



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Ground Water Quality Bureau
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PETER MAGGIORE
SECRETARY

PAUL RITZMA
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 2, 2001

Phillip Troost, Owner
Cottonwood Springs Dairy
491 West Funk Rd.
Lake Arthur, NM 88253

RE: Discharge Plan Modification and Renewal, DP-734, Cottonwood Springs Dairy

Dear Mr. Troost:

Pursuant to Water Quality Control Commission (WQCC) Regulation 20.6.2.3109, the discharge plan modification and renewal application for DP-734, submitted by Phillip Troost for the discharge of 84,000 gallons per day of dairy wastewater from the Cottonwood Springs Dairy is hereby approved, subject to the conditions listed below. The facility is located approximately 12 miles northwest of Artesia in Section 6, T16S, R25E, Eddy County. In approving this discharge plan, the New Mexico Environment Department (NMED) has determined that the requirements of WQCC Regulation 20.6.2.3109.C have been met.

The approved Cottonwood Springs Dairy wastewater disposal system is briefly described as follows:

Up to 84,000 gallons per day of dairy parlor wastewater will be discharged from the milking parlor through a solids separator and collected in a synthetically lined lagoon. Wastewater from the storage lagoon will then be applied to 297 acres of irrigated cropland by pivot and sideroll sprinkler systems. The modifications consist of decreasing the discharge volume from 90,000 to 84,000 gallons per day,

using a separator and lagoon system rather than the previously permitted direct land application system, and increasing the land application area from 140 acres to 297 acres. Ground water below the site is at a depth of approximately 25 feet and has a total dissolved solids concentration of approximately 900 milligrams per liter.

The approved discharge plan modification and renewal consists of the materials submitted by Cottonwood Springs Dairy dated July 6, 2001. In addition, the discharge plan includes information and materials submitted as part of the original discharge plan approved on October 26, 1990 and the materials for renewal dated August 15, 1996. The discharge shall be managed in accordance with the approved plan and is subject to the conditions listed below.

However, approval of this discharge plan does not relieve you of your responsibility to comply with the New Mexico Water Quality Act, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

CONDITIONS FOR APPROVAL

This discharge plan approval is subject to the following conditions for the following reasons:

1. Pursuant to WQCC Regulation 20.6.2.3109, NMED reserves the right to modify permit requirements in the event NMED determines that the requirements of the WQCC Regulations are being violated or may be violated, or the standards of Regulation 20.6.2.3103 are being or may be violated. This may include a determination that structural controls and/or management practices approved under the discharge permit for Cottonwood Springs Dairy are not protective of ground water quality, and that more stringent requirements to protect and/or remediate ground water quality may be required by NMED. These requirements may include lining or relining lagoons, expanding land application areas, changing waste storage or land application management practices, expanding monitoring requirements and/or implementing remediation systems.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3109 by ensuring that protective measures put in place perform the task of protecting ground water quality.

OPERATIONAL

2. Cottonwood Springs Dairy is authorized to discharge up to 84,000 gallons per day of dairy wastewater to a synthetically lined lagoon and to land apply the wastewater by center pivot and side roll sprinkler irrigation to 297 acres of cropland as designated in the July 6, 2001 discharge plan modification and renewal application.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3104 by permitting a discharge consistent with the terms and conditions of the approved discharge plan.

3. Cottonwood Springs Dairy shall remove manure solids from the facility in a manner and frequency necessary to prevent the contamination of ground water. Management practices

for manure stored at the facility prior to removal shall minimize generation and infiltration of leachate by diverting stormwater runoff and prevent ponding of water within areas used for manure stockpiling.

The reason for this condition is to comply with WQCC Regulations 20.6.2.3106 and 20.6.2.3109 by preventing leachate from moving directly or indirectly into ground water.

4. Cottonwood Springs Dairy shall divert stormwater from the corrals and other areas of the facility which contain dairy wastes into a stormwater collection impoundment. The impoundment shall be designed, operated and maintained to contain run-off from a 25 year, 24 hour rainfall event. Stormwater collected in the impoundment shall be pumped to the wastewater lagoon or the designated land application area as soon as practicable, and in no case more than 14 days after the subject storm event.

The reason for this condition is to comply with WQCC Regulations 20.6.2.3106 and 20.6.2.3109 by preventing contaminated stormwater from moving directly or indirectly into ground water.

