 bu	70	25	47	139	23	Stockpile	9.9	42.8	1	0	2.3	99
LMU 2	Sorghum Forage/Silage	8T	145	40	47	139	98	Stockpile	9.9	42.8	1	0	9.9	424
LMU 2	Wheat Forage	3T	60	12	47	139	13	Stockpile	9.9	42.8	1	0	1.3	56
LMU 2	Forage - other Small Grains	3T	60	12	47	139	13	Stockpile	9.9	42.8	1	0	1.3	56
LMU 2	Forage - cool season grass blend	1.5T	85	20	47	139	38	Stockpile	9.9	42.8	1	0	3.8	164
LMU 2	Forage - warm season grass blend	2T	120	17	47	139	73	Stockpile	9.9	42.8	1	0	7.4	316
Manure									**(lb/ton)**	**(lb/ton)**			**(ton/ac)**	
LMU 2	(refer to Table 1.2 A)													

Notes:

(1) Crop Nitrogen Requirement (nutrient needs), lbs/ac and based on Crop Requirement tables utilized by the Texas 590-633 Nutrient Managment - Nutrient Utilization Worksheets. New Mexico specific information is non existant and cropping systems/climates are simlar for west Texas and eastern NM.

(2) Obtained from annual soil tests results for each field.

(3) Column A-Column C-Column I = Potential Crop N Application Needed to be supplied by organic source. Negative value indicates residual is higher than crop N requirement which will result in no planned nutrient application.

(4) Site specific effluent analysis dated 11/29/2010. Total-N =100 ppm, Org-N = 52 ppm, NH3-N = 48 ppm, P2O5 = 210 ppm. Manure analysis (11/29/2010) Total N = 36.8#/ton, Org N = 28.2#/ton, NH3-N = 8.4#/ton, P2O5 = 46.8 #/ton

(5) Availability of N is estimated utilizing the USDA Ag Waste Management Handbook, Chapter 11. Plant Available N = (Organic * 52%) + (Ammonia * 35%); Manure Available N = (Organic * 52%) + (Ammonia * 50%); Effluent and Manure P2O5 Available = 90% Total P2O5.

(6) Calculated using the New Mexico Phosphorus Index Worksheet (1=Very Low, Low, Medium (Max rate = N rate), 2=High (Max rate = 1.5 P removal), 3=Very High (Max rate = P removal), 4=Excessive (no application))

(7) The amount of each nutrient source (inches/ac for effluent and tons/ac for manure) to apply based on analysis of Potential Crop N Applicaton Needed and PI rating/limits. For P Loss Risk = 1, Column E / Column F = Amount to Apply. For P Loss Risk = 2, Column B * 1.5 / Column G = Amount to Apply if Column E > 0, For P Loss Risk = 3, Column B / Column G = Amount to Apply, if Column E > 0.

(8) Potential total P2O5 (lb/ac) to be applied by total in Column J. If P Loss Risk (Column H) is 1 then application rate is at the N rate. If P Loss Risk is greater than 1 then Column J is adjusted to meet PI Rating Class as described in footnote (6) above.

Table 1.2
NUTRIENT MANAGEMENT BUDGETS
7H Feeders
Union County, NM
2011 - 2012 Crop Year

			A	B	C	D	E		F	G	H	I	J	K
Field ID	**Crop**	**Yield**	**Crop N Req' mt lb/Ac (1)**	**Crop P2O5 Removal Rate lb/Ac (1)**	**0-6" Soil Test NO3-N lb/Ac (2)**	**0-6" Soil Test P (Bicarb P) ppm (2)**	**Potential Crop N Application Needed lb/Ac (3)**	**Source**	**Plant Available N (4) (5)**	**Plant Available P2O5 (4) (5)**	**P Loss Risk (6)**	**Com. Fert. Rate N lb/Ac**	**Amount to Apply (7)**	**P2O5 Application (PI Adjusted) lb/ac (8)**
Manure									**(lb/ton)**	**(lb/ton)**			**(tons/ac)**	
LMU 3	Corn Grain	220 bu	250	75	36	123	214	Stockpile	18.9	42.1	1	0	**11.3**	477
	(budgets for some alternative crops/combinations below)													
LMU 3	Wheat Forage / Corn grain	6T/180bu	450	105	36	123	414	Stockpile	18.9	42.1	1	0	21.9	922
LMU 3	Small Grain (SG) Silage	12T	160	67	36	123	124	Stockpile	18.9	42.1	1	0	6.6	276
LMU 3	Corn Silage	25T	350	96	36	123	314	Stockpile	18.9	42.1	1	0	16.6	699
LMU 3	Corn Grain	220 bu	250	75	36	123	214	Stockpile	18.9	42.1	1	0	11.3	477
LMU 3	Sorghum Forage/Silage	20T	280	74	36	123	244	Stockpile	18.9	42.1	1	0	12.9	544
LMU 3	Wheat Forage	6T	240	37	36	123	204	Stockpile	18.9	42.1	1	0	10.8	454
LMU 3	Forage - other Small Grains	6T	240	37	36	123	204	Stockpile	18.9	42.1	1	0	10.8	454
LMU 3	Forage - cool season grass blend	4T	240	43	36	123	204	Stockpile	18.9	42.1	1	0	10.8	454
LMU 3	Forage - warm season grass blend	6T	200	35	36	123	164	Stockpile	18.9	42.1	1	0	8.7	365
LMU 3	Wheat Forage / Corn Silage	6T/25T	590	133	36	123	554	Stockpile	18.9	42.1	1	0	29.3	1234
LMU 3	Wheat Forage / Sorgh Silage	6T/20T	520	111	36	123	484	Stockpile	18.9	42.1	1	0	25.6	1078
LMU 3	Small Grain (SG) Silage	4T	55	25	36	123	19	Stockpile	18.9	42.1	1	0	1.0	42
LMU 3	Corn Silage	8T	85	38	36	123	49	Stockpile	18.9	42.1	1	0	2.6	109
LMU 3	Corn Grain	50 bu	70	25	36	123	34	Stockpile	18.9	42.1	1	0	1.8	76
LMU 3	Sorghum Forage/Silage	8T	145	40	36	123	109	Stockpile	18.9	42.1	1	0	5.8	243
LMU 3	Wheat Forage	3T	60	12	36	123	24	Stockpile	18.9	42.1	1	0	1.3	53
LMU 3	Forage - other Small Grains	3T	60	12	36	123	24	Stockpile	18.9	42.1	1	0	1.3	53
LMU 3	Forage - cool season grass blend	1.5T	85	20	36	123	49	Stockpile	18.9	42.1	1	0	2.6	109
LMU 3	Forage - warm season grass blend	2T	120	17	36	123	84	Stockpile	18.9	42.1	1	0	4.4	187
Effluent									**(lb/ac-in)**	**(lb/ac-in)**			**(in/ac)**	

Notes:

(1) Crop Nitrogen Requirement (nutrient needs), lbs/ac and based on Crop Requirement tables utilized by the Texas 590-633 Nutrient Managment - Nutrient Utilization Worksheets. New Mexico specific information is non existant and cropping systems/climates are simlar for west Texas and eastern NM.

(2) Obtained from annual soil tests results for each field.

(3) Column A-Column C-Column I = Potential Crop N Application Needed to be supplied by organic source. Negative value indicates residual is higher than crop N requirement which will result in no planned nutrient application.

(4) Site specific effluent analysis dated 11/29/2010. Total-N =100 ppm, Org-N = 52 ppm, NH3-N = 48 ppm, P2O5 = 210 ppm. Manure analysis (11/29/2010) Total N = 36.8#/ton, Org N = 28.2#/ton, NH3-N = 8.4#/ton, P2O5 = 46.8 #/ton

(5) Availability of N is estimated utilizing the USDA Ag Waste Management Handbook, Chapter 11. Plant Available N = (Organic * 52%) + (Ammonia * 35%); Manure Available N = (Organic * 52%) + (Ammonia * 50%); Effluent and Manure P2O5 Available = 90% Total P2O5.

(6) Calculated using the New Mexico Phosphorus Index Worksheet (1=Very Low, Low, Medium (Max rate = N rate), 2=High (Max rate = 1.5 P removal), 3=Very High (Max rate = P removal), 4=Excessive (no application))

(7) The amount of each nutrient source (inches/ac for effluent and tons/ac for manure) to apply based on analysis of Potential Crop N Applicaton Needed and PI rating/limits. For P Loss Risk = 1, Column E / Column F = Amount to Apply. For P Loss Risk = 2, Column B * 1.5 / Column G = Amount to Apply if Column E > 0, For P Loss Risk = 3, Column B / Column G = Amount to Apply, if Column E > 0.

(8) Potential total P2O5 (lb/ac) to be applied by total in Column J. If P Loss Risk (Column H) is 1 then application rate is at the N rate. If P Loss Risk is greater than 1 then Column J is adjusted to meet PI Rating Class as described in footnote (6) above.

