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CORRES CONTROL
OUTGOING LTR NO

EG&G ROCKY FLATS

DOE ORDER# 4700 1
94 RF 08/13

EG&G ROCKY FLATS, INC
ROCKY FLATS PLANT, P O BOX 464, GOLDEN, COLORADO 80402 0464 • (303) 966 7000

DIST	LT	EC
AMARAL ME		
BURLINGAME A H	X	X
BUSBY W S		
BRANCH D B		
CARNIVAL G J		
DAVIS J G		
FERRERA D W		
FRAY R E		
GEIS J A		
GLOVER W S		
GOLAN P M		
HANNI B J		
HARMAN L K		
HEALY T J		
HEDAHL T		
HILBIG J G		
HUTCHINS N M		
JACKSON D T		
KELL R E		
KUESTER A W		
MARX G E		
MCDONALD M M		
MCKENNA F G		
MONTROSE J K		
MORGAN R V		
POTTER G L		
PIZZUTO V M		
RISING T L		
SANDLIN N B		
SCHWARTZ J K		
SETLOCK G H		
STEWART D L		
STIGER S G	X	X
TOBIN P M		
VOORHEIS G M		
WILSON J M		
Brooks, L m	X	X
Hopkins, J K	X	X
Irish, R Z	X	X
Pumrose, P L	X	X
Hard, D	X	X
Irvin, M E	X	X
CORRES CONTROL	X	X
TRAFFIC		
PATS/T130G		
CLASSIFICATION		
UCNI		
UNCLASSIFIED		
CONFIDENTIAL		
SECRET		

July 29, 1994

94-RF-08113

Jessie M Roberson
Acting Assistant Manager for
Environmental Restoration
DOE, RFFO

OPERABLE UNIT NUMBER ONE (OU 1) (881 HILLSIDE) CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY (CMS/FS) AND CLASS III GROUNDWATER - SGS-424-94

EG&G Rocky Flats, Inc (EG&G) was directed by the Department of Energy/Rocky Flats Field Office (DOE/RFFO), in a memorandum dated June 27, 1994 (ER SRG 07117) to pursue obtaining classification of OU 1 groundwater as Class III and incorporate the standards appropriate for that type of classification into the Draft CMS/FS. In a memorandum dated May, 5, 1994 (EGD JAD 02828), DOE/RFFO requested EG&G to examine the entire site to determine if defensible positions exist to obtain reasonable groundwater and surface water site-specific standards. EG&G has researched the regulatory requirements for having groundwater reclassified in Colorado. The following discussion outlines the conclusions of this research and presents EG&G's recommendation.

Regulating Agencies

Individual states have the primary responsibility for protecting and managing groundwater within their boundaries. This principle has been established by the Environmental Protection Agency (EPA) policy in the form of a Groundwater Protection Strategy document published in 1984 and modified in 1990. The Colorado Water Quality Control Commission (Commission) and the Colorado Department of Health Water Quality Control Division are responsible for the classification of groundwaters in the State of Colorado.

In general, EPA's groundwater protection responsibility has been limited to regulating specific contaminants or sources of pollution under different statutes, and to lending technical support to States in establishing groundwater protection programs. EPA has only been involved with the classification of groundwater under the Safe Drinking Water Act when designating principal sources of drinking water as sole source aquifers (for protection from contamination). The sole source aquifer designation requires EPA to consider the protected status of the aquifer prior to implementing specific Federal actions.

EPA Classification Guidelines

Part of the Groundwater Protection Strategy formulated by EPA includes guidelines for designating classes of groundwater. The three classes are based on potential beneficial uses and vulnerability to contamination. Class I designates special groundwaters or irreplaceable sources of drinking water. Class II designates groundwater currently used or potentially available for drinking water which has other beneficial uses. Class III designates groundwater that is not a potential source of drinking water, and that is of limited beneficial use. The intent of these classifications is to provide guidance to States in establishing groundwater protection programs.

AUTHORIZED CLASSIFIER
SIGNATURE
DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

IN REPLY TO RFP CC NO
N/A

ACTION ITEM STATUS
 PARTIAL/OPEN
 CLOSED

LTR APPROVALS
LMB: JMB
ORIG & TYPIST INITIALS
LMB: JMB

ADMIN RECORD

14 JUL 1994

Colorado State Classifications and Standards

The criteria Colorado's Water Quality Control Commission uses in classifying groundwater is described in 3 11 4 of 5 CCR 1002-8. The Commission does not use the classification terms (i.e., Class III), as provided in the EPA guidance, in its regulations. The classes are domestic use quality, agricultural use quality, surface water quality protection, potentially useable quality, and limited use and quality. The area specified as protected according to the classes is determined based on four factors:

- 1 The presence, extent, and nature of existing uses of groundwater that may be affected by an activity as well as expected future uses of groundwater and impact from an activity,
- 2 The nature and location of an activity and its discharge,
- 3 Existing groundwater quality that may be affected by an activity (this factor is that same as number one but is listed separately), and
- 4 Relevant geologic and hydrologic conditions including, but not limited to, the presence of groundwater hydrologically connected to surface waters and recharge areas

The state-wide standards established for the classes are narrative and numeric. If site-specific standards are established, the site-specific standards are applicable rather than the state-wide standards. Where more than one classification applies to an area, the most restrictive chemical standards apply to the area.

Groundwater classified as domestic use or agricultural use quality which exceeds a standard or the background concentration is evaluated by the State on a case-by-case basis. The standard could be determined to be background concentration or the established numeric standard by the Commission. Down-grading of a "site-specific" standard is not allowed according to the regulations.