5. Cottonwood Springs Dairy shall construct, operate and maintain a ~~synthetically lined lagoon~~ for the storage of wastewater prior to discharging at the facility. The lagoon shall be constructed in accordance with NMED Guidelines for Liner Material and Site Preparation for Synthetically Lined Lagoons (copy enclosed). The sides of the lagoon shall be constructed at a slope of 3:1 (18° from horizontal). The lagoon will be designed to contain the maximum daily discharge volume allowed by this discharge permit for a period of 60 days while maintaining two feet of freeboard at all times. Confirmation that the lagoon was constructed in accordance with items 1 through 14 in the NMED Guidelines for Liner Material and Site Preparation for Synthetically Lined Lagoons, as well as volume calculations of the lagoon capacity, shall be submitted to NMED within 30 days of completion. Cottonwood Springs Dairy shall notify NMED at least 5 working days prior to lagoon construction to allow NMED personnel to be on site for inspection.

The reason for this condition is to comply with WQCC Regulations 20.6.2.3106 and 20.6.2.3109 by preventing contaminated wastewater from moving directly or indirectly into ground water.

6. Cottonwood Springs Dairy shall apply dairy wastes to cropland under cultivation in a manner in which the total nitrogen in the combined application of effluent, manure solids and other nitrogen inputs shall not exceed by more than 25% the maximum amount of total nitrogen reasonably expected to be taken up and removed by the harvested crop. Deductions in nitrogen content from volatilization and mineralization processes shall not be included in determining amounts of nitrogen generated and land applied at the facility.

The reason for this condition is to comply with WQCC Regulations 20.6.2.3106 and 20.6.2.3109 by applying effluent and manure to the land in a manner which protects ground water.

MONITORING

7. Cottonwood Springs Dairy shall install a [redacted] meter to measure the amount of wastewater discharged from the dairy barn to the lagoon. The monthly meter readings shall be submitted to NMED with the monitoring reports by May 1 and November 1 of each year.

8. Cottonwood Springs Dairy shall measure and record all [redacted] from the wastewater lagoon to the land application area. The volume of each discharge shall be measured using [redacted] on the transfer line between the lagoon and the land application area. A log shall be maintained containing the date of each release, meter readings immediately prior to and after each wastewater release, and the calculated total volume of each release. A copy of the log entries which record the wastewater releases for the previous 6 month period shall be submitted to NMED with the monitoring reports and used to calculate nitrogen loading on the LADS by May 1 and November 1 of each year.

The reason for these conditions is to comply with Regulations 20.6.2.3106 and 20.6.2.3109 by adequately measuring the quantity of effluent discharged.

9. Cottonwood Springs Dairy shall install one monitoring well hydrologically downgradient of the land application area within 90 days of the date of this letter. Variances caused by delays due to construction activity or well driller scheduling conflicts must be submitted in writing to NMED. Locations of the wells shall be approved by NMED prior to installation. The wells shall be completed according to NMED Monitoring Well Construction and Abandonment Guidelines (copy enclosed). Construction and lithologic logs shall be submitted to NMED within 30 days of well completion.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3107 by providing adequate monitoring of ground water quality.

10. Cottonwood Springs Dairy shall [redacted] all monitoring wells to a common permanent benchmark. Survey data shall include northing, easting and elevation to the nearest hundredth of a foot. One of the monitoring wells may be used as the benchmark. Depth to water shall be measured to the nearest hundredth of a foot in all surveyed wells, and the data shall be used to determine ground water flow direction and gradient. The data shall be submitted to NMED within 60 days of completion of the new monitoring well. If water level information and the monitoring well survey provide information that shows the monitoring wells were not correctly located in relation to the targeted wastewater sources, well replacement or additional wells may be required.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3107 by providing a method to determine ground water depth and flow direction.

11. Cottonwood Springs Dairy shall sample ground water quality in 4 monitoring wells quarterly for nitrate-nitrogen (NO₃-N), total Kjeldahl nitrogen (TKN), chloride (Cl) and total dissolved solids (TDS). Prior to sampling, water levels shall be measured in each well to the nearest

hundredth of a foot and then purged of three well volumes of water. Reports of the analyses shall be submitted to NMED by ~~February 1, May 1, August 1 and November 1~~ of each year. A summary of the monitoring requirements is attached to this letter.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3107 by providing adequate monitoring of ground water quality.

12. Cottonwood Springs Dairy shall sample the effluent collected in the lagoon biannually for nitrate-nitrogen (NO₃-N), total Kjeldahl nitrogen (TKN), chloride (Cl) and total dissolved solids (TDS). Reports of the analyses shall be submitted to NMED by May 1 and November 1 of each year.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3107 by providing adequate monitoring of effluent quality.

13. Cottonwood Springs Dairy shall complete land application data sheets (LADS, copy enclosed) biannually which document the total amount of nitrogen applied to each land application area. The LADS shall incorporate the nitrogen concentrations and volumes of wastewater and manure solids into the nitrogen loading calculations. Total nitrogen concentrations in effluent from analyses of the previous reporting period or the average of the last two reporting periods may be used. Total nitrogen concentrations of manure solids may be estimated at 13 pounds per ton or manure samples may be tested by laboratory analysis. If manure testing is conducted, each sample shall consist of a minimum of six subsamples collected at least 12 inches within the stockpile. The composite sample shall be analyzed for total Kjeldahl nitrogen and percent moisture content. Additionally, Cottonwood Springs Dairy shall report crops grown, yields removed, and nitrogen uptake values specific to the crops grown on the LADS. The LADS or a report stating no land application occurred shall be submitted to NMED by ~~May 1 and November 1~~ of each year.

