



APPLICATION FOR A COASTAL ZONE ACT PERMIT

**State of Delaware
Department of Natural Resources & Environmental Control
Office of the Secretary**

July 22, 2009
Resource Recovery Facility
Mountaire Farms of Delaware, Inc.

Table of Contents

Part 1.	Certification by Applicant.....	4
Part 2.	Applicant Information and Site Identification.....	5
Part 3.	Project Summary.....	6
Part 4.	Project Property Record, and Evidence of Local Zoning and Planning Approval.....	8
Part 5.	Project Operations.....	10
Part 6a.	Environmental Impacts.....	12
Part 6b.	Environmental Offset Reduction Claim.....	24
Part 6c.	Environmental Offset Proposed.....	25
Part 7.	Economic Effects.....	27
Part 8.	Supporting Facilities Requirements.....	29
Part 9.	Aesthetic Effects.....	30
Part 10.	Effects on Neighboring Land Uses.....	31
Part 11.	Attachments or Appendices (figures, tables, maps, forms, etc.).....	32

Permit Application Instructions

1. Complete all parts of the application. For sections which are not applicable to your project, do not leave blank; present a statement that clearly states why the section is not applicable to your project.
2. Because all applicants' projects are different, this word document template will provide you flexibility for needed space to answer the questions. Please insert additional lines for text where needed for your application. If appropriate, attach extra pages referencing each answer by the corresponding section and question number.
3. Submit eight complete hard copies of the permit application to:

Office of the Secretary
Department of Natural Resources & Environmental Control
State of Delaware
89 Kings Highway
Dover, DE 19901

In addition to the eight hard copies, submit a complete electronic "pdf" copy of the permit application and a copy of the Offset Matrix in Microsoft Word format on cd-rom.

4. Comply, if required, or as requested by the DNREC Secretary, with 7 Delaware Code, Chapter 79, Section 7902. If requested, but not completed, your application will not be considered administratively complete until this form is reviewed.
5. Be sure to include your permit application fee of \$3,000; otherwise the application will not be considered administratively complete. Make checks payable to the "State of Delaware."
6. Be advised that the application for a Delaware Coastal Zone Act Permit is a public document, which may be displayed at DNREC offices, public libraries, and the web, among others. If this application requires you to place confidential information or data in the application to make it administratively complete, note the Delaware Freedom of Information Act (29 Delaware Code, Chapter 100) and DNREC's Freedom of Information Act Regulation, Section 6 (Requests for Confidentiality), for the proper procedure in requesting confidentiality.

Note: This application template was last revised by DNREC on January 30, 2008. Please discard any previous versions.

PART 1

CERTIFICATION BY APPLICANT

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

John Wren

JOHN WREN
Print Name of Applicant

[Handwritten Signature]
Signature of Applicant

Director of Engineering & Environmental
Services _____
Title

07/15/09
Date

PART 2

APPLICANT INFORMATION AND SITE IDENTIFICATION

2.1 Identification of the applicant:

Company Name: Mountaire Farms of Delaware, Inc.
Address: 29005 John J. Williams Highway, Millsboro, DE
Telephone: (302) 934-3092
Fax: (302) 934-3081

2.2 Primary contact: Please list the name, phone number and email of a preferred contact within your company in case the DNREC needs to contact you regarding this permit application.

John Wren, (302) 934-3092, jwren@mountaire.com

2.3 Authorized agent (if any):

Name: Lee J. Beetschen, P.E., DEE, ljb@cabe.com
Address: 144 S. Governors Avenue
Telephone: (302) 674-9280
Fax: (303) 674-1099

If you have an authorized agent for this permit application process, provide written authorization from client for being the authorized agent.

See Attachment A

2.4 Project property location (street address):

29005 John J. Williams Highway
Millsboro, DE 19966

2.5 In a separate attachment, provide a general map of appropriate scale to clearly show the project site.

See Attachment B

2.6 Is the applicant claiming confidentiality in any section of their application?

No
If yes, see instructions on page 3.

PART 3

PROJECT SUMMARY

The resource recovery project will recover unused protein (blood, feathers and offal) from the Mountaire Millsboro and Selbyville poultry processing plants, farms and hatcheries. The unused protein will be loaded in trailers and trucked to the resource recovery plant. The truck trailers have hydraulic systems for dumping the load into receiving bins located within the resource recovery building. The trailers are designed to keep the various types of byproducts segregated. They have tanks for hauling blood and divider gates to separate offal from feathers. The raw materials receiving bins and tanks are constructed of stainless steel and are enclosed vessels. Each bin and tank has a vent connected to a duct system that directs the vented air and the inherent odor from the raw materials to the plant's odor abatement systems. There are two (2) bins dedicated for storing soft tissues, viscera and bones; one (1) bin for storing whole-bird carcasses; and one (1) for storing raw feathers. Each of these bins has hydraulic powered inlet covers. After receiving from the truck is finished the lid is closed. Two (2) tanks are provided for storing raw blood. The blood tanks are filled by pumps connected to the delivery truck hauling tank. The plant will continuously process 3,544 tons of raw materials per week consisting of bones, blood, feathers, viscera and other soft tissues, and the whole-bird carcasses of farm mortality. The raw materials will be sized, conditioned and hydrolyzed. The final products will be hydrolyzed feather and poultry meal and feed grade fat, which are then loaded on trucks for shipping to a variety of points of use.

Mountaire's project will produce approximately 355 pounds per day of Total Nitrogen, a substance regulated by DNREC Permit # LTS 5011-87-04. Mountaire intends to upgrade the existing wastewater treatment plant to decrease the Total Nitrogen being applied to crop land to below the current levels, thereby precluding the need for an offset for land applied nitrogen in the treated wastewater.

With regard to air emissions, in 2000, Mountaire voluntarily shut down a soybean oil extraction and refinery plant in the Coastal Zone portion at this site. That closure reduced SO_x, NO_x, CO, VOC and PM-10 emissions by 376, 60, 3.9, 128.7 and 49 tons per year respectively. The emissions increases caused by the recovery project using natural gas as fuel is depicted in the first column of the ensuing table, along with the

required offset and the actual offset. In every case, the emissions reduction created by the closure of the soybean extraction and refinery plant greatly exceeds the offset required.

	Emissions Increase (TPY)	Required Offset (1.3 x Emissions Increase) (TPY)	Actual Offset (TPY)
SOx	0.12	0.16	0.16
NOx	4.9	6.4	6.4
CO	1.2	1.6	1.6
VOC	1.1	1.4	1.4
PM-10	1.7	2.2	2.2

PART 4

**PROJECT PROPERTY RECORD AND
EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL**

PROJECT PROPERTY RECORD

4.1 Name and address of project premises owner(s) of record:

Mountaire Corporation
1901 Napa Valley Dr.
Little Rock, AR 72212

4.2 Name and address of project premises equitable owner(s):

Same as above

4.3 Name and address of lessee(s):

NA

4.4 Is the project premises under option by permit applicant?

No

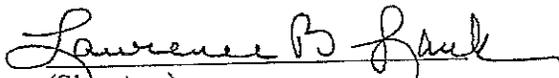
4.5 What is the present zoning of the land for this entire project site?

Heavy Industrial

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

I, Lawrence B. Lank, Director of Planning and Zoning for Sussex County, Delaware, do hereby affirm that the project proposed by Mountaire Farms, Inc., located at Rt 24, Indian River Hundred, T.M. No. 2-34-32.00-117.00, the HI - 1 Heavy Industrial District zoning district is in full compliance with the zoning as it applies to this project

The above named applicant's project is in compliance with the adopted comprehensive development plan for the geographic area within which the project will be located.


(Signature)

Director
(Title)

5.5.09
(Date)

This part is essential for a complete Coastal Zone Act Permit Application. No application will be considered administratively complete without it. While the applicant is strongly advised to use this form, the local zoning jurisdiction may utilize a different form or document to demonstrate "evidence of local zoning approval," provided such documents are signed and dated by the proper official.

PART 5

PROJECT OPERATIONS

- 5.1 Describe the characteristics of the manufactured product and all the process and/or assembly operations utilized by the proposed project. Include in the description (use attachments if necessary):
- a. the raw materials, intermediate products, by-products and final products and characteristics of each. Review any materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. Provide material safety data sheets (MSDS) if available;

The raw materials consist of unused protein being produced at company poultry processing plants in Selbyville, DE and Millsboro, DE. The materials pose no materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. An MSDS is not required for this material. The final products are poultry and pet grade feed ingredients. MSDSs are not required for either.

- b. the step-by-step procedures or processes for manufacturing and/or assembling the product(s). Provide a flow diagram to illustrate procedures;

See Attachment C

-
- c. the nature of the materials mentioned above in 4.1(a) as to whether or not the materials require special means of storage or handling;

The raw materials will be stored in covered bins with live, screw conveyor bottoms and/or enclosed tanks. No other special means of storage or handling is required.

- d. list the machinery (new and/or existing) to be utilized by this project;

See attachment D

- e. list any new buildings or other facilities to be utilized;

A 46,400 square foot resource recovery building in which raw material is received, processed into three (3) products, hydrolyzed feather and poultry meal and feed grade fats, which are then loaded on trucks for shipping to a variety of points of use.

- f. list the size and contents of any anticipated aboveground or underground storage tank systems that may be constructed or utilized in support of facility operations;

Pet Feed Grade Silo approx. 8800 ft³
Poultry Feed Grade Silo approx. 8800 ft³
Feather Meal Silo approx. 8800 ft³
Fat Silos (2) approx. 4,300 ft³ each

- g. if this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production?

No change in production is expected as a result of this project.

- h. if this project represents a totally new facility at a new or existing site, what will be the maximum production rate?

3,544 tons of raw material per week

5.2 Describe daily hours of plant operations and the number of operating shifts.

24 hrs, 3 shifts per day

5.3 Provide a site plan of this project with: (See Attachment E)

- a. a north arrow;
- b. a scale of not less than one inch to 200 feet;
- c. identity of the person responsible for the plan, including any licenses and their numbers;
- d. the acreage of the applicant's entire property and acreage of the proposed project;
- e. property lines of entire property;
- f. lines designating the proposed project area for which application is being made, clearly distinguished from present facilities and operating areas (if any);
- g. existing and proposed roads, railroads, parking and loading areas, piers, wharfs, and other transportation facilities;

- h. existing water bodies and wetlands and proposed dredge and fill areas, and;
- i. existing and proposed drainage ways, gas, electric, sewer, water, roads, and other rights-of-way.

5.4 How many acres of land in total are required for this proposed project?

Existing/ currently utilized/ developed land: 4.18 acres.

New land: None acres.

5.5 Has the property been involved with a state or federal site cleanup program such as Superfund, Brownfields, HSCA Voluntary Cleanup Program, RCRA Corrective Action, Aboveground or Underground Storage Tank Cleanup Programs? If so please specify which program.

See Attachment F.

5.6 With regards to environmental cleanup actions, has a Uniform Environmental Covenant, Final Plan of Remedial Action, or no further action letter been issued by the Department? NO

If so are the planned construction activities consistent with the requirements or conditions stated in these documents?

PART 6A

ENVIRONMENTAL IMPACTS

Air Quality

6.1 Describe project emissions (new, as well as any increase or decrease over current emissions) by type and amount under maximum operating conditions:

The existing emission sources consist of three (3) boilers, two (2) grain driers, and feed mill operations. The emissions from the boilers are the combustion products of No. 6 fuel oil. The emissions from the driers are the combustion products of propane. The emissions from the feed mill are particulate emissions from feed mill operations. The new emissions are from a natural gas burner that oxidizes collected vapors (the thermal oxidizer) and provides steam for the resource recovery operation.

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions		Percent Change (compare tons/year)
	Lbs/day	Tons/year	Lbs/day	Tons/year	Lbs/day	Tons/year	
SOx	893	163	0.7	0.12	899	164	0.07
NOx	186	34	27	4.9	214	39	14
CO	20	3.7	6.6	1.2	27	4.9	32
VOC	1.3	0.24	6.0	1.1	7.1	1.3	458
PM-10	129	23.6	8.2	1.7	137	25	7.2

- 6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error.

There are 4 scrubbers with hoods over equipment serving the building. They have oversized variable frequency drive motors that could be ramped up in the event of thermal oxidizer failure or one scrubber failure. If the latter, the number of room air changes would be reduced.

- 6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 5.1.

Boiler fuel usage will be limited and monitored to stay within permit limits.

- 6.4 Show evidence that applicant has, or will have, the ability to maintain and utilize this equipment listed in 5.3 in a consistently proper and efficient manner. (For example, provide college transcripts and/or records of training courses and summary of experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms to be responsible for maintaining and utilizing this equipment.)

Operators will be trained by the equipment suppliers prior to and during a 30 day startup.

Water Quality

- 6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations:

Mountaire currently treats its wastewater with a biological system consisting of anaerobic lagoons followed by activated sludge, disinfection and water reuse and aquifer recharge by spray irrigation on 943 acres of agricultural land. Only about 35%, 334 acres, of this land is in the Coastal Zone. The residual nitrogen in the treated wastewater, currently being land applied on a barley/wheat/corn/soybean rotation, is approximately 280,000 pounds per year. Based on recent records, the existing flow from the poultry processing plant and hatchery to the biological treatment system is 1.89 MGD. The resource recovery project will add 0.24 MGD to the raw wastewater flow.

The project will produce approximately 100,000 pounds of nitrogen annually which, after treatment in the existing treatment works, volatilization in the air as it is being sprayed and denitrification in the soil column would have yielded an annual net increase in the amount of Total Nitrogen applied to the land of 27,500 pounds. However, Mountaire intends to upgrade the existing wastewater treatment plant. This upgrade will reduce the Total Nitrogen load to the spray sites by 176,000 pounds (88 tons) per year as shown in the following table. Therefore, no offset is required.

Pollutant	Current Discharge Concentration (ppm)	New or Changed Discharge Concentration (ppm)	Current Discharge		Net Increase/Decrease		New Total Emissions	
			Lbs/day	Tons/year	Lbs/day	Tons/year	Lbs/day	Tons/year
BOD ₅ (1)	45	11.1	711	130	-508	-93	203	37
TSS (2)	18	11.1	285	52	-81	-15	203	37
TN (3)	48.5	15.6	767	140	-480	-88	287	52

- (1) BOD₅ is solely limited by concentration: Daily avg. 50 mg/l; Daily max. 75 mg/l
 (2) TSS is solely limited by concentration: Daily avg. 90 mg/l; Daily max. 90 mg/l
 (3) Total Nitrogen is solely limited by mass to 325 lbs/acre/year which may include supplemental fertilizer. This limitation may be adjusted if it can be shown through subsequent analysis of the crop removed that the total nitrogen removed with the crop is equal to the amount applied through the reclaimed water and additional fertilizer application. Mountaire addresses this opportunity by the accounting system included as Attachment G.

- 6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project.

Sanitary waste from the new building will be pumped to the existing complex sanitary system.

- 6.7 Identify the number, location, and name of receiving water outfall(s) of any and all process wastewater discharge (new or current) affected by this proposed project. Provide NPDES Permit Numbers for each discharge affected.

Treated process wastewater is land applied pursuant to Permit No. LTS 5011-87-04

- 6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program. NA

- 6.9 Stormwater:

- a. Identify the number, location, and name of receiving waters of stormwater discharges. Provide permit number for each discharge.

There will be no stormwater discharges to surface waters as a result of this project.

- b. Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc).

Roof and parking lot.

- c. Describe the amount of stormwater run-off increase over current levels that will result from the proposed project.

None, will be absorbed in an adjacent swale.

- d. Describe any pollutants likely to be in the stormwater. NA

- e. Describe any pollution control device(s) or management technique(s) to be used to reduce the amount of stormwater generated, and devices to improve the quality of the stormwater run-off prior to discharge. NA

- f. Describe any new or improved stormwater drainage system required to safely carry off stormwater without flooding project site or neighboring areas down gradient. NA

- 6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?

NO

If yes, state:

- a. the volume of water to be withdrawn, and;
 - b. describe what will be done to prevent entrainment and/or entrapment of aquatic life by the intake device.
- 6.11 Will this proposed project result in a thermal discharge of water, or an increase in the flow or temperature of a current thermal discharge?
NO

If yes, state:

- a. the volume of the new flow or increase from the existing thermal discharge, both in flow and amount of heat;
 - b. how warm will the water be when it is discharged into a receiving waterway, discharge canal, or ditch, and what will be the difference in discharge temperature and ambient temperature (delta T) at various seasons of the year after all cooling water mechanisms have been applied to the hot water?
 - c. the equipment and/or management techniques that will be used to reduce the thermal load of the discharge water.
- 6.12 Will any proposed new discharge or change in existing discharge cause, or have potential to cause, or contribute to, the exceedance of applicable criteria appearing in the "State of Delaware Surface Water Quality Standards"?

NO Will comply with the LTS permit and Pollution Control Strategy.
If yes, explain:

- 6.13 Describe any oils discharged to surface waters due to this proposed project.
None
- 6.14 Describe any settleable or floating solid wastes discharged to surface waters due to this project.
None
- 6.15 Show evidence that the applicant has, or will have, the ability to maintain and utilize any water pollution control equipment listed in questions 5.5 through 5.14 in a consistently proper and efficient manner. (For example, provide operator license numbers, college transcripts and/or training courses and summary of prior experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms.)

The persons listed below are licensed wastewater treatment operators required to take continuous training courses to maintain their licenses. Mr. Nilan has relevant experience with dissolved air flotation equipment, the type that will be used as a pretreatment system in the recovery building.

<u>Name</u>	<u>Level</u>	<u>License #</u>
James A. Nilan III	4	174
Mark D. Warner	2 OIT	632
John E. Martin	3	383
Beth B. Sise	4	198

- 6.16 Estimate the amount of water to be used for each specified purpose including cooling water. State daily and maximum water use in the unit of gallons per day for each purpose and source of water. State if water use will vary with the seasons, time of day, or other factors.

	<u>Average Daily</u>	<u>Maximum Daily</u>
Boiler Steam	108,201 GPD	Same as average
Cooling Tower Make-up Water	187,200 GPD	Same as average
Scrubber Make-up Water	72,000 GPD	Same as average
Cleanup Water	122,000 GPD	Same as average

Water usage may vary slightly in direct proportion to raw material input that has a limited seasonality reflecting market demand for poultry products.

- 6.17 Identify the source of water needed for the proposed project, including potable water supplies.

Groundwater from the Columbia aquifer.

- 6.18 Are wells going to be used?
YES

If yes:

- a. Identify the aquifer to be pumped and the depth, size, location and pumping capacity of the wells.

<u>Well</u>	<u>Location</u>	<u>Capacity (GPM)</u>
SP-H1	Columbia	1500
PP-1	Columbia	1000
PP-2	Columbia	1000

See Attachment E for well locations

- b. Has a permit allocation been applied for to do this? Current allocation sufficient?

Yes to both questions.

- c. How close is the proposed well(s) to any well(s) on adjacent lands?

Sufficiently distant to preclude interference with the cone of influence of off-site wells.

Solid Waste

6.19 Will this project result in the generation of any solid waste?

YES

If yes, describe each type and volume of any solid waste (including biowastes) generated by this project, and the means used to transport, store, and dispose of the waste(s).

One dumpster load per week of aprons, shackles, knives etc that will be transported to the DSWA landfill in Sussex County by a licensed hauler.

6.20 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?

NO

If yes, describe:

6.21 Will any waste material generated by this project be destroyed on-site?

NO

If yes, how will that be done?

Hazardous Waste

- 6.22 Will this proposed project result in the generation of any hazardous waste as defined by the “Delaware Regulations Governing Hazardous Waste”?

NO

If yes, identify each hazardous waste, its amount, and how it is generated:

- 6.23 Describe the transport of any hazardous waste and list the permitted hazardous waste haulers that will be utilized.

- 6.24 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?

NO

If yes, describe:

- 6.25 Does the applicant currently generate any hazardous waste at this site?
- NO

If yes, describe:

Habitat Protection

6.26 What is the current use of the land that is to be used for the proposed project?

Agribusiness complex

6.27 Will the proposed project result in the loss of any wetland habitat?

NO

If yes, describe:

6.28 Will any wastewater and/or stormwater be discharged into a wetland?

NO

If yes, will the discharge water be of the same salinity as the receiving wetlands?

6.29 Will the proposed project result in the loss of any undisturbed natural habitat or public use of tidal waters?

NO

If yes, how many acres?

6.30 Do threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act) exist at the site of the proposed project, or immediately adjacent to it?

NO

If yes, list each species:

6.31 Will this proposed project have any effect on these threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act).

NO

If yes, explain:

6.32 What assurances can be made that no threatened or endangered species exist on the proposed project site?

No vegetative growth or suitable habitat to support threatened or endangered species. Also, see Attachment H

6.33 Describe any filling, dredging, or draining that may affect nearby wetlands or waterways. None

6.34 If dredging is proposed, how much will occur and where will the dredged materials go for disposal? NA

Other Environmental Effects

- 6.35 Describe any noticeable effects of the proposed project site including: heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects.

There will be no noticeable effects due to the design precautions identified in 6.36

- 6.36 Describe what will be done to minimize and monitor such effects.

The process equipment and general site activities will comply with The Regulations Governing the Control of Noise. Scrubber stacks exit upward and will dissipate noise and odors 40' above ground. The fans will have soft start variable speed drive motors to minimize belt squeaking and fan blade woosh. The thermal oxidizer will collect gases and process vapors with highest odor potential and thermally oxidize them at 850 degrees C.

- 6.37 Describe any effect this proposed project will have on public access to tidal waters. None

- 6.38 Provide a thorough scenario of the proposed project's potential to pollute should a major equipment malfunction or human error occur, including a description of backup controls, backup power, and safety provisions planned for this project to minimize any such accidents

Will have 2-3000 kva transformers with a tie breaker so that either line, feather or meat, can be run alternately in the event of a transformer failure.

- 6.39 Describe how the air, water, solid and hazardous waste streams, emissions, or discharge change in the event of a major mechanical malfunction or human error.

There will be 6 hours of raw material storage in covered bins in the receiving area of the building. If this becomes insufficient, the raw material will be sent to a 3rd party recovery plant. If no 3rd party plant capacity is available, live haul operations will be interrupted and the processing plants shut down.

The wastewater treatment plant has demonstrated sufficient storage volume in the two 8-million gallon anaerobic lagoons to absorb any malfunction or error in the complex.

Every pump, disintegrator, centrifuge and crax press has 100% backup. If the hydrolyzer or drier malfunctions, the recovery plant would have to shut down.

PART 6B

ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM

Is applicant claiming the right to have a reduced offset proposal due to past voluntary improvements as defined in the "Regulations Governing Delaware's Coastal Zone"?

Yes, to totally offset project increases in air emissions.

If yes, provide an attachment to the application presenting sufficient tangible documentation to support your claim.

See Attachment I

PART 6C

ENVIRONMENTAL OFFSET PROPOSAL

If the applicant or the Department finds that an Environmental Offset Proposal is required, the proposed offset project shall include all the information needed to clearly establish: None required. Wastewater Treatment Plant will be upgraded to reduce Total Nitrogen Load to the field. For expected upgraded plant performance, see Attachment J.

- A. A qualitative and quantitative description of how the offset project will “*clearly and demonstrably*” more than offset the negative impacts from the proposed project.
 - B. How and in what period of time the offset project will be carried out.
 - C. What the environmental benefits will be and when they will be achieved.
 - D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.
-
- E. How the success or failure of the offset project will be measured in both the short and long term.
 - F. What, if any, negative impacts are associated with the offset project.
 - G. How the offset will impact the attainment of the Department’s environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the Coastal Zone.

Additional Offset Proposal Information for the Applicant

1. The offset proposals must “*clearly and demonstrably*”¹ more than offset any new pollution from the applicant’s proposed project. The applicant can claim (with documentation) evidence of past voluntary environmental investments (as defined in the Regulations) implemented prior to the time of application. Where the Department concurs with the applicant that such has occurred, the positive environmental improvement of the offset proposal against the new negative impact can be somewhat reduced.
2. The applicant must complete the Coastal Zone Environmental Impact Offset Matrix. This matrix can be found on the CZA web page (<http://www.dnrec.delaware.gov/Admin/CZA/CZAHome.htm>), or by clicking on [this link](#). On page one, the applicant must list all environmental impacts in the column labeled “Describe Environmental Impacts.” In the column to the immediate right, the applicant should reference the page number of the application or attachment which documents each impact listed. In the “Describe Environmental Offset Proposal” column, applicant must state what action is offsetting the impact. The offset action shall be referenced by page number in the column to the right to show how the offset will work. The applicant shall not utilize the far right column. *Please ensure the matrix is complete, detailed, and as specific as possible, given the allotted space. Also, thoroughly proof-read to ensure there are no spelling or grammatical errors.* The applicant must submit a completed matrix both in hardcopy and electronic form.
3. Please note: the entire offset proposal, including the matrix, shall be available to the public, as well as the evidence of past voluntary environmental enhancements.

¹ For purposes of this requirement, the DNREC will interpret the phrase “clearly and demonstrably” to mean an offset proposal that is obviously so beneficial without detailed technical argument or debate. The positive environmental benefits must be obviously more beneficial to the environment than the new pollution that minimal technical review is required by the Department and the public to confirm such. The total project must have a positive environmental impact. The burden of proof is on the applicant.

PART 7

ECONOMIC EFFECTS

Construction

- 7.1 Estimate the total number of workers for project construction and the number to be hired in Delaware.
- DEDO estimates 11 construction jobs per million dollars of project cost. Using that number yields 308 construction jobs.
- 7.2 Estimate the weekly construction payroll.
- 12 month construction period, 1/3 payroll, \$180,000
- 7.3 Estimate the value of construction supplies and services to be purchased in Delaware.
- \$5,600,000 (20%)
- 7.4 State the expected dates of construction initiation and completion.
- Depends on permit issuance. If DNREC allows concurrent processing of air and land application permits with CZA, earliest start projected is September 2009, complete by September 2010.
-
- 7.5 Estimate the economic impact from the loss of natural habitat, or any adverse economic effects from degraded water or air quality from the project on individuals who are directly or indirectly dependent on that habitat or air or water quality (e.g. commercial fishermen, waterfowl guides, trappers, fishing guides, charter or head boat operators, and bait and tackle dealers). None

Operations

- 7.2 State the number of new employees to be hired as a direct result of this proposed project and how many of them will be existing Delaware residents and how many will be transferred in from other states.