Current Classification of Rocky Flats Environmental Technology Site (RFETS) Area

The Colorado Water Quality Control Commission has established classifications for groundwaters in limited areas of the state. One of the few areas where the groundwater has been classified is the Rocky Flats Area of the Arapahoe-Laramie Fox Hills Basin. The Quaternary and Rocky Flats Aquifers are designated as domestic use quality, agricultural use quality and surface water protection according to 3 12 7 of 5 CCR 1002-8. The legal significance of the domestic use quality classification to the OU1 Corrective Measures Study/Feasibility Study is that the state site-specific groundwater standards are potentially Applicable or Relevant and Appropriate Requirements (ARARs) and remedial actions at RFETS must ensure that RFETS waters attain all state and federal standards and criteria concerning drinking water supplies. If the groundwaters were reclassified to a less stringent classification, then the potential ARARs standards may be less stringent and consequently, more easily achieved.

The Water Quality Control Commission adopted modifications to their basic rules which stipulated use of the Point of Compliance concept in the application of its standards. This approach means that the implementation of standards does not depend solely on the groundwater classification system. This approach allows other state agencies, with regulatory authority involving groundwater protection (as well as EPA) to determine appropriate points of compliance when implementing the standards.

The classification of drinking water below OU 1-881 Hillside has been the topic of discussion in comments since 1992 from the Colorado Department of Health (CDH) during the initial Phase II Remedial Investigation/Resource Conservation Recovery Act (RCRA) Facility Investigation (RI/RFI). During the review of the risk assessment, CDH's comments indicated water beneath the Hillside area was to be modeled and considered a potential drinking water source due to the point of compliance associated with the RCRA unit.

Altering a Colorado Groundwater Classification

The Colorado Water Quality Act and Basic Standards for Groundwater establish the procedure to be followed by the Commission in reclassifying water quality standards. Regulation 3 11 7 of 5 CCR 1002-8, Subsection E states the Commission may consider a change in classifications or water quality standards based on substantial new information demonstrating that current classifications or standards should no longer be applied. A determination is made by the Commission to accept or deny a petition for consideration, providing that changes in water quality reclassification or water quality standards have not been considered in the last 12 months. The Commission has discretionary authority in accepting or denying a petition. If the Commission decides to grant a hearing, the Commission would then set a time for the hearing. Currently, hearing dates are being scheduled into 1996. Because the Commission may consider a change in classifications or water quality standards only once every 12 months, EG&G recommends examining the entire site for the possibility of reclassification of groundwaters, not just OU 1. This is consistent with the May 5, 1994 DOE/RFFO memorandum.

The position of the commission, according to the regulations and discussion of the regulations, is that the "burden of proof" is on the proponent of a variance to demonstrate that groundwater standards are not needed to protect the classified uses.

Recommendation

DOE/RFFO may have some legitimate reasons for petitioning the Commission to reclassify the site-specific groundwaters.

- 1 The Commission's responsibility for classifying groundwaters of the state is established in sections of the Act (CRS 25-8-202(1)(a), CRS 25-8-203 and CRS 25-8-204) and the regulations (Section 3 11 4 and 3 11 5 of 5 CFR 1002-8). According to the regulations and law, the information the Commission is to use in establishing classifications and waters of "domestic use quality" or waters of "agricultural use quality" includes the most recent State Engineers well records or applicable court decrees that reveal groundwater is for domestic use, "unless other information demonstrates that domestic use is not being made of the groundwater and is not likely to be made" or in the case of agricultural use the State Engineer's records or court decree reveal agricultural use within the specified area, unless agricultural use is not being made of the water or not likely. There are other classifications in the regulations such as "limited use and quality" which are not based on the State Engineer records, according to the regulations.

J M Roberson
July 29, 1994
94-RF-08113
Page 4

In 1992, EG&G conducted an OU 1 Domestic Water Supply Simulation. This effort was reviewed by the Office of the State Engineer, Division of Water Resources. The State Engineer agreed with the conclusion that neither the shallow alluvial aquifer (Rocky Flats Alluvium) nor the underlying Arapahoe Aquifer is capable of producing sufficient water for even domestic purposes. A copy of the State Engineer's letter is attached. EG&G is currently reviewing the entire site to determine if similar arguments may be used for the remainder of the site or what additional arguments can be presented to demonstrate that groundwater standards are not needed to protect the classified uses.

- 2 The Commission is obligated under the law to review from time to time classification of waters which it has promulgated not more than every three years.

The Commission established the groundwater classification for the Rocky Flats area in 1991 and reviewed the classifications in 1993.

- 3 EG&G is conducting research to determine if it can be proved that the site-specific standards were set in error.
- 4 There have been recent changes in the definition of aquatic life for surface water. This may provide an opportunity to change the surface water standards, which in turn may provide an opportunity to change the ground water standards.

Based upon EG&G's preliminary investigation, EG&G agrees that DOE/RFFO should pursue reclassification of the groundwaters at the RFETS. EG&G will complete its review of the entire site to determine the best arguments to put before the commission. If you have any questions, please call L. M. (Laura) Brooks at extension 6973.


S. G. Sliger, Director
Environmental Restoration
Program Division
EG&G Rocky Flats, Inc

LMB crw

Ong and 1 cc - J M Roberson

Attachments:
As Stated (2)

cc

S J Olinger - DOE, RFFO
T Howell - DOE, RFFO
R J Schassburger - DOE, RFFO

M N Silverman - DOE, RFFO
L W Smith - DOE, RFFO
B Thatcher - DOE, RFFO