Table 1.2
NUTRIENT MANAGEMENT BUDGETS
7H Feeders
Union County, NM
2011 - 2012 Crop Year

			A	B	C	D	E		F	G	H	I	J	K
Field ID	**Crop**	**Yield**	**Crop N Req' mt lb/Ac (1)**	**Crop P2O5 Removal Rate lb/Ac (1)**	**0-6" Soil Test NO3-N lb/Ac (2)**	**0-6" Soil Test P (Bicarb P) ppm (2)**	**Potential Crop N Application Needed lb/Ac (3)**	**Source**	**Plant Available N (4) (5)**	**Plant Available P2O5 (4) (5)**	**P Loss Risk (6)**	**Com. Fert. Rate N lb/Ac**	**Amount to Apply (7)**	**P2O5 Application (PI Adjusted) lb/ac (8)**
Manure									**(lb/ton)**	**(lb/ton)**			**(tons/ac)**	
LMU 4	Corn Grain	220 bu	250	75	31	131	219	Stockpile	18.9	42.1	1	0	**11.6**	488
	(budgets for some alternative crops/combinations below)													
LMU 4	Wheat Forage / Corn grain	6T/180bu	450	105	31	131	419	Stockpile	18.9	42.1	1	0	22.2	933
LMU 4	Small Grain (SG) Silage	12T	160	67	31	131	129	Stockpile	18.9	42.1	1	0	6.8	287
LMU 4	Corn Silage	25T	350	96	31	131	319	Stockpile	18.9	42.1	1	0	16.9	711
LMU 4	Corn Grain	220 bu	250	75	31	131	219	Stockpile	18.9	42.1	1	0	11.6	488
LMU 4	Sorghum Forage/Silage	20T	280	74	31	131	249	Stockpile	18.9	42.1	1	0	13.2	555
LMU 4	Wheat Forage	6T	240	37	31	131	209	Stockpile	18.9	42.1	1	0	11.1	466
LMU 4	Forage - other Small Grains	6T	240	37	31	131	209	Stockpile	18.9	42.1	1	0	11.1	466
LMU 4	Forage - cool season grass blend	4T	240	43	31	131	209	Stockpile	18.9	42.1	1	0	11.1	466
LMU 4	Forage - warm season grass blend	6T	200	35	31	131	169	Stockpile	18.9	42.1	1	0	8.9	376
LMU 4	Wheat Forage / Corn Silage	6T/25T	590	133	31	131	559	Stockpile	18.9	42.1	1	0	29.6	1245
LMU 4	Wheat Forage / Sorgh Silage	6T/20T	520	111	31	131	489	Stockpile	18.9	42.1	1	0	25.9	1089
LMU 4	Small Grain (SG) Silage	4T	55	25	31	131	24	Stockpile	18.9	42.1	1	0	1.3	53
LMU 4	Corn Silage	8T	85	38	31	131	54	Stockpile	18.9	42.1	1	0	2.9	120
LMU 4	Corn Grain	50 bu	70	25	31	131	39	Stockpile	18.9	42.1	1	0	2.1	87
LMU 4	Sorghum Forage/Silage	8T	145	40	31	131	114	Stockpile	18.9	42.1	1	0	6.0	254
LMU 4	Wheat Forage	3T	60	12	31	131	29	Stockpile	18.9	42.1	1	0	1.5	65
LMU 4	Forage - other Small Grains	3T	60	12	31	131	29	Stockpile	18.9	42.1	1	0	1.5	65
LMU 4	Forage - cool season grass blend	1.5T	85	20	31	131	54	Stockpile	18.9	42.1	1	0	2.9	120
LMU 4	Forage - warm season grass blend	2T	120	17	31	131	89	Stockpile	18.9	42.1	1	0	4.7	198
Effluent									**(lb/ac-in)**	**(lb/ac-in)**			**(in/ac)**	

Notes:

(1) Crop Nitrogen Requirement (nutrient needs), lbs/ac and based on Crop Requirement tables utilized by the Texas 590-633 Nutrient Managment - Nutrient Utilization Worksheets. New Mexico specific information is non existant and cropping systems/climates are simlar for west Texas and eastern NM.

(2) Obtained from annual soil tests results for each field.

(3) Column A-Column C-Column I = Potential Crop N Application Needed to be supplied by organic source. Negative value indicates residual is higher than crop N requirement which will result in no planned nutrient application.

(4) Site specific effluent analysis dated 11/29/2010. Total-N =100 ppm, Org-N = 52 ppm, NH3-N = 48 ppm, P2O5 = 210 ppm. Manure analysis (11/29/2010) Total N = 36.8#/ton, Org N = 28.2#/ton, NH3-N = 8.4#/ton, P2O5 = 46.8 #/ton

(5) Availability of N is estimated utilizing the USDA Ag Waste Management Handbook, Chapter 11. Plant Available N = (Organic * 52%) + (Ammonia * 35%); Manure Available N = (Organic * 52%) + (Ammonia * 50%); Effluent and Manure P2O5 Available = 90% Total P2O5.

(6) Calculated using the New Mexico Phosphorus Index Worksheet (1=Very Low, Low, Medium (Max rate = N rate), 2=High (Max rate = 1.5 P removal), 3=Very High (Max rate = P removal), 4=Excessive (no application))

(7) The amount of each nutrient source (inches/ac for effluent and tons/ac for manure) to apply based on analysis of Potential Crop N Applicaton Needed and PI rating/limits. For P Loss Risk = 1, Column E / Column F = Amount to Apply. For P Loss Risk = 2, Column B * 1.5 / Column G = Amount to Apply if Column E > 0, For P Loss Risk = 3, Column B / Column G = Amount to Apply, if Column E > 0.

(8) Potential total P2O5 (lb/ac) to be applied by total in Column J. If P Loss Risk (Column H) is 1 then application rate is at the N rate. If P Loss Risk is greater than 1 then Column J is adjusted to meet PI Rating Class as described in footnote (6) above.

PHOSPHORUS INDEX WORKSHEET for New Mexico

Client Name:	**7H Feeders, Inc**	**Field(s):**	**1**	**Date:**	**11/22/2011**
Planner:	**Shad McDaniel**	**Location:**	**Union Co, NM**	**Crop:**	**corn**
Soil Permeablity (in/hr):	**0.6**	**Slope (%):**	**3%**	**Planned/Exist.:**	**Planned**

Site Characteristic	**Place an X in the approprate box for each of the Site Characteristic listed below.**					**Sub Total**
Soil Test P Level	Very Low <8 ppm	Low 8-15 ppm	Moderate >15-23 ppm	High >23-30 ppm	Very High >30 ppm	
					X	8
Phosphorus (P_2O_5) Application Rate	None Applied	<30 lbs/ac P_2O_5	30-90 lbs/ac P_2O_5	>90-150 lbs/ac P_2O_5	>150 lbs/ac P_2O_5	
					X	8
Organic Phosphorus Source Application Method	None Applied	Injected Deeper than 2 inches	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
				X		4
Phosphorus Fertilizer Application Method	None Applied	Placed with Planter Deeper than 2 in.	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
	X					0
Proximity of Nearest Field Edge to Named Stream or Lake	Very Low >1000 feet	Low >500-1000 feet	Medium >200-500 feet	High 30-200 feet	Very High <30 feet	
	X					0
Soil Erosion (wind & water)	Very Low <1 t/ac	Low 1-3 t/ac	Medium >3-5 t/ac	High >5-15 t/ac	Very High >15 t/ac	
			X			3
Runoff Class (Runoff Class Table 2)	Very Low or Negligible	Low	Medium	High	Very High	
	X					0
Irrigation Erosion (See QS note)	Not Irrigated or No Furrow Irrigation	Tailwater Recovery **or** QS<6 for very erodible soils **or** QS<10 for resistant soils	QS>10 for erosion resistant soils	QS>10 for erodible soils	QS>6 for very erodible soils	
	X					0
Grazing Management	Not Grazed	Graze Crop Residues	Pasture <30% Dry Matter as Supplemental Feed	Pasture 30 to 80% Dry Matter as Supplemental Feed	Pasture 80 to 100% Dry Matter as Supplemental Feed	
				X		2
Vegetative Buffer	> 100 ft wide	>65-100 ft wide	20-65 feet wide	< 20 feet wide	No Buffer	
	X					0

P Hazard Class: **Medium** **Total Index Points:** **25.0**

Phosphorus Application Classification: **N Based**

Notes:

This evaluation has a Medium P hazard class and the nutrient application can be based on N.

Comments:

PHOSPHORUS INDEX WORKSHEET for New Mexico

Client Name:	**7H Feeders, Inc**	**Field(s):**	**2**	**Date:**	**11/22/2011**
Planner:	**Shad McDaniel**	**Location:**	**Union Co, NM**	**Crop:**	**corn**
Soil Permeablity (in/hr):	**0.6**	**Slope (%):**	**3%**	**Planned/Exist.:**	**Planned**

Site Characteristic	**Place an X in the approprate box for each of the Site Characteristic listed below.**					**Sub Total**
Soil Test P Level	Very Low <8 ppm	Low 8-15 ppm	Moderate >15-23 ppm	High >23-30 ppm	Very High >30 ppm	
					X	8
Phosphorus (P_2O_5) Application Rate	None Applied	<30 lbs/ac P_2O_5	30-90 lbs/ac P_2O_5	>90-150 lbs/ac P_2O_5	>150 lbs/ac P_2O_5	
					X	8
Organic Phosphorus Source Application Method	None Applied	Injected Deeper than 2 inches	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
				X		4
Phosphorus Fertilizer Application Method	None Applied	Placed with Planter Deeper than 2 in.	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
	X					0
Proximity of Nearest Field Edge to Named Stream or Lake	Very Low >1000 feet	Low >500-1000 feet	Medium >200-500 feet	High 30-200 feet	Very High <30 feet	
			X			3
Soil Erosion (wind & water)	Very Low <1 t/ac	Low 1-3 t/ac	Medium >3-5 t/ac	High >5-15 t/ac	Very High >15 t/ac	
			X			3
Runoff Class (Runoff Class Table 2)	Very Low or Negligible	Low	Medium	High	Very High	
	X					0
Irrigation Erosion (See QS note)	Not Irrigated or No Furrow Irrigation	Tailwater Recovery **or** QS<6 for very erodible soils **or** QS<10 for resistant soils	QS>10 for erosion resistant soils	QS>10 for erodible soils	QS>6 for very erodible soils	
	X					0
Grazing Management	Not Grazed	Graze Crop Residues	Pasture <30% Dry Matter as Supplemental Feed	Pasture 30 to 80% Dry Matter as Supplemental Feed	Pasture 80 to 100% Dry Matter as Supplemental Feed	
		X				0.5
Vegetative Buffer	> 100 ft wide	>65-100 ft wide	20-65 feet wide	< 20 feet wide	No Buffer	
	X					0

P Hazard Class:	**Medium**	**Total Index Points:**	**26.5**
Phosphorus Application Classification:		**N Based**	

Notes:

This evaluation has a Medium P hazard class and the nutrient application can be based on N.