Thirty-eight new employees

- 7.3 If employment attributable to the proposed project will vary on a seasonal or periodic basis, explain the variation and estimate the number of employees involved.

Not seasonal

- 7.4 Estimate the percent distribution of annual wages and salaries (based on regular working hours) for employees attributable to this project:

<u>Wage/salary</u>	<u>Percent of employees</u>
<\$10,000	
\$10,000-14,999	
\$15,000-24,999	
\$25,000-34,999	
\$35,000-49,999	44
\$50,000-64,999	47
\$65,000-74,999	
\$75,000-99,999	9
>\$100,000	

- 7.5 Estimate the annual taxes to be paid in Delaware attributable to this proposed project:

State personal income taxes:	\$ 125,000
State corporate income taxes	\$ 75,000
County and school district taxes:	\$ 1,000 & \$4,000 respectively
Municipal taxes:	\$ -0-

PART 8

SUPPORTING FACILITIES REQUIREMENTS

Describe the number and type of new supporting facilities and services that will be required as a result of the proposed project, including, but not limited to: None

- a. Roads
- b. Bridges
- c. Piers and/or docks
- d. Railroads
- e. Microwave towers
- f. Special fire protection services not now available

- g. Traffic signals
- h. Sewer expansion
- i. Energy related facilities expansion
- j. Pipelines

PART 9

AESTHETIC EFFECTS

- 9.1 Describe whether the proposed project will be located on a site readily visible from a public road, residential area, public park, or other public meeting place (such as schools or cultural centers).

Blends in with existing features (See Attachment K)

- 9.2 Is the project site location within a half mile of a place of historic or scenic value? No

- 9.3 Describe any planned attempt to make the proposed facility aesthetically compatible with its neighboring land uses. Include schematic plans and/or drawings of the proposed project after it is complete, including any landscaping and screening. See response to 9.1

PART 10

EFFECTS ON NEIGHBORING LAND USES

- 10.1 How close is the nearest year-round residence to the site of this proposed project? 0.37 miles (See Attachment L)
- 10.2 Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources? No
- 10.3 Will the proposed project utilize or interfere with agricultural areas? No
- 10.4 Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use? No

END OF APPLICATION

ATTACHEMENTS TO FOLLOW

Attachments

A	Agent letter	2.3
B	Site map	2.5
C	Process description	5.1b
D	Machinery list	5.1d
E	Site plan & prop map	5.3
F	Consent order	5.5
G	N balance	6.5
H	Endangered letter	6.32
I	Offset (Air Only)	6B
J	Treatment Calcs	6CD
K	Blend in	9.1
L	Nearest Residence	10.1



April 14, 2009

Re: Authorized Agent

To Whom It May Concern:

This is to advise that Lee J. Beetschen, P.E., DEE of CABE Associates, Inc. is Mountaire's Authorized Agent for the Coastal Zone Act permit application process for the Resource Recovery Facility project to be constructed and operated within our existing Millsboro Mountaire Farms of Delaware, Inc. complex.

MOUNTAIRE FARMS OF
DELAWARE, INC.

A handwritten signature in cursive script, appearing to read "John Wren".

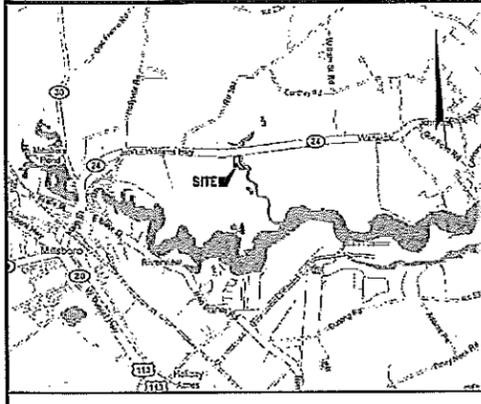
John Wren
Director of Engineering and Environmental Services



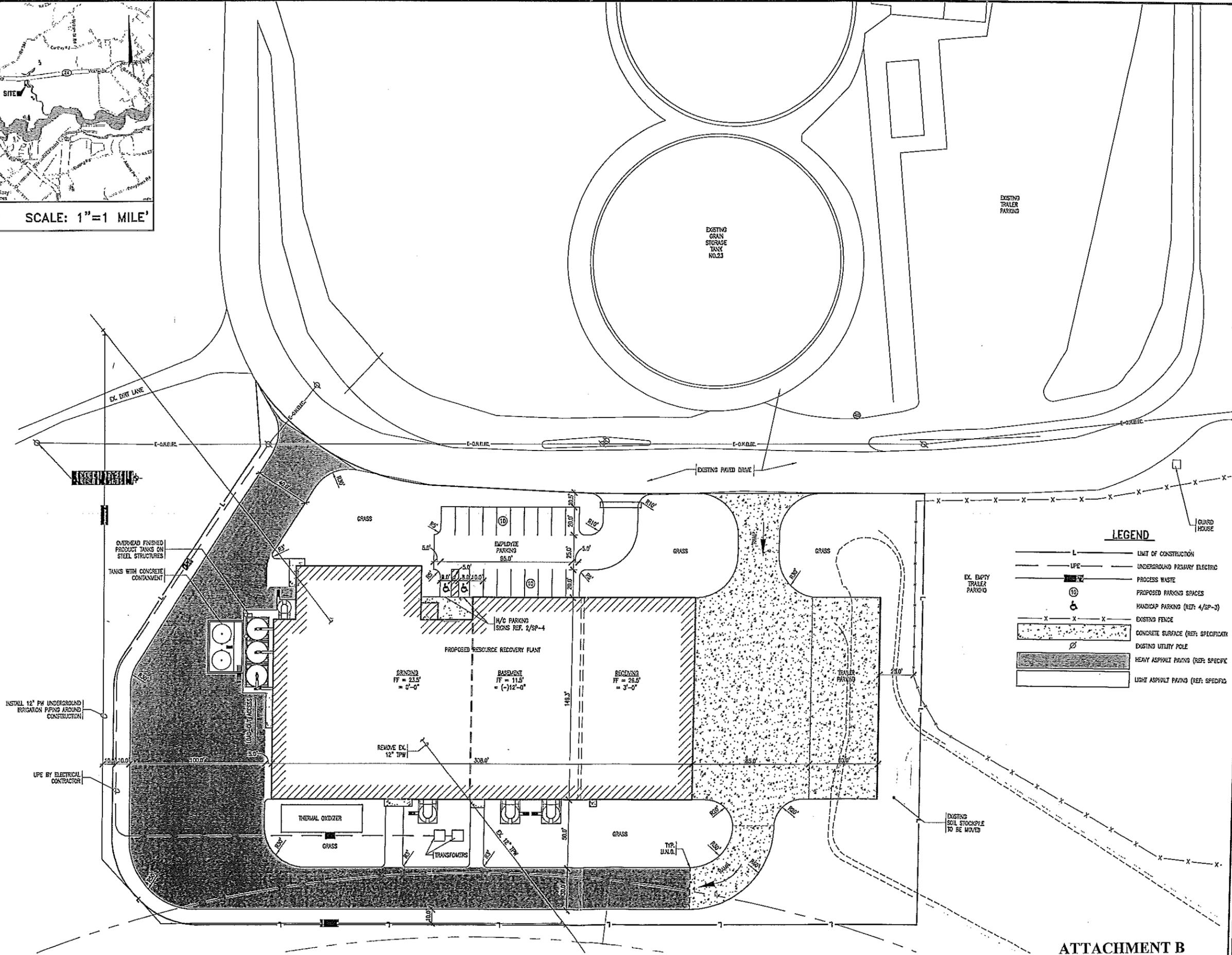
Mountaire Farms of Delaware, Inc.
P.O. Box 1320, Millsboro, Delaware 19966
(302) 934-1100 Toll Free (877) 887-1490

ATTACHMENT A

"We measure quality by how well we service our internal and external customers"



VICINITY MAP SCALE: 1"=1 MILE'



LEGEND

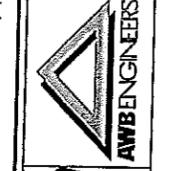
	LIMIT OF CONSTRUCTION
	UNDERGROUND PRIMARY ELECTRIC
	PROCESS WASTE
	PROPOSED PARKING SPACES
	HANDICAP PARKING (REF. 4/SP-3)
	EXISTING FENCE
	CONCRETE SURFACE (REF. SPECIFIC)
	EXISTING UTILITY POLE
	HEAVY ASPHALT PAVING (REF. SPECIFIC)
	LIGHT ASPHALT PAVING (REF. SPECIFIC)

RELEASE BY

13 JAN 08	EBB
28 JAN 09	EBB

PROJECT NORTH

ENGINEERS/ARCHITECTS
 TRADE INTERNATIONAL GROUP, INC. (410) 742-7288 FAX (410) 742-0275



SITE IMPROVEMENTS PLAN
2009 RESOURCE RECOVERY FACILITY
 MILLSBORO, DELAWARE

DATE	PRELIMINARY
SCALE	1" = 30'
DRAWN	EBB
PROJ. MGR.	JRS
JOB	081001
FILE	JRS-1
SHEET	SP-2

S:\081001\MountainState, Millsboro\081001\SP2.dwg, 1/28/2009 2:31:01 PM, EBB, Autodesk 2006

ATTACHMENT B

POULTRY RESOURCES RECOVERY

DESCRIPTION OF RECYCLING PROCESSES

Mountaire Farms is proposing to build a recycling facility dedicated to the recovery of the resources available in byproducts generated from processing live poultry into meat food products. The subject byproducts are; bones, blood, feathers, viscera and other soft tissues, and the whole-bird carcasses of flock mortalities. As these byproducts are not fit for human consumption; only four options exist for their disposition:

- Dispose as a solid waste in a landfill.
- Dispose by incineration.
- Convert to a fertilizer material by composting.
- Use special recycling equipment to pasteurize and convert into protein-rich meals and fat that are essential ingredients in the diets of pets and livestock.

Because the byproducts represent a considerable daily volume, and they are animal tissue comprised mainly of water (70%), options one and two are not practical solutions. Options three and four offer the potential to recover a usable product(s) however; option three (composting) on such a large scale would be cause for concerns of odor pollution and the spread of diseases by attracting flies and other vermin. In addition, over supply and market demand limits the ability to "add value" as a fertilizer material. Option four is safe, environmentally responsible and does not produce any hazardous waste. Option four also provides a source for additional income from the sale of the valuable products recovered.

Although the finished products manufactured in the RRP are not intended for human consumption, sanitation is still crucial. The plant is designed with measures that prevent cross-contamination of the finished products with unpasteurized raw materials. All of the plant's machinery is able to operate in a wet environment. This design feature facilitates daily wash down and cleaning routines.

All of the processes and equipment installed in the RRP are designed for "continuous" processing versus processing in "batches". The basic difference between batch and continuous processes is the continuous design allows for simultaneous intake and discharge of the processed material.

The plant processes are highly automated and meant to run with a minimum of intervention or input requirements from the Process Operators. The process controls will be carried out using micro-processor based Programmable Logic Controllers (PLC). The Process Operators interface and access the PLC controls with computers located in a central control room. These computers are programmed with graphic depictions of the status of the processes and the plant machinery. Starting, stopping and adjustment of the process controls is carried out at these computer workstations.

The Resource Recovery Plant (RRP) will be engaged in the production of the following products:

- Hydrolyzed Feather Meal with Blood Protein
- Poultry Meal (two commercial grades)
- Feed Grade Fat

Descriptions of the processes used to manufacture these products follows.

Process for Receiving Raw Materials

Byproducts are collected at the Live Poultry Processing Facilities, Farms and Hatcheries. They are loaded in trailers and trucked to the Resource Recovery Plant (RRP). The truck trailers have hydraulic systems for dumping the load into Receiving Bins at the RRP. The trailers are designed to keep the various types of byproducts segregated. They have tanks for hauling blood and divider gates to separate offal from feathers. Keeping the raw materials separated during collection, transport, receiving and processing is necessary to comply with the commercial definitions of the finished products.

The RRP Raw Material Receiving Bins and Tanks are constructed of stainless steel and are enclosed vessels. Each Bin and Tank has a vent connected to a Duct System. The Duct System directs the vented air and the inherent odor from the raw materials to the plant's Odor Abatement Systems. There are two (2) bins dedicated for storing soft tissues, viscera and bones; one (1) bin for storing whole-bird carcasses; and one (1) for storing raw feathers. Each of these bins has hydraulic powered inlet covers. After receiving from the truck is finished the lid is closed. Two (2) tanks are provided for storing raw blood. The blood tanks are filled by pumps connected to the delivery truck hauling tank.

To avoid adverse quality issues in the finished products the raw materials must be processed while they are as fresh as possible. Therefore; the storage volumes of the Raw Material Bins and Tanks are not designed for long-term storage, but rather on the need to buffer incoming surges of materials from the delivery dump trucks.

The Receiving Bins for solid materials are equipped with multiple screw conveyors situated on the bin floor. This "live-bottom" system has a variable speed capability for controlling the discharge flow of materials from the bin. Liquid blood is metered from the Blood Tanks into the processing system with variable-flow pumps.

All of the raw material inventories are monitored with Load-Cell Systems on the Receiving Bins and with Liquid Level Transmitters on the Blood Tanks.

Process for the Production of Hydrolyzed Feather Meal with Blood Protein

Commercial Description:

Hydrolyzed Feather Meal is made from fresh, poultry feathers which have been cooked under pressure and are exclusive of skin, bones and other "fatty" tissue, except that which is unavoidable. Raw Feathers of light color will result in a light, golden brown meal. Raw Feathers of a darker color will result in darker meal. If blood is added the meal color will be darkened, however; the meal will benefit accordingly from the inclusion of the blood protein.

Feather meal must be sufficiently ground such that 98% of the meal will pass a US size 10 sieve (.0787" opening).

An analysis of Feather Meal should find the constituents to be; 80% Protein, 5% Fat, 10% Moisture (max). The balance is generally made up of; fiber, ash, and phosphorus.

Hydrolyzed Feather Meal is made from fresh, poultry feathers which have been cooked under pressure and are exclusive of skin, bones and other "fatty" tissue, except that which is unavoidable. Raw Feathers of light color will result in a light, golden brown meal. Raw Feathers of a darker color will result in darker meal. If blood is added the meal color will be darkened, however; the meal will benefit accordingly from the inclusion of the blood protein.

Feather meal must be sufficiently ground such that 98% of the meal will pass a US size 10 sieve (.0787" opening).

An analysis of Feather Meal should find the constituents to be; 80% Protein, 5% Fat, 10% Moisture (max). The balance is generally made up of; fiber, ash, and phosphorus.

Raw feathers are discharged from the Receiving Bin and transported via enclosed Screw Conveyors. The Screw Conveyor system deposits the feathers onto a Belt Conveyor which carries them through a Metal Detector aperture. If tramp metal is detected the conveyor belt automatically stops and an alarm is annunciated alerting the Process Operator. The Process Operator then performs a manual inspection to find and remove the object(s) from the feathers. After passing inspection for metal the raw feathers move off the end of the Belt Conveyor and into the Hydrolyzer feed hopper.

Feathers consist mostly of keratin, which in the raw state is a nearly indigestible protein. By subjecting the feathers to elevated pressure and temperature, and combining them with water (steam), the keratin undergoes "chemical hydrolysis" and breaks into digestible amino acids. The machine used for this process is the "Hydrolyzer".

A controlled injection of steam produced by the plant boilers is used to maintain the internal pressure of the Hydrolyzer between 55 psi and 70 psi. The boiler steam is also the heating medium. Raw feathers are forced into the pressure chamber with an auger feeder. Inside the Hydrolyzer the feathers are kept in motion with a rotating agitator shaft as they travel the length of the vessel towards the discharge nozzle.

Process for the Production of Hydrolyzed Feather Meal with Blood Protein -continued

The hydrolyzed feathers are discharged from the pressure chamber through a control orifice. The internal pressure is used as a conveyance motive and a mix of steam and hydrolyzed feathers travels through a pipe and into a Cyclone Separator. In the Cyclone the heavier feather solids travel to the bottom of the cyclone cone and are discharged into a holding bin. The steam used for conveying the meal exits the top of the cyclone and is ducted to the Poultry Meal and Fat Cooking System for reuse as a heating medium. The Hydrolysis process physically alters the feathers and they now appear as a wet, granular meal having about 55% moisture content.

Special Process for Whole Carcasses:

Whole carcasses of birds are processed in a Hydrolyzer that has been outfitted with a special rotary-vane pump type feeder, rather than the screw feeder of the conventional machine. The carcasses are discharged from the DOA Receiving Bin and carried by Screw Conveyors to the inlet of the pump feeding the Hydrolyzer. The operation of the DOA Hydrolyzer is the same as the raw Feather Hydrolyzer, except; the whole carcasses contain too much fat which would degrade the quality of the feather meal. However, since the feathers on the carcass are converted to digestible protein the hydrolyzed carcass can be utilized in the Poultry Meal and Fat processes. Therefore; a second Cyclone Separator is installed to receive the carcasses after they are discharged from the DOA Hydrolyzer. The solids discharged from this Cyclone are returned to the offal/viscera raw materials for processing in the Poultry Meal and Fat Cooker. Again, the conveying steam exhausted from the top of the Cyclone is reused (as above).

Raw poultry blood contains between 16% and 18% protein. It is possible to extract 80%-90% of those proteins by coagulating them into solid form (the balance of the proteins are soluble and remain in the blood serum). Coagulation of protein is accomplished in a cooking process. By elevating the blood temperature some of the proteins are denatured and become solid. A well-known example of this protein reaction is a hard-boiled egg.

The RPP Coagulator machine consists of a tubular screw conveyor fitted with boiler steam injection nozzles. Blood is pumped from the Receiving Tanks into the Coagulator where it is heated by the steam to approximately 190° F. Unlike the pressure cooker Hydrolyzer, the Coagulator operates at atmospheric pressure. The mix of liquid serum and coagulated protein is discharged from the Coagulator in slurry form.

The protein solids are removed from the slurry using a Decanter Centrifuge. The slurry discharged from the Coagulator is pumped to the Decanter where the heavier solids are separated from the serum by centrifugal force. The solids still contain about 60% moisture and are soft enough to be pumped with a special rotary vane pump. The wet blood solids are pumped to the holding bin below the hydrolyzed feathers Cyclone Separator. The protein rich liquid serum is retained for further processing and is pumped to the Poultry Meal and Fat Cooking System where it is added to the Raw Materials.

For compliance with the 10% maximum moisture requirement for feather meal the wet mixture of hydrolyzed feathers and blood solids must be dried. In the RPP feather meal drying is done in a Disc Drier.

Process for the Production of Hydrolyzed Feather Meal with Blood Protein –continued

The Disc Drier consists of an outer shell, or stator, and an internal rotor assembly made up of a series of hollow discs mounted on a central shaft. The rotor discs have paddles attached to their periphery. Some of the paddles are mounted on a directional angle and are intended to convey the feather meal along the annulus between the rotor and the internal walls of the stator from the drier inlet to the discharge outlet. Other paddles are mounted on a neutral angle and are intended solely to agitate the meal as it dries. The rotor discs are heated internally with boiler steam. The feather meal dries when it comes into contact with the hot surfaces of the discs. Since the heat is transferred to the feather meal indirectly through the discs, the condensed steam is withdrawn from the rotor and returned to the boilers for reuse as feed water. Temperature sensors mounted in contact with the feather meal provides the Process Operators a means to monitor the temperature of the meal as it dries. At the point of discharge the meal temperature will be about 210° F. Moisture driven from the meal during drying is exhausted from the top of the Disc Drier as hot steam vapor. This vapor is ducted to the Poultry Meal Cooking System where it is reused as a heating medium.

The dried feather meal discharged from Disc Drier is transported by Screw Conveyors to the Milling System.

The meal is delivered from the drying process to a Curing Bin located in the Milling Room. The meal is held in the bin sufficiently long to allow it to cool down. Cooling the meal before it is processed avoids moisture from condensation collecting in the Milling Room Machines and aids size reduction by grinding. The Curing Bin is similar to the Raw Material Receiving Bins as it is designed with a live-bottom conveyor system. Feather meal is discharged from the Curing Bin and transported through the Milling Process with screw conveyors.

The conveyor system delivers the meal onto a Vibrating Screen. Particles that do not pass through the screen are collected and routed to a Hammermill Grinder to reduce their size. After grinding, the meal is returned to the Vibrating Screen. The system is designed to continue cycling over-sized particles to the Hammermill until they pass through the mesh of the Vibrating Screen. Meal that passes through the screen mesh has met the size classification requirement and is now the finished product.

Finished Feather Meal is conveyed to an outdoor Storage Silo using a Pneumatic Blower and Conveying Pipe System. Meal is separated from the conveying air in a Cyclone Receiver located on top of the feather meal Storage Silo. The air spent from the Pneumatic Conveying System is filtered through cloth in the Baghouse Filter. Any meal reclaimed by the filters from the conveying air is returned to the Conveying Pipe System and recycled through the Storage Silo Cyclone Receiver.

Processes for the Production of Poultry Meal and Poultry Feed Grade Fat

Commercial Descriptions:

Poultry Meal and Poultry Feed Grade Fat are produced by a process of "cooking" clean poultry byproducts including; viscera, bones and whole carcasses exclusive of raw feathers except that which is unavoidable. Other extraneous materials not included in this definition are not allowed. In the cooking process the protein in the raw materials is dehydrated and concentrated, and fat bound in the molecular make-up of the materials is liberated. An FDA approved anti-oxidant is added to the products immediately after cooking to stabilize the fat.

Poultry Meal is golden to medium brown in color and must be labeled to include guarantees of; minimum crude protein, minimum crude fat, maximum crude fiber, minimum phosphorus, and minimum and maximum calcium. This facility will produce two grades of meals; Poultry Meal (standard) and Pet Food (low ash) Poultry Meal. Pet Food Meal is a premium grade meal. The lower ash content of Pet Food Meal provides benefits for renal health in pets and improved water qualities if used in aquaculture.

Poultry meal must be sufficiently ground such that 98% of the meal will pass a US size 10 sieve (.0787" opening).

A typical analysis of Poultry Meal (standard) should find the constituents to be; 58% Protein, 11% Fat, 10% Moisture (max), 3% Fiber (max), 18% Ash.

A typical analysis of Pet Food Poultry Meal should find the constituents to be; 68% Protein, 15.5% Fat, 6% Moisture (max), 3% Fiber (max), 9% Ash.

Feed Grade Fats are allowed to be a blend of stabilized animal and vegetable fats. This facility will produce only fat derived from poultry. Feed fats consist predominantly of triglyceride of fatty acids and contain no added free fatty acids. A typical analysis of Feed Grade Fat should find; free fatty acids 40% (max); moisture, impurities and unsaponifiable matter (MIU) 2%-4% (max).

The RRP Poultry Meal and Fat Cooking System is designed with an emphasis on energy conservation and fuel cost savings. At the heart of the system is a Three-Stage Evaporator/Cooker. The Cooking Process begins by making a slurry mixture of the raw materials and clean, liquefied poultry fat.

Raw materials are discharged from one, or both, of the two Receiving Bins and transported via enclosed Screw Conveyors. The Screw Conveyor system deposits the raw material onto a Belt Conveyor which carries them through a Metal Detector aperture. If tramp metal is detected they are automatically rejected with a diverter to a bin where the material is held pending a second inspection. Periodically during his/her shift the Process Operator will manually start a Secondary Metal Detection System. Materials that were previously suspected of metal contamination are discharged from the Holding Bin onto another Belt Conveyor which carries them through a second Metal Detector aperture. If metal is detected again the belt automatically stops and an alarm is annunciated alerting the Process Operator.

Processes for the Production of Poultry Meal and Poultry Feed Grade Fat-continued

The Process Operator then performs a manual inspection to find and remove the object(s) from the material. After passing inspection for metal the materials move off the end of the Belt Conveyor and into Screw Conveyors for transport to the Fluidizing System.

Fluidizing the raw material to slurry form is a three-step process. (i) The Conveyor System deposits the materials into the inlet of a Crusher. The Crusher is a mechanical grinder that reduces the particle size of the material to less than 1 inch in any dimension. Screw Conveyors collect the crushed material and transports it to the Mix Tank. (ii) In the Mix Tank sufficient clean liquefied fat is added with the crushed raw material to create a slurry which can be pumped with a centrifugal pump. A rotating Mixer Blade in the tank keeps the solids suspended in the fat. (iii) The slurry is pumped to Disintegrator Grinders where the particle size is reduced again, this time to approximately 3/8 inch. A stationary screen separates the slurry in the Mix Tank from the adjacent Level Control Tank. Particles that are sufficiently small will pass through the screen and into the Level Control Tank. Material that does not pass the screen is continuously recycled through the Disintegrators. The slurry is pumped from the Level Control Tank to the Evaporator System.

The Evaporator System is comprised of three tubular heat exchangers mounted vertically above an integral vapor chamber that also acts as the slurry sump. Slurry is circulated by pumping it from the vapor chamber sump to the top of the heat exchanger. The slurry flows by gravity back down the inside of the heat exchanger tubes until it returns to the sump. The steam used for heat flows around the outside of the heat exchanger tubes.

Each heat exchanger/vapor chamber assembly comprises a "stage" and the three evaporator stages act as one system. The slurry is passed from one stage to the next as the protein and fat in the slurry becomes progressively concentrated from boiling out the moisture in the material.

The stages are also connected so that the vapor boiled off the slurry in Stage Three is used as the heating medium in Stage Two. Stage Three is heated with boiler steam and when the heat transfer takes place the condensed steam is returned as feed water for reuse in the boilers. The vapors boiled off in Stage Two are cooled and condensed in an indirect Heat Exchanger Condenser. Cooling water is circulated and recycled in the condensing system with the use of an Evaporative Cooling Tower and Pump system.

Vapors boiled off in Stages One and Two is water extracted from the raw materials. When these vapors condense they are pumped to the plant waste water system. Being from a source of nearly pure steam vapor this "process condensate" does not contain a high concentration of sewage pollutants.

Processes for the Production of Poultry Meal and Poultry Feed Grade Fat-continued

The heating medium for Stage One is an important energy saving innovation. Air Ejector Pumps lower the internal pressure in Stage One to create a vacuum. The vacuum pressure reduces the boiling point of water and moisture in the slurry will begin to evaporate at 145° F. This enables Stage One to be heated with the 212° F vapors boiled off the feathers when they are processed in the Hydrolyzer and dried in the Feather Meal Disc Drier

And as a second energy conservation step, the vapors boiled off of the slurry in Stage One are then used to heat water for Mountaire Farms' live poultry processing plant (located nearby). The reuse of these heat sources, which are often wasted in many plants, significantly lowers the energy requirements and fuel demand of this modern facility.