The reason for this condition is to comply with WQCC Regulations 20.6.2.3107 and 20.6.2.3109 by providing adequate documentation of nitrogen applied to the land.

14. Cottonwood Springs Dairy shall perform annual soil testing on all land application areas. A composite surface soil sample and a composite sub-surface soil sample shall be collected from each field of uniform management practices and soil characteristics. Each surface sample shall consist of a single composite of 15 soil cores collected from a depth of 0 to 12 inches. Each sub-surface sample shall consist of a single composite of six soil cores collected from a depth of 24 to 36 inches. Surface and sub-surface samples shall be analyzed for nitrate-nitrogen and total Kjeldahl nitrogen (TKN). Soil nitrate-nitrogen shall be analyzed by a 2 molar KCl extract, as described in Section 33-3.2 of *Methods of Soil Analysis, Part 2*, American Society of Agronomy. A map indicating locations of sampling and field areas shall be submitted with the reports. Reports of the analyses shall be submitted to NMED by November 1 of each year.

The reason for this condition is to provide adequate vadose zone monitoring by complying with WQCC Regulations 20.6.2.3106.C.7., and 20.6.2.3107.A.3.

15. Cottonwood Springs Dairy shall keep a log of all chemical fertilizer applied to each field which receives dairy wastewater or manure solids. The log shall contain the date of fertilizer application, the type and nutrient concentration of the fertilizer, and the volume of fertilizer applied to each field. A copy of the log entries which record fertilizer applications for the previous 6 month period shall be submitted to NMED with the monitoring reports by May 1 and November 1 of each year.

The reason for this condition is to comply with WQCC Regulation 20.6.2.3107 by providing adequate documentation of nitrogen applied to the land.

CONTINGENCY

16. If the concentration of constituents in ground water currently exceeding standards in Monitoring Wells 1 and 3 do not drop below standards within one year or if ground water quality standards are again exceeded during the term of the discharge permit or upon closure of the permitted facility, Cottonwood Springs Dairy shall collect a confirmation sample from the monitoring wells within 15 days to confirm the initial sample results. Upon confirmation of groundwater contamination, Cottonwood Springs Dairy shall submit a corrective action plan to NMED. The corrective action plan shall include a site investigation to define the source, nature and extent of ground water contamination and a proposed abatement option. The site investigation and abatement option shall be consistent with the requirements and provisions of sections 20.6.2.4101, 4103, 4106.E, 4107 and 4112 of the WQCC Regulations. The corrective action plan shall also provide appropriate source control measures for dairy waste, including re-lining the lagoon or changing land application practices. The corrective action plan shall be submitted to NMED for approval within 30 days of confirmation of ground water contamination, and shall be initiated within 30 days of NMED approval.
17. In the event of a spill, pipeline break, pump failure or other system failure at Cottonwood Springs Dairy, wastewater shall be contained, pumped and/or transferred to the concrete sump, lagoon and/or land application area as necessary. Failed components shall be repaired or replaced as soon as possible and no later than 48 hours from the time of failure.
18. In the event of an effluent spill or release that is not as prescribed under the approved discharge plan, Cottonwood Springs Dairy shall initiate the notifications and corrective actions as required in WQCC Regulation 20.6.2.1203. Within 24 hours of the incident, Cottonwood Springs Dairy shall verbally notify NMED and provide the information outlined in WQCC Regulation 20.6.2.1203.A.1. Within 7 days of discovering the incident, a written report shall be submitted verifying the oral notification and providing any additional pertinent information or changes. Within 15 days of the incident, Cottonwood Springs Dairy shall submit a corrective action plan describing actions taken and/or to be taken to remedy the impact of the spill.

The reason for these conditions is to comply with WQCC Regulation 20.6.2.3107.A.10 by providing a contingency plan to address potential impacts to ground water quality.