Comments:

Manure application within 200 ft of dry stream bed should be based on 1.5 * P crop removal.

PHOSPHORUS INDEX WORKSHEET for New Mexico

Client Name:	**7H Feeders, Inc**	**Field(s):**	**3**	**Date:**	**11/22/2011**
Planner:	**Shad McDaniel**	**Location:**	**Union Co, NM**	**Crop:**	**corn**
Soil Permeablity (in/hr):	**0.6**	**Slope (%):**	**3%**	**Planned/Exist.:**	**Planned**

Site Characteristic	**Place an X in the approprate box for each of the Site Characteristic listed below.**					**Sub Total**
Soil Test P Level	Very Low <8 ppm	Low 8-15 ppm	Moderate >15-23 ppm	High >23-30 ppm	Very High >30 ppm	
					X	8
Phosphorus (P_2O_5) Application Rate	None Applied	<30 lbs/ac P_2O_5	30-90 lbs/ac P_2O_5	>90-150 lbs/ac P_2O_5	>150 lbs/ac P_2O_5	
					X	8
Organic Phosphorus Source Application Method	None Applied	Injected Deeper than 2 inches	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
				X		4
Phosphorus Fertilizer Application Method	None Applied	Placed with Planter Deeper than 2 in.	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
	X					0
Proximity of Nearest Field Edge to Named Stream or Lake	Very Low >1000 feet	Low >500-1000 feet	Medium >200-500 feet	High 30-200 feet	Very High <30 feet	
	X					0
Soil Erosion (wind & water)	Very Low <1 t/ac	Low 1-3 t/ac	Medium >3-5 t/ac	High >5-15 t/ac	Very High >15 t/ac	
			X			3
Runoff Class (Runoff Class Table 2)	Very Low or Negligible	Low	Medium	High	Very High	
	X					0
Irrigation Erosion (See QS note)	Not Irrigated or No Furrow Irrigation	Tailwater Recovery **or** QS<6 for very erodible soils **or** QS<10 for resistant soils	QS>10 for erosion resistant soils	QS>10 for erodible soils	QS>6 for very erodible soils	
	X					0
Grazing Management	Not Grazed	Graze Crop Residues	Pasture <30% Dry Matter as Supplemental Feed	Pasture 30 to 80% Dry Matter as Supplemental Feed	Pasture 80 to 100% Dry Matter as Supplemental Feed	
				X		2
Vegetative Buffer	> 100 ft wide	>65-100 ft wide	20-65 feet wide	< 20 feet wide	No Buffer	
	X					0

P Hazard Class:	**Medium**	**Total Index Points:**	**25.0**
Phosphorus Application Classification:		**N Based**	

Notes:

This evaluation has a Medium P hazard class and the nutrient application can be based on N.

Comments:

PHOSPHORUS INDEX WORKSHEET for New Mexico

Client Name:	**7H Feeders, Inc**	**Field(s):**	**4**	**Date:**	**11/22/2011**
Planner:	**Shad McDaniel**	**Location:**	**Union Co, NM**	**Crop:**	**corn**
Soil Permeablity (in/hr):	**0.6**	**Slope (%):**	**3%**	**Planned/Exist.:**	**Planned**

Site Characteristic	**Place an X in the approprate box for each of the Site Characteristic listed below.**					**Sub Total**
Soil Test P Level	Very Low <8 ppm	Low 8-15 ppm	Moderate >15-23 ppm	High >23-30 ppm	Very High >30 ppm	
					X	8
Phosphorus (P_2O_5) Application Rate	None Applied	<30 lbs/ac P_2O_5	30-90 lbs/ac P_2O_5	>90-150 lbs/ac P_2O_5	>150 lbs/ac P_2O_5	
					X	8
Organic Phosphorus Source Application Method	None Applied	Injected Deeper than 2 inches	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
				X		4
Phosphorus Fertilizer Application Method	None Applied	Placed with Planter Deeper than 2 in.	Incorporated Immediately before Planting	Incorp. >3 Mo. Before Planting **or** Surface Applied <3 Mo. before Planting	Surface Applied >3 Months Before Planting	
	X					0
Proximity of Nearest Field Edge to Named Stream or Lake	Very Low >1000 feet	Low >500-1000 feet	Medium >200-500 feet	High 30-200 feet	Very High <30 feet	
			X			3
Soil Erosion (wind & water)	Very Low <1 t/ac	Low 1-3 t/ac	Medium >3-5 t/ac	High >5-15 t/ac	Very High >15 t/ac	
			X			3
Runoff Class (Runoff Class Table 2)	Very Low or Negligible	Low	Medium	High	Very High	
	X					0
Irrigation Erosion (See QS note)	Not Irrigated or No Furrow Irrigation	Tailwater Recovery **or** QS<6 for very erodible soils **or** QS<10 for resistant soils	QS>10 for erosion resistant soils	QS>10 for erodible soils	QS>6 for very erodible soils	
	X					0
Grazing Management	Not Grazed	Graze Crop Residues	Pasture <30% Dry Matter as Supplemental Feed	Pasture 30 to 80% Dry Matter as Supplemental Feed	Pasture 80 to 100% Dry Matter as Supplemental Feed	
		X				0.5
Vegetative Buffer	> 100 ft wide	>65-100 ft wide	20-65 feet wide	< 20 feet wide	No Buffer	
	X					0

P Hazard Class:	**Medium**	**Total Index Points:**	**26.5**
Phosphorus Application Classification:		**N Based**	

Notes:

This evaluation has a Medium P hazard class and the nutrient application can be based on N.

Comments:

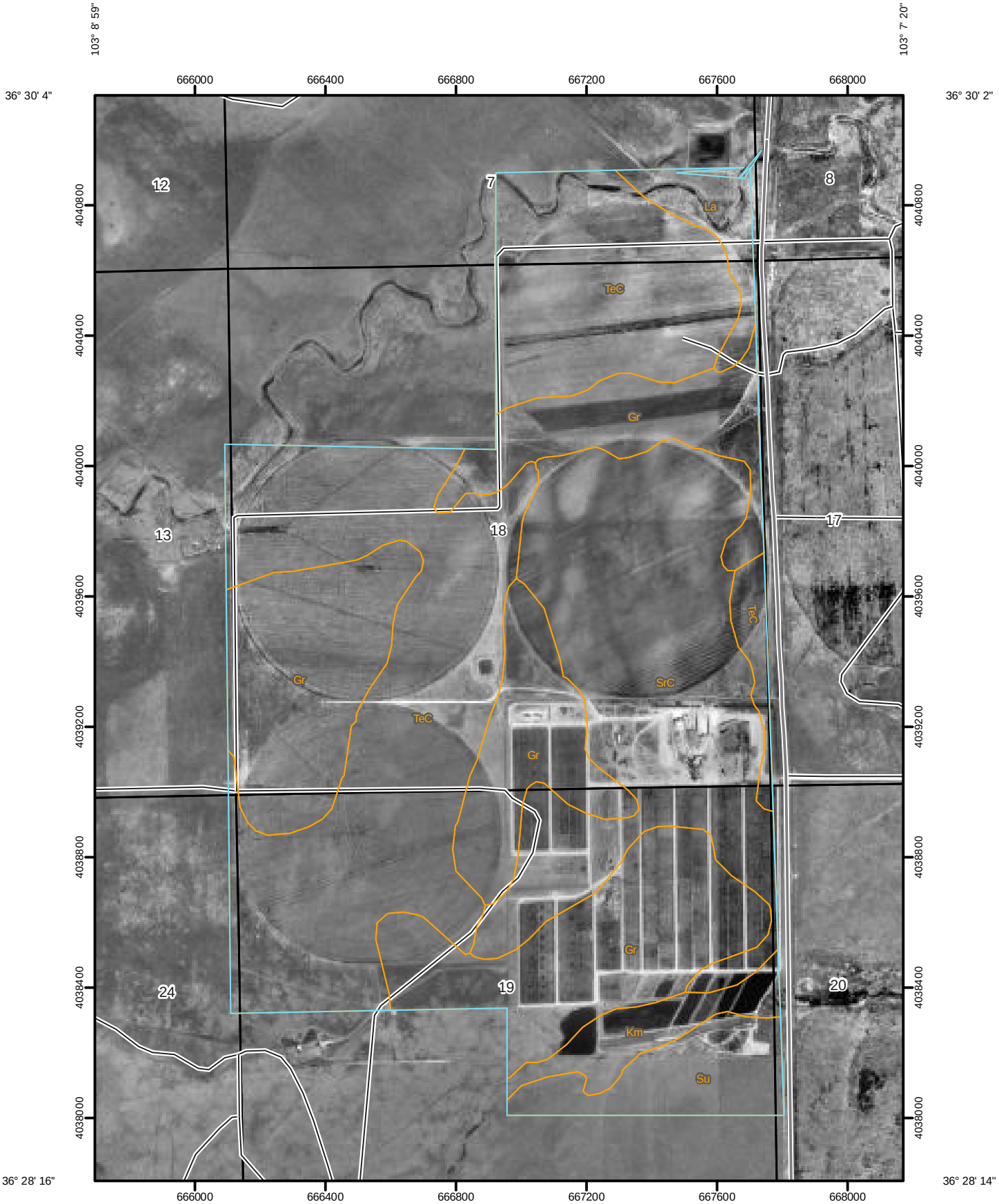
Manure application within 200 ft of dry stream bed should be based on 1.5 * P crop removal.