The cooking process and pasteurization is completed in Stage Three where the slurry temperature reaches 265° F. Of the 70% moisture originally contained in the raw materials only 3%-4% remains in the cooked slurry. From Stage Three the slurry is pumped to the Decanter Centrifuges to begin the process of separation of Feed Grade Fat from the Poultry Meal.

The Decanter Centrifuges are the first of a two-step process for separating the Poultry Meal from the Fat. The slurry discharged from the Evaporator is pumped to the Decanters where the heavier solids are separated from the fat by centrifugal force. Centrifugal force alone is not sufficient to make a complete separation of the two. Some of the fat will remain physically bound and absorbed in the Poultry Meal, so the solids recovered by the Decanter will still contain about 35% fat.

The "fatty" poultry meal discharged from the Decanters is transported by Screw Conveyors to the Fat Presses. The Fat Press machine consists of a heavy screw auger housed inside narrowly slotted steel cages. The pitch of the screw is made so the volume displacement of each revolution decreases from the press inlet to the discharge. As the meal travels through the press it is subjected to high squeezing forces and the fat bound and absorbed in the meal is expelled. The freed fat flows out of the press cage through the slotted openings. The meal is discharged from the end of the auger as de-fatted "cake". The Poultry Meal cake is then transported with Screw Conveyors to the Milling System.

Fat recovered directly from the slurry Decanter Centrifuges and the Presses will retain an unacceptable amount of small Poultry Meal particles, or "fines". To be suitable for use as a commercial fat it must be further refined. This is accomplished with an additional Decanter Centrifuge that is configured and adjusted solely for clarifying, or "polishing", the Fat. In this Decanter the fines are removed and returned by conveyor to the Poultry Meal stream. A portion of the polished Fat is reused in the Fluidizing System. The remainder of the Fat yielded up in the Cooking Process is pumped as the finished product to storage.

Processes for the Production of Poultry Meal and Poultry Feed Grade Fat-continued

The Poultry Meal press cake is delivered from the Fat Presses to a Curing Bin located in the Milling Room. The meal is held in the bin sufficiently long to allow it to cool down. Cooling the meal before it is processed avoids moisture from condensation collecting in the Milling Room Machines and aids size reduction by grinding. The Curing Bin for Poultry Meal is also similar to the Raw Material Receiving Bins and designed with a live-bottom conveyor system.

Meal is discharged from the Curing Bin and transported through the Milling Process with screw conveyors.

The conveyor system delivers the meal onto a Vibrating Screen. Particles that do not pass through the screen are collected and routed to a Hammermill Grinder to reduce their size. After grinding, the meal is returned to the Vibrating Screen. The system is designed to continue cycling over-sized particles to the Hammermill until they pass through the mesh of the Vibrating Screen. Meal that passes through the screen mesh has met the size classification requirement for Poultry Meal, however; to produce two grades of meal, including premium grade Pet Food Meal a second size classification step is required.

The size requirements for standard Poultry Meal dictate 98% of the finished meal must pass through a US Size 10 Mesh Screen. This requirement controls the maximum particle size and in reality much of the meal particles are much smaller. Most of the particles approaching the 10 Mesh (.0787") size limit are fragments of bone. Pet Food Grade Meal demands a premium in the marketplace due to it having lower ash content. Since bone is the meal component that increases the ash content, some of the bone fragments are extracted from the Standard Poultry Meal mix with the Whirlwind Classifier.

The Poultry Meal passing through the Vibrating Screen is carried by Screw Conveyors to the inlet of the Whirlwind Classifier. The Whirlwind Classifier consists of a rotating fan and distribution plate assembly situated above a cone-within-a-cone. By combining the forces of air flow and centrifugal force, the Whirlwind Classifier separates the standard Poultry Meal made up of the more coarse particles, from the Pet Food Grade Meal having the lower bone amount and is less coarse.

The two grades of meal are discharged from the Whirlwind Classifier as finished products, and are conveyed separately to outdoor Storage Silos with Screw Conveyors and Bucket Elevators.

Processes for the Storage and Load-out of Meals and Fat

The outdoor meal storage and truck loading facility consists of three round steel storage silos, one for each type of meal produced in the facility. Fat is stored in three round steel storage tanks and are located behind a spill containment dike. Meal inventories are monitored by Load-Cell Systems on each Silo and with Liquid-Level Transmitters on each Fat Storage Tank.

The meal silos are supported on structural steel high enough to allow trucks to drive under them for loading. The truck driver positions the trailer beneath the proper material chute and the meal flows by gravity into the truck. In addition to gravity flow the Meal Storage Silos also have an internal auger that can be used to assist the flow of meal out of the silo if required.

The Fat Storage Tanks have steam coils internally that are used to heat the Fat and keep it liquid. Tanker trucks are filled by Pumping the Fat from the Storage Tank.

Processes for the Abatement of Odor Emissions

The nature of the byproducts processed in the RRP inherits an importance of including Odor Control and Abatement Equipment. The raw materials are a source of odors, but these odors alone are usually not significant as the materials are processed without delay. Hydrolyzing, drying and cooking these materials will however, generate a complex mixture of strong odors. These high intensity odors are found in vapors that become entrained with the steam vapors boiled off of the raw materials. These odorous vapors consist of gases, that unlike the steam vapors, will not condense back to water (non-condensibles). It is essential that all of the odors retained and/or created in the plant are destroyed as completely as possible before they are emitted to the atmosphere.

The RPP facility has four Packed-Bed Scrubber Systems. In addition to the destruction of odors these Scrubbers serve other functions. They provide ventilation and collect fugitive odor from inside the factory and maintain a suitable working environment. The withdrawal of air by the Scrubber Fan also creates slight negative air pressure inside the factory. The negative pressure ensures odors do not escape from the building.

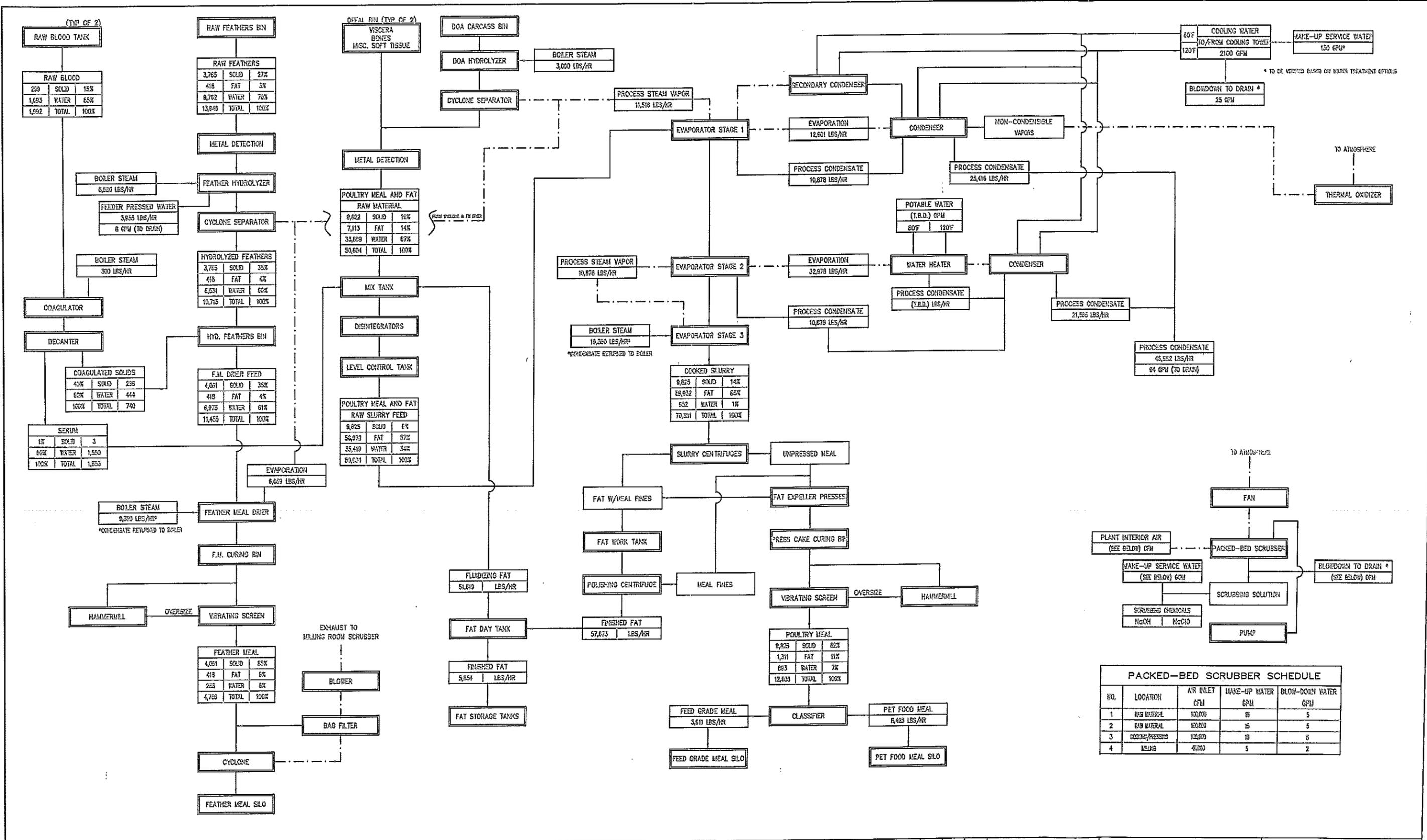
The scrubbers contain a bed of plastic packing through which air from inside the factory is drawn upward by a draft induced by the Scrubber Fan. A solution of water, sodium hydroxide (caustic soda) and sodium hypochlorite (bleach) is pumped over the packing bed and flows by gravity down through the packing. The packing is made of irregular geometric shapes which causes the upward flowing air and the downward flowing solution to come into intimate contact. This wet scrubbing cleans the air of most airborne particulates. Also as the air and odors come in contact with the scrubbing solution a chemical reaction takes place. The molecules of the odorous compounds are restructured in a process known as "oxidation". The odor molecules form a covalent bond with the chlorine and hydrogen atoms in the solution chemicals. Through this process the odor producing property of the molecule is destroyed.

Processes for the Abatement of Odor Emissions-continued

The oxidation process in the Packed-Bed Scrubbers effectively destroys 90%-98% of the incoming odors. At this efficiency level any remaining odor emitted to the atmosphere is quickly diluted with outside air and is mostly undetectable beyond a few feet from the point of release. The Packed-Bed Scrubbers however are only suitable for handling the lower odor loads by collecting vapors exhausted from raw material handling and Milling Room Equipment. The high-strength odors of the non-condensibles generated in Hydrolyzation, Drying and Cooking requires more aggressive treatment.

Most all odors belong to a unique group of substances known as "Volatile Organic Compounds" (VOC). While not only being odorous, some VOCs can be hazardous pollutants such as fumes generated in metal stripping and painting operations. Destruction of these VOCs by Thermal Oxidation is the most commonly used, and most effective method of ensuring near total destruction of these compounds. Thermal Oxidation achieves restructuring of the VOC molecule by incineration.

All of the high-strength odors generated in the RRP processes are collected in a duct system and delivered to the Thermal Oxidizer for incineration. The Thermal Oxidizer will be fueled by either Propane or Natural Gas (to be determined). In the Thermal Oxidizer the odors are subjected to furnace temperatures of 1200°-1300° F before being exhausted to the atmosphere. Thermal Oxidation assures a 99.9% destruction of the odor molecules.



PACKED-BED SCRUBBER SCHEDULE

NO.	LOCATION	AIR FLOW CFM	MAKE-UP WATER GPM	BLOW-DOWN WATER GPM
1	FEED GRADE MEAL	100,000	15	5
2	PET FOOD MEAL	100,000	15	5
3	COOKING/PRESSING	100,000	15	5
4	MELING	40,000	5	2

1. RAW UNIT ARE POINTS PER HOUR UNLESS NOTED OTHERWISE

NOTES

REVISIONS

NO.	DATE	DESCRIPTION	REV. BY	CHK. BY	APP. BY

MOUNTAINE FARMS OF DELAWARE
MILLSBORO, DE.

RESOURCE RECOVERY PLANT
PROCESS SCHEMATIC

04-08-09

NONE

35247

D-35247-101-1001

HAARSLEY, INC.
9700 WYOMING AVENUE
KANSAS CITY, MO. 64133

SEP

SEP

D-36247-101-1001 0

<u>ITEM</u>	<u>DESCRIPTION</u>
	RAW MATERIAL SYSTEM – AREA 100
110	Raw Feather Receiving Bin w/6 (ea) x 24" 0 live-bottom screws
111	Feather Bin Hydraulic Pump
112	Feather Bin #1 Discharge Conveyor;
113	Feather Bin #2 Discharge Conveyor;
115	Metal Detector and Conveyor
116	Feather Hydrolyzer Feeder
117	Feather Hydrolyzer – Sunrise AS-20SS
118	Feather Hydrolyzer Hydraulic Pump
119	Feather Pit Water Rotary Screen – SS Wedge Wire, Externally Fed
120	DOA Receiving Bin w/3 (ea) x 24" 0 live-bottom screws
121	DOA Bin Hydraulic Pump
122	DOA Bin Discharge #1 Conveyor
123	DOA Hydrolyzer Feed Pump Feed; Haarslev type HM35 Lamella
124	DOA Hydrolyzer Feed Pump
	DOA Hydrolizer – Sunrise AS-12SS
125	DOA Hydrolizer
126	DOA Hydrolyzer Hydraulic Pump
130	#1 Offal Bin Receiving Bin w/5 (ea) x 20" (500) 0 Live-Bottom Screws
131	#1 Offal Bin Lid Hydraulic Pump
132	Hydrolyzer Discharge Cyclone
133	Hyd. Cyclone Discharge Conveyor
134	#1 & #2 Offal Bins Discharge Conveyor
140	#2 Offal Bin Receiving Bin w/5 (ea) x 20" (500) 0 Live-Bottom Screws
141	#2 Offal Bin Lid Hydraulic Pump
142	#2 Offal Bin Discharge Conveyor
144	Primary Metal Detector and Conveyor
145	Offal Grinder Feed Conveyor
146	M.D. Reject Bin Conveyor
148	Secondary Metal Detector and Conveyor
149	Offal Pit Water Rotary Screen – SS Wedge Wire, Externally Fed
160	Offal Grinder; Svaertek Type PB 22/66
161	Offal Grinder Discharge Conveyor
162	#1 Offal Pump Pump Feed Hopper (Double feeder, see also #164)
163	#1 Offal Pump; Haarslev type HM35 Lamella
164	#2 Offal Pump Feed Hopper (Double feeder, see also #162)
165	#2 Offal Pump; Haarslev type HM35 Lamella
	Blood Unloading/Cooking:
170	Raw Blood Rotary Screen – SS Wedge Wire, Internally Fed
172	Raw Blood Transfer Pump
173.1	#1 Raw Blood Storage Tank
173.2	#2 Raw Blood Storage Tank

174 Coagulator Feed Pump
176 Blood Decanter Centrifuge
177 Coagulated Blood Solids Pump Feed Hopper
178 Blood Solids Pump; Haarslev type HM25 Lamella
179 Blood Serum Water Pump
(Lot) Area 100 Equipment Supports and Platforms

FLUIDIZING/EVAPORATOR SYSTEMS – AREA 200

Fluidizer:
200 Mix Tank Feed Conveyor
201 Mix Tank
201.1 #1 Fluidizer Pump
201.2 #2 Fluidizer Pump
201.3 #3 Fluidizer Pump
202.1 #1 Disintegrator; Titus Model II
202.2 #2 Disintegrator
202.3 #3 Disintegrator
203 Evaporator First Stage Feed Pump
(Lot) Area 200 Fluidizer Supports and Platforms

Evaporator:
210 First Stage Evaporator
210.1 First Stage Recycle Pump
211 Second Stage Feed Pump Drive
212 First Stage Secondary Condenser
213 Condensate Pump
214 Potable Water Heater/Condenser
220 Second Stage Evaporator
220.1 Second Stage Evaporator Recycle Pump
221 Third Stage Feed Pump
222 First Stage Primary Condenser
223 Condensate Pump
224 Second Stage Primary Condenser
230 Third Stage Evaporator
230.1 Third Stage Recycle Pump
231 Centrifuge Feed Pump
232 Boiler Condensate Pump
240 #1 Cooling Tower w/2 (ea) Fans and Reservoir
250 Cooling Water Pump
(Lot) Evaporator Structural Steel, Platforms, and Stairs

Centrifuge/Fat System – Area 300

301 #1 Slurry Centrifuge – United Oilfield type SS1000
302 #2 Slurry Centrifuge – United Oilfield type SS1000
303 #3 Slurry Centrifuge – United Oilfield type SS1000
310 Recycle Fat Fines Conveyor
311 Centrifuge Fat Sump Pump

320	Fat Work Tank
320.1	Fat Work Tank Pump
321	Recycle Fat Pump
322	Fat Day Tank
322.1	Fat Day Tank Pump
330	Vibrating Screen; Haarslev Fat Filtrator
340	Fat Polisher Centrifuge
341	Polisher Fat Pump
350	Finished Fat Loading Pump
(Lot)	Area 300 Equipment Supports and Platforms (see dwgs.)
	Press/Crax Systems – Area 400
400.1	#1 Centrifuge Soft Cake Conveyor
400.2	#2 Centrifuge Soft Cake Conveyor
401	Soft Cake Rotolift
402	Press Overfeed Conveyor
403	Crax Surge Bin 404 Leveling Screw
404	Crax Surge Bin
411	#1 Press Feed Conveyor
421	#1 Crax Press; Haarslev type HM3000
412	#2 Crax Press Feed Conveyor
422	#2 Crax Press; Haarslev type HM3000
413	#3 Crax Press Feed Conveyor
423	#3 Crax Press; Haarslev type HM 3000
430	#1 Fines Conveyor
431	#2 Fines Conveyor
432	Fines Pump
433	#1 Hard Cake Conveyor
434	Hard Cake Rotolift
435	#2 Hard Cake Conveyor
436	Hard Cake Silo 440 Feed Conveyor
437	Hard Cake Silo 436 Level Screw
440	Hard Cake Curing Bin – approx. 1765 ft ³ (50 m ³)
441	Hard Cake Bin 440 #1 Disch. Conveyor
442	Hard Cake Bin 440 #2 Disch. Conveyor
443	Hard Cake Screen Feed Conveyor
450	Hard Cake Screen; Rotex type 3431A
451	Hard Cake Screen Overs Conveyor
452	Hard Cake Hammermill Feed Conveyor
453	Hard Cake Hammermill; Bliss Mfg. type ER-3824-TF
455	Hard Cake Screen Unders Conv.
460	Classifier; Sturtevant Mfg. Type 10 Ft Whirlwind
461	Pet Food Conveyor
462	Pet Food Bucket Elevator
463	Pet Food Silo Feed Conveyor
465	Pet Food Silo approx. 8800 ft ³ (250 m ³) w/Laidig Mfg. Unloader

480 Feed Grade Conveyor
481 Feed Grade Bucket Elevator
482 F.G. Meal Silo Feed Conveyor #1
483 F.G. Meal Silo Feed Conveyor #2
485 Feed Grade Silo approx. 8800 ft3 (250 m3) w/Laidig Mfg.
Unloader
(Lot) Area 400 Structural Steel, Equipment Supports and Platforms

Feather Drying and Milling Systems – Area 500
500 Hydrolized Feather Bin Screw
501 Feather Dryer Dosing Conveyor
502 Feathermeal Dryer; Haarslev Type HM 2266
503 Feathermeal Dryer #1 Disch. Conveyor
504 Feathermeal Dryer #2 Disch. Conveyor
505 Feathermeal Dryer #3 Disch. Conveyor
506 Finger Picker Screen
507 Feathermeal Curing Bin 510 #1 Feed Conveyor
508 Feathermeal Curing Bin 510 Level Screw
510 Feathermeal Curing Bin – approx. 1765 ft3 (50 m3)
511 Feathermeal Bin 510 #1 Disch. Conveyor
512 Feathermeal Bin 510 #2 Disch. Conveyor
513 Feathermeal Screen Feed Conveyor
M-520 Feathermeal Screen; Rotex type 3431A
521 Feathermeal Screen Overs Conveyor
522 Feathermeal Hammermill Feed Conveyor
523 Feathermeal Hammermill; Bliss Mfg. type
530 Feathermeal Screen Unders Conveyor
531 Feathermeal Conveying Blower
532 Feathermeal Cyclone
532.1 Feathermeal Cyclone Rotary Valve
535 Feathermeal Silo approx. 8800 ft3 (250 m3) w/Laidig Mfg
Underloader
536 Feathermeal Conveying Bag Filter
537 Feathermeal Conveying Bag Filter Rotary Valve

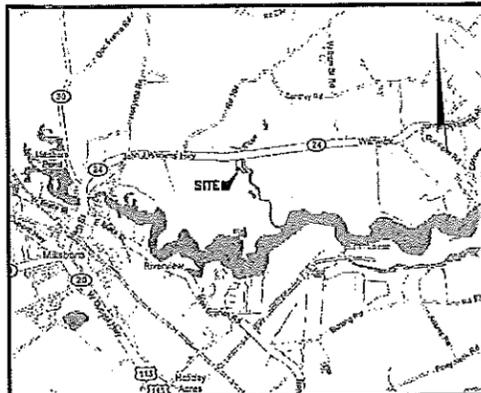
Odor Abatement Systems – Area 600
610 #1 Packed-Tower Scrubber; 100K CFM
610.1 #1 Packed-Tower Scrubber Fan; 100K CFM
611 #1 Packed-Tower Scrubber Recirculation Pump
620 #2 Packed-Tower Scrubber; 100K CFM
620.1 #2 Packed-Tower Scrubber Fan; 100K CFM
621 #2 Packed-Tower Scrubber Recirculation Pump
630 #3 Packed-Tower Scrubber; 100K CFM
630.1 #3 Packed-Tower Scrubber Fan; 100K CFM
631 #3 Packed-Tower Scrubber Recirculation Pump
640 #4 Packed-Tower Scrubber; 40K CFM

640.1 #4 Packed-Tower Scrubber Fan; 40K CFM
641 #4 Packed-Tower Scrubber Recirculation Pump
(Lot) Chemical injection Systems for Scrubbers 1-4
(Lot) Process Vapor and Malodor Vent Ducting for all Areas

Utilities and Services Provided – Area 700

700 Programmable Logic Controller Installed in NEMA 12 Enclosure
701 Human Machine Interfaces (HMI)/Operator Control Stations – 2
(ea) Desktop PC
(Lot) Field Control Devices, Panels and Instrumentation (see Field
Device List)
(Lot) HMI Programming and PLC/MCC Integration (MCC by
Mountaire)

710 Process and Utility Piping for all areas (excluding offices,
laboratory and welfare areas) from Points of Connections supplied
by Mountaire and located within 20 feet of the plant building.
(Lot) Project Management and Supervision, Installation, Commissioning
and Start-up including: labor and per diems, travel, lodging, tools
and equipment, rentals, consumables and misc. erection materials
for all items furnished by Haarslev.



VICINITY MAP SCALE: 1"=1 MILE

PROJECT DATA
 LAND AREA 643 ACRES
 DISTURBED AREA 4.18 ACRES
 BUILDING AREA 45,400.44 SQ. FT.

TOTAL PAVED & BUILDING AREA 122,168 SQ. FT.
 BUILDING CODE 2003 IBC
 ZONING HEAVY INDUSTRIAL
 CONSTRUCTION TYPE TYPE I-B, SPRINGFIELD
 BUILDING USE GROUP FACILITY, F-1 (SPECIAL INDUSTRIAL, 503.1.2)

PARKING SPACES REGULAR 18
 PROVIDED 2

SURVEY DATA
 DISTRICT, MAP, PARCELS 2-34 23.00 9.00
 DEED REFERENCE BK 2784 PG. 135

OWNER IS RESPONSIBLE FOR SURVEY TO ESTABLISH BOUNDARIES AND CLEARLY MARK THEM.

TOPOGRAPHIC DATA TAKEN FROM SURVEY DONE BY ASB ENGINEERS ON 10-31-03 AND 12-30-09, USING VERTICAL BENCHMARK INFORMATION FROM A SURVEY DONE BY CASE ASSOCIATES, INC., DATED 6-16-85, AND TILED TOBENSING, INC. WASTE TREATMENT IMPROVEMENTS CONTRACT 3, SITE LAYOUT.

THIS PROPERTY IS SHOWN ON PLAT, COMMUNITY PANEL #100050457J (PANEL 457 OF 850), MAP REVISED DATE JANUARY 6, 2005, COMMUNITY SUSSEX COUNTY, #100029 PANEL 0457 SUFFIX J, AND AS BEING IN FLOOD ZONE X, AREA OF MINIMAL FLOODING.