19. If NMED determines that surface and subsurface soil sampling results indicate potential nitrogen migration through the vadose zone, Cottonwood Springs Dairy shall submit, within 30 days, a corrective action plan to address excessive nitrogen concentrations in the surface and sub-surface soils. The plan shall include appropriate source control measures including a reduction in the amount of wastewater or solids applied to the land, expansion of the land application area, and/or changes in crop rotation to improve nitrogen removal. Additionally, Cottonwood Springs Dairy shall implement the following:

- A. Cottonwood Springs Dairy shall perform deep soil testing on all land application areas. A composite deep soil sample shall be collected from each field of uniform management practices and soil characteristics. Each deep soil sample shall consist of a single composite of three soil cores collected at two foot increments to a depth of 10 feet. Each sample shall be analyzed for nitrate-nitrogen and total Kjeldahl nitrogen. Soil nitrate-nitrogen shall be analyzed by a 2 molar KCl extract, as described in Section 33-3.2 of *Methods of Soil Analysis*, Part 2, American Society of Agronomy. A map indicating locations of sampling and field areas shall be submitted with the reports. Reports of the analyses shall be submitted to NMED within 30 days after initial sampling.
- B. If initial deep soil sampling results indicate the presence of excessive nitrogen at depths below 36 inches, Cottonwood Springs Dairy shall perform deep soil sampling on an annual basis to verify success of the corrective actions. Reports of the analyses shall be submitted to NMED by November 1 of each year.

The reason for these conditions is to comply with WQCC Regulations 20.6.2.3107A.10 and 20.6.2.3109 by preventing excessive nitrogen in the vadose zone from impacting ground water quality.

- C. Cottonwood Springs Dairy shall perform plant tissue testing biannually to verify plant nitrogen uptake levels of each crop grown. A composite sample of fifteen sub-samples of plant material shall be taken from each field during the final harvest of each crop grown. Samples shall be analyzed for percent total nitrogen and percent dry matter. Reports of the analyses shall be submitted to NMED by May 1 and November 1 of each year.

The reason for this condition is to provide information on the performance of the treatment system by complying with WQCC Regulation 20.6.2.3106.C.7.

CLOSURE

20. Upon closure of the facility, Cottonwood Springs Dairy shall remove all manure from the corrals and apply it to designated land application areas or transfer it offsite for proper disposal. Lagoons shall be emptied of all wastewater and manure solids and the liner shall be perforated or removed. The lagoon shall be backfilled to blend with surface topography and prevent ponding. All monitor wells shall be monitored for two years following closure. If sampling shows ground water standards for WQCC Regulation 20.6.2.3103 are exceeded, Cottonwood Springs Dairy shall implement the contingency plan as described in Condition No.16 to return the ground water to acceptable quality. If ground water quality remains below WQCC ground water standards throughout post-closure monitoring, the wells shall be plugged according to NMED Monitoring Well Construction and Abandonment Guidelines (copy enclosed).

The reason for this condition is to comply with WQCC Regulation 20.6.2.3107.A.11 by providing a closure plan to address potential impacts to ground water after the facility is closed.

GENERAL DISCHARGE PLAN REQUIREMENTS

In addition to any other requirements provided by law, approval of discharge plan, DP-734; is subject to the following general requirements:

Monitoring and Reporting

Monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet(s). Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

Record Keeping

1. The discharger shall maintain at the facility, a written record of ground water and wastewater quality analyses.

The following information shall be recorded and shall be made available to the NMED upon request.

- a. The dates, exact place and times of sampling or field measurements.
- b. The name and job title of the individuals who performed the sampling or measurements.
- c. The dates the analyses were performed.

- d. The name and job title of the individuals who performed the analyses.
 - e. The analytical techniques or methods used.
 - f. The results of such analyses, and
 - g. The results of any split sampling, spikes or repeat sampling.
2. The discharger shall maintain a written record of any spills, seeps, and/or leaks of effluent, leachate and/or process fluids not authorized by this discharge plan.
 3. The discharger shall maintain a written record of the operation, maintenance and repair of facilities/equipment used to treat, store and/or dispose of wastewater; to measure flow rates; and/or to monitor water quality. This will include repairs, replacement or calibration of any monitoring equipment and repairs or replacement of any equipment used in Cottonwood Springs Dairy's wastewater disposal system.

Inspection and Entry

In accordance with § 74-6-9.B & E NMSA 1978 and WQCC Regulation 20.6.2.3107.D, the discharger shall allow the Secretary or his authorized representative, upon the presentation of credentials, to:

1. Enter at regular business hours or at other reasonable times upon the discharger's premises or where records must be kept under the conditions of this discharge plan.
2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of the discharge plan.
3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this discharge plan.
4. Sample or monitor, at reasonable times for the purpose of assuring discharge plan compliance or as otherwise authorized by the New Mexico Water Quality Act, any effluent at any location before or after discharge.

Duty to Provide Information

In accordance with § 74-6-9.B NMSA 1978 and WQCC Regulation 20.6.2.3107.D, the discharger shall furnish to the NMED, within a reasonable time, any relevant information which it may request to determine whether cause exists for modifying, terminating and/or renewing this discharge plan or to determine compliance with this plan. The discharger shall furnish to the NMED, upon request, copies of records required to be kept by this discharge plan.

