

STATEMENT OF BASIS
REVOLUTION DAIRY FARM
PERMIT NO. UGW270006

May 2015

INTRODUCTION

Revolution Dairy Farm consists of a dairy operation with associated manure waste handling facilities. This Statement of Basis covers the renewal of the ground water discharge permit.

A. DESCRIPTION OF FACILITY

Revolution Dairy has operated the dairy facilities in their current location since 2002. The dairy is located in Millard County approximately 6 miles southeast of Delta and consists of barns, parlors and waste facilities to accommodate 3,000 milking head in confinement.

Manure from the dairy operations is flushed from the barns using recycled plate cooler water. The liquid fraction is stored in a waste retention pond. Both the liquid and solid fraction are applied to fields at the appropriate agronomic rate according to the Comprehensive Nutrient Management Plan. Liquid and some solids are applied on the adjacent 252 acres owned by Bliss. The rest of the solids are sold as compost.

B. SUBSURFACE CONDITIONS

The Dairy Farm is located in Delta Valley, approximately 6 miles Southeast of Delta in Millard County. In this vicinity, ground water generally moves from the mountainous recharge areas to the east in a west-southwesterly direction toward the Sevier Lake. The aquifer beneath the existing grade at the site consists of unconsolidated and semi-consolidated, poorly sorted alluvial materials; primarily clay, sand and gravel, inter-bedded with silt and clay. The alluvial aquifer in the Delta Valley exceeds 500 feet in thickness through the center of the valley and may be several hundred feet thick under the dairy site. Monitoring wells have been completed in the uppermost water table aquifer at the site.

C. GROUND WATER CLASSIFICATION AND PROTECTION LEVELS

Analysis from monitoring wells installed at the site show that TDS values range from 2,300 mg/l to 3,000 mg/l. Based on these concentrations ground water in the vicinity of the dairy is Class II. Protection levels have been established for nitrate and nitrite, chloride and TDS and are included in Table 1 of the ground water discharge permit.

D. BEST AVAILABLE TREATMENT TECHNOLOGY

At full population the dairy is to contain 3,000 milking animals in total confinement. The waste disposal lagoons for the farm are designed to hold approximately 61.6 acre feet, not including 1 foot of freeboard. Wastewater and composted manure are applied to adjacent farmland by the irrigation system on approximately 252 acres. The solids are used as an organic fertilizer or sold as compost.

Dry, scraped manure shall be composted. Solids shall be deposited on a graded and bermed area for composting. Runoff from the compost area shall drain into the settling pond.

The design, operational, and contingency requirements detailed above represent Best Available Technology since the implementation of these requirements will be protective of ground water resources in the area surrounding the facility.

E. GROUND WATER MONITORING

The dairy has installed one up-gradient and two down-gradient monitoring wells located along the presumed direction of ground water flow and completed in the uppermost water-bearing zone under the lagoons. Ground water will be sampled and analyzed semi-annually for nitrate + nitrite, ammonia, pH, chloride, bicarbonate, and total dissolved solids for the term of the permit.

Regulatory decisions made as a result of ground water monitoring must take into account the background variability of ground water quality at the dairy site. Revolution Dairy Farm will not be required to take corrective action if it can be verified that changes in ground water quality are a result of other factors not related to their operations.