Crop	Crop N requirement	Crop P2O5 requirement	lbs DM or air dried produced per year	Data Reference (source)	Crop N Removal Rate	Crop P_2O_5 Removal Rate
Corn 50 - 70 bu H	70	80	3920		63	25
Corn 50 - 70 bu M	70	80	3920		63	25
Corn 50 - 70 bu VH	70	80	3920		63	25
Corn 50 - 70 bu VL - L	70	80	3920	in harvested material	63	25
Corn 71 - 90 bu H	90	80	5040		81	32
Corn 71 - 90 bu M	90	80	5040		81	32
Corn 71 - 90 bu VH	90	80	5040		81	32
Corn 71 - 90 bu VL - L	90	80	5040		81	32
Corn 91 - 110 bu H	120	105	6160		99	39
Corn 91 - 110 bu M	120	105	6160		99	39
Corn 91 - 110 bu VH	120	105	6160		99	39
Corn 91 - 110 bu VL - L	120	105	6160		99	39
Corn 111 - 130 bu H	144	105	7280		117	47
Corn 111 - 130 bu M	144	105	7280		117	47
Corn 111 - 130 bu VH	144	105	7280		117	47
Corn 111 - 130 bu VL - L	144	105	7280		117	47
Corn 131 - 150 bu H	164	105	8400		135	54
Corn 131 - 150 bu M	164	105	8400		135	54
Corn 131 - 150 bu VH	164	105	8400		135	54
Corn 131 - 150 bu VL - L	164	105	8400		135	54
Corn 151 - 170 bu H	180	130	9520		153	61
Corn 151 - 170 bu M	180	130	9520		153	61
Corn 151 - 170 bu VH	180	130	9520		153	61
Corn 151 - 170 bu VL - L	180	130	9520		153	61
Corn 171 - 190 bu H	210	130	10604		171	68
Corn 171 - 190 bu M	210	130	10604		171	68
Corn 171 - 190 bu VH	210	130	10604		171	68
Corn 171 - 190 bu VL - L	210	130	10604		171	68
Corn 191 - 210 bu H	250	130	11760		189	75
Corn 191 - 210 bu M	250	130	11760		189	75
Corn 191 - 210 bu VH	250	130	11760		189	75
Corn 191 - 210 bu VL - L	250	130	11760		189	75
Corn 211 - 230 bu H	280	130	12880		207	83
Corn 211 - 230 bu M	280	130	12880		207	83
Corn 211 - 230 bu VH	280	130	12880		207	83
Corn 211 - 230 bu VL - L	280	130	12880		207	83
Corn 231 - 250 bu H	300	130	14000		225	90
Corn 231 - 250 bu M	300	130	14000		225	90
Corn 231 - 250 bu VH	300	130	14000		225	90
Corn 231 - 250 bu VL - L	300	130	14000		225	90
Corn 250 - 275 bu H	325	130	15120		243	97
Corn 250 - 275 bu M	325	130	15120		243	97
Corn 250 - 275 bu VH	325	130	15120		243	97
Corn 250 - 275 bu VL - L	325	130	15120		243	97
Corn 276 - 300 bu H	350	130	16240		261	104
Corn 276 - 300 bu M	350	130	16240		261	104
Corn 276 - 300 bu VH	350	130	16240		261	104
Corn 276 - 300 bu VL - L	350	130	16240		261	104
Corn 301 - 350 bu H	375	130	17360		279	111
Corn 301 - 350 bu M	375	130	17360		279	111
Corn 301 - 350 bu VH	375	130	17360		279	111
Corn 301 - 350 bu VL - L	375	130	17360		279	111
Midland Bermuda 4000 # H	120	80	4000	used coastal	75	17
Midland Bermuda 4000 # M	120	80	4000		75	17
Midland Bermuda 4000 # VH	120	80	4000		75	17
Midland Bermuda 4000 # VL - L	120	80	4000		75	17
Midland Bermuda 6000 # H	150	105	6000		113	26
Midland Bermuda 6000 # M	150	105	6000		113	26
Midland Bermuda 6000 # VH	150	105	6000		113	26
Midland Bermuda 6000 # VL - L	150	105	6000		113	26
Midland Bermuda 8000 # H	200	105	8000		150	35
Midland Bermuda 8000 # M	200	105	8000		150	35
Midland Bermuda 8000 # VH	200	105	8000		150	35
Midland Bermuda 8000 # VL - L	200	105	8000		150	35
Rye Forage 5000 # H	140	55	5000	Used ryegrass	84	31
Rye Forage 5000 # M	140	55	5000		84	31
Rye Forage 5000 # VH	140	55	5000		84	31
Rye Forage 5000 # VL - L	140	55	5000		84	31
Rye Forage 7000 # H	240	80	7000		117	43
Rye Forage 7000 # M	240	80	7000		117	43

Rye Forage 7000 # VH	240	80	7000		117	43
Rye Forage 7000 # VL - L	240	80	7000		117	43
SG Silage(35% DM) 5 to 7 tons H	70	30	4900	Stephenville published values 1997-98	64	34
SG Silage(35% DM) 5 to 7 tons M	70	30	4900	Stephenville published values 1997-98	64	34
SG Silage(35% DM) 5 to 7 tons VH	70	30	4900	Stephenville published values 1997-98	64	34
SG Silage(35% DM) 5 to 7 tons VL - L	70	30	4900	Stephenville published values 1997-98	64	34
SG Silage(35% DM) 8 to 9 tons H	95	40	6300	Stephenville published values 1997-98	83	43
SG Silage(35% DM) 8 to 9 tons M	95	40	6300	Stephenville published values 1997-98	83	43
SG Silage(35% DM) 8 to 9 tons VH	95	40	6300	Stephenville published values 1997-98	83	43
SG Silage(35% DM) 8 to 9 tons VL - L	95	40	6300	Stephenville published values 1997-98	83	43
SG Silage(35% DM) 10 to 11 tons H	120	70	7700	Stephenville published values 1997-98	101	53
SG Silage(35% DM) 10 to 11 tons M	120	70	7700	Stephenville published values 1997-98	101	53
SG Silage(35% DM) 10 to 11 tons VH	120	70	7700	Stephenville published values 1997-98	101	53
SG Silage(35% DM) 10 to 11 tons VL - L	120	70	7700	Stephenville published values 1997-98	101	53
SG Silage(35% DM) 12 to 14 tons H	160	90	9800	Stephenville published values 1997-98	128	67
SG Silage(35% DM) 12 to 14 tons M	160	90	9800	Stephenville published values 1997-98	128	67
SG Silage(35% DM) 12 to 14 tons VH	160	90	9800	Stephenville published values 1997-98	128	67
SG Silage(35% DM) 12 to 14 tons VL - L	160	90	9800	Stephenville published values 1997-98	128	67
Silage - Corn(35% DM) 7 - 10 Ton H	85	60	7000	Stephenville published values 1997-98	79	38
Silage - Corn(35% DM) 7 - 10 Ton M	85	60	7000	Stephenville published values 1997-98	79	38
Silage - Corn(35% DM) 7 - 10 Ton VH	85	60	7000	Stephenville published values 1997-98	79	38
Silage - Corn(35% DM) 7 - 10 Ton VL - L	85	60	7000	Stephenville published values 1997-98	79	38
Silage - Corn(35% DM) 11 - 15 Ton H	140	80	10500	Stephenville published values 1997-98	119	58
Silage - Corn(35% DM) 11 - 15 Ton M	140	80	10500	Stephenville published values 1997-98	119	58
Silage - Corn(35% DM) 11 - 15 Ton VH	140	80	10500	Stephenville published values 1997-98	119	58
Silage - Corn(35% DM) 11 - 15 Ton VL - L	140	80	10500	Stephenville published values 1997-98	119	58
Silage - Corn(35% DM) 16 - 20 Ton H	240	100	14000	Stephenville published values 1997-98	183	77
Silage - Corn(35% DM) 16 - 20 Ton M	240	100	14000	Stephenville published values 1997-98	183	77
Silage - Corn(35% DM) 16 - 20 Ton VH	240	100	14000	Stephenville published values 1997-98	183	77
Silage - Corn(35% DM) 16 - 20 Ton VL - L	240	100	14000	Stephenville published values 1997-98	183	77
Silage - Corn(35% DM) 21 - 25 Ton H	350	105	17500	Stephenville published values 1997-98	263	96
Silage - Corn(35% DM) 21 - 25 Ton M	350	105	17500	Stephenville published values 1997-98	263	96
Silage - Corn(35% DM) 21 - 25 Ton VH	350	105	17500	Stephenville published values 1997-98	263	96
Silage - Corn(35% DM) 21 - 25 Ton VL - L	350	105	17500	Stephenville published values 1997-98	263	96
Silage - Corn(35% DM) 26 - 30 Ton H	420	135	21000	Stephenville published values 1997-98	315	115
Silage - Corn(35% DM) 26 - 30 Ton M	420	135	21000	Stephenville published values 1997-98	315	115
Silage - Corn(35% DM) 26 - 30 Ton VH	420	135	21000	Stephenville published values 1997-98	315	115
Silage - Corn(35% DM) 26 - 30 Ton VL - L	420	135	21000	Stephenville published values 1997-98	315	115
Silage - Sorg(35% DM) 11 - 15 Ton H	200	75	10500	2003 Bushland values	179	55
Silage - Sorg(35% DM) 11 - 15 Ton M	200	75	10500	2003 Bushland values	179	55
Silage - Sorg(35% DM) 11 - 15 Ton VH	200	75	10500	2003 Bushland values	179	55
Silage - Sorg(35% DM) 11 - 15 Ton VL - L	200	75	10500	2003 Bushland values	179	55
Silage - Sorg(35% DM) 16 - 20 Ton H	280	95	14000	2003 Bushland values	238	74
Silage - Sorg(35% DM) 16 - 20 Ton M	280	95	14000	2003 Bushland values	238	74
Silage - Sorg(35% DM) 16 - 20 Ton VH	280	95	14000	2003 Bushland values	238	74