Spills, Leaks and Other Unauthorized Discharges

This approval authorizes only those discharges specified in the discharge plan. Any unauthorized discharges violate WQCC Regulation 20.6.2.3104, and must be reported to the NMED and remediated as required by WQCC Regulation 20.6.2.1203. This requirement applies to all seeps, spills, and/or leaks discovered from the lagoon, effluent delivery pipelines or land application areas.

Retention of Records

The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this discharge plan, and records of all data used to complete the application for this discharge plan, for a period of at least five years from the date of the sample collection, measurement, report or application. This period may be extended by request of the Secretary at any time.

Enforcement

Failure to grant the Secretary or his authorized representative access to the records required to be kept by this discharge plan or to allow an inspection of the discharge facilities or to the collection of samples is a violation of this discharge plan and the WQCC Regulations. Such violations as well as other violations of the discharge plan, may subject the discharger to a compliance order, a compliance order assessing a civil penalty or an action in district court pursuant to § 74-6-10 NMSA 1978, and/or modification or termination of this discharge plan pursuant to § 74-6-5.L NMSA 1978. Penalties assessed as part of a compliance order shall not exceed \$15,000 per day for violations of the terms of this permit or the requirements of § 74-6-5 NMSA 1978, and shall not exceed \$10,000 per day for violations of other sections of the Water Quality Act.

Modifications and/or Amendments

The discharger shall notify NMED, pursuant to WQCC Regulation 20.6.2.3107.C, of any modifications or additions to the CottonWood Springs Dairy wastewater disposal system, including any increase in wastewater flow rate or wastewater storage and disposal management changes to the system as approved under this discharge plan. The discharger shall obtain NMED's approval, as a discharge plan modification, prior to any increase in the quantity or concentration of constituents in the leachate above those approved in this plan. Please note that WQCC Regulations 20.6.2.3109.E and 20.6.2.3109.F provide for possible future amendment of the plan.

Other Requirements

Please be advised that the approval of this plan does not relieve Phillip Troost of liability should your operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations.

Phillip Troost, DP-734
November 2, 2001
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RIGHT TO APPEAL

If Phillip Troost is dissatisfied with this action taken by NMED, Phillip Troost may file a petition for hearing before the WQCC. This petition shall be in writing to the Water Quality Control Commission within thirty (30) days of the receipt of this letter. Unless a timely request for hearing is made, the decision of the NMED shall be final.

TRANSFER OF DISCHARGE PLAN

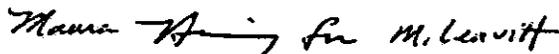
Pursuant to WQCC Regulation 20.6.2.3111, prior to any transfer of ownership, the discharger shall provide the transferee a copy of the discharge plan, including a copy of this approval letter and shall document such to the NMED.

PERIOD OF APPROVAL

Pursuant to WQCC Regulation 20.6.2.3109.G.4, this discharge plan approval is for a period of 5 years. This approval will expire November 2, 2006, and you must submit an application for renewal at least 120 days before that date.

On behalf of the staff of the Ground Water Pollution Prevention Section, I wish to thank you for your cooperation during the discharge plan review.

Sincerely,



Marcy Leavitt, Chief
Ground Water Quality Bureau

ML:KK/kk

Enclosures:

- Discharge Plan Summary
- Discharge Plan Monitoring Summary
- Land Application Data Sheet
- NMED Monitoring Well Construction and Abandonment Guidelines
- NMED Guidelines for Liner Material and Site Preparation for Synthetically Lined Lagoons

xc: Darwin Pattengale, Dist. Manager, NMED Dist. 4
NMED Roswell Field Office

**New Mexico Environment Department
Ground Water Pollution Prevention Section
Discharge Permit Summary
November 2, 2001**

Facility Information

Facility Name Cottonwood Springs Dairy
Discharge Plan Number DP-734

Legally Responsible Party Phillip Troost, Owner
491 W. Funk Rd.
Lake Arthur, NM 88253
505-365-2793

Treatment, Disposal and Site Information

Primary Waste Type Agriculture Dairy
Treatment Lagoon
Discharge Land Application Crop
Discharge Location 12 miles northwest of Artesia
Depth to Ground Water 25 feet
Total Dissolved Solids (TDS) 900 mg/L

Permit Information

Application Received July 6, 2001
Public Notice Published July 27, 2001
Discharge Plan Approved November 2, 2001
Discharge Plan Expires ~~November 2, 2001~~
Permitted Discharge Volume 84,000 gallons per day

NMED Contact Information

Mailing Address Ground Water Pollution Prevention Section
P.O. Box 26110
Santa Fe, New Mexico 87502

GWPPS Telephone Number 505-827-2900
NMED, GWQB Fax Number 505-827-2965

NMED Lead Staff Kim Kirby
Lead Staff Telephone Number 505-827-2778
Lead Staff E-Mail Kim_Kirby@nmenv.state.nm.us