SPECIFICATIONS

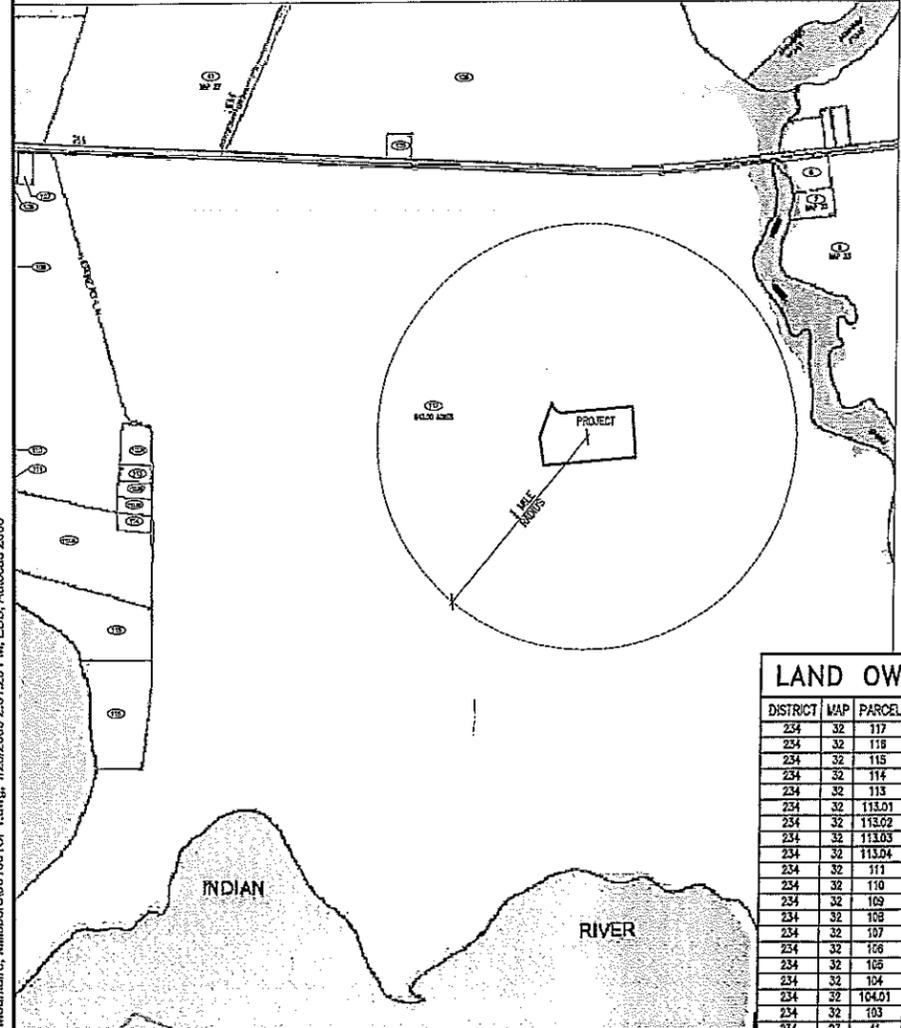
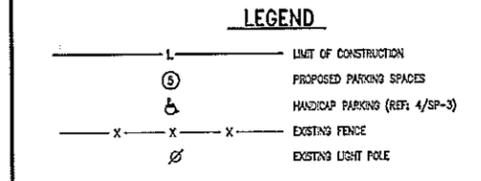
HEAVY ASPHALT PAVING SHALL CONSIST OF 6 INCHES OF CR-6 STONE OVER SUBSOIL AND BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. THIS SHALL BE OVERLAYED WITH 2 INCHES OF 12.5 mm HOT MIX ASPHALT AND A 1/2 INCH LAYER OF 9.5 mm HOT MIX ASPHALT.

LIGHT ASPHALT PAVING SHALL CONSIST OF 4 INCHES OF CR-6 STONE OVER SUBSOIL AND BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. THIS SHALL BE OVERLAYED WITH 2 INCHES OF 9.5 mm HOT MIX ASPHALT.

STONE STABILIZATION FOR TRUCK TRAFFIC SHALL CONSIST OF 6" OF CR-6 OVER COMPACTED STRUCTURAL FILL. COMPACT BOTH CR-6 AND FILL TO 95% OF THE APPROXIMATE STANDARD PROCTOR MAXIMUM DRY DENSITY.

ALL WALKS SHALL CONSIST OF 4 INCH THICK SLABS OF 4,000 PSI CONCRETE REINFORCED WITH #6-@14"X14" W/M. ALL EXTERIOR CONCRETE SHALL HAVE 6% ENTRAINMENT AIR PLUS OR MINUS 1% PLACE CONTROL JOINTS AT ALL RE-ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS. ALL CONCRETE SLABS SHALL BE PLACED OVER SUBSOILS COMPACTED TO 95% OF THE STANDARD PROCTOR TEST.

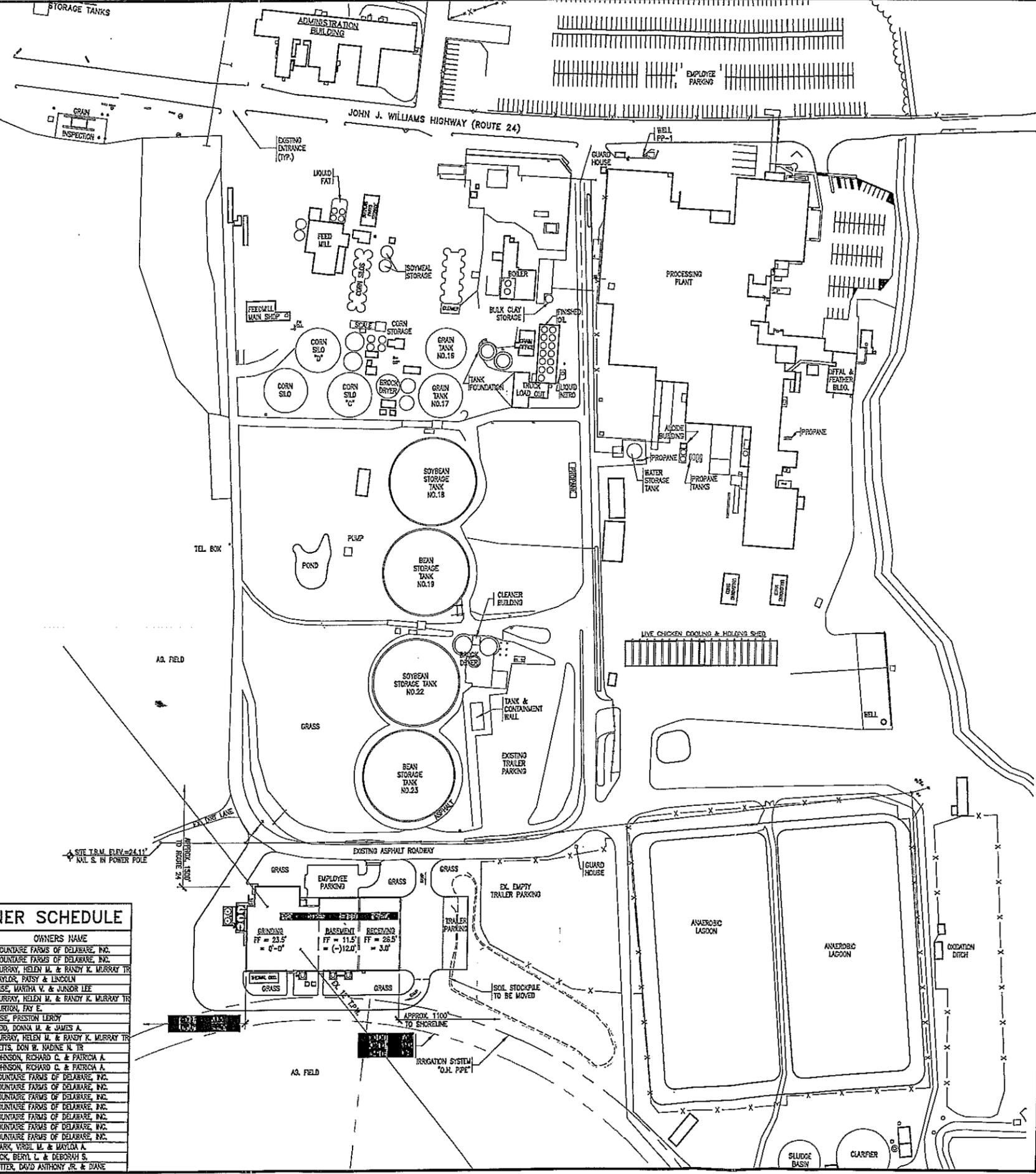
CONCRETE PAVING SUBJECT TO TRUCK TRAFFIC SHALL CONSIST OF 6 INCH THICK 4,000 PSI CONCRETE SLABS REINFORCED WITH #6-@14"X14" W/M OVER 6 INCHES OF CR-6 STONE AND SUBSOIL BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. PLACE CONTROL JOINTS AT ALL RE-ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS.



PROPERTY MAP SCALE: 1"= 500'

LAND OWNER SCHEDULE

DISTRICT	MAP	PARCEL	OWNERS NAME
234	32	117	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	118	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	115	MURRAY, HELEN M. & RANDY K. MURRAY TR
234	32	114	TAYLOR, PATSY & LINCOLN
234	32	113	WISE, MARSHA V. & JUNIOR LEE
234	32	113.01	MURRAY, HELEN M. & RANDY K. MURRAY TR
234	32	113.02	BURTON, FAY E.
234	32	113.03	WISE, PRESTON LEROY
234	32	113.04	ROD, DONNA M. & JAMES A.
234	32	111	MURRAY, HELEN M. & RANDY K. MURRAY TR
234	32	110	BETTS, DON W. MADINE N. TR
234	32	109	JOHNSON, RICHARD C. & PATRICK A.
234	32	108	JOHNSON, RICHARD C. & PATRICK A.
234	32	107	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	106	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	105	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	104	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	104.01	MOUNTAINE FARMS OF DELAWARE, INC.
234	32	103	MOUNTAINE FARMS OF DELAWARE, INC.
234	27	41	MOUNTAINE FARMS OF DELAWARE, INC.
234	33	7	CLARK, VIRGIL M. & MARYA A.
234	32	6	DECK, BERT L. & DEBORAH S.
234	32	1	POTTER, DAVID ANTHONY JR. & DIANE



RELEASE BY
 13 JUN 08 EBB
 23 JUN 09 EBB

PROJECT NORTH

ENGINEERS/ARCHITECTS
 THE MOUNTAINE GROUP, LLC
 P.O. BOX 1000
 MILLSBORO, DE 19966
 TEL: (410) 328-2200 FAX: (410) 328-2215

MOUNTAINE
 CRITICAL SOURCE OF CREDIBILITY

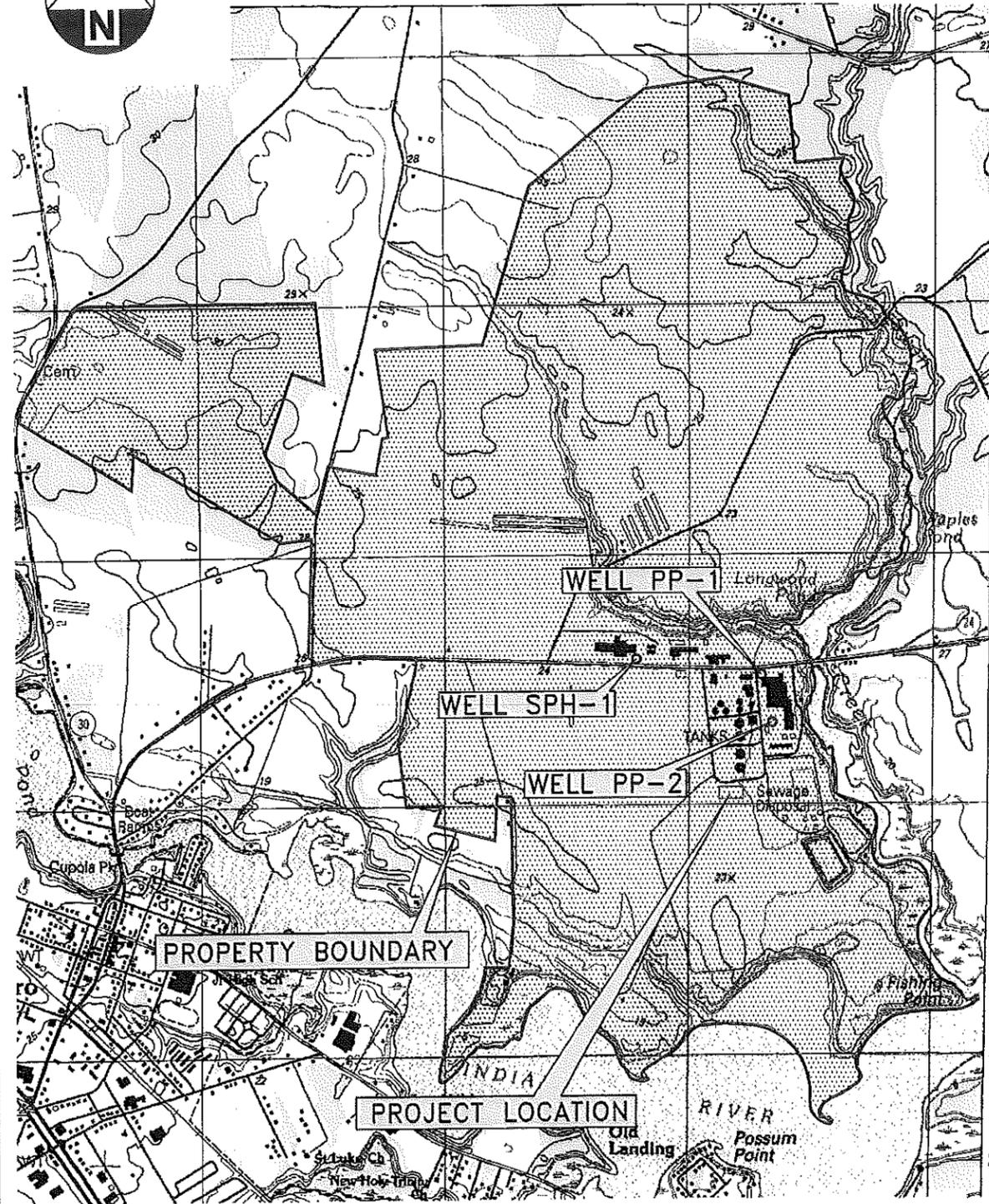
AWBENGINEERS

MASTER SITE PLAN
 2009 RESOURCE RECOVERY FACILITY
 MILLSBORO, DELAWARE

DATE PRELIMINARY
 SCALE 1" = 100'
 DRAWN EBB
 FRONTIER JRS
 JOB 081001
 FILE JRS-1
 SHEET SP-1

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S:\081001\Mountaine, Millsboro\081001SP1.dwg, 1/28/2009 2:31:29 P.M., EBB, AutoCAD 2006



SCALE: 1" = 2000'



206-063
APRIL 2009
206A

MOUNTAIRE FARMS OF DELAWARE, INC.
PROPERTY MAP

ATTACHMENT

E

LAW OFFICES
PARKOWSKI, GUERKE & SWAYZE

PROFESSIONAL ASSOCIATION
116 WEST WATER STREET
P.O. BOX 598
DOVER, DELAWARE 19903
302-678-3262
FAX: 302-678-9415

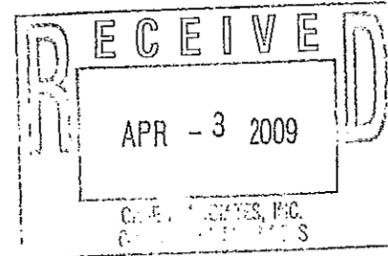
F. MICHAEL PARKOWSKI
I. BARRY GUERKE
DAVID S. SWAYZE
CLAY T. JESTER
JEREMY W. HOMER
JOHN C. ANDRADE
MARK F. DUNKLE
WILLIAM A. DENMAN
MICHAEL W. ARRINGTON
CHRISTINE P. SCHILTZ
MICHAEL W. TEICHMAN
BASIL C. KOLLIAS
ANNE HARTNETT REIGLE

GEORGE F. GARDNER, III
OF COUNSEL

WILMINGTON OFFICE
800 KING STREET, SUITE 203
WILMINGTON, DE 19801-0369
302-654-3300
FAX: 302-654-3033

June 5, 2003

Deane H. Bartlett, Esquire
Senior Assistant Regional Counsel
Water and General Law Branch
Office of Regional Counsel
U.S. Environmental Protection Agency, 3RC20
1650 Arch Street
Philadelphia, PA 19103



RE: EPA v. Mountaire Farms / Consent Order

Dear Deane:

I received your voice mail regarding the document which is to be part of Attachment 4 to the Consent Order. As I understand it, the fully executed order did not contain the full exhibit because a two-sided document was copied only on one side. As you point out in the voice mail, the document is an attachment to a letter to the surrounding neighbors which was sent out long before and in anticipation of the consent order being finalized. Thus the fact that the full document was not in the executed consent order does not impact the sufficiency of the notice that went to the landowners. However, I think it is important that the final order include all of the pages of the attachments and for that reason have asked Mountaire (specifically Jeff Smith) to insert the missing page in Attachment 4 to the consent order. I assume that EPA is doing likewise with its copy of the order if it does not contain both pages of the document.

Yours truly,

A handwritten signature in black ink, appearing to read "J. Homer".

JEREMY W. HOMER

JWHsar
e:mail: png3@pnglaw.com
cc: Mr. Jeffrey Smith
H:\mountaire\nitrate\mount10a

ATTACHMENT F

LAW OFFICES
PARKOWSKI, GUERKE & SWAYZE

PROFESSIONAL ASSOCIATION
116 WEST WATER STREET
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800 KING STREET, SUITE 203
WILMINGTON, DE 19801-0369
302-654-3300
FAX: 302-654-3033

June 2, 2003

**Confidential Communication
Attorney/Client Privilege**

**VIA TELEFAX
AND FEDERAL EXPRESS**

Jeffrey Smith, Environmental Manager
Mountaire Farms of Delmarva, Inc.
Administrative Building
Route 24 East
Millsboro, DE 19966

RE: EPA Consent Order

Dear Jeff:

Enclosed is the final executed Consent Order regarding the nitrate issue.

As you know, the Order requires certain things be undertaken within certain timeframes. Specifically, paragraphs 34, 36, 38, 39, 47, 51, and 55 each contain specific requirements that relate to timeliness of performance. Paragraph 34 addresses the provision of the emergency supply of drinking water, which I believe Mountaire has already addressed. However, it would be a good idea to review the language of the paragraph and make sure all the requirements have been satisfied. Among other things, Mountaire will need to be in a position to explain how paragraph 34 was addressed when it files its first progress report which is due on July 28, 2003 (see paragraph 51).

Paragraph 36 allows 60 days from the effective date of the order to submit the plan for the permanent alternate water supply. Paragraph 38 and 39 address the groundwater monitoring requirements. Paragraph 47 provides 7 days within which to provide a copy of the Order to various entities involved in performing the work, etc. Paragraph 55 requires "immediate" notification to EPA regarding efforts related to providing water to each resident.

LAW OFFICES
PARKOWSKI, GUERKE & SWAYZE

PROFESSIONAL ASSOCIATION
116 WEST WATER STREET
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OF COUNSEL

WILMINGTON OFFICE
800 KING STREET, SUITE 203
WILMINGTON, DE 19801-0369
302-654-3300
FAX: 302-654-3033

FAX TRANSMITTAL SHEET

TO: Jeff Smith, Environmental Manager
Mountaire Farms of Delmarva, Inc.

FAX NO: (302) 934-3081

FROM: Jeremy W. Homer, Esquire

DATE: June 2, 2003

MESSAGE: Please see the attached.

Our telecopier telephone number is (302) 678-9415.

Name of Operator: Sandy Rothermel

TOTAL NUMBER OF PAGES TRANSMITTED, INCLUDING THIS PAGE: 4

If this transmission is not satisfactory, or if there are questions, please call (302) 678-3262, and speak to the above-named operator. Thank you.

Original document(s) will follow by mail.

The information contained in this facsimile message is attorney privileged and confidential information, intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copy of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone collect and return the original message to us at the above address via the U.S. Postal service (we will reimburse postage). Thank you.

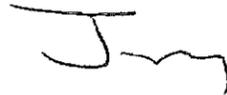
Jeffrey Smith, Environmental Manager

6/2/03

Page 2

Also, please note that the Order appears to be missing a page or pages at Attachment 4. I have a voice mail message into EPA's attorney regarding that. I also plan to follow up with a letter to the EPA attorney regarding that question and the effective date of the Order.

Yours truly,



JEREMY W. HOMER

JWHsar

e:mail: png3@pnglaw.com

H:\Mountain\Nitrate\Mount19

LAW OFFICES
PARKOWSKI, GUERKE & SWAYZE

PROFESSIONAL ASSOCIATION
116 WEST WATER STREET
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800 KING STREET, SUITE 203
WILMINGTON, DE 19801-0369
302-654-3100
FAX: 302-654-3033

June 2, 2003

**Confidential Communication
Attorney/Client Privilege**

**VIA TELEFAX
AND FEDERAL EXPRESS**

Jeffrey Smith, Environmental Manager
Mountaire Farms of Delmarva, Inc.
Administrative Building
Route 24 East
Millsboro, DE 19966

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As you know, the Order requires certain things be undertaken within certain timeframes. Specifically, paragraphs 34, 36, 38, 39, 47, 51, and 55 each contain specific requirements that relate to timeliness of performance. Paragraph 34 addresses the provision of the emergency supply of drinking water, which I believe Mountaire has already addressed. However, it would be a good idea to review the language of the paragraph and make sure all the requirements have been satisfied. Among other things, Mountaire will need to be in a position to explain how paragraph 34 was addressed when it files its first progress report which is due on July 28, 2003 (see paragraph 51).

Paragraph 36 allows 60 days from the effective date of the order to submit the plan for the permanent alternate water supply. Paragraph 38 and 39 address the groundwater monitoring requirements. Paragraph 47 provides 7 days within which to provide a copy of the Order to various entities involved in performing the work, etc. Paragraph 55 requires "immediate" notification to EPA regarding efforts related to providing water to each resident.

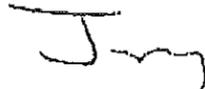
Jeffrey Smith, Environmental Manager

6/2/03

Page 2

Also, please note that the Order appears to be missing a page or pages at Attachment 4. I have a voice mail message into EPA's attorney regarding that. I also plan to follow up with a letter to the EPA attorney regarding that question and the effective date of the Order.

Yours truly,



JEREMY W. HOMER

JWHsar

e-mail: png3@pnglaw.com

H:\Mountair\Nirude\Mount19

LAW OFFICES
PARKOWSKI & GUERKE
PROFESSIONAL ASSOCIATION
116 WEST WATER STREET
P.O. BOX 598
DOVER, DELAWARE 19903
302-678-3262
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I. BARRY GUERKE
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JOHN C. ANDRADE
MARK F. DUNKLE
WILLIAM A. DENMAN
MICHAEL W. ARRINGTON
BASIL C. KOLLIAS
ANNE E. HARTNETT-REIGLE

GEORGE F. GARDNER, III
OF COUNSEL

March 12, 2003

Jeffrey Smith, Environmental Manager
Mountaire Farms of Delmarva, Inc.
Administrative Building
Route 24 East
Millsboro, DE 19966

RE: EPA Consent Order

Dear Jeff:

Enclosed is the original of the EPA Consent Order, along with Deane Bartlett's transmittal letter which explains the process EPA utilizes to execute the agreement.

It is my understanding that you plan to schedule a teleconference with me, yourself, and Mountaire management to discuss the consent order. I will be out of the office on Thursday, March 13, 2003, but will generally be available on other days. Please phone me when you have a time set up for the discussion.

Yours truly,



JEREMY W. HOMER

JWHsar
e:mail: png3@pnglaw.com
Enclosures
H\Mountair\N\trate\Mount16

VIII. EFFECTIVE DATE OF ORDER

This Order shall be effective immediately upon Respondent's receipt of the executed Order. If modifications are made to this Order, such modifications will be effective on the date received by Respondent. This Order shall remain in effect until the provisions identified in the Order have been met and EPA has certified its approval of the same in writing. This Order shall constitute final agency action for purposes of Section 1448 of the SDWA, 42 U.S.C. § 300j-7.

IX. TERMINATION AND SATISFACTION

The provisions of this Order shall be deemed satisfied upon Respondent's receipt of written notice from EPA that Respondent has demonstrated, to the satisfaction of EPA, that the terms of this Order have been satisfactorily completed.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Date: 5/12/03

By: [Signature]
Jon M. Capacasa, Acting Director
Water Protection Division

Mountaire Farms of Delaware, Inc.

Date: 4/22/03

By: [Signature]
Title: President and CEO



MAR 4 2003

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

VIA OVERNIGHT MAIL

March 3, 2003

Jeremy W. Horner, Esquire
Parkowski & Guerke, PA
116 West Water Street
Dover, DE 19903

Re: Mountaire Farms, SDWA Order on Consent

Dear Jerry:

In response to your voicemail message, I have enclosed the final Consent Order, with all of the changes we have discussed over the last few weeks, including the change to Paragraph 37.

Please review the document and forward it to Mountaire for signature, and then to me and I will obtain the necessary Region III approvals. EPA would like to have Mountaire's signature no later than the end of next week. As always, this document and the terms therein must be approved by EPA management. I do not anticipate any difficulties in obtaining the necessary approvals, as management has been consulted with respect to all of the revisions reflected in this document.

In the meantime, if you have any questions regarding the Order, please call me.

I appreciate your cooperation in the resolution of this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Deane", written over a horizontal line.

Deane H. Bartlett
Senior Assistant Regional Counsel

Enclosure
cc: Karen Johnson, WPD



Printed on 100% recycled/recyclable paper with 100% post-consumer fiber and process chlorine free.
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UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

IN THE MATTER OF:) ORDER ON CONSENT
)
)
Mountaire Farms of) Proceeding under section 1431(a)(1)
Delaware, Inc.) of the Safe Drinking Water Act,
Rt. 24 East of Millsboro) 42 U.S.C. § 300i(a)(1)
PO Box 1320)
Millsboro, DE 19966) Docket No. SDWA-03-2003-0015

I. STATUTORY AUTHORITY

1. This Order on Consent ("Order") is issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 1431(a)(1) of the Safe Drinking Water Act ("SDWA"), 42 U.S.C. § 300i(a)(1).

2. The authority to issue this Order was delegated to the Regional Administrator by Delegation No. 9-17, dated May 11, 1994, and redelegated to the Director of the Water Protection Division by Delegation No. 9-17, dated September 12, 1994.

3. Under the SDWA, Congress has authorized EPA to exercise broad authority for the protection of public water supplies and drinking water sources.

II. DEFINITIONS

4. The term "underground source of drinking water" ("USDW") means, in part, an aquifer or its portion which contains a sufficient quantity of ground water to supply a public water system and currently supplies drinking water for human consumption or contains fewer than 10,000 milligrams per liter ("mg/l") total dissolved solids, and which is not an exempted aquifer. See 40 C.F.R. § 144.3.

5. The term "aquifer" means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring. See 40 C.F.R. § 144.3.

6. The term "down gradient" means in the direction of the flow of ground water in the surficial aquifer.

7. The term "concentration of nitrate" shall mean the nitrate ion measured as nitrogen.

8. The term "concentration of nitrite" shall mean the nitrite ion measured as nitrogen.

9. The term "combined nitrate and nitrite" shall mean the sum of the mass loading of nitrate, measured as nitrogen, and the mass loading of nitrite, measured as nitrogen.