Silage - Sorg(35% DM) 16 - 20 Ton VL - L	280	95	14000	2003 Bushland values	238	74
Silage - Sorg(35% DM) 21 - 25 Ton H	360	115	17500	2003 Bushland values	298	92
Silage - Sorg(35% DM) 21 - 25 Ton M	360	115	17500	2003 Bushland values	298	92
Silage - Sorg(35% DM) 21 - 25 Ton VH	360	115	17500	2003 Bushland values	298	92
Silage - Sorg(35% DM) 21 - 25 Ton VL - L	360	115	17500	2003 Bushland values	298	92
Silage - Sorg(35% DM) 26 - 30 Ton H	380	130	21000	2003 Bushland values	315	111
Silage - Sorg(35% DM) 26 - 30 Ton M	380	130	21000	2003 Bushland values	315	111
Silage - Sorg(35% DM) 26 - 30 Ton VH	380	130	21000	2003 Bushland values	315	111
Silage - Sorg(35% DM) 26 - 30 Ton VL - L	380	130	21000	2003 Bushland values	315	111
Wheat Forage 2000 # H	60	80	2000	Used ryegrass	33	12
Wheat Forage 2000 # M	60	80	2000		33	12
Wheat Forage 2000 # VH	60	80	2000		33	12
Wheat Forage 2000 # VL - L	60	80	2000		33	12
Wheat Forage 4000 # H	160	105	4000		67	25
Wheat Forage 4000 # M	160	105	4000		67	25
Wheat Forage 4000 # VH	160	105	4000		67	25
Wheat Forage 4000 # VL - L	160	105	4000		67	25
Wheat Forage 6000 # H	240	105	6000		100	37
Wheat Forage 6000 # M	240	105	6000		100	37
Wheat Forage 6000 # VH	240	105	6000		100	37
Wheat Forage 6000 # VL - L	240	105	6000		100	37

Soil Map—Union County, New Mexico
(7H Feeders, Inc)



Map Scale: 1:15,900 if printed on A size (8.5" x 11") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1,000 2,000 3,000

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Survey Areas

Soil Map Units

Political Features

PLSS Section

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:15,900 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 13N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Union County, New Mexico
Survey Area Data: Version 10, Dec 9, 2008

Date(s) aerial images were photographed: 3/11/1997; 1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Union County, New Mexico (NM059)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Gr	Gruver loam	296.7	31.4%
Km	Kim-Manzano association	26.2	2.8%
La	La Brier silty clay loam	20.7	2.2%
SrC	Spurlock loam, 1 to 5 percent slopes	207.5	22.0%
Su	Spurlock-Plack complex	39.9	4.2%
TeC	Texline loam, 1 to 5 percent slopes	352.8	37.4%
Totals for Area of Interest		**943.8**	**100.0%**

Union County, New Mexico

Gr—Gruver loam

Map Unit Setting

Elevation: 4,500 to 5,900 feet
Mean annual precipitation: 14 to 17 inches
Mean annual air temperature: 54 to 61 degrees F
Frost-free period: 150 to 170 days

Map Unit Composition

Gruver and similar soils: 85 percent

Description of Gruver

Setting

Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability (nonirrigated): 3e
Ecological site: Gravelly Loam (R077BY026NM)

Typical profile

0 to 6 inches: Loam
6 to 26 inches: Clay loam
26 to 60 inches: Clay loam

Data Source Information

Soil Survey Area: Union County, New Mexico
Survey Area Data: Version 10, Dec 9, 2008

Union County, New Mexico

SrC—Spurlock loam, 1 to 5 percent slopes

Map Unit Setting

Elevation: 4,500 to 5,900 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 54 to 61 degrees F
Frost-free period: 160 to 180 days

Map Unit Composition

Spurlock and similar soils: 85 percent

Description of Spurlock

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Calcareous alluvium

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability (nonirrigated): 4e
Ecological site: High Lime (R077BY011NM)

Typical profile

0 to 6 inches: Loam
6 to 40 inches: Clay loam
40 to 60 inches: Clay loam

Data Source Information

Soil Survey Area: Union County, New Mexico
Survey Area Data: Version 10, Dec 9, 2008

Union County, New Mexico

TeC—Texline loam, 1 to 5 percent slopes

Map Unit Setting

Elevation: 4,300 to 7,500 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 54 to 61 degrees F
Frost-free period: 150 to 170 days

Map Unit Composition

Texline and similar soils: 85 percent

Description of Texline

Setting

Landform: Valley flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability (nonirrigated): 4e
Ecological site: Gravelly Loam (R077BY026NM)

Typical profile

0 to 5 inches: Loam
5 to 16 inches: Clay loam
16 to 60 inches: Silty clay loam

Data Source Information

Soil Survey Area: Union County, New Mexico
Survey Area Data: Version 10, Dec 9, 2008

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap. (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1971*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 1 of 10		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	145%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.0

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.16	0.00	0.00	0.00	0.03	0.14	0.17	3.32	0.66	(0.49)	0.00	0.00
FEB	0.36	0.00	0.00	0.00	0.08	0.14	0.22	2.34	0.42	(0.20)	0.00	0.00
MAR	0.16	0.00	0.00	0.00	0.03	0.06	0.09	3.50	0.70	(0.61)	0.00	0.00
APR	1.85	0.34	0.00	0.00	0.39	0.00	0.73	5.84	0.92	(0.19)	0.00	0.00
MAY	2.91	1.04	0.00	0.00	0.61	0.00	1.64	7.87	1.26	0.38	0.38	0.00
JUN	3.74	1.71	0.00	0.01	0.78	0.00	2.50	8.62	1.38	1.12	1.50	0.00
JUL	2.28	0.59	0.00	0.00	0.48	0.00	1.07	9.40	1.62	(0.56)	0.95	0.00
AUG	0.60	0.00	0.00	0.00	0.13	0.00	0.13	8.21	1.60	(1.47)	0.00	0.00
SEP	2.27	0.59	0.00	0.00	0.47	0.00	1.06	7.25	1.18	(0.12)	0.00	0.00
OCT	2.05	0.45	0.00	0.00	0.43	0.00	0.88	5.86	0.91	(0.03)	0.00	0.00
NOV	3.19	1.25	0.00	0.00	0.66	0.06	1.98	3.54	0.34	1.64	1.64	0.00
DEC	0.78	0.00	0.00	0.00	0.16	0.14	0.30	2.15	0.30	0.01	1.64	0.00
TOTALS:	20.35	5.99	0.00	0.01	4.24	0.54	10.77	67.90	11.29	(0.51)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1972*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 2 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	178%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 4.7

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	1.64	
JAN	0.00	0.00	0.00	0.00	0.00	0.14	0.14	1.37	0.29	(0.15)	1.50	0.00
FEB	0.03	0.00	0.00	0.00	0.01	0.14	0.15	2.66	0.55	(0.40)	1.09	0.00
MAR	0.00	0.00	0.00	0.00	0.00	0.06	0.06	4.40	0.92	(0.86)	0.24	0.00
APR	0.48	0.00	0.00	0.00	0.10	0.00	0.10	6.69	1.30	(1.20)	0.00	0.00
MAY	4.82	2.70	0.00	0.02	1.00	0.00	3.73	6.87	0.98	2.75	2.75	0.00
JUN	2.95	1.07	0.00	0.00	0.61	0.00	1.68	8.12	1.31	0.37	3.12	0.00
JUL	7.52	5.47	0.00	0.09	1.57	0.00	7.13	8.65	1.33	5.80	8.01	0.91
AUG	2.62	0.82	0.00	0.00	0.55	0.00	1.37	9.00	1.52	(0.15)	7.86	0.00
SEP	3.30	1.34	0.00	0.00	0.69	0.00	2.03	6.47	0.95	1.08	8.01	0.94
OCT	1.28	0.10	0.00	0.00	0.27	0.00	0.37	5.23	0.86	(0.50)	7.51	0.00
NOV	1.80	0.32	0.00	0.00	0.38	0.06	0.75	1.79	0.08	0.67	8.01	0.17
DEC	0.18	0.00	0.00	0.00	0.04	0.14	0.18	1.84	0.35	(0.17)	7.84	0.00
TOTALS:	24.98	11.83	0.00	0.11	5.20	0.54	17.68	63.09	10.43	7.25		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1973*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 3 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	91%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 4.8

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	7.84	
JAN	0.32	0.00	0.00	0.00	0.07	0.14	0.21	2.41	0.44	(0.23)	7.60	0.00
FEB	0.35	0.00	0.00	0.00	0.07	0.14	0.21	1.45	0.24	(0.02)	7.58	0.00
MAR	2.97	1.08	0.00	0.00	0.62	0.06	1.76	3.28	0.30	1.46	8.01	1.03
APR	2.22	0.56	0.00	0.00	0.46	0.00	1.02	3.21	0.34	0.68	8.01	0.68
MAY	0.36	0.00	0.00	0.00	0.08	0.00	0.08	6.13	1.21	(1.13)	6.88	0.00
JUN	0.18	0.00	0.00	0.00	0.04	0.00	0.04	8.41	1.72	(1.68)	5.20	0.00
JUL	2.59	0.80	0.00	0.00	0.54	0.00	1.34	9.30	1.58	(0.24)	4.96	0.00
AUG	1.60	0.22	0.00	0.00	0.33	0.00	0.56	9.90	1.79	(1.24)	3.72	0.00
SEP	1.34	0.12	0.00	0.00	0.28	0.00	0.40	6.41	1.10	(0.70)	3.02	0.00
OCT	0.40	0.00	0.00	0.00	0.08	0.00	0.08	6.72	1.32	(1.24)	1.78	0.00
NOV	0.03	0.00	0.00	0.00	0.01	0.06	0.07	4.24	0.88	(0.81)	0.97	0.00
DEC	0.43	0.00	0.00	0.00	0.09	0.14	0.23	4.70	0.90	(0.67)	0.30	0.00
TOTALS:	12.79	2.78	0.00	0.00	2.66	0.54	5.99	66.16	11.82	(5.83)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1974*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 4 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	113%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 1.3