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MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 15, 1996

Phillip Troost, Owner
Cottonwood Springs Dairy I
491 Funk Road
Lake Arthur, NM 88253

RE: Discharge Plan Renewal, DP-734, Cottonwood Springs Dairy I

Dear Mr. Troost:

Pursuant to Water Quality Control Commission (WQCC) Regulation 3109, the application for discharge plan renewal for DP-734, submitted by you for the discharge of 90,000 gallons per day of dairy washwater from the Cottonwood Springs Dairy I is hereby approved, subject to the conditions listed below. The facility is located approximately 5 miles west of the intersection of US 285 and Funk Road (approximately 8 miles northwest of Artesia) at 576 W. Funk Road in Section 6.3, T16S, R25E, Eddy County. In approving this discharge plan, the New Mexico Environment Department (NMED) has determined that the requirements of WQCC Regulation 3109.C have been met.

The approved Cottonwood Springs Dairy I disposal system is briefly described as follows:

Up to 90,000 gallons per day of dairy washwater is discharged to a 15,000 gallon, latex-lined concrete sump and thence pumped directly to 140 acres of pasture and cropland. Ground water below the site is at a depth of approximately 25 feet and has a total dissolved solids concentration of approximately 900 milligrams per liter.

The approved discharge plan DP-734 consists of the letter submitted by you dated October 9, 1995. In addition, the discharge plan includes information and materials submitted as part of the

Phillip Troost
DP-734
August 15, 1996
Page 2

original discharge plan approved on October 26, 1990. The discharge shall be managed in accordance with the approved plan and is subject to the conditions listed below.

However, approval of this discharge plan does not relieve you of your responsibility to comply with any conditions or requirements of the previously approved discharge plan, DP-734, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

CONDITIONS FOR APPROVAL

This discharge plan approval is subject to the following conditions for the following reasons:

1. Within 60 days of receipt of this letter, Cottonwood Springs Dairy I (Cottonwood) shall submit a scaled map of the dairy facility (including the Cottonwood Springs Dairy II acreage) and surrounding landmarks as follows:
 - a) The land application areas of the two dairies shall be clearly marked with respect to adjacent properties. The south boundary of the site map shall encompass Funk Road; the east boundary shall encompass Pecan Grove Road;
 - b) Plot and label all buildings, roads, and facilities within the boundaries of the dairy;
 - c) A number or letter designation for each land application site, i.e., the pasture land west of the dairy road entrance and east of the corrals; the undeveloped rangeland east of the dairy entrance road, etc. A table shall be developed correlating the number or letter of each irrigation site to the number of acres within the site and the type of crop being grown and harvested on the site. If any sites do not have crops they will be limited to a loading rate of 200 pounds of nitrogen per acre per year;
 - d) The proposed location for monitor wells for each land application site and the 15,000 gallon sump. If two or more land application sites are in a location that can be monitored by a single well, one monitor well may be adequate to monitor several sites. Proposed locations of monitor wells shall be downgradient from the areas to be monitored. Locations of the monitor wells shall be substantiated by reference to a ground water contour map

of the water table below the dairy. A copy of the water contour map shall be submitted with Cottonwood's proposed monitor well location map for NMED approval prior to well installation. Upon approval of, or modification of Cottonwood's proposed monitor well locations, Cottonwood shall install all approved wells within 120 days of notification by NMED. All wells shall be installed following NMED's guidelines for monitor well construction and abandonment, copy enclosed. Upon completion of installation of all required monitor wells, the top of each monitor well casing shall be surveyed to the nearest 1/100th of a foot from a permanent benchmark of known elevation. Cottonwood shall submit to NMED copies of the driller's logs for the monitor wells and a copy of the well casing survey.

The reason for this condition is to comply with Sections 3103, 3107, and 3109 of the WQCC regulations and allow accurate tracking of nitrogen loading resulting from direct land application of dairy effluent and monitoring of ground water below and downgradient of the land application sites.

2. If direct land application of dairy effluent, combined liquid and manure solids, exceeds the Natural Resources Conservation Service (formally SCS) nitrogen requirements of crops grown on any one of the designated irrigation sites, effluent shall be distributed to other designated sites which have not exceeded the nitrogen requirements for crops grown on that site. If NMED determines that the nitrogen loading from direct land application exceeds the capacity of all of the irrigation sites, if the effluent is not managed in a manner that prevents ponding, or if ground water standards are exceeded, Cottonwood shall construct a lined evaporation lagoon capable of evaporating the excess effluent. At a minimum, the lagoon shall have a one month storage capacity based on the dairy's permitted discharge volume of 90,000 gallons per day. If NMED determines that an evaporation lagoon is required, Cottonwood shall submit plans and specifications for a lined lagoon and a manure separator within 60 days of notification by NMED. Plans and specifications shall adhere to NMED's lagoon construction guidelines, copy enclosed. Upon NMED approval of the plans and specifications Cottonwood shall construct the lined lagoon and manure separator within 120 days of notification by NMED.

