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June 15, 2007  
(Date Form Completed)

## **PRELIMINARY IMPACT ANALYSIS SUMMARY**

ExxonMobil Corporation  
(Name of Applicant)

BA2006G003/2  
BA2006G103/1  
(Application No.)

### **I. REASONABLENESS OF THE AMOUNT OF WATER REQUESTED IN RELATION TO THE ANTICIPATED LEVEL OF USE DURING THE PERMIT PERIOD.**

The applicant initially requested an appropriation of 124,000 gpd avg / 145,000 gpd max, from 90 extraction wells in the Loch Raven Schist for a ground water remediation project at the Jacksonville Exxon Station. The request was subsequently changed to 86,400 gpd avg / 124,000 gpd max, with 51,800 gpd avg / 74,400 gpd max to be taken from the Sawmill Branch basin under BA2006G103 and 34,600 gpd avg / 49,600 gpd max from Green Branch basin under BA2006G003. The revised amounts were based on water use data collected at the Jacksonville site during the period Feb-Sep 2006. MDE conducted an independent analysis of water demand that consisted of evaluating the seasonal variations of different types of ground water withdrawals in the fractured rock aquifers of Central Maryland. Included in that study were two ground water remediation projects, one at the Black & Decker site near Hampstead and the other the Tollgate Landfill near Bel Air. Both sites had relatively long-term records that indicate the annual average water use varied by +/- 10% from the average uses during each period of record. When this seasonal variation was applied to the water use data collected at the Jacksonville site and adjusted for climatic conditions, the estimated wet year demand for the ground water withdrawals needed for the clean-up were 41,100 gpd avg / 55,100 gpd max under BA2006G103 (Sawmill Branch) and 27,400 gpd avg / 36,700 gpd max under BA2006G003 (Greene Branch), for a total of 68,500 gpd avg / 91,800 gpd max.

### **II. REASONABLENESS OF THE IMPACT OF THE REQUESTED WITHDRAWAL ON THE RESOURCE.**

The water withdrawn for the project will be taken from the capture zones of the extraction wells and returned immediately to the watershed(s) from which it is taken. It is recommended that the two proposed permits be made supplemental to each other to provide operational flexibility, with the condition that all water be returned to the watershed from which it is withdrawn. Upon completion of the clean-up and cessation of the withdrawals, all available evidence indicates that the aquifer should return to its normal condition.

### **III. REASONABLENESS OF THE IMPACT OF THE REQUESTED WITHDRAWAL ON OTHER USERS OF THE RESOURCE.**

There are about 160 monitoring wells (80 extraction and 80 observation wells) in the vicinity of the contaminated site. Data collected while pumping at about the proposed appropriations for about four months (May-Sept 2000) indicate that drawdowns in nearby domestic wells were less than 5 feet. In addition, MDE investigated several complaints of dry or low yielding domestic wells close to the remediation site and could find no clear evidence of unreasonable impacts due to the applicant's withdrawals.