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.30	
JAN	0.41	0.00	0.00	0.00	0.09	0.14	0.23	2.92	0.53	(0.30)	0.00	0.00
FEB	0.02	0.00	0.00	0.00	0.00	0.14	0.14	4.22	0.88	(0.73)	0.00	0.00
MAR	0.73	0.00	0.00	0.00	0.15	0.06	0.21	5.05	0.91	(0.70)	0.00	0.00
APR	1.04	0.04	0.00	0.00	0.22	0.00	0.25	7.78	1.43	(1.18)	0.00	0.00
MAY	0.20	0.00	0.00	0.00	0.04	0.00	0.04	7.63	1.55	(1.51)	0.00	0.00
JUN	1.58	0.21	0.00	0.00	0.33	0.00	0.54	9.80	1.78	(1.23)	0.00	0.00
JUL	1.67	0.25	0.00	0.00	0.35	0.00	0.60	12.90	2.41	(1.81)	0.00	0.00
AUG	5.59	3.46	0.00	0.04	1.16	0.00	4.66	8.28	1.26	3.40	3.40	0.00
SEP	1.29	0.10	0.00	0.00	0.27	0.00	0.37	5.71	0.96	(0.59)	2.81	0.00
OCT	2.74	0.91	0.00	0.00	0.57	0.00	1.48	5.70	0.82	0.66	3.47	0.00
NOV	0.22	0.00	0.00	0.00	0.05	0.06	0.11	3.63	0.71	(0.61)	2.86	0.00
DEC	0.36	0.00	0.00	0.00	0.08	0.14	0.22	1.96	0.34	(0.12)	2.74	0.00
TOTALS:	15.85	4.97	0.00	0.04	3.30	0.54	8.85	75.58	13.58	(4.73)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1975*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 5 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	114%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 1.8

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	2.74	
JAN	0.95	0.02	0.00	0.00	0.20	0.14	0.36	0.89	0.01	0.35	3.09	0.00
FEB	0.66	0.00	0.00	0.00	0.14	0.14	0.28	1.68	0.22	0.05	3.14	0.00
MAR	0.25	0.00	0.00	0.00	0.05	0.06	0.11	5.23	1.04	(0.93)	2.21	0.00
APR	1.22	0.08	0.00	0.00	0.25	0.00	0.33	5.98	1.03	(0.69)	1.52	0.00
MAY	2.02	0.44	0.00	0.00	0.42	0.00	0.86	7.73	1.30	(0.44)	1.08	0.00
JUN	4.90	2.78	0.00	0.02	1.02	0.00	3.82	8.08	1.23	2.59	3.67	0.00
JUL	1.79	0.31	0.00	0.00	0.37	0.00	0.69	8.95	1.58	(0.89)	2.78	0.00
AUG	2.08	0.47	0.00	0.00	0.43	0.00	0.91	9.40	1.64	(0.74)	2.04	0.00
SEP	1.24	0.09	0.00	0.00	0.26	0.00	0.35	4.86	0.79	(0.45)	1.60	0.00
OCT	0.03	0.00	0.00	0.00	0.01	0.00	0.01	8.59	1.78	(1.78)	0.00	0.00
NOV	0.49	0.00	0.00	0.00	0.10	0.06	0.16	4.43	0.83	(0.67)	0.00	0.00
DEC	0.33	0.00	0.00	0.00	0.07	0.14	0.21	3.09	0.58	(0.37)	0.00	0.00
TOTALS:	15.96	4.19	0.00	0.02	3.33	0.54	8.08	68.91	12.03	(3.96)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX

(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.

(3) Calculated by SCS Method using a CN of 100.

(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.

(5) Monthly Precip x RCS Surface Area / 12

(6) "Other Inflow" is drinking trough overflow in winter months.

(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6

(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.

(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)

(10) Column 7 - Column 9

(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)

(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1976*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 6 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	96%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.1

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.16	0.00	0.00	0.00	0.03	0.14	0.17	3.44	0.69	(0.51)	0.00	0.00
FEB	0.02	0.00	0.00	0.00	0.00	0.14	0.14	5.48	1.14	(0.99)	0.00	0.00
MAR	0.46	0.00	0.00	0.00	0.10	0.06	0.16	6.48	1.26	(1.11)	0.00	0.00
APR	2.17	0.53	0.00	0.00	0.45	0.00	0.98	5.78	0.88	0.10	0.10	0.00
MAY	2.78	0.94	0.00	0.00	0.58	0.00	1.52	6.71	1.03	0.49	0.59	0.00
JUN	1.31	0.11	0.00	0.00	0.27	0.00	0.38	9.80	1.81	(1.43)	0.00	0.00
JUL	1.57	0.21	0.00	0.00	0.33	0.00	0.54	10.90	2.01	(1.47)	0.00	0.00
AUG	2.87	1.01	0.00	0.00	0.60	0.00	1.60	11.20	1.96	(0.35)	0.00	0.00
SEP	1.77	0.30	0.00	0.00	0.37	0.00	0.67	7.36	1.25	(0.58)	0.00	0.00
OCT	0.20	0.00	0.00	0.00	0.04	0.00	0.04	6.44	1.30	(1.26)	0.00	0.00
NOV	0.14	0.00	0.00	0.00	0.03	0.06	0.09	3.36	0.67	(0.58)	0.00	0.00
DEC	0.00	0.00	0.00	0.00	0.00	0.14	0.14	3.43	0.71	(0.57)	0.00	0.00
TOTALS:	13.45	3.09	0.00	0.00	2.80	0.54	6.43	80.38	14.71	(8.27)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1977*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 7 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	149%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 1.9

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.61	0.00	0.00	0.00	0.13	0.14	0.27	1.82	0.26	0.00	0.00	0.00
FEB	0.08	0.00	0.00	0.00	0.02	0.14	0.16	4.54	0.93	(0.77)	0.00	0.00
MAR	0.13	0.00	0.00	0.00	0.03	0.06	0.09	6.71	1.37	(1.29)	0.00	0.00
APR	3.56	1.56	0.00	0.00	0.74	0.00	2.30	5.18	0.67	1.64	1.64	0.00
MAY	2.13	0.50	0.00	0.00	0.44	0.00	0.95	7.47	1.24	(0.29)	1.35	0.00
JUN	0.80	0.00	0.00	0.00	0.17	0.00	0.17	9.70	1.87	(1.70)	0.00	0.00
JUL	4.66	2.55	0.00	0.02	0.97	0.00	3.54	12.20	2.09	1.45	1.45	0.00
AUG	6.26	4.14	0.00	0.05	1.30	0.00	5.50	9.30	1.46	4.03	5.48	0.00
SEP	2.18	0.53	0.00	0.00	0.45	0.00	0.99	8.65	1.48	(0.49)	4.99	0.00
OCT	0.09	0.00	0.00	0.00	0.02	0.00	0.02	6.78	1.40	(1.38)	3.61	0.00
NOV	0.20	0.00	0.00	0.00	0.04	0.06	0.10	5.40	1.09	(0.99)	2.63	0.00
DEC	0.15	0.00	0.00	0.00	0.03	0.14	0.17	3.59	0.72	(0.55)	2.08	0.00
TOTALS:	20.85	9.29	0.00	0.07	4.34	0.54	14.25	81.34	14.57	(0.33)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1978*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 8 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	144%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 1.5

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	2.08	
JAN	0.47	0.00	0.00	0.00	0.10	0.14	0.24	1.63	0.25	(0.01)	2.07	0.00
FEB	1.77	0.30	0.00	0.00	0.37	0.14	0.81	2.13	0.16	0.65	2.72	0.00
MAR	0.15	0.00	0.00	0.00	0.03	0.06	0.09	4.46	0.90	(0.81)	1.91	0.00
APR	0.16	0.00	0.00	0.00	0.03	0.00	0.03	8.18	1.67	(1.64)	0.27	0.00
MAY	4.89	2.77	0.00	0.02	1.02	0.00	3.81	7.03	1.01	2.80	3.07	0.00
JUN	2.51	0.75	0.00	0.00	0.52	0.00	1.27	9.60	1.65	(0.38)	2.69	0.00
JUL	0.68	0.00	0.00	0.00	0.14	0.00	0.14	13.70	2.72	(2.58)	0.11	0.00
AUG	5.36	3.23	0.00	0.03	1.12	0.00	4.38	12.50	2.14	2.24	2.34	0.00
SEP	0.50	0.00	0.00	0.00	0.10	0.00	0.10	9.90	1.97	(1.86)	0.48	0.00
OCT	0.65	0.00	0.00	0.00	0.14	0.00	0.14	6.09	1.14	(1.01)	0.00	0.00
NOV	2.70	0.88	0.00	0.00	0.56	0.06	1.50	2.25	0.10	1.40	1.40	0.00
DEC	0.27	0.00	0.00	0.00	0.06	0.14	0.20	3.35	0.65	(0.45)	0.95	0.00
TOTALS:	20.11	7.93	0.00	0.05	4.19	0.54	12.71	80.82	14.37	(1.66)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1979*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 9 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	129%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 1.2