The reason for this condition is to comply with Sections 3103, 3107, and 3109 of the WQCC regulations.

3. Cottonwood shall augment their monitoring and reporting requirements as follows:

- a) Land application data sheet (LADS) reports shall be submitted quarterly on or before February 1, May 1, August 1, and November 1 of each year.

- b) Dairy effluent samples shall be representative of the effluent/manure mix being applied to the irrigation sites;

- c) LADS reports shall include a separate LADS for each designated irrigation site, and a copy of the table required in Condition 1.d above. The table shall be updated for each reporting period to reflect the crop, or lack of crop, present at each site during the report period; and

- d) All monitor wells shall be sampled upon completion and analyzed for the parameters listed below. Copies of the sample results shall be submitted to NMED within 10 days of Cottonwood's receiving test results. Thereafter, all monitor wells and dairy effluent shall be sampled quarterly. Samples shall be analyzed for: nitrate as nitrogen (NO₃-N), total kjeldahl nitrogen (TKN), chloride (Cl), and total dissolved solids (TDS). Test results shall be submitted to NMED with the quarterly LADS reports.

The reason for this conditions is to comply with Sections 3103, 3107, and 3109 of the WQCC regulations and to coordinate the nitrogen loading with the summer and winter growing seasons.

4. Cottonwood shall move the effluent outfall point at a frequently greater than "at least every three days" if necessary to prevent effluent from ponding on and/or runoff from the irrigation sites.

The reason for this condition is to comply with § 3104 of the WQCC regulations.

5. Within 60 days of receipt of this letter Cottonwood shall submit a contingency plan which addresses the measures to be taken in the event of a spill or break in the effluent pipeline distribution system, or a failure of

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the effluent pumping system. The contingency plan should also include a plan for constructing and lining of an evaporation lagoon.

The reason for this condition is to comply with Sections 3103 and 3107 of the WQCC regulations.

6. Within 120 days of receipt of this letter Cottonwood shall submit a closure plan for the dairy. The plan shall include measures to be taken when the dairy ceases operation which includes removal of any materials capable of producing any of the contaminants listed in Section 3103 of the WQCC regulations, removal of all effluent pipelines, the filling and re-contouring of any depressions associated with dairy operations, the plugging and abandonment of all monitor wells, and post closure monitoring of ground water.

The reason for this condition is to comply with Section 3107 of the WQCC regulations.

SPECIFIC REQUIREMENTS

The terms and conditions of this approval contain specific requirements which are summarized below.

1. Cottonwood will discharge up to 90,000 gallons per day of dairy washwater to a 15,000 gallon sump adjacent to the dairy barn. Washwater will be pumped from the sump and applied to 140 acres of crop and range land.
2. Cottonwood will grow and harvest viable summer and winter crops on 140 acres of land within the dairy's property boundaries.
3. Cottonwood will pump any precipitation runoff remaining in the runoff lagoon within two weeks of a precipitation event to the dairy's cropland.

GENERAL DISCHARGE PLAN REQUIREMENTS

In addition to any other requirements provided by law, approval of discharge plan, DP-734, is subject to the following general requirements:

Monitoring and Reporting

Monitoring and reporting shall be as specified in the discharge

plan and supplements thereto. These requirements are summarized on the attached sheet(s). Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

Record Keeping

1. The discharger shall maintain at the facility, a written record of ground water and wastewater quality analyses.

The following information shall be recorded and shall be made available to the NMED upon request.

- a. The dates, exact place and times of sampling or field measurements.
- b. The name and job title of the individuals who performed the sampling or measurements.
- c. The dates the analyses were performed.
- d. The name and job title of the individuals who performed the analyses.
- e. The analytical techniques or methods used.
- f. The results of such analyses, and
- g. The results of any split sampling, spikes or repeat sampling.

2. The discharger shall maintain a written record of any spills, seeps, and/or leaks of effluent, leachate and/or process fluids not authorized by this discharge plan.

3. The discharger shall maintain a written record of the operation, maintenance and repair of facilities/equipment used to treat, store and/or dispose of wastewater; to measure flow rates; and/or to monitor water quality. This will include repairs, replacement or calibration of any monitoring equipment and repairs or replacement of any equipment used in Cottonwood's wastewater disposal system.

Inspection and Entry

In accordance with § 74-6-9.B & E NMSA 1978 and WQCC Regulation 3107.D., the discharger shall allow the Secretary or his authorized

representative, upon the presentation of credentials, to:

1. Enter at regular business hours or at other reasonable times upon the discharger's premises or where records must be kept under the conditions of this discharge plan.
2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of the discharge plan.
3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this discharge plan.
4. Sample or monitor, at reasonable times for the purpose of assuring discharge plan compliance or as otherwise authorized by the New Mexico Water Quality Act, any effluent at any location before or after discharge.