10. The term "contaminant" means any physical, chemical, biological, or radiological substance or matter in water. See 42 U.S.C. § 300f(6).

11. The Maximum Contaminant Level (MCL) is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. See 42 U.S.C. §300f(3). Studies that are the basis for setting the MCL's indicate adverse health effects for contaminants in drinking water exceeding these levels.

12. "Section" shall mean a portion of this Order identified by a Roman numeral.

13. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

14. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in the SDWA or its implementing regulations, in which case the statutory or regulatory definitions shall apply.

III. FINDINGS OF FACT AND CONCLUSIONS OF LAW

Based on the information in its possession, EPA makes the following findings of fact and conclusions of law:

15. Respondent, Mountaire Farms of Delaware, Inc. ("Mountaire"), is a corporation and is therefore a "person" within the meaning of Section 1401(12) of the SDWA, 42 U.S.C. § 300f(12).

16. Mountaire owns and operates a poultry processing facility on State Route 24 ("Facility") located approximately two miles east of Millsboro, in Sussex County, Delaware.

17. The "Site" is defined as both the Facility operated by Mountaire and all private property within the perimeter of the polygon defined to the north by State Route 297 (Morris Mill Road), on the west by State Route 305 (Hollyville Road) to the east by Swan Creek and Logwood Pond and to the south by Indian River (Attachment 1).

18. The substances nitrate and nitrite are "contaminants" within the meaning of Section 1401(6) of the SDWA, 42 U.S.C. § 300f(6).

19. The EPA sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. See 40 C.F.R. § 141.32(e)(20). Nitrate in drinking water is colorless and odorless. Ingestion of nitrate, which is converted to nitrite in the body, interferes with the oxygen carrying capacity of blood, potentially resulting in cyanosis and, at higher levels, asphyxia. High levels of nitrate in water can lead to high levels of nitrite in infants, resulting in a blood disorder known as methemoglobinemia, or "blue baby syndrome," that can be fatal if left untreated. Infants up to three months of age are the most susceptible with regard to nitrate. This is due to the fact that about 10 percent of ingested nitrate is transformed to nitrite in the adult and child, whereas 100 percent of ingested nitrate can be transformed to nitrite in the infant. In particular, infants with a weight of less than 4 kilograms (8.8 lbs.) represent a high risk subpopulation. Pregnant women, adults with reduced stomach acidity, and individuals deficient in the enzyme that changes methemoglobin back to normal hemoglobin are all susceptible to nitrite-induced methemoglobinemia. Prolonged intake of high levels of nitrate has been linked to gastric problems due to the formations of nitrosamines, which have been associated with symptoms of marked hypertension including sharply decreased venous pressure, decreased systolic pressure, increased diastolic pressure, increased heart rate, and deep respirations.

20. The MCL for nitrate identified under the Safe Drinking Water Act is 10 mg/l as nitrogen. See 40 C.F.R. § 141.62. EPA has established this drinking water standard to protect against the adverse effects of nitrate based on studies conducted to establish the MCL. See 40 C.F.R. § 141.32 (e)(20). At 10 mg/l or more, nitrate poses a health threat to the population in general, and an acute health threat to children under six months of age.

21. The MCL for nitrite identified under the Safe Drinking Water Act is 1 mg/l as nitrogen. See 40 C.F.R. § 141.62. EPA has established this drinking water standard to protect against the adverse effects of nitrite based on studies conducted to establish the MCL. See 40 C.F.R. § 141.32 (e) (21).

22. The MCL for total nitrate plus nitrite identified under the Safe Drinking Water Act is 10 mg/l as nitrogen. See 40 C.F.R. § 141.62. EPA has established this MCL for the sum of nitrate and nitrite to allow for the fact that the toxicity of nitrate and nitrite are additive based on studies conducted to establish the MCL. See 40 C.F.R. § 141.32 (e) (20).

23. Nitrate in drinking water at levels in excess of the current 10 mg/l MCL has been responsible for serious methemoglobinemia and mortality in some infants under the age of approximately six months. Levels of nitrate between 10 and 25 mg/l could cause adverse health effects in the general population, with the degree of impact related to the contribution of nitrates from drinking water and the sensitivity of the individual.

24. Mountaire has had operational responsibility for the Facility since May 15, 2000. The Facility includes a poultry processing plant, feed mill, chicken hatchery, a wastewater treatment plant for industrial waste and domestic sewage, and agricultural lands. A poultry processing facility has operated on this property since at least 1987. The Facility waste management system

is operated under a State permit issued to the Respondent for a waste lagoon and spray irrigation fields.

25. The water-bearing formations underlying the Site and the surrounding residential water supply wells consist of the Columbia surficial aquifer and the deeper Upper Chesapeake aquifer, which currently supply drinking water for human consumption to both the onsite public water supply and residential wells. The productive zones of these aquifers consist of fine grained to coarse sands with yields sufficient to supply a public water system. Sussex County, Delaware, relies solely on ground water for public drinking water supplies. Private wells in this area are reportedly completed to depths of 50 to 100 feet, and have adequate yield to supply the needs of a household. Therefore, the aquifers are underground sources of drinking water within the meaning of 40 C.F.R. § 144.3. The soils in the area are from the Evesboro-Rumford association, according to the U.S. Department of Agriculture and characterized as being excessively drained soils that have a rapidly permeable subsoil of sand to sandy loam. Such characteristics make the aquifers vulnerable to infiltration of contaminants.

26. Poultry processing produces nitrogenous organic waste, which is present in the Facility wastewater. This Facility operates a spray irrigation system to dispose of the poultry processing plant wastewater at a rate of approximately 1.4 million gallons per day (MGD) onsite. Ammonia is produced by the breakdown of waste fluids.

27. Where aerobic conditions are present, such as is typical in a surficial aquifer, ammonia will be converted to nitrate and nitrite. Due to their high solubility, nitrate and nitrite will readily leach into ground water. Plants can uptake nitrates and nitrites, but only in limited quantities. Mountaire is required to maintain ground vegetation year-round to utilize the nitrates; however, quantities of nitrates and nitrites in the soil in excess of levels which can be used by plants can migrate to ground water where they may adversely impact private and public drinking water wells.

28. EPA finds that poultry operations at the Facility have impacted the nitrate levels in the ground water used as a source of drinking water and therefore caused or contributed to the contamination of the USDW underlying the Site. Ground water sampling has been conducted on the Site both by Respondent, and by the previous owner, Townsend Inc., through an established monitoring program, since at least 1987. Nitrate levels onsite have been plotted by the Delaware Department of Natural Resources and Environmental Control (DNREC) for several quarters during 1987, 1991, 1993, 1995, 1999, 2001, and 2002 (Attachment 2). The results from this network of monitoring wells indicate that the levels of nitrate in the ground water have ranged from 1- 200 mg/l nitrate onsite over time. The most recent samples, dated October 3, for the third quarter of 2002, show results ranging from less than 1 mg/l to 30 mg/l for nitrate.

29. The Delaware Department of Health and Social Services (DHSS) has conducted sampling of private wells within the Site boundary in the past several months. Samples from eleven (11) residential wells within the perimeter of the Site have been collected and ten (10) of those exceed 10 mg/l, with levels ranging from 12.7 to 25.6 mg/l (Attachment 3). The remaining

well appears to be a deeper well and had levels below the detection level of 0.3 mg/l. This well also has either ion exchange or carbon treatment unit installed. The concentration of nitrate in the six (6) wells indicate that the USDW underlying the Site is contaminated and the consumption of drinking water with these levels of nitrate may present an imminent and substantial endangerment to public health.

30. Mountaire is also a public water supply with an onsite well serving the Facility's over 1,000 employees. In 1991, a level exceeding 20 mg/l nitrate was detected in the onsite well. At that time, the DHSS required Townsend Inc., the prior owner, to provide nitrate treatment or drill a new well to meet drinking water standards. Townsend Inc. drilled a new, deeper well and returned to compliance with the MCL for nitrate. Mountaire continues to operate this well in compliance with the MCL for nitrate.

31. EPA has consulted with DHSS and DNREC to confirm that the information on which this Order is based is correct. DHSS has notified EPA that it lacks the authority to order the provision of an alternate water supply for private water supply wells. EPA has concluded that all the requisite conditions have been satisfied for EPA action under Section 1431(a)(1) of the SDWA, 42 U.S.C. § 300i(a)(1).

32. EPA finds that there are contaminants present in the USDW underlying the Site which may present an imminent and substantial endangerment to the health of persons drinking water from the public and private residential water supply wells contaminated (by activities at the Facility.)

33. Section 1431(a) of the SDWA, 42 U.S.C. § 300i(a), specifies that the Administrator, upon receipt of information that a contaminant which is present in or likely to enter a public water system or an underground source of drinking water may present an imminent and substantial endangerment to the health of persons, may issue such order as may be necessary to protect the health of such persons, including travelers. EPA has determined the actions required by this Order are necessary to protect the health of persons who are or may become users of the public water systems and/or USDW identified above.

IV. ORDER ON CONSENT

Pursuant to the authority issued to the EPA Administrator by Section 1431(a)(1) of the SDWA, 42 U.S.C. § 300i(a)(1), and delegated to the Regional Administrator, and redelegated to the Director of the Water Protection Division, Mountaire is ORDERED and hereby consents to the following:

Provision of Emergency Drinking Water for Affected Population

34. Within 24 hours of receipt of this Order, Mountaire shall offer to provide an emergency supply of drinking water for human consumption to all the residences within the Site which have been or will be sampled by DHSS or EPA and found to exceed 10 mg/l nitrate, the locations of which are shown on Attachment 4. Such offer shall be in the form of a letter, with

accompanying explanation, a copy of which is included as Attachment 4. If there is no response from a residence within ten (10) calendar days, Mountaire shall repeat the notification attempt with a certified letter return receipt requested. Such water is to be provided by Mountaire at no cost to the residents.

35. The water for human consumption required to be provided under Paragraph 34 shall mean bottled water, bulk water from a tank truck, or water from some other source acceptable to DHSS and EPA. Such water shall meet the water quality requirements of 40 C.F.R. § 141, Subpart G, for domestic uses and shall be provided at a location and in a container convenient to the residents. Delivery shall continue at a frequency convenient to the residents and be of an adequate volume to meet the day-to-day needs of the residents until a permanent alternate water supply is in place in accordance with Paragraph 36.

36. Within sixty (60) calendar days of the effective date of this Order, Mountaire shall submit to EPA, DNREC and DHSS for review and EPA approval (after consultation with DNREC and DHSS), a plan to provide a permanent alternate water supply ("Alternate Water Supply") to the residences identified in Paragraph 34 above. This plan must describe available options for each location which are acceptable to the applicable resident, including drilling a new well, or provision of point of entry or point of use devices for the treatment of the drinking water such that it will be in compliance with all state drinking water requirements and of adequate volume to meet the day-to-day needs of the residents.

37. If a point of entry or point of use treatment device is chosen as the proposed remedy, it must comply with Delaware Code Section 22.211. The Alternate Water Supply and any long term maintenance of a point of use or point of entry device must be provided at no cost to the residences. Maintenance of these devices will be provided by Mountaire until it can be reliably proven that the pre-treated water is in compliance with all drinking water standards for nitrates.

Monitoring/Remediation Program

38. Commencing with the effective date of this Order, Mountaire shall implement a ground water monitoring/remediation program ("Program"). The Program shall consist of: 1) operation of Mountaire's wastewater treatment/spray irrigation systems in a manner which controls nitrogen loadings to the spray fields and insures that the annual average nitrate levels at the Facility are below 10 mg/l on any spray field; 2) continued operation of Mountaire's irrigation and production wells in areas of elevated nitrate levels in order to reduce overall nitrate levels at the Facility; and 3) quarterly monitoring for a two year period, on a schedule to be approved by EPA, of existing wells numbered 35, 36, 37, 42, 43, 47 (depicted on Attachment 5) and one or more wells to replace monitoring wells 38 and 39 which are no longer in use, so that samples from the wells accurately represent ground water conditions down gradient of the Facility. Notwithstanding any other provision of this Order, any modification to the Program shall be consistent with the scope of the Program as set forth in this paragraph.

39. For two years commencing with the effective date of this Order, Mountaire shall

submit to EPA, at the address specified in Paragraph 54, results of the quarterly monitoring conducted as part of the Program. Sampling results shall be submitted to EPA within ten (10) days of receipt by Mountaire.

V. EPA APPROVALS

40. EPA reserves the right to comment on, modify, and/or direct changes to any plan or program, report, specification, or schedule submitted pursuant to or required by this Order. When a document is submitted to EPA for approval, EPA shall provide Respondent with its written approval, approval with conditions and/or modifications, or disapproval. If such document submittal is disapproved, in whole or in part, EPA shall either (a) notify Respondent that EPA will modify the document to cure the deficiencies and require Respondent to implement such modifications or (b) direct Respondent to modify the document to cure the deficiencies. Revised submittals are also subject to EPA approval, approval with conditions and/or modifications, or disapproval.

41. Upon receipt of a notice of disapproval and/or notice directing modification of the document, Respondent shall, within fourteen (14) calendar days, cure the deficiencies and resubmit the document for approval. Should EPA determine that Respondent has failed to cure any deficiency, EPA reserves the right to modify the document to correct the deficiency and to direct the Respondent to implement the document as modified.

42. Upon receipt of EPA's written approval, Respondent shall commence work and implement any approved plan or program in accordance with the schedule and provisions contained therein. If no schedule is contained in an approved plan or program, then Respondent shall commence work and implementation of the plan or program within fourteen (14) calendar days of receipt of EPA's written approval of the plan or program. In the event EPA disapproves the plan or program, in whole or in part, EPA may require Respondent to implement any non-deficient portion of the plan or program.

43. Any EPA-approved plan or program, report, specification, or schedule developed hereunder shall be incorporated by reference into this Order as if set forth fully herein. Prior to EPA's written approval, no plan, program, report, specification, or schedule shall be construed as approved and final. Oral advice, suggestions, or comments given by EPA, DNREC or DHSS representatives do not constitute an official approval, nor shall any oral approval or oral assurance of approval be considered binding.

44. Noncompliance with any plan, program, report, specification, or schedule approved by EPA pursuant to this Order shall be considered a violation of this Order and may subject Respondent to the statutory penalty provisions and/or enforcement actions as provided by Section 1431 of the SDWA, 42 U.S.C. § 300i.

45. Any changes or modifications proposed by Respondent to any EPA-approved plan, program or timetable required by this Order must be approved in writing by EPA prior to

implementation.

VI. PARTIES BOUND

46. The provisions of this Order shall apply to and be binding upon Respondent and its employees, agents, successors, and assigns. Notice of this Order shall be given to any successors in interest prior to transfer of the ownership or operation of the Facility or any portion thereof. Action or inaction of any person, firm, contractor, employee, agent, or corporation acting under, through, for or in participation with Respondent, shall not excuse any failure of Respondent to fully perform the obligations under this Order.

47. Respondent shall provide a copy of this Order to any and all business organizations, contractors, subcontractors, laboratories, or consultants which are retained to conduct or monitor any portion of the work performed pursuant to this Order. A copy of the Order shall be provided within seven (7) calendar days of the effective date of this Order or on the date of retention of such contractor, subcontractor, laboratory, or consultant.

48. Respondent shall give notice to EPA at least thirty (30) calendar days prior to the sale, lease, or other transfer of ownership, operation, and/or management of this Facility or any portion thereof.

VII. GENERAL PROVISIONS

49. Respondent admits the jurisdictional allegations set forth herein and waives any defenses it might have as to jurisdiction and venue and agrees not to contest any of the findings of fact or conclusions of law herein in any action to enforce this Order. Except as to any proceeding brought by EPA to enforce this Order, in agreeing to this Order Respondent makes no admission of fact or law and reserves all rights and defenses available regarding liability or responsibility in any other legal proceeding related to the subject matter of this Order. Respondent waives its right to seek judicial review of the issuance of this Order.

50. This Consent Order may be executed in any number of counterpart originals, each of which shall be deemed to constitute an original agreement, and all of which shall constitute one agreement. The execution of one counterpart by any party shall have the same force and effect as if that party had signed all other counterparts.

51. Respondent shall submit to EPA, DNREC and DHSS written reports each calendar quarter summarizing all actions taken in accordance with this Order ("Progress Reports"). Such Progress Reports shall be submitted on or before the 28th day following the end of each quarter until such time as EPA provides written notice that the reports are no longer necessary, or this Order is terminated.

52. All Progress Reports required by Paragraph 51 herein shall contain the following certification, which shall be signed by a responsible corporate officer:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The certification shall also include the name, title, date, and signature of the person or persons completing the certification.

53. For purposes of this Order, a responsible corporate officer shall be the president, secretary, treasurer, or vice-president in charge of a principal business function, or any other person who performs similar policy or decision-making functions for Respondent, if authority to sign documents has been delegated in accordance with corporate procedures.

54. All reports and other correspondence required by this Order shall be sent to :

EPA Contact: Amy Cohen (3WP32)
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103
(215) 814-3296

DHSS Contact: Edward Hallock, Program Administrator
Office of Drinking Water
Division of Public Health
Delaware Department of Health and Social Services
Blue Hen Corporate Center Suite 203
Dover, DE 19901
(302) 739-5410

DNREC Contact: Rodney Wyatt, Division of Water Resources
Department of Natural Resources and Environmental Control
89 Kings Highway,
Dover, DE 19901
(302) 739-4762

55. Respondent shall use best efforts to obtain consent to provide water and/or access to each of the properties as needed to implement the provision of emergency water and other requirements of this Order. Respondent shall make a good faith effort to obtain consent from each resident. If unsuccessful in gaining consent, Respondent shall immediately notify EPA in

writing at the address specified in Paragraph 54, and describe its efforts to provide emergency water and/or otherwise obtain access. Following such notification, EPA may attempt to secure consent to provide an alternate water supply and/or access for Respondent, and if EPA is successful, Respondent shall immediately comply with this Order.

56. If any event occurs which causes delay in the achievement of any requirement of this Order, Respondent shall have the burden of proving that the delay was caused by circumstances beyond the reasonable control of Respondent or any entity controlled by Respondent, including but not limited to its contractors and consultants, which could not have been overcome by due diligence. Respondent shall notify EPA verbally within 72 hours, and in writing within seven (7) calendar days of the verbal notification, of the anticipated length and cause of the delay, the measures taken and/or to be taken to prevent or minimize the delay, and the timetable by which Respondent intends to implement these measures. If EPA agrees that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of the Respondent, the time for performance hereunder shall be extended for a period equal to the delay resulting from such circumstances. Respondent shall adopt all reasonable measures to avoid or minimize delay. Failure of Respondent to comply with the notice requirements of this paragraph shall constitute a waiver of Respondent's right to request an extension to meet the requirements of this Order.

57. Nothing in this Order shall be construed to limit or otherwise affect EPA's authority under any applicable law or regulation, including but not limited to, EPA's authority to conduct inspections, to seek access to property, to request the provision of information, or to bring a civil or criminal enforcement action under the SDWA or other applicable statutes or regulations.

58. Respondent may assert a confidentiality claim covering all or part of any information submitted to EPA pursuant to this Order. Any assertion of confidentiality must be accompanied by information that satisfies the items listed in 40 C.F.R. § 2.204(e)(4) or such claim shall be deemed waived. Information determined by EPA to be confidential shall be disclosed only to the extent permitted by 40 C.F.R. Part 2. If no such confidentiality claim accompanies the information when it is submitted to EPA, the information may be made available to the public by EPA without further notice to Respondent. Respondent may not assert any confidentiality claim with regard to any physical or analytical data.

59. To the extent authorized by the SDWA, EPA, its contractors, employees, and representatives are authorized to enter and freely move about the Facility pursuant to this Order for the purposes of, *inter alia*, interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts related to compliance with this Order; reviewing the progress of the Respondent in carrying out the terms of this Order; conducting such tests, sampling, or monitoring as EPA or its representatives deem necessary; using a camera, sound recording, or other documentary type equipment; and verifying the reports and data submitted to EPA by the Respondent. Respondent shall provide EPA and its representatives access to the Facility at all reasonable times and to any other property to which access is required for implementation of this Order. Respondent shall permit such persons to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, that pertain to work undertaken pursuant to this Order and that are within the possession or under the control of

Respondent or its contractors or consultants.

60. Pursuant to Section 1431(b) of the SDWA, 42 U.S.C. § 300i(b), in the event that Respondent violates, fails or refuses to comply with the terms or require provisions of this Order, EPA may commence a civil action in the appropriate U.S. District Court to compliance with this Order and to assess a civil penalty of up to \$17,000 for each day in which such violation occurs or failure to comply continues. Failure to timely complete any requirement of this Order shall be deemed a violation of this Order, beginning on the first day that performance is scheduled to commence.

61. EPA expressly reserves all rights and defenses that it may have, including but not limited to the right to disapprove work performed by Respondent pursuant to this Order and to modify documents submitted by the Respondent and require that Respondent implement those modifications.

62. EPA hereby reserves all of its statutory and regulatory powers, authorities, rights, and remedies, both legal and equitable, which may pertain to Respondent's failure to comply with any of the requirements of this Order, including without limitation the assessment of penalties under 1431(b) of the SDWA, 42 U.S.C. § 300i(b). This Order shall not be construed as a covenant not to sue, release, waiver, or limitation of any rights, remedies, powers, and/or authorities, civil or criminal, which EPA has under the SDWA, or under any other statutory, regulatory, or common law authority of the United States. Nothing in this Order shall diminish, impair, or otherwise adversely affect the authority of EPA to enforce the provisions of this Order. This Order shall not be interpreted to relieve Respondent of its obligations to comply with any provision of the SDWA, its implementing regulations, or any other Federal, state, or local law.

63. This Order shall not limit or otherwise preclude EPA from taking additional enforcement action, civil or criminal, pursuant to the SDWA, or any other available legal authority, should EPA determine that such action is appropriate. Issuance of this Order is not an election by EPA to forego any civil or criminal action otherwise authorized under the SDWA or other laws.

64. All actions required to be taken pursuant to this Order shall be undertaken in accordance with the requirements of all applicable local, state, and Federal laws and regulations. Respondent shall obtain or cause its representative to obtain all permits and approvals necessary under such laws and regulations to perform work pursuant to this Order and shall submit timely applications and requests for any such permits and approvals.

65. This Order may be modified only upon the written consent of both parties.

66. If any provision or authority of this Order, or the application of this Order to any party or circumstance, is held by any judicial or administrative authority to be invalid, the application of such provision(s) to other parties or circumstances and the remainder of the Order shall remain in force and shall not be affected thereby.

VIII. EFFECTIVE DATE OF ORDER

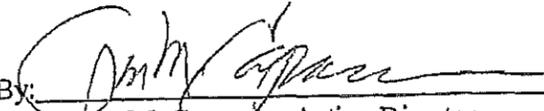
This Order shall be effective immediately upon Respondent's receipt of the executed Order. If modifications are made to this Order, such modifications will be effective on the date received by Respondent. This Order shall remain in effect until the provisions identified in the Order have been met and EPA has certified its approval of the same in writing. This Order shall constitute final agency action for purposes of Section 1448 of the SDWA, 42 U.S.C. § 300j-7.

IX. TERMINATION AND SATISFACTION

The provisions of this Order shall be deemed satisfied upon Respondent's receipt of written notice from EPA that Respondent has demonstrated, to the satisfaction of EPA, that the terms of this Order have been satisfactorily completed.

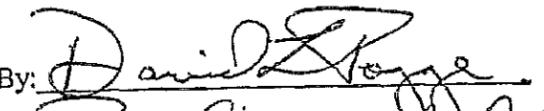
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Date: 5/12/03

By: 
Jon M. Capacasa, Acting Director
Water Protection Division

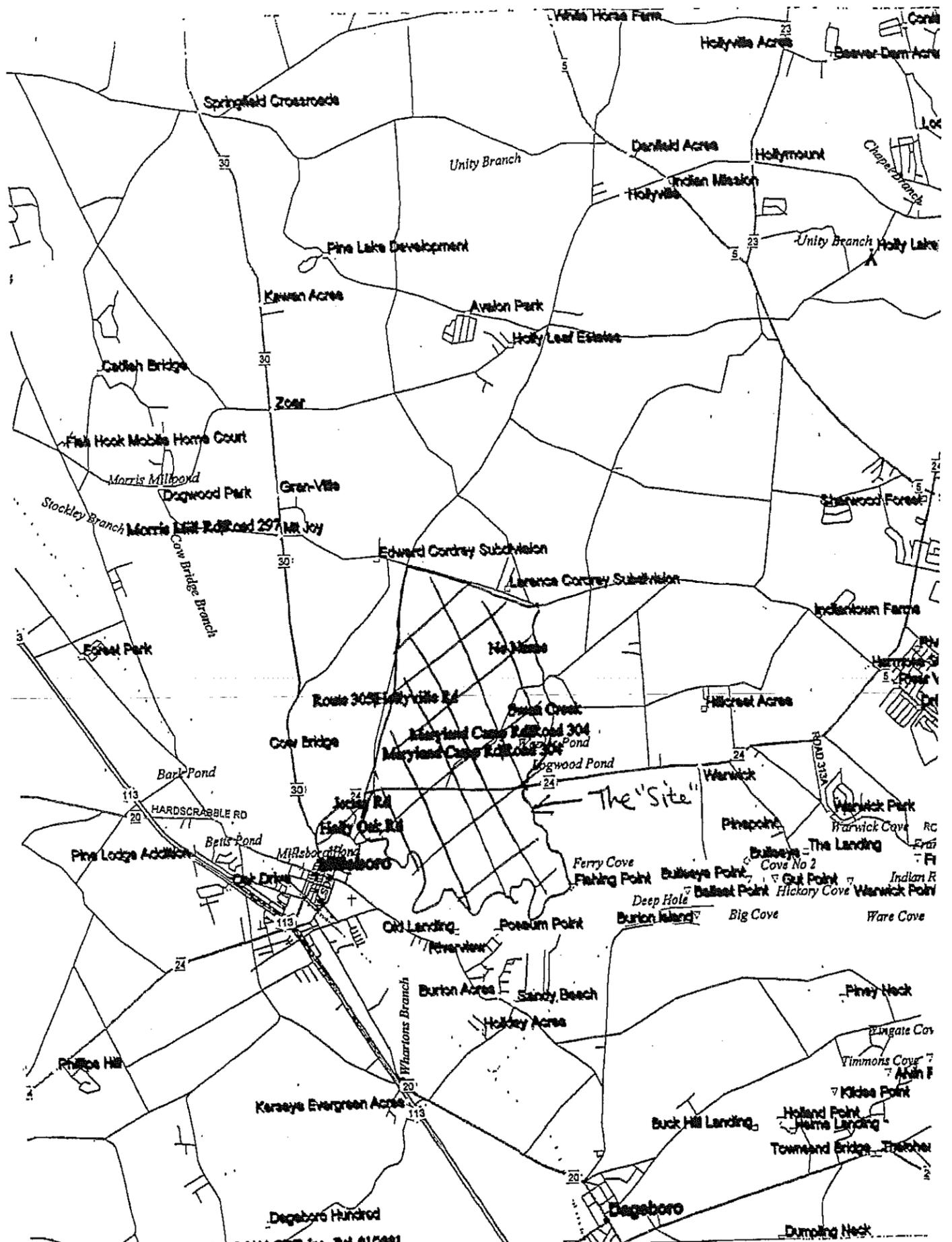
Mountaire Farms of Delaware, Inc.