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.95	
JAN	0.68	0.00	0.00	0.00	0.14	0.14	0.28	2.20	0.33	(0.05)	0.90	0.00
FEB	0.05	0.00	0.00	0.00	0.01	0.14	0.15	2.47	0.51	(0.35)	0.55	0.00
MAR	1.50	0.18	0.00	0.00	0.31	0.06	0.55	3.90	0.56	(0.00)	0.54	0.00
APR	2.26	0.58	0.00	0.00	0.47	0.00	1.05	5.52	0.82	0.23	0.78	0.00
MAY	4.74	2.63	0.00	0.02	0.99	0.00	3.63	6.16	0.83	2.80	3.58	0.00
JUN	3.01	1.11	0.00	0.00	0.63	0.00	1.74	8.80	1.45	0.29	3.87	0.00
JUL	1.62	0.23	0.00	0.00	0.34	0.00	0.57	10.60	1.94	(1.37)	2.50	0.00
AUG	2.04	0.45	0.00	0.00	0.43	0.00	0.87	10.50	1.87	(1.00)	1.50	0.00
SEP	0.74	0.00	0.00	0.00	0.15	0.00	0.15	9.10	1.75	(1.60)	0.00	0.00
OCT	0.82	0.00	0.00	0.00	0.17	0.00	0.18	9.60	1.84	(1.67)	0.00	0.00
NOV	0.27	0.00	0.00	0.00	0.06	0.06	0.12	3.22	0.62	(0.50)	0.00	0.00
DEC	0.33	0.00	0.00	0.00	0.07	0.14	0.21	3.34	0.63	(0.42)	0.00	0.00
TOTALS:	18.06	5.19	0.00	0.02	3.76	0.54	9.51	75.41	13.15	(3.65)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #1
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. A 6/30/93)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	8.01
LOCATION:	Clayton, NM	A. Feedlot Surface:	14.60	25 yr, 24 hr storage reqd (ac-ft):	4.89
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	3.12
WEATHER DATA FOR YEAR:	*1980*	C. Surface area of RCS:	2.50	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 10 of 10.		D. Other (adjacent farmland, etc.)	0.80	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	115%	*Total Area (acres):*	17.90	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.3

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.67	0.00	0.00	0.00	0.14	0.14	0.28	2.66	0.43	(0.15)	0.00	0.00
FEB	0.36	0.00	0.00	0.00	0.08	0.14	0.22	3.54	0.67	(0.45)	0.00	0.00
MAR	0.60	0.00	0.00	0.00	0.13	0.06	0.19	6.48	1.24	(1.05)	0.00	0.00
APR	3.15	1.22	0.00	0.00	0.66	0.00	1.88	7.65	1.20	0.68	0.68	0.00
MAY	3.95	1.90	0.00	0.01	0.82	0.00	2.73	6.19	0.86	1.87	2.54	0.00
JUN	0.41	0.00	0.00	0.00	0.09	0.00	0.09	10.40	2.09	(2.00)	0.54	0.00
JUL	2.49	0.73	0.00	0.00	0.52	0.00	1.25	15.90	2.96	(1.71)	0.00	0.00
AUG	2.54	0.77	0.00	0.00	0.53	0.00	1.30	13.30	2.42	(1.12)	0.00	0.00
SEP	0.22	0.00	0.00	0.00	0.05	0.00	0.05	9.60	1.96	(1.91)	0.00	0.00
OCT	0.62	0.00	0.00	0.00	0.13	0.00	0.13	6.90	1.32	(1.19)	0.00	0.00
NOV	0.77	0.00	0.00	0.00	0.16	0.06	0.22	3.66	0.62	(0.39)	0.00	0.00
DEC	0.28	0.00	0.00	0.00	0.06	0.14	0.20	2.84	0.54	(0.34)	0.00	0.00
TOTALS:	16.06	4.62	0.00	0.01	3.35	0.54	8.52	89.12	16.29	(7.78)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap. (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1971*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 1 of 10		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	145%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.0

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.16	0.00	0.00	0.00	0.02	0.14	0.16	3.32	0.37	(0.21)	0.00	0.00
FEB	0.36	0.00	0.00	0.00	0.04	0.14	0.18	2.34	0.23	(0.05)	0.00	0.00
MAR	0.16	0.00	0.00	0.00	0.02	0.06	0.08	3.50	0.39	(0.31)	0.00	0.00
APR	1.85	0.18	0.00	0.00	0.22	0.00	0.39	5.84	0.52	(0.12)	0.00	0.00
MAY	2.91	0.53	0.00	0.00	0.34	0.00	0.87	7.87	0.71	0.17	0.17	0.00
JUN	3.74	0.88	0.00	0.00	0.44	0.00	1.32	8.62	0.77	0.55	0.71	0.00
JUL	2.28	0.31	0.00	0.00	0.27	0.00	0.57	9.40	0.91	(0.34)	0.38	0.00
AUG	0.60	0.00	0.00	0.00	0.07	0.00	0.07	8.21	0.89	(0.82)	0.00	0.00
SEP	2.27	0.30	0.00	0.00	0.26	0.00	0.57	7.25	0.66	(0.09)	0.00	0.00
OCT	2.05	0.23	0.00	0.00	0.24	0.00	0.47	5.86	0.51	(0.04)	0.00	0.00
NOV	3.19	0.64	0.00	0.00	0.37	0.06	1.08	3.54	0.19	0.88	0.88	0.00
DEC	0.78	0.00	0.00	0.00	0.09	0.14	0.23	2.15	0.17	0.06	0.95	0.00
TOTALS:	20.35	3.08	0.00	0.00	2.37	0.54	5.99	67.90	6.32	(0.33)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1972*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 2 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	178%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 2.1

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.95	
JAN	0.00	0.00	0.00	0.00	0.00	0.14	0.14	1.37	0.16	(0.02)	0.93	0.00
FEB	0.03	0.00	0.00	0.00	0.00	0.14	0.14	2.66	0.31	(0.16)	0.77	0.00
MAR	0.00	0.00	0.00	0.00	0.00	0.06	0.06	4.40	0.51	(0.45)	0.31	0.00
APR	0.48	0.00	0.00	0.00	0.06	0.00	0.06	6.69	0.73	(0.67)	0.00	0.00
MAY	4.82	1.39	0.00	0.01	0.56	0.00	1.96	6.87	0.55	1.41	1.41	0.00
JUN	2.95	0.55	0.00	0.00	0.34	0.00	0.89	8.12	0.73	0.16	1.57	0.00
JUL	7.52	2.81	0.00	0.04	0.88	0.00	3.73	8.65	0.74	2.99	3.50	1.06
AUG	2.62	0.42	0.00	0.00	0.31	0.00	0.73	9.00	0.85	(0.12)	3.38	0.00
SEP	3.30	0.69	0.00	0.00	0.39	0.00	1.08	6.47	0.53	0.54	3.50	0.42
OCT	1.28	0.05	0.00	0.00	0.15	0.00	0.20	5.23	0.48	(0.28)	3.22	0.00
NOV	1.80	0.16	0.00	0.00	0.21	0.06	0.43	1.79	0.05	0.39	3.50	0.10
DEC	0.18	0.00	0.00	0.00	0.02	0.14	0.16	1.84	0.20	(0.03)	3.47	0.00
TOTALS:	24.98	6.08	0.00	0.05	2.91	0.54	9.58	63.09	5.84	3.75		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1973*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 3 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	91%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 1.8

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	3.47	
JAN	0.32	0.00	0.00	0.00	0.04	0.14	0.18	2.41	0.25	(0.07)	3.40	0.00
FEB	0.35	0.00	0.00	0.00	0.04	0.14	0.18	1.45	0.13	0.05	3.45	0.00
MAR	2.97	0.56	0.00	0.00	0.35	0.06	0.96	3.28	0.17	0.79	3.50	0.74
APR	2.22	0.29	0.00	0.00	0.26	0.00	0.55	3.21	0.19	0.35	3.50	0.35
MAY	0.36	0.00	0.00	0.00	0.04	0.00	0.04	6.13	0.68	(0.63)	2.87	0.00
JUN	0.18	0.00	0.00	0.00	0.02	0.00	0.02	8.41	0.96	(0.94)	1.92	0.00
JUL	2.59	0.41	0.00	0.00	0.30	0.00	0.71	9.30	0.88	(0.17)	1.75	0.00
AUG	1.60	0.11	0.00	0.00	0.19	0.00	0.30	9.90	1.01	(0.70)	1.05	0.00
SEP	1.34	0.06	0.00	0.00	0.16	0.00	0.22	6.41	0.62	(0.40)	0.65	0.00
OCT	0.40	0.00	0.00	0.00	0.05	0.00	0.05	6.72	0.74	(0.69)	0.00	0.00
NOV	0.03	0.00	0.00	0.00	0.00	0.06	0.06	4.24	0.49	(0.43)	0.00	0.00
DEC	0.43	0.00	0.00	0.00	0.05	0.14	0.19	4.70	0.50	(0.31)	0.00	0.00
TOTALS:	12.79	1.43	0.00	0.00	1.49	0.54	3.46	66.16	6.62	(3.16)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev.B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1974*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 4 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	113%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility-----> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.6

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.41	0.00	0.00	0.00	0.05	0.14	0.19	2.92	0.30	(0.11)	0.00	0.00
FEB	0.02	0.00	0.00	0.00	0.00	0.14	0.14	4.22	0.49	(0.35)	0.00	0.00
MAR	0.73	0.00	0.00	0.00	0.09	0.06	0.15	5.05	0.51	(0.37)	0.00	0.00
APR	1.04	0.02	0.00	0.00	0.12	0.00	0.14	7.78	0.80	(0.66)	0.00	0.00
MAY	0.20	0.00	0.00	0.00	0.02	0.00	0.02	7.63	0.87	(0.85)	0.00	0.00
JUN	1.58	0.11	0.00	0.00	0.18	0.00	0.29	9.80	0.99	(0.70)	0.00	0.00
JUL	1.67	0.13	0.00	0.00	0.19	0.00	0.33	12.90	1.35	(1.03)	0.00	0.00
AUG	5.59	1.78	0.00	0.02	0.65	0.00	2.45	8.28	0.71	1.74	1.74	0.00
SEP	1.29	0.05	0.00	0.00	0.15	0.00	0.20	5.71	0.54	(0.33)	1.41	0.00
OCT	2.74	0.47	0.00	0.00	0.32	0.00	0.79	5.70	0.46	0.33	1.73	0.00
NOV	0.22	0.00	0.00	0.00	0.03	0.06	0.09	3.63	0.40	(0.31)	1.42	0.00
DEC	0.36	0.00	0.00	0.00	0.04	0.14	0.18	1.96	0.19	(0.01)	1.41	0.00
TOTALS:	15.85	2.56	0.00	0.02	1.85	0.54	4.96	75.58	7.60	(2.64)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1975*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 5 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	114%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.9