Duty to Provide Information

In accordance with § 74-6-9.B NMSA 1978 and WQCC Regulation 3107.D., the discharger shall furnish to the NMED, within a reasonable time, any relevant information which it may request to determine whether cause exists for modifying, terminating and/or renewing this discharge plan or to determine compliance with this plan. The discharger shall furnish to the NMED, upon request, copies of records required to be kept by this discharge plan.

Spills, Leaks and Other Unauthorized Discharges

This approval authorizes only those discharges specified in the discharge plan. Any unauthorized discharges violate WQCC Regulation 3104, and must be reported to the NMED and remediated as required by WQCC Regulation 1203. This requirement applies to all seeps, spills, and/or leaks discovered from Cottonwood.

Retention of Records

The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this discharge plan, and records of all data used to complete the application for this discharge plan, for a period of at least five years from the date of the sample collection, measurement, report or application. This period may be extended by request of the Secretary at any time.

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Enforcement

Failure to grant the Secretary or his authorized representative access to the records required to be kept by this discharge plan or to allow an inspection of the discharge facilities or to the

collection of samples is a violation of this discharge plan and the WQCC Regulations. Such violations as well as other violations of the discharge plan, may subject the discharger to a compliance order, a compliance order assessing a civil penalty or an action in district court pursuant to § 74-6-10 NMSA 1978, and/or modification or termination of this discharge plan pursuant to § 74-6-5.L NMSA 1978. Penalties assessed as part of a compliance order shall not exceed \$15,000 per day for violations of the terms of this permit or the requirements of § 74-6-5 NMSA 1978, and shall not exceed \$10,000 per day for violations of other sections of the Water Quality Act.

Modifications and/or Amendments

The discharger shall notify NMED, pursuant to WQCC Regs. 3107.C, of any modifications or additions to Cottonwood's wastewater disposal system, including any increase in wastewater flow rate or wastewater storage and disposal management changes to the system as approved under this discharge plan. The discharger shall obtain NMED's approval, as a discharge plan modification, prior to any increase in the quantity or concentration of constituents in the leachate above those approved in this plan. Please note that WQCC Regs. 3109.E and F provide for possible future amendment of the plan.

Other Requirements

Please be advised that the approval of this plan does not relieve Cottonwood of liability should your operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations.

RIGHT TO APPEAL

If Cottonwood is dissatisfied with this action taken by NMED, Cottonwood may file a petition for hearing before the WQCC. This petition shall be in writing to the Water Quality Control Commission within thirty (30) days of the receipt of this letter. Unless a timely request for hearing is made, the decision of the NMED shall be final.

NMED, GROUND WATER SECTION, DISCHARGE PLAN SUMMARY

Discharge Plan Number..... 734
 Date Report Generated..... 07-AUG-96
 Staff Reviewer..... RICHARD OHRBOM

Legally Responsible Party. PHILLIP TROOST OWNER 365-2793
 Owner..... PHILLIP TROOST
 491 W. FUNK RD.
 LAKE ARTHUR NM 88253

Facility..... COTTONWOOD SPRINGS DAIRY I

Primary Waste Type..... AGRICULTURE DAIRY
 Treatment..... NONE
 Discharge..... LAND APPLICATION CROP
 Discharge Location..... 12 MI. NW ARTESIA

Application Received.....	13-OCT-95	Discharge Volume..	90000 gpd
Public Notice Published...	04-NOV-95	Depth to GW.....	25 feet
Discharge Plan Approved...	15-AUG-96	TDS.....	900 mg/l
Discharge Plan Expires....	15-AUG-01		

Monitoring Reports due.... 01-FEB 01-MAY 01-AUG 01-NOV

<u>Sampling Frequency</u>	<u>No. of Sites</u>	<u>Sampling Description</u>
- 4	3	MONTHLY RECORDS OF EFFLUENT/MANURE TO IRRIGATED FIELDS
12 4	5	LAND APPLICATION DATA SHEET (LADS) for each designated irrigation site
3 4	5	Chloride (Cl): Monitor wells, effluent
5 4	5	NO3-N, TKN: Monitor wells, effluent
11 4	5	TDS: Monitor wells, effluent

_____ If this space is checked, monitoring requirements are summarized or explained in more detail on the attached sheet. Any inadvertent omission from this summary does not relieve the discharger of responsibility for compliance with that requirement.

Send All monitoring reports or correspondence to: RICHARD OHRBOM
 Ground Water Pollution
 Prevention Section
 Environment Department
 P.O. Box 26110
 Santa Fe NM 87502
 (505) 827-2900