Date: 4/22/03

By: 
Title: President and COO

Attachment 1
(Referenced in paragraph 17)

Map indicating Mountaire Farms property boundary (approximate)

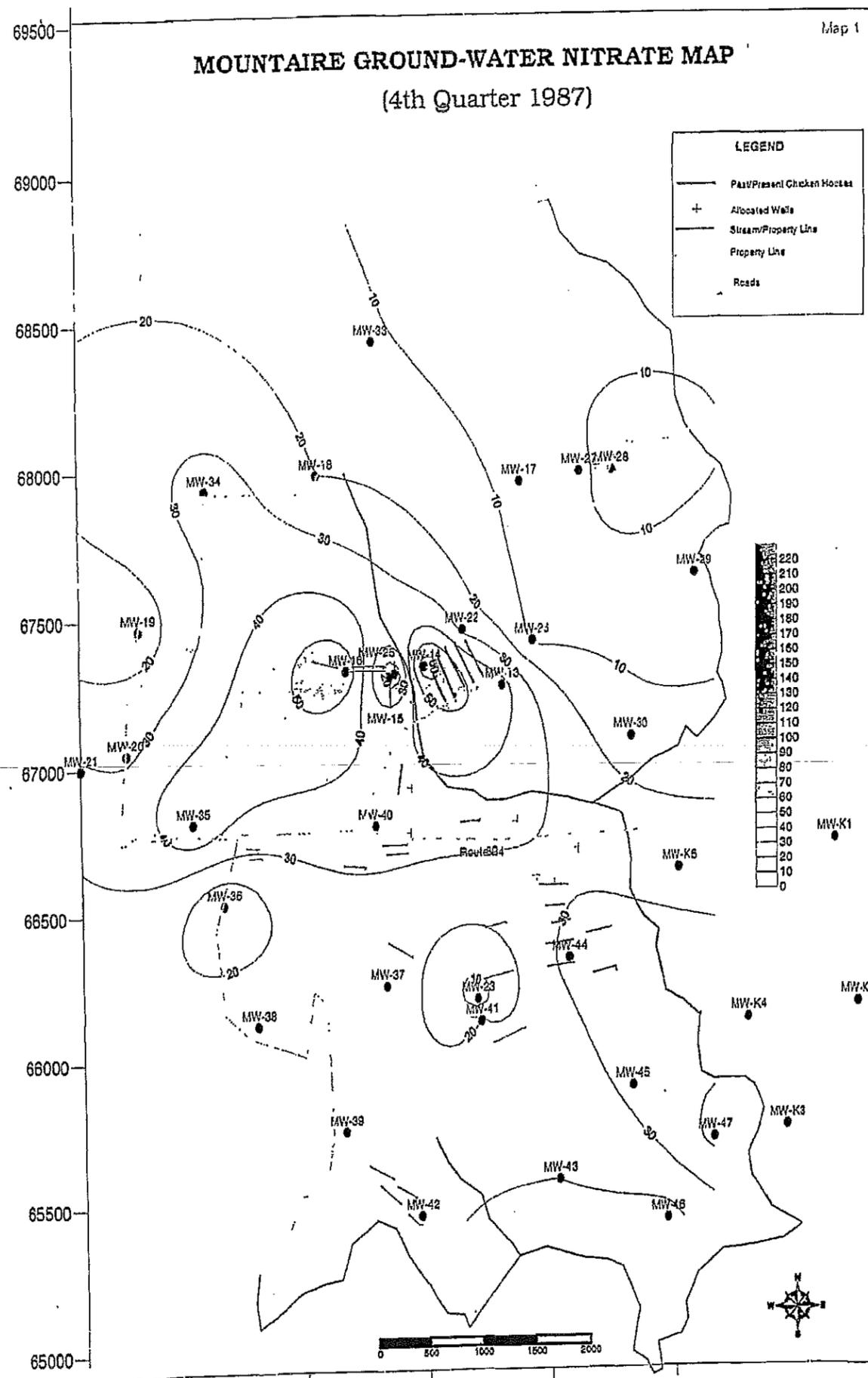


Attachment 2
(Referenced in paragraph 28)

Contour Maps Indicating
Nitrate Levels from Monitoring Well Data

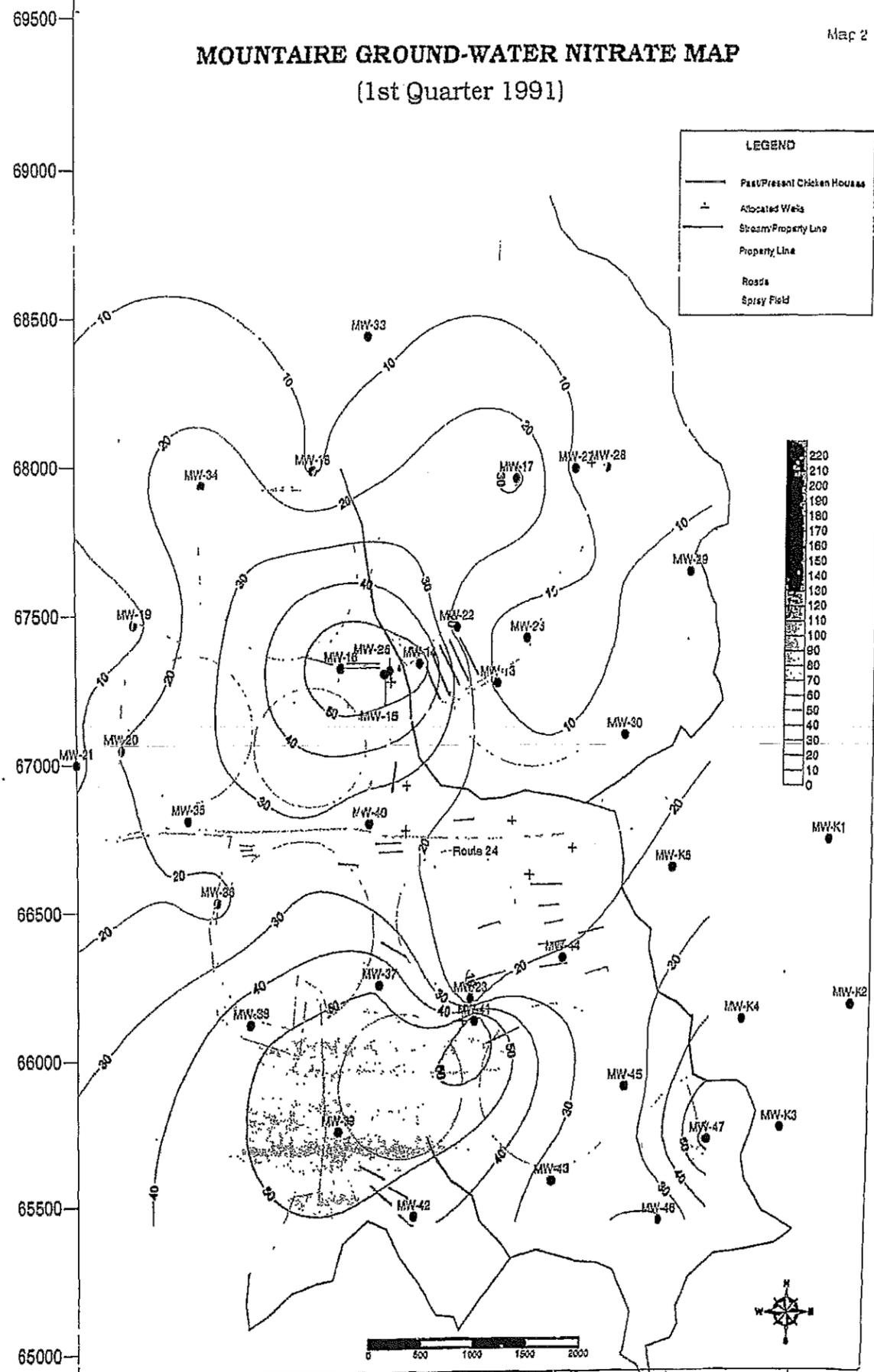
Mountaire Ground -Water Nitrate Map (4 th Quarter 1987)	Map 1
Mountaire Ground -Water Nitrate Map (1 st Quarter 1991)	Map 2
Mountaire Ground -Water Nitrate Map (2 nd Quarter 1991)	Map 3
Mountaire Ground -Water Nitrate Map (3 rd Quarter 1991)	Map 4
Mountaire Ground -Water Nitrate Map (4 th Quarter 1991)	Map 5A
Mountaire Ground -Water Nitrate* Map (1 st Quarter 1993)	Map 9A
Mountaire Ground -Water Nitrate Map (3 rd Quarter 1993)	Map 10A
Mountaire Ground -Water Nitrate Map (2 nd Quarter 1995)	Map 14A
Mountaire Ground -Water Nitrate Map (2 nd Quarter 1999)	Map 16
Mountaire Ground -Water Nitrate Map (November 2001)	Map 18A
Mountaire Ground -Water Nitrate Map (1 st Quarter 2002)	Map 19A

(*mislabeled)



MOUNTAIRE GROUND-WATER NITRATE MAP (1st Quarter 1991)

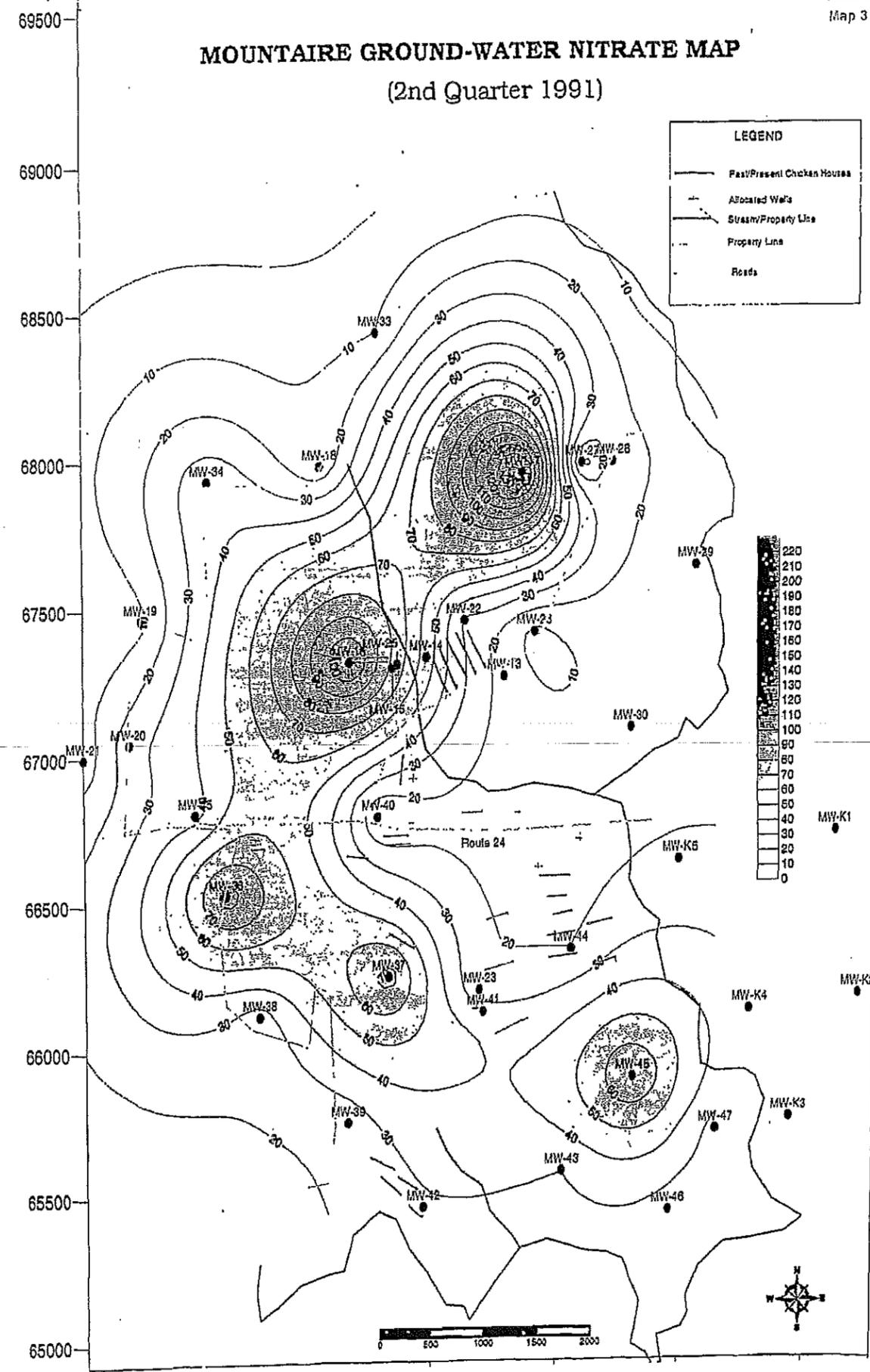
Map 2

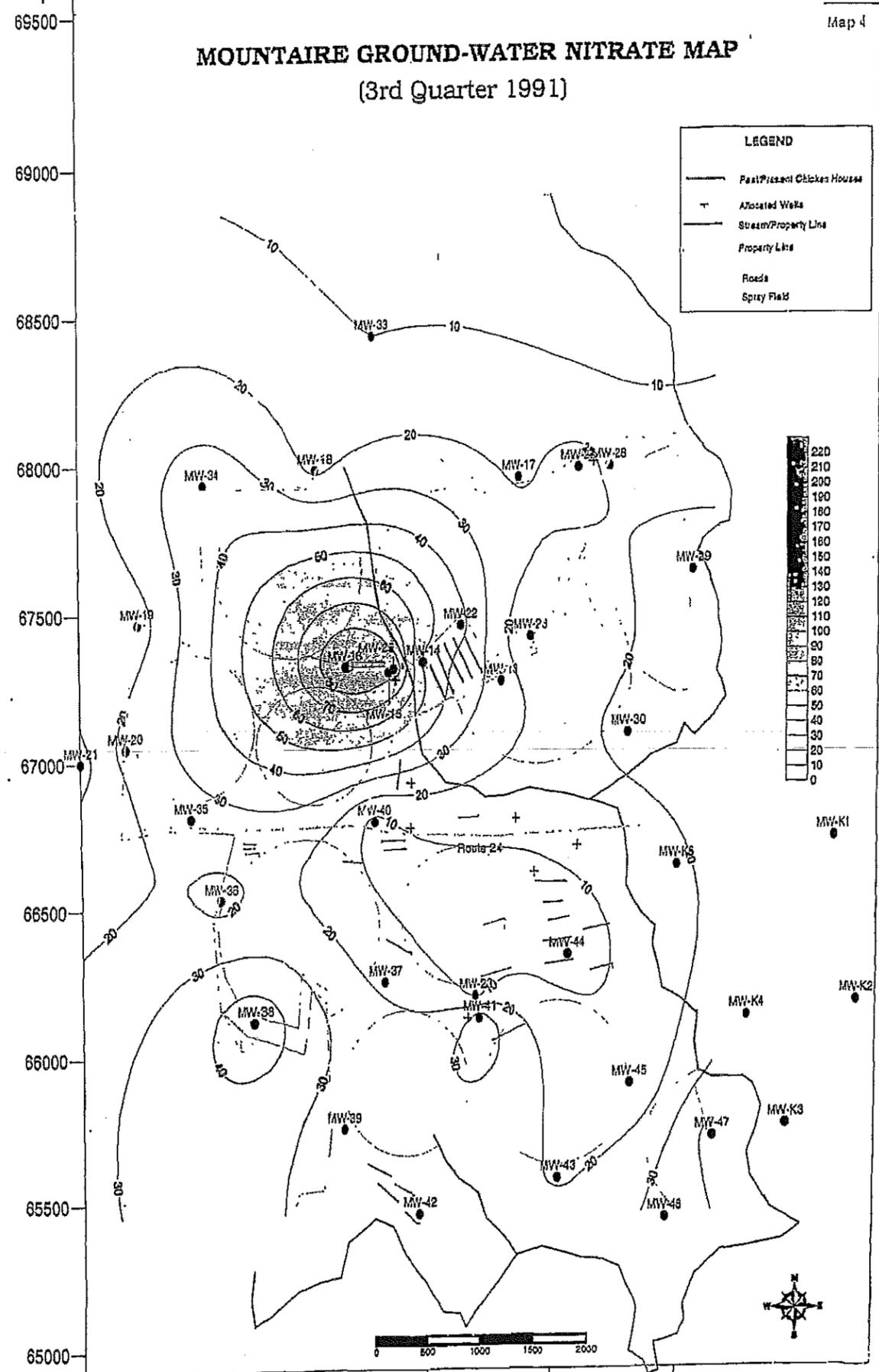


MOUNTAIRE GROUND-WATER NITRATE MAP (2nd Quarter 1991)

LEGEND

- Past/Present Chicken Houses
- - - - - Allocated Wells
- - - - - Stream/Property Line
- - - - - Property Line
- - - - - Roads

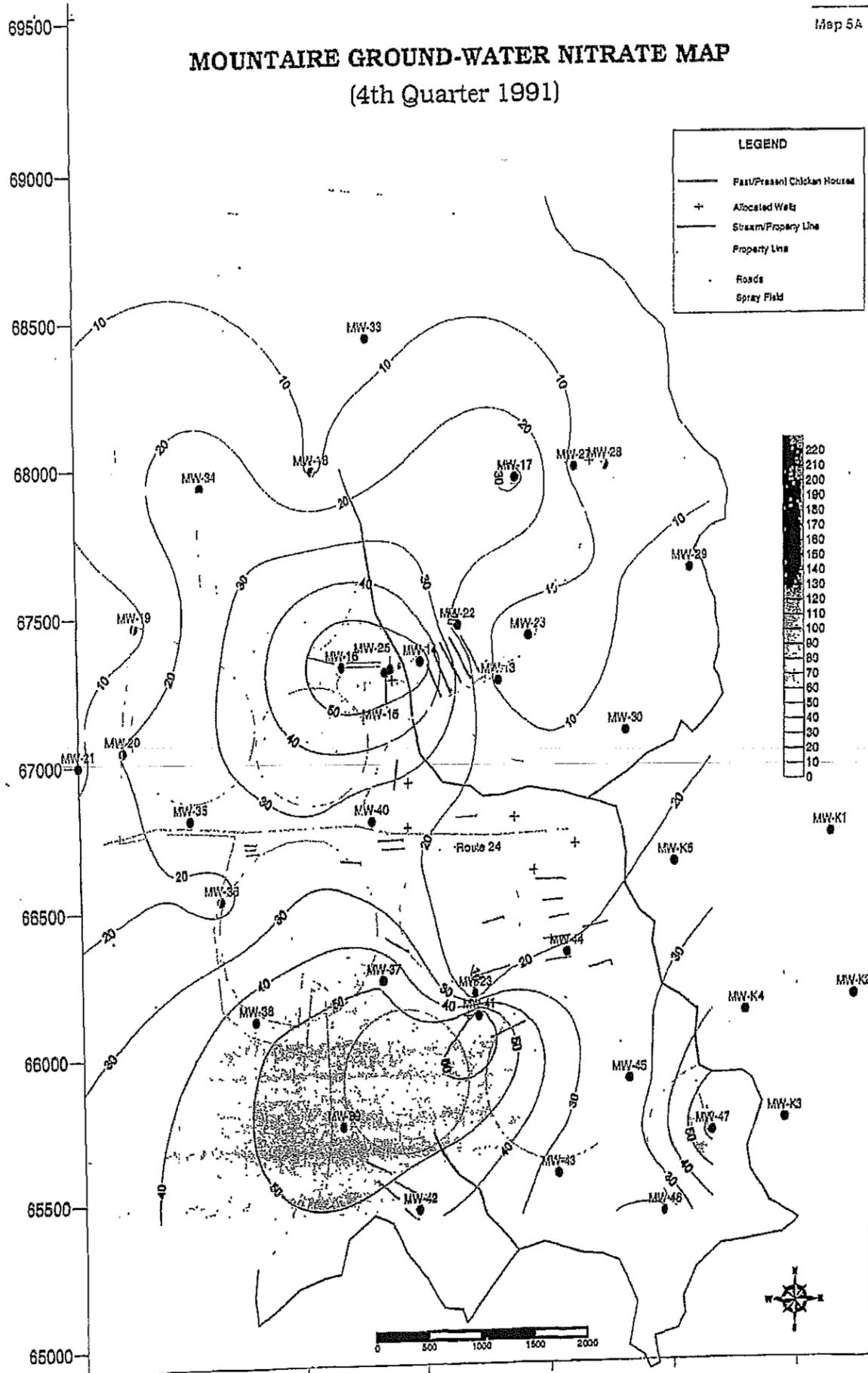
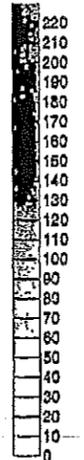




MOUNTAIRE GROUND-WATER NITRATE MAP (4th Quarter 1991)

LEGEND

- Past/Present Chicken Houses
- + Associated Wells
- Stream/Property Line
- Property Line
- - - Roads
- ▨ Spray Field

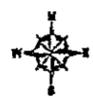
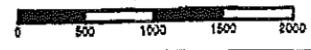
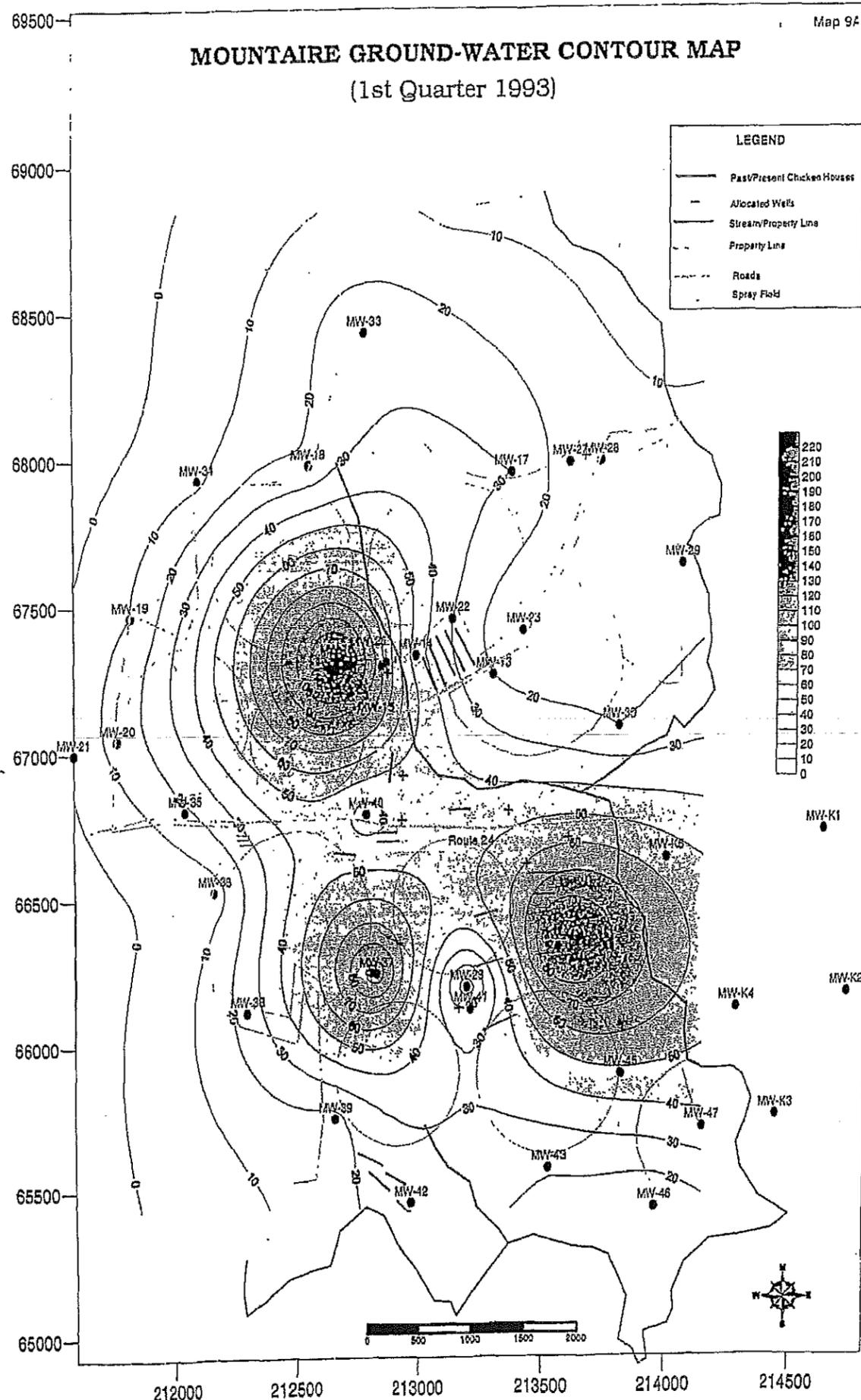
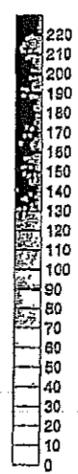


MOUNTAIRE GROUND-WATER CONTOUR MAP

(1st Quarter 1993)