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	1.41	
JAN	0.95	0.01	0.00	0.00	0.11	0.14	0.26	0.89	0.00	0.26	1.67	0.00
FEB	0.66	0.00	0.00	0.00	0.08	0.14	0.22	1.68	0.13	0.09	1.76	0.00
MAR	0.25	0.00	0.00	0.00	0.03	0.06	0.09	5.23	0.58	(0.49)	1.27	0.00
APR	1.22	0.04	0.00	0.00	0.14	0.00	0.18	5.98	0.57	(0.39)	0.88	0.00
MAY	2.02	0.22	0.00	0.00	0.24	0.00	0.46	7.73	0.73	(0.27)	0.61	0.00
JUN	4.90	1.43	0.00	0.01	0.57	0.00	2.01	8.08	0.69	1.32	1.93	0.00
JUL	1.79	0.16	0.00	0.00	0.21	0.00	0.37	8.95	0.88	(0.51)	1.42	0.00
AUG	2.08	0.24	0.00	0.00	0.24	0.00	0.49	9.40	0.92	(0.43)	0.98	0.00
SEP	1.24	0.04	0.00	0.00	0.14	0.00	0.19	4.86	0.44	(0.25)	0.73	0.00
OCT	0.03	0.00	0.00	0.00	0.00	0.00	0.00	8.59	1.00	(1.00)	0.00	0.00
NOV	0.49	0.00	0.00	0.00	0.06	0.06	0.12	4.43	0.46	(0.35)	0.00	0.00
DEC	0.33	0.00	0.00	0.00	0.04	0.14	0.18	3.09	0.33	(0.15)	0.00	0.00
TOTALS:	15.96	2.15	0.00	0.01	1.86	0.54	4.56	68.91	6.74	(2.17)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1976*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 6 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	96%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.0

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.16	0.00	0.00	0.00	0.02	0.14	0.16	3.44	0.38	(0.23)	0.00	0.00
FEB	0.02	0.00	0.00	0.00	0.00	0.14	0.14	5.48	0.64	(0.49)	0.00	0.00
MAR	0.46	0.00	0.00	0.00	0.05	0.06	0.11	6.48	0.71	(0.59)	0.00	0.00
APR	2.17	0.27	0.00	0.00	0.25	0.00	0.52	5.78	0.49	0.03	0.03	0.00
MAY	2.78	0.48	0.00	0.00	0.32	0.00	0.81	6.71	0.58	0.23	0.26	0.00
JUN	1.31	0.06	0.00	0.00	0.15	0.00	0.21	9.80	1.01	(0.80)	0.00	0.00
JUL	1.57	0.11	0.00	0.00	0.18	0.00	0.29	10.90	1.12	(0.83)	0.00	0.00
AUG	2.87	0.52	0.00	0.00	0.33	0.00	0.85	11.20	1.10	(0.24)	0.00	0.00
SEP	1.77	0.16	0.00	0.00	0.21	0.00	0.36	7.36	0.70	(0.34)	0.00	0.00
OCT	0.20	0.00	0.00	0.00	0.02	0.00	0.02	6.44	0.73	(0.71)	0.00	0.00
NOV	0.14	0.00	0.00	0.00	0.02	0.06	0.08	3.36	0.38	(0.30)	0.00	0.00
DEC	0.00	0.00	0.00	0.00	0.00	0.14	0.14	3.43	0.40	(0.26)	0.00	0.00
TOTALS:	13.45	1.59	0.00	0.00	1.57	0.54	3.70	80.38	8.24	(4.54)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
(2) Calculated by SCS Method using CN for lot area adjusted from one day to thirty day.
(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1977*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 7 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	149%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.9

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.00	
JAN	0.61	0.00	0.00	0.00	0.07	0.14	0.21	1.82	0.15	0.06	0.06	0.00
FEB	0.08	0.00	0.00	0.00	0.01	0.14	0.15	4.54	0.52	(0.37)	0.00	0.00
MAR	0.13	0.00	0.00	0.00	0.02	0.06	0.08	6.71	0.77	(0.69)	0.00	0.00
APR	3.56	0.80	0.00	0.00	0.42	0.00	1.22	5.18	0.37	0.84	0.84	0.00
MAY	2.13	0.26	0.00	0.00	0.25	0.00	0.51	7.47	0.69	(0.19)	0.66	0.00
JUN	0.80	0.00	0.00	0.00	0.09	0.00	0.09	9.70	1.05	(0.95)	0.00	0.00
JUL	4.66	1.31	0.00	0.01	0.54	0.00	1.86	12.20	1.17	0.69	0.69	0.00
AUG	6.26	2.13	0.00	0.03	0.73	0.00	2.88	9.30	0.82	2.06	2.75	0.00
SEP	2.18	0.27	0.00	0.00	0.25	0.00	0.53	8.65	0.83	(0.30)	2.45	0.00
OCT	0.09	0.00	0.00	0.00	0.01	0.00	0.01	6.78	0.78	(0.77)	1.68	0.00
NOV	0.20	0.00	0.00	0.00	0.02	0.06	0.08	5.40	0.61	(0.53)	1.16	0.00
DEC	0.15	0.00	0.00	0.00	0.02	0.14	0.16	3.59	0.40	(0.25)	0.91	0.00
TOTALS:	20.85	4.77	0.00	0.04	2.43	0.54	7.78	81.34	8.16	(0.38)		

NOTES:

(1) Monthly precip data taken from Texas Water Oriented Data Bank, Location: Dalhart, Dallam County TX
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(3) Calculated by SCS Method using a CN of 100.
(4) Calculated by SCS Method using CN for adjacent land soil/cover complex adjusted from one day to thirty day.
(5) Monthly Precip x RCS Surface Area / 12
(6) "Other Inflow" is drinking trough overflow in winter months.
(7) Column 2 + Column 3 + Column 4 + Column 5 + Column 6
(8) Gross Evaporation (in) taken from Texas Water Oriented Data Bank, Quadrangle A-5, Lat: 36 00 00, Long: 102 00 00.
(9) Net Pond Evap (ac-ft) = (Col 8 - (Col 1 - (12 x (Col 2/Lot Area) + (Col 3 / Roof Area) + (Col 4 / Other Land Area)))) x (Surface Area of RCS / 12)
(10) Column 7 - Column 9
(11) Previous Month Accumulated Storage (Col. 11) + Monthly Net Pond Accumulation (Not to be less than sludge storage)
(12) Spillage occurs if net inflow plus previous month's storage exceeds the total capacity.

WATER BALANCE FOR RCS #2
TOTAL POND EVAPORATION ONLY

ENVIRO-AG ENGINEERING, INC.

(Rev. B 6/3/94)

CAFO DATA:		*RUNOFF CONTROL STRUCTURE DATA:*			
NAME OF CAFO:	Double A Feeders	DRAINAGE AREAS (ACRES):		Total Storage Avail (ac-ft):	3.50
LOCATION:	Clayton, NM	A. Feedlot Surface:	7.50	25 yr, 24 hr storage reqd (ac-ft):	2.55
DATE:	6 June 1994	B. Area Under Roof:	0.00	Total Storage - 25 Yr Storm Cap (ac-ft):	0.95
WEATHER DATA FOR YEAR:	*1978*	C. Surface area of RCS:	1.40	Sludge Storage or Min Working Vol (ac-ft):	0.00
Year Number 8 of 10.		D. Other (adjacent farmland, etc.)	0.40	30 Day CN f/ Lot Area:	74
Percent of avg annual precip:	144%	*Total Area (acres):*	9.30	30 Day CN f/ Adjacent Area:	43

Average annual precipitation for facility------> 14.0 inches

Drainage areas, capacities, & surface areas are combined.

Avg End of Month Storage for this year: 0.7

MONTH	(1) Monthly Precip (in)	(2) Runoff from Lot (ac-ft)	(3) Runoff from Roof Area (ac-ft)	(4) Runoff from Adjcnt Land (ac-ft)	(5) Pond area Contrib (ac-ft)	(6) Other Inflow (ac-ft)	(7) Total Inflow (ac-ft)	(8) Gross Evap (in)	(9) Net Pond Evap (ac-ft)	(10) Monthly Net Pond Accum (ac-ft)	(11) Accum Storage at E.O.M. (ac-ft)	(12) Spillage (ac-ft)
										(start value)->	0.91	
JAN	0.47	0.00	0.00	0.00	0.05	0.14	0.19	1.63	0.14	0.05	0.97	0.00
FEB	1.77	0.16	0.00	0.00	0.21	0.14	0.50	2.13	0.09	0.41	1.38	0.00
MAR	0.15	0.00	0.00	0.00	0.02	0.06	0.08	4.46	0.50	(0.43)	0.96	0.00
APR	0.16	0.00	0.00	0.00	0.02	0.00	0.02	8.18	0.94	(0.92)	0.04	0.00
MAY	4.89	1.42	0.00	0.01	0.57	0.00	2.00	7.03	0.57	1.44	1.48	0.00
JUN	2.51	0.38	0.00	0.00	0.29	0.00	0.68	9.60	0.92	(0.25)	1.23	0.00
JUL	0.68	0.00	0.00	0.00	0.08	0.00	0.08	13.70	1.53	(1.45)	0.00	0.00
AUG	5.36	1.66	0.00	0.02	0.63	0.00	2.30	12.50	1.20	1.10	1.10	0.00
SEP	0.50	0.00	0.00	0.00	0.06	0.00	0.06	9.90	1.10	(1.04)	0.06	0.00
OCT	0.65	0.00	0.00	0.00	0.08	0.00	0.08	6.09	0.64	(0.57)	0.00	0.00
NOV	2.70	0.45	0.00	0.00	0.32	0.06	0.83	2.25	0.06	0.77	0.77	0.00
DEC	0.27	0.00	0.00	0.00	0.03	0.14	0.17	3.35	0.36	(0.19)	0.58	0.00
TOTALS:	20.11	4.07	0.00	0.03	2.35	0.54	6.99	80.82	8.05	(1.06)		

NOTES:

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