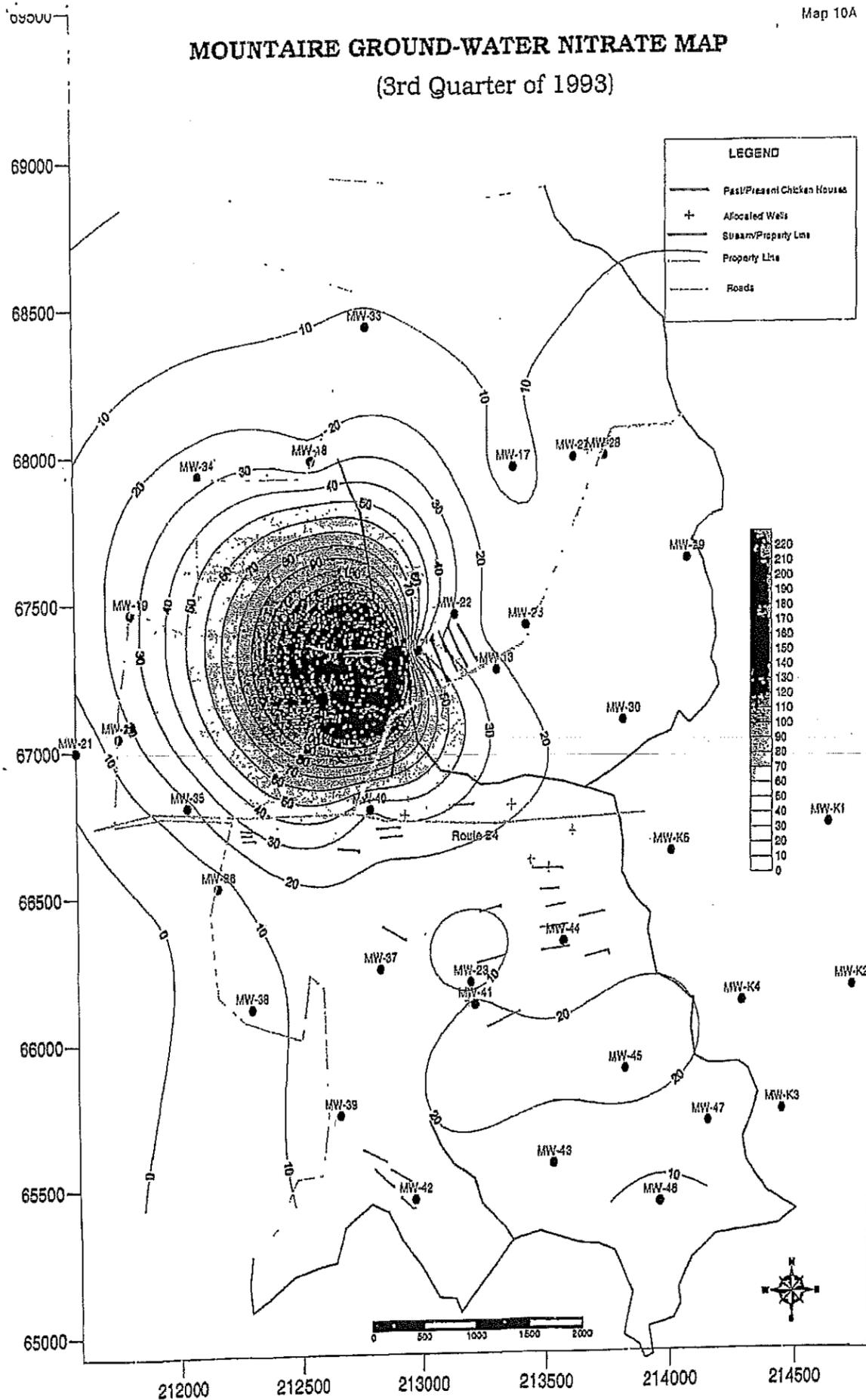
LEGEND

- Past/Present Chicken Houses
- - - Allocated Wells
- Stream/Property Line
- - - Property Line
- - - Roads
- Spray Field



MOUNTAIRE GROUND-WATER NITRATE MAP

(3rd Quarter of 1993)

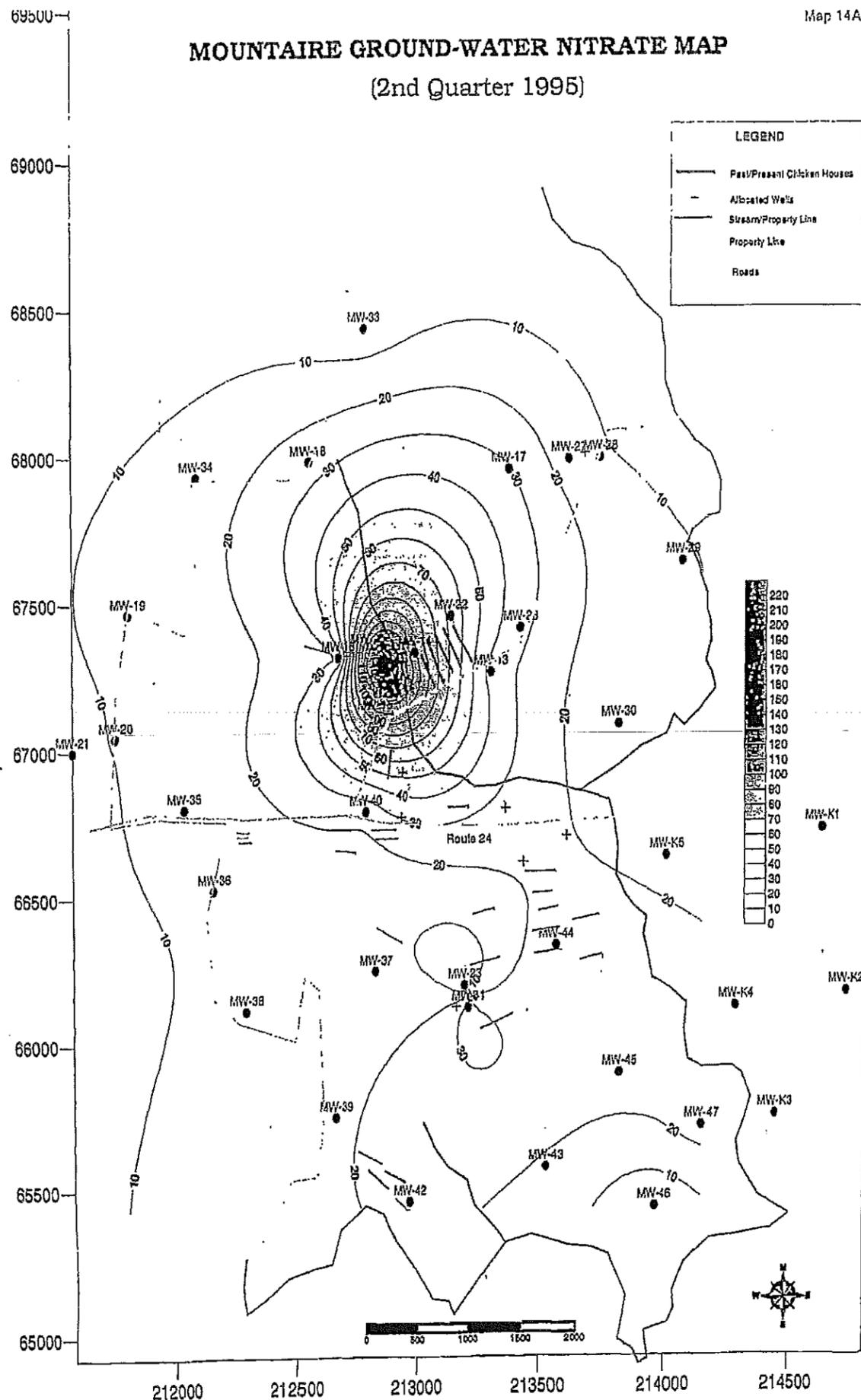
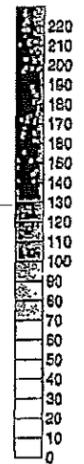


MOUNTAIRE GROUND-WATER NITRATE MAP

(2nd Quarter 1995)

LEGEND

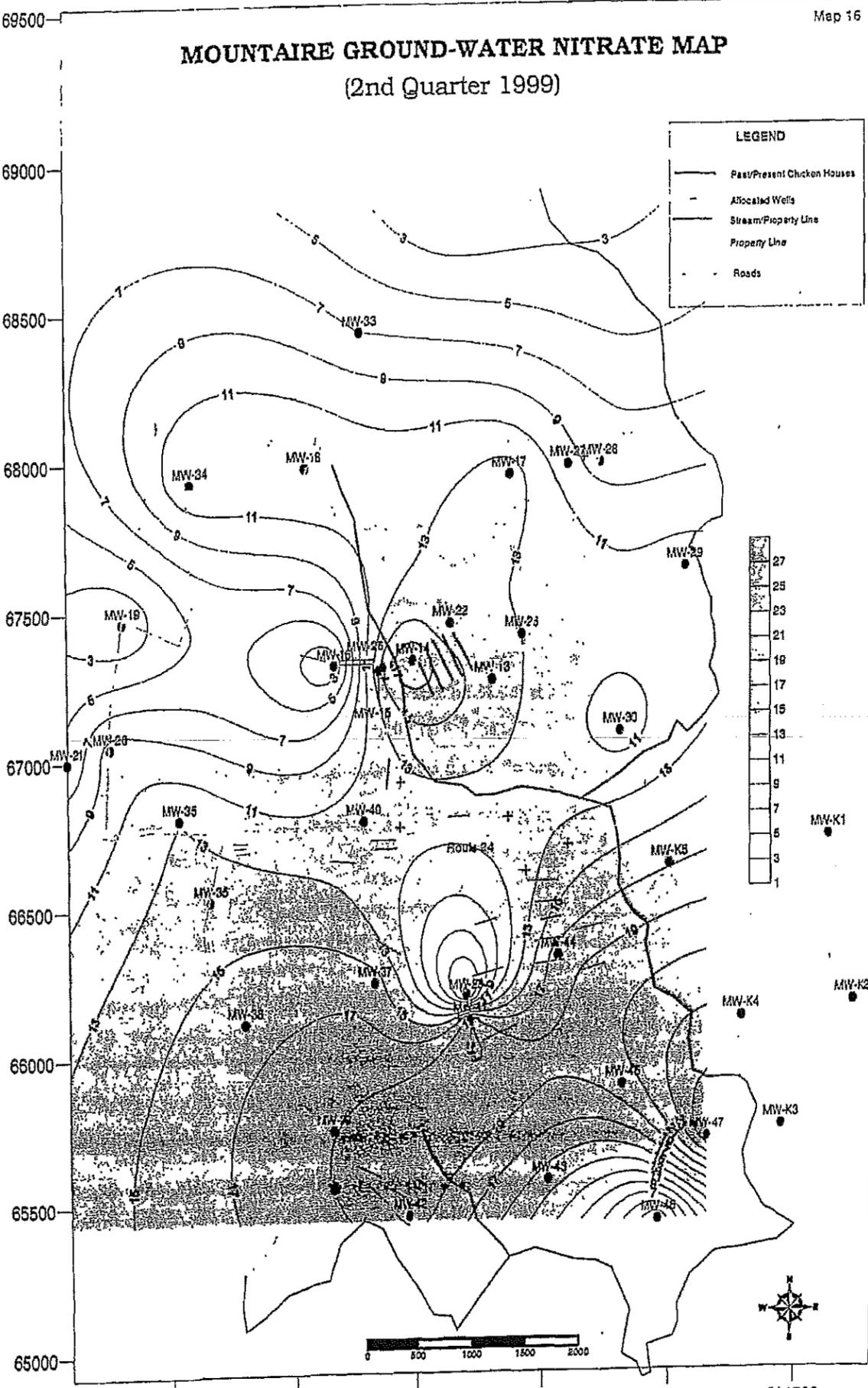
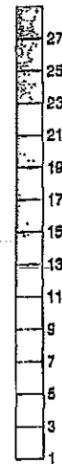
- Past/Present Chicken Houses
- - - Allocated Wells
- Stream/Property Line
- Property Line
- Roads



MOUNTAIRE GROUND-WATER NITRATE MAP (2nd Quarter 1999)

LEGEND

- Past/Present Chicken Houses
- Abandoned Wells
- Stream/Property Line
- Property Line
- Roads

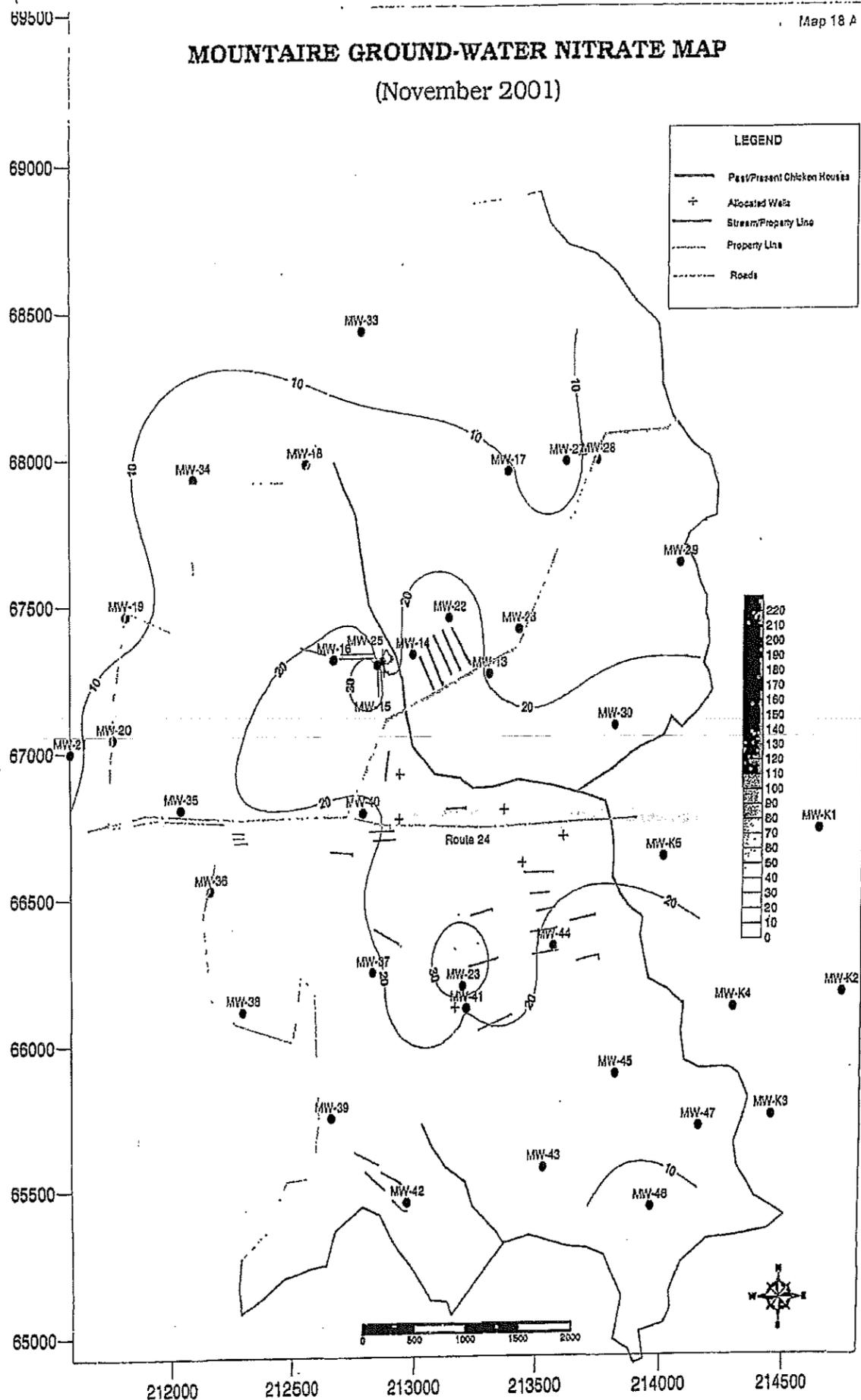
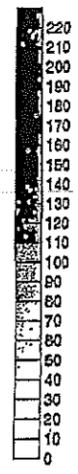


MOUNTAIRE GROUND-WATER NITRATE MAP

(November 2001)

LEGEND

- Past/Present Chicken Houses
- + Allocated Wells
- Stream/Property Line
- - - Property Line
- - - Roads

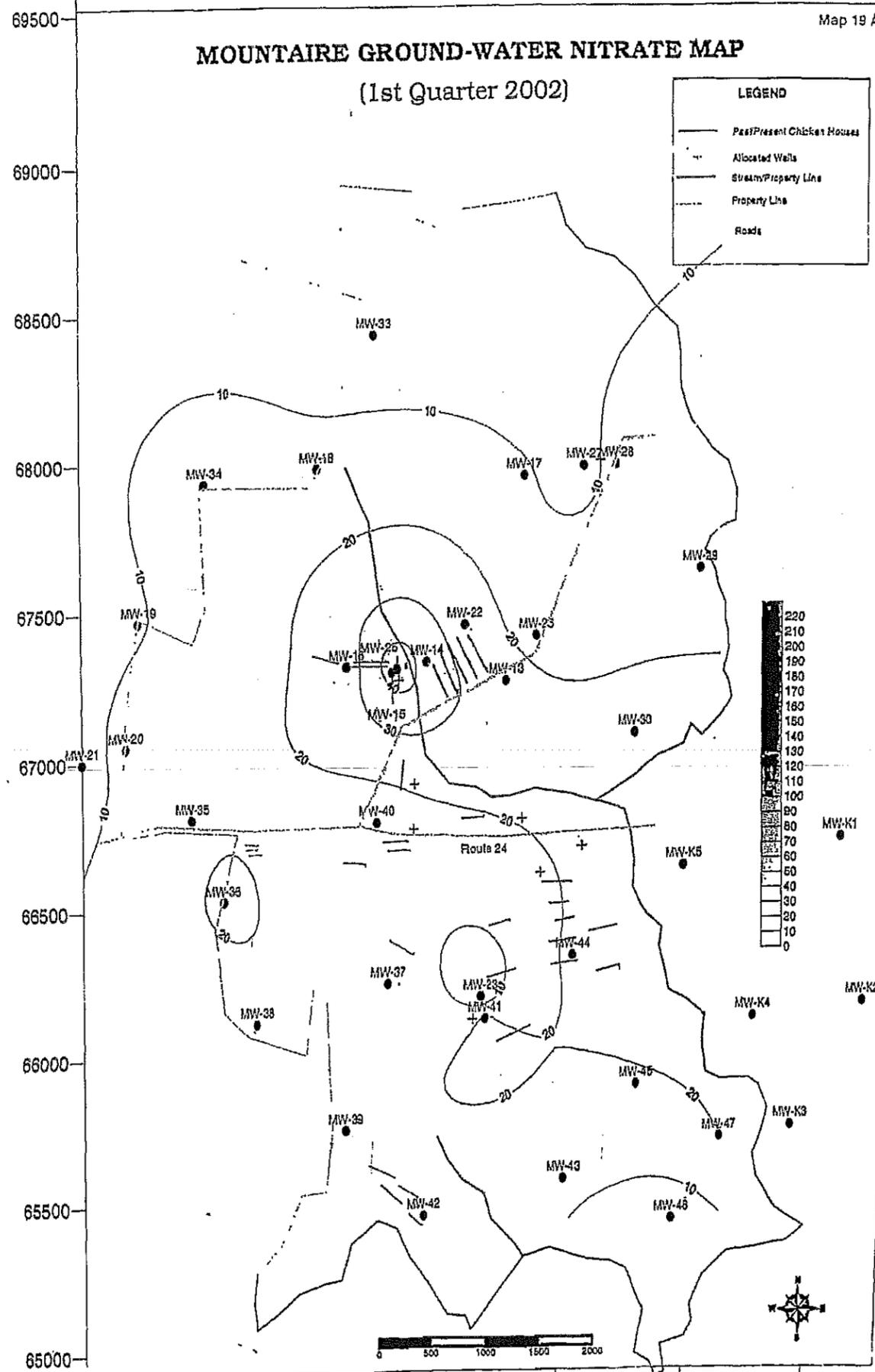


MOUNTAIRE GROUND-WATER NITRATE MAP

(1st Quarter 2002)

LEGEND

- Past/Present Chicken Houses
- Allocated Wells
- Stream/Property Line
- Property Line
- Roads



Attachment 3
(Referenced in paragraph 29)

Well Testing Data

Aerial Photo labeled Mountaire Farms indicating Nitrate levels of sampled residences

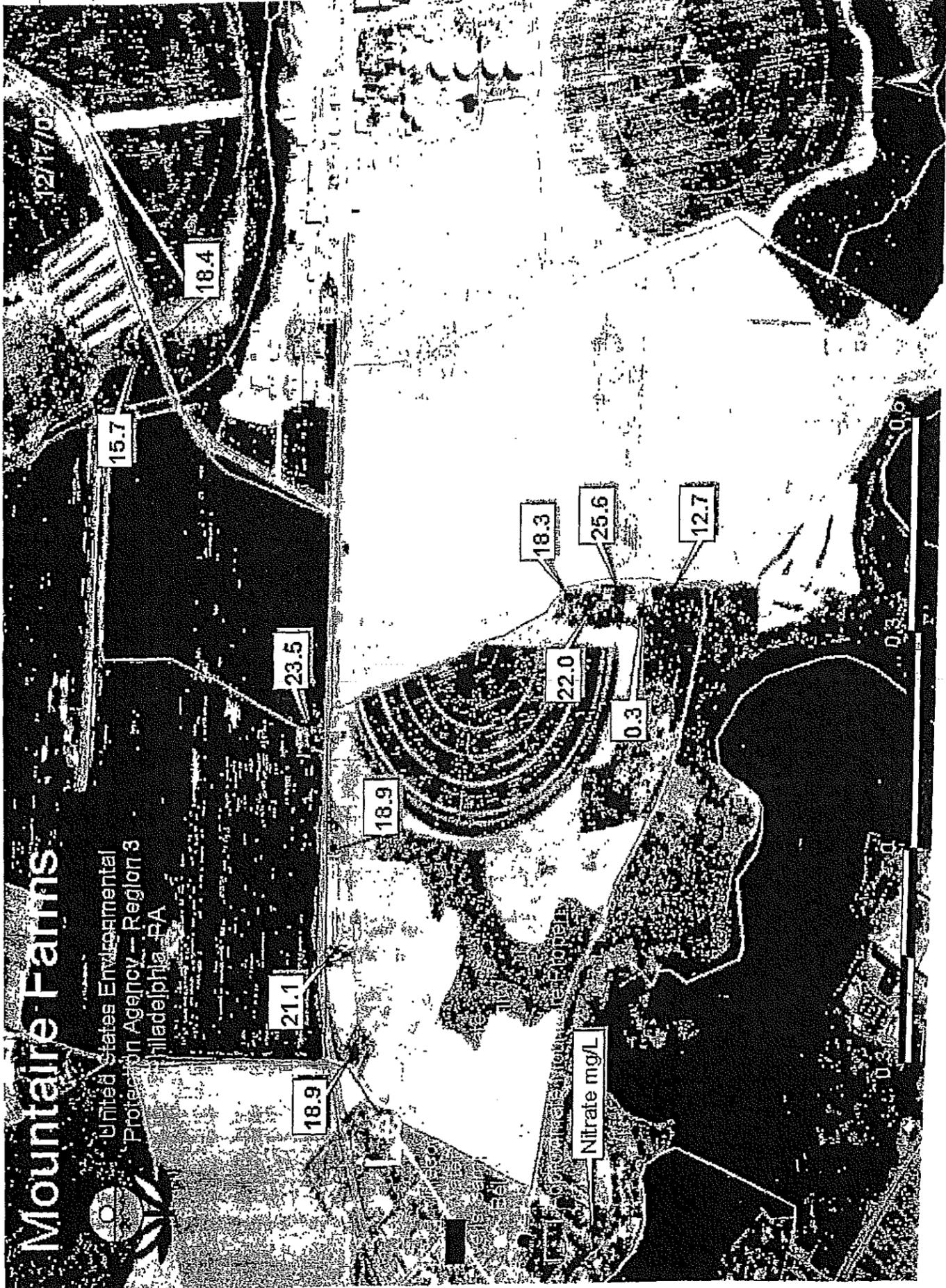
Mountaire Farms of DE, Inc.
Residential Private Wells
Testing Results

12/17/2002

Name	Address	City	Zip	Telephone #	Description	DNREC #	Treatment	Coliform	Nitrate (mg/L)	Comments
Patsy Taylor Fay Burton	RR 10, Box 12	Millsboro	19966	215-221-6699	Yellow house on the end	seucure in box	unknown	absent	12.7	
	P.O. Box 1374	Millsboro	19966	302-933-0550	Gray with maroon shutters	181746	cartridge w/ carbon	absent	<0.3	
Preston Wise	RR 10, Box 13	Millsboro	19966	302-933-0343	Tan house w/ teal-gray shutters	176527	unknown	absent	25.6	
Martha & Jr. Lee Wise	RR 10, Box 13	Millsboro	19966	302-934-6886	White house w/ black shutters	183508	unknown	absent	22	
Charles Burton		Millsboro			green farm house		none	Not sampled	18.3	
Pat Johnson	RR 10, Box 23	Millsboro	19966	302-934-8109	farmhouse, S. of Rt 24, W. of Mountaire	179159	only on kitchen sink	Not sampled	21.1	
Debbie Collins	Rt 8, Box 701	Millsboro	19966	302-934-8458	House N. of MD Camp Rd	didn't see wellhead	none	Not sampled	15.7	
Wayne Bryant		Millsboro			House S. of MD Camp Rd				18.4	
Lathbury Residence	RR 13 Box 4A	Millsboro	19966		North of 24	didn't see wellhead	none		23.5	
Bobby Johnson		Millsboro			On 24, Green House	didn't see wellhead	none		18.9	
Tom Johnson		Millsboro		302-934-8904 or 302-934-4353	On 24, Blue Cape Cod	didn't see wellhead	none		18.9	

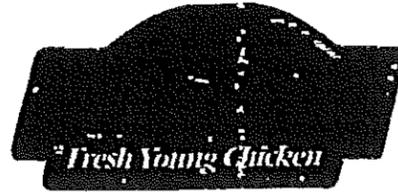
Mountaire Farms

United States Environmental
Protection Agency - Region 3
Philadelphia, PA



Attachment 4
(Referenced in paragraph 34)

Letter and Attachment from Mountaire Farms to effected residences



Dear Homeowner:

This letter is to let you know that recently Mountaire Farms of Delaware Inc. (Mountaire) has been notified that certain water supply sources in the vicinity of Mountaire's Millsboro plant have historically contained levels of nitrate that are somewhat higher than the standards established by the U.S. Environmental Protection Agency (EPA) and the Delaware Department of Public Health (DPH). As a result, Mountaire, EPA and DPH are reviewing the situation to determine what should be done to address the matter. In the meantime, Mountaire, on a voluntary basis is by this letter offering to supply you, free of charge, bottled water in sufficient quantities to meet all potable (drinking) water needs until this matter is resolved. If you want Mountaire to supply such water, please contact me at (302) 934-3094 to make appropriate arrangements. Also, enclosed is some information regarding nitrates and drinking water which you may find useful.

Thank you for your attention.

Yours Truly,


Jeffrey Smith, REM
Environmental Manager
Mountaire Farms Inc.



Mountaire Farms of Delaware, Inc.
P.O. Box 1320, Millsboro, Delaware 19966
(302) 934-1100 Toll Free (877) 887-1490

"We measure quality by how well we service our internal and external customers"

PHOTO: Jesse Cooper Building

Jesse Cooper Building

Click here for DPH home page.

Behavioral Risk

Director's Office

Epidemiology

Health Information

Health Promotion

HD 2000 Plan

Newsletter

Press Releases

Tobacco

INFORMATION SHEET ENVIRONMENTAL HEALTH EVALUATION BRANCH NITRITES & NITRATES

What are they? Nitrates and Nitrites are naturally occurring inorganic ions and are part of the nitrogen cycle. Substances containing organic nitrogen such as fertilizers, animal waste, and plant materials, enter the soil and decompose to ammonia which is oxidized to nitrites and nitrates.

What happens to them? Both ions are very mobile in soil and readily move in groundwater. Potential sources of contamination of groundwater by nitrates include inorganic fertilizers, animal wastes (runoff from agricultural sources), human wastes (failing septic systems), and natural occurrence at low levels. Other potential human exposures to nitrates include: natural occurrence in vegetables and vegetable juices and cured meats (bacon, hot dogs). Drinking water (groundwater and surface water) are a concern with regard to nitrates because nitrates readily dissolve and move freely to the water table with rainwater, or irrigation water that is applied to the land. Nitrates are readily absorbed following ingestion.

What are the public health concerns associated with nitrates in drinking water? Eighty percent of Delaware residents have community water systems as a primary source of drinking water. During routine daily activities nearly all Delawareans consume water from a public water system. Twenty percent of Delaware residents use a private well as their primary source of drinking water.

The primary population sensitive to nitrates in drinking water are infants weighing less than 4-Kg (8.8 lbs.). Only those infants on formula (or other liquids) reconstituted using a source of water containing nitrates at greater than 10 ppm are at risk. This standard of 10 ppm continues to be routinely reviewed by US EPA. Other potentially affected populations include pregnant women, unborn children and nursing infants. Nitrates harm infants more so than adults because naturally occurring bacteria in the digestive system result in a higher pH (less acid). In these conditions nitrates are changed to the more toxic nitrites. Nitrites react with hemoglobin in the red blood cells. This markedly decreases the ability of the blood to carry oxygen resulting in a condition called methemoglobinemia which manifests itself as cyanosis, or "blue baby syndrome". In severe cases, this condition could lead to coma or death.

Does DHSS/DPH have data on current levels of nitrates in drinking water supplies? Of 571 public water systems in Delaware, six are currently on notice for exceeding the nitrate standard (10 ppm). These six water systems in violation serve 1,283 people or 0.2% of Delaware's population on public water systems. The customers of all six systems have been notified that the water exceeds State and U.S. EPA limits. The DPH is working with these systems to return them to compliance by installing appropriate treatment or finding an alternate source of water. For private wells, recent studies by the U.S. Geological Survey show that 85% of shallow wells (uppermost water aquifer) on the Delmarva Peninsula are below 10 ppm nitrates. Although Delaware does not regulate water quality in private wells, the DPH offers inexpensive nitrate test kits available at local county health units.

Precautions to be taken to avoid adverse health effects from nitrates. Have your

water tested by an approved laboratory. If there are high levels use bottled water for infants, nursing mothers and expecting women. Do not boil water to remove nitrates. Boiling could make the concentration even higher.

References. Brooks, S. M., M. Gochfeld, J. Herzstein, R. J. Jackson and M. B. Schenker. Environmental Medicine, Mosby, St. Louis, MO, 1995.---Talbot, E. O. and G. F. Craun. Environmental Epidemiology. Lewis Pub., Boca Raton, 1995.---Montgomery, J. H. Groundwater Chemicals Field Guide, Lewis Publishers, Chelsea, MI, 1991.---U.S. EPA, Office of Drinking Water, Health Advisory, Washington, DC, 1987.

Doc.#35-05-20/96/05/01 GCL/GY-4-24-96 Assistance Provided by HSP-ODW
&CDCP NBCCEDP#U57/CCU3038341-02-3

Return to:

WASTEWATER SPRAY IRRIGATION - NITROGEN BALANCE ESTIMATING CALCULATIONS

FIELD: WHBJT
 YEAR: 2007
 ACREAGE: 168.26 (Wetted acres)

Field(s) Acreage
 0.5 inch/week = 2,691,776 gallons/month (based on 30 day month)
 1 inch/week = 5,383,552 gallons/month (based on 30 day month)
 1.5 inch/week = 8,075,328 gallons/month (based on 30 day month)
 2 inch/week = 10,767,104 gallons/month (based on 30 day month)
 2.5 inch/week = 13,458,880 gallons/month (based on 30 day month)

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days	31	28	31	30	31	30	31	31	30	31	30	31
WWW Eff. Application Rate (mg/l)	9.94	10,7531	13.5	3,9383	2,9534	11,0685	21,5219	12,78	0	13,2878	14,9849	7,81
Application rate (inches/week)	1.85	2.00	2.53	0.73	0.55	2.06	4.00	2.37	-	2.45	2.78	1.45
WWTP Effluent N	0.36	12.9	7.04	3.28	17.9	102	89.5	87	51.3	18.9	20.2	18.7
Ammonia N (mg/l)	2.83	2.7	5.99	4.45	3	2.7	6.4	4.9	0.9	11.8	4	1.7
Organic N (mg/l)	0.05	0.02	0.81	0.05	0.78	0.43	0.14	0.71	0.17	0.4	0.2	0.05
Nitrate N (mg/l)	0	0	0	0	0	0	0	0	0	0	0	0
Nitrite N (mg/l)	0	0	0	0	0	0	0	0	0	0	0	0
Total N (mg/l)	3.04	15.62	13.81	7.76	21.66	117.43	76.04	92.81	52.37	30.8	24.4	18.45
WWW Reductions	0.3	12.3	6.7	3.1	17.0	86.9	86.0	82.7	48.7	18.0	18.2	15.8
Ammonia after Volatilz. (mg/l)	2.6	12.7	11.4	6.5	17.7	95.5	81.7	75.0	42.3	25.7	18.9	15.0
TN after Denitrification (mg/l)	213	1,142	1,297	212	435	8,812	11,071	7,996	-	2,846	2,481	975
Irrigation Water	0	0	0	0	0	0	0	0	0	0	0	0
Flow (MG/month)	0	0	0	0	0	0	0	0	0	0	0	0
Ammonia N (mg/l)	0	0	0	0	0	0.05	0.35	0	0	0	0	0
Organic N (mg/l)	0	0	0	0	0	0.1	0.16	0	0	0	0	0
Nitrate N (mg/l)	0	0	0	0	0	14.4	16.1	0	0	0	0	0
Nitrite N (mg/l)	0	0	0	0	0	0	0	0	0	0	0	0
Total N (mg/l)	0	0	0	0	0	14.55	16.62	0	0	0	0	0
Irr. W. Reductions	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Ammonia after Volatilz. (mg/l)	0.0	0.0	0.0	0.0	0.0	12.4	14.1	0.0	0.0	0.0	0.0	0.0
TN after Denitrification (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-
TN (lbs)	1.1	5.8	6.5	1.1	2.2	44.4	55.8	40.3	-	14.4	12.5	4.9
TN WW+ Irr. W. (lbs/acre)	0	0	0	0	0	0	0	0	0	0	0	0
TN for plow down (lbs/acre)	50	50	50	50	50	50	50	50	50	50	50	50
TN from fertilizers (lbs/acre)	17	17	17	17	17	17	17	17	17	17	17	17
TN for crop uptake (lbs/acre)	47	47	47	47	47	47	47	47	47	47	47	47
Barley Uptake (lbs/acre)	153	153	153	153	153	153	153	153	153	153	153	153
Wheat Uptake (lbs/acre)	0	0	0	0	0	0	0	0	0	0	0	0
Corn/Soybeans Uptake (lbs/acre)	0	0	0	0	0	0	0	0	0	0	0	0
TN to percolate (lbs/acre)	0	0	0	0	0	0	0	0	0	0	0	0
Percolate	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Precip (in/yr)	5.5	4.4	5.0	3.3	1.7	0.2	0.2	1.1	1.1	2.5	6.2	5.4
PET (in/yr)	-	-	-	-	-	-	-	-	-	-	-	-
Proc+ Irr-PET Percolate (in/yr)	5.5	4.4	5.0	3.3	1.7	0.2	0.2	1.1	1.1	2.5	6.2	5.4
Irrigation Water (in/yr)	1.25	0.99	1.14	0.75	0.39	0.09	0.04	0.25	0.25	0.56	1.41	1.23
Total Water (in/yr)	0.9	5.8	6.14	4.05	2.09	0.29	0.24	1.35	1.35	3.06	7.61	6.63
Percolate (in/yr)	0.9	5.8	6.14	4.05	2.09	0.29	0.24	1.35	1.35	3.06	7.61	6.63
Percolate TN (ppm = mg/l)	0.9	5.8	6.14	4.05	2.09	0.29	0.24	1.35	1.35	3.06	7.61	6.63

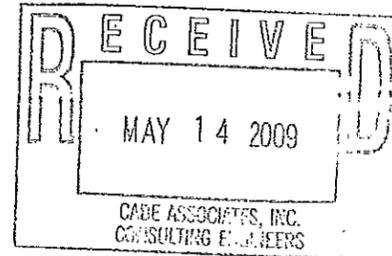


STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
NATURAL HERITAGE & ENDANGERED SPECIES
4876 HAY POINT LANDING ROAD
SMYRNA, DELAWARE 19977

TELEPHONE: (302) 653-2880
FAX: (302) 653-3431

May 8, 2009
(Request received April 13, 2009)

Carrie A. DeSimone
CABE Associates, Inc.
P.O. Box 877
Dover, DE 19903



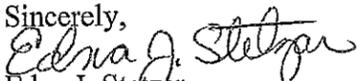
RE: *Mountaire Farms Resource Recovery Facility*
Behind existing facility on S. side of Rt 24, N. of Indian River

Dear Ms. DeSimone:

Thank you for contacting the Natural Heritage and Endangered Species program about information on rare, threatened and endangered species, unique natural communities, and other significant natural resources as they relate to the above referenced project.

A review of our database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site.

We are continually updating records on Delaware's rare, threatened and endangered species, unique natural communities and other significant natural resources. If the start of the project is delayed more than a year past the date of this letter, please contact us again for the latest information. If you have any questions, please contact me at (302) 653-2880 ext. 101 or Edna.Stetzar@state.de.us.

Sincerely,

Edna J. Stetzar
Biologist/Environmental Review Coordinator

(Please see Invoice on next page)

ATTACHMENT I

Mountaire acquired the Townsend's Millsboro facility in 2000. This complex included a poultry processing plant, hatchery, feed mill, truck shop, administrative offices and a soybean extraction plant. Vegetable (soybean) oil was produced from the soybean extraction plant. The production process consisted of the following:

- a. Flakers pressed and flattened cracked soybean pieces to expose oil cells and make it easier to extract the oil.
- b. Vegetable (soybean) oil was extracted by washing the oil from the soybean flakes with hexane in a countercurrent extractor. The hexane extracts oil from the flakes (which was called Meal, at this point of operation) and forms a miscella (hexane/oil mixture).
- c. Hexane was evaporated (for recovery), using steam evaporation at 250⁰ F from the flakes in the meal cooler/dryer using an evaporator and two condensers. The Meal (spent feed cake) was dried in a desolventizer toaster. Hexane emissions from the desolventizer toaster were controlled by the same evaporator and condenser system used to separate oil from miscella. The recovered hexane was returned to the extractor, and make-up solvent was supplied by the 12,000-gallon hexane storage tank (Emission Unit 26).
- d. The dried meal was broken in meal grinders to the proper sizing to be ingredients in animal feed.
- e. Remaining hexane and odorous compounds (fatty acids etc.) were removed from the vegetable (soybean) oil using refining (phosphoric acid pretreatment and caustic refining), bleaching (using bleaching clay), and deodorizing processes. A condenser and scrubber system was used to produce the final product of the facility, which was a salad oil.

Mountaire voluntarily shut down the extraction facility. The refinery was leased to Perdue Farms for a short while and then was also voluntarily closed. Mountaire has no intention of renewing soybean extraction or refining operations at this site. Therefore, Mountaire is seeking an offset for the emissions decrease from the last calendar year the complex operated as Townsends, Inc. The emissions from that time compared to the proposed emissions from the complex including the subject project are as follows:

	Pre-Reduction (tons)	Post-Reduction (tons)	%Reduction
SOx	540	164	70
NOx	99	39	61
CO	8.8	4.9	44
VOC	130	1.3	99
PM-10	74	25	66

The increase in emissions attributable to the proposed project, required offset and actual offset are as follows:

	Emissions Increase (TPY)	Required Offset (1.3 x Emissions Increase) (TPY)	Actual Offset (TPY)
SOx	0.12	0.16	*0.16
NOx	4.9	6.4	*6.4
CO	1.2	1.6	*1.6
VOC	1.1	1.4	*1.4
PM-10	1.7	2.2	*2.2

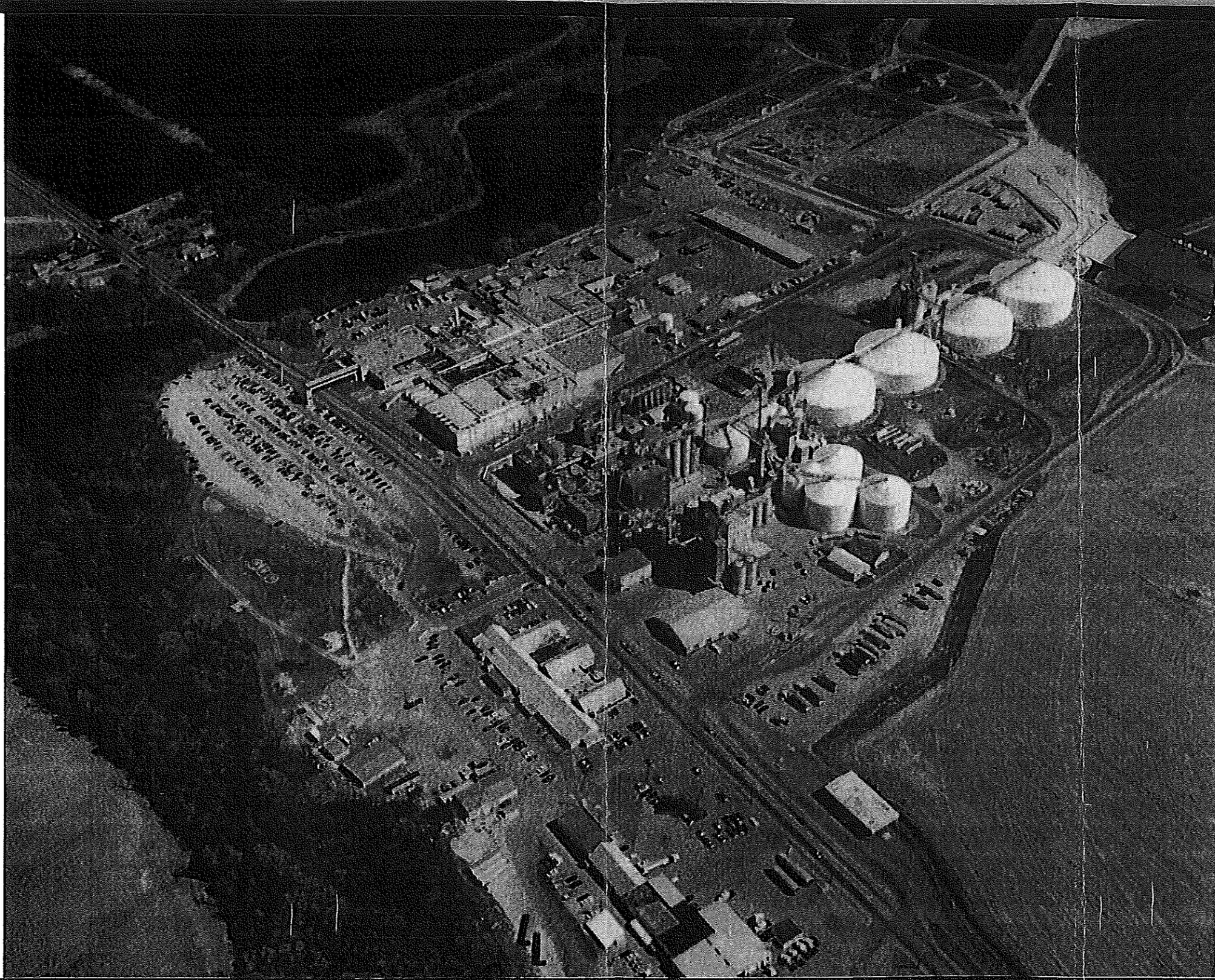
* The balance of available offset due to the closure of the soybean extraction plant described above is being held in reserve should additional projects subject to Delaware's Regulations Governing Coastal Zone be necessary.

Mountaire Farms of Delaware, Inc. - Millsboro
PROCESS ANALYSIS AND EXPECTED PERFORMANCE
FOR PROJECTED FLOWS AND LOADINGS
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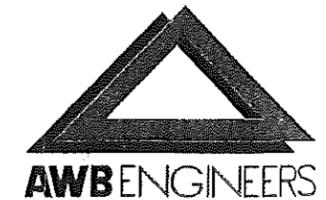
Parameter	Unit	Wastewater Temp. = 20 Deg. C			
		ADF	MMF	MDF	PHF
Flows & Influent Characteristics					
Flow	MGD	2,200	2,200	2,640	2,200
Influent CBODs Concentration	mg/L	1,000	1,000	1,000	---
Influent TSS Concentration	mg/L	250	250	250	---
Influent TKN Concentration	mg/L	200	200	200	---
Influent TP Concentration	mg/L	18	18	18	---
Process Input Parameters					
Anoxic Volume	MG	1,500	1,500	1,500	---
Aerobic Volume	MG	2,000	2,000	2,000	---
MLSS	mg/L	6,000	6,000	6,000	---
Volatile Fraction Of MLSS	Percent	75	75	75	---
RAS TSS Concentration	mg/L	12,000	12,000	12,000	---
Internal Recycle Flow As Percent Of Influent Flow	Percent	1,000	1,000	1,000	---
Internal Recycle Flow	MGD	22,000	22,000	26,400	---
Refractory Organic Nitrogen Concentration	mg/L	1.0	1.0	1.0	---
Nitrogen Content Of WAS Solids	Percent	5.00	5.00	5.00	---
HRT, SRT, Yield, Effluent CBODs, & Effluent Ammonia					
RAS Flow Rate	MGD	2,200	2,200	2,640	---
Anoxic HRT	Hours	16.4	16.4	13.6	---
Aerobic HRT	Hours	21.8	21.8	18.2	---
Total HRT	Hours	38.2	38.2	31.8	---
Aerobic SRT	Days	6.1	6.1	5.0	---
Total System SRT	Days	10.7	10.7	8.7	---
Yield Coefficient	Lb./Lb.	0.89	0.89	0.92	---
Solids Production	PPD	16,307	16,307	20,176	---
WAS Flow	GPD	162,945	162,945	201,600	---
Effluent Soluble CBODs Concentration	mg/L	4.8	4.8	5.7	---
Effluent Ammonia Concentration	mg/L	0.3	0.3	0.4	---
Nitrification Analysis					
Influent TKN	PPD	3,670	3,670	4,404	---
Less Nitrogen Required For Cell Synthesis	PPD	815	815	1,009	---
Less Effluent Ammonia	PPD	6	6	10	---
Less Refractory Organic Nitrogen	PPD	18	18	22	---
TKN To Be Nitrified	PPD	2,830	2,830	3,363	---
Denitrification Potential & Nitrate Removal @ Specified IR Flow					
Anoxic Stage Denitrification Potential	PPD	2,727	2,727	2,837	---
Anoxic Stage Nitrate Removal	PPD	2,594	2,594	2,837	---
Final Nitrogen Balance					
Influent TKN	PPD	3,670	3,670	4,404	---
Less Nitrogen Required For Cell Synthesis	PPD	815	815	1,009	---
Less Effluent Ammonia	PPD	6	6	10	---
Less Refractory Organic Nitrogen	PPD	18	18	22	---
TKN Converted To Nitrate	PPD	2,830	2,830	3,363	---
Less Nitrate Removed	PPD	2,594	2,594	2,837	---
Effluent Nitrate	PPD	236	236	526	---
Effluent TN (Ammonia + Ref Org N + Nitrate)	PPD	260	260	557	---
Effluent Ammonia Concentration	mg/L	0.3	0.3	0.4	---
Refractory Organic Nitrogen Concentration	mg/L	1.0	1.0	1.0	---
Effluent TKN Concentration	mg/L	1.3	1.3	1.4	---
Effluent Nitrate Concentration	mg/L	12.9	12.9	23.9	---
Effluent TN Concentration (Ammonia + Ref Org N + Nitrate)	mg/L	14.2	14.2	25.3	---
Phosphorus Removal Analysis					
Influent TP Concentration	mg/L	18.0	18.0	18.0	---
Excess Phosphorus Removal Propensity Factor	---	0.00	0.00	0.00	---
Phosphorus Removal Potential	mg/L	16.6	16.6	18.5	---
Phosphorus Removal	mg/L	16.6	16.6	18.0	---
Effluent TP Concentration	mg/L	1.4	1.4	0.0	---

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Parameter	Unit	Wastewater Temp. = 20 Deg. C			
		ADF	MMF	MDF	PHF
Anoxic Basin Mixing Analysis					
Number Of Anoxic Mixers	Each	2	2	2	---
Anoxic Mixer Horsepower, Each	HP	50.0	50.0	50.0	---
Anoxic Basin Mixing Intensity	HP/MG	66.7	66.7	66.7	---
Alkalinity Balance					
Alkalinity Coefficient For Nitrification	Lb./Lb.	7.14	7.14	7.14	---
Alkalinity Coefficient For Denitrification	Lb./Lb.	3.00	3.00	3.00	---
Alkalinity Required For Nitrification	PPD	20,204	20,204	24,010	---
Alkalinity Credit For Denitrification	PPD	7,782	7,782	8,512	---
Net Alkalinity Required	PPD	12,423	12,423	15,499	---
Oxygen Requirements					
Influent CBODs	PPD	18,348	18,348	22,018	---
Effluent CBODs	PPD	88	88	126	---
CBODs Removed	PPD	18,260	18,260	21,891	---
Oxygen Coefficient For CBODs Removal	Lb./Lb.	0.99	0.99	0.95	---
Oxygen Required For CBODs Removal	PPD	18,089	18,089	20,861	---
Oxygen Coefficient For Nitrification	Lb./Lb.	4.60	4.60	4.60	---
TKN Converted To Nitrate	PPD	2,830	2,830	3,363	---
Oxygen Required For Nitrification	PPD	13,017	13,017	15,469	---
Oxygen Coefficient For Denitrification Credit	Lb./Lb.	2.86	2.86	2.86	---
Denitrification Credit	PPD	7,419	7,419	8,115	---
Net Oxygen Requirement	PPD	23,688	23,688	28,215	---
Clarifier Loadings					
Number Of Units	Each	2	2	2	2
Clarifier Diameter	Feet	75.00	75.00	75.00	75.00
Surface Area	SF	8,836	8,836	8,836	8,836
Weir Diameter	Feet	70.00	70.00	70.00	70.00
Weir Length	Feet	440	440	440	440
RAS Flow	MGD	2,200	2,200	2,640	---
Overflow Rate	GPD/SF	249	249	299	249
Weir Loading	GPD/LF	5,002	5,002	6,002	5,002
Solids Loading	PPD/SF	24.9	24.9	29.9	---
Diffused Aeration System Analysis					
Actual Oxygenation Rate (AOR)	PPD	23,688	23,688	28,215	---
Aerobic SRT	Days	6.1	6.1	5.0	---
Alpha	---	0.60	0.60	0.60	---
Beta	---	0.96	0.96	0.96	---
DO Saturation In Clean Water @ 20 Deg. C & 100% RH	mg/L	9.09	9.09	9.09	---
DO Saturation In Clean Water @ Specified Temp. & 100% RH	mg/L	9.09	9.09	9.09	---
Tau	---	1.00	1.00	1.00	---
Standard Atmospheric Pressure	psi	14.70	14.70	14.70	---
Barometric Pressure	psi	14.70	14.70	14.70	---
Saturated Vapor Pressure of Water @ 20 Deg. C	psi	0.34	0.34	0.34	---
Saturated Vapor Pressure of Water @ Specified Temperature	psi	0.34	0.34	0.34	---
Effective Saturation Depth	Feet	5.50	5.50	5.50	---
Omega	---	1.00	1.00	1.00	---
Corrected DO Saturation In Clean Water @ 20 Deg. C & 100% RH	mg/L	10.60	10.60	10.60	---
Operating DO	mg/L	2.00	2.00	1.00	---
OTR/SOTR	---	0.46	0.46	0.52	---
Standard Oxygen Transfer Efficiency	Percent	25.00	25.00	25.00	---
Field Oxygen Transfer Efficiency	Percent	11.58	11.58	12.97	---
Air Flow Required For Biological Process	SCFM	8,164	8,164	8,685	---

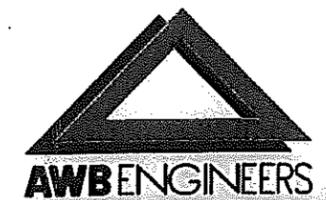


**COMPLEX AERIAL
2009 RESOURCE RECOVERY FACILITY**





VIEW FROM RT. 24
2009 RESOURCE RECOVERY FACILITY



NOTE:
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