

DOE ORDER #
94 RF 03159

EG&G ROCKY FLATS

DIST.	LTR	ENC
AMARAL, M.E.		
BERMAN, H.S.		
BRANCH, D.B.		
CARNIVAL, G.J.		
COPP, R.D.		
DAVIS, J.G.		
FERRERA, D.W.		
HANNI, B.J.		
HARMAN, L.K.		
HEALY, T.J.		
HEDAHL, T.		
HILBIG, J.G.		
HUTCHINS, N.M.		
KELL, R.E.		
KIRBY, W.A.		
KUESTER, A.W.		
MAHAFFEEY, J.W.		
MANN, H.P.		
MARX, G.E.		
MCDONALD, M.M.		
McKENNA, F.G.		
MONROSE, J.K.		
MORGAN, R.V.		
POTTER, G.L.		
PIZZUTO, V.M.		
RISING, T.L.		
SANDLIN, N.B.		
SETLOCK, G.H.		
STEWART, D.L.		
STIGER, S. G.		
SULLIVAN, M.T.		
SWANSON, E.R.		
WILKINSON, R.B.		
WILSON, J.M.		
WYANT, R.D.		
KLEIN, M.	X	X
LAURIN, P.	X	X
PRIMROSE, A.	X	X

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

March 15, 1994

94-RF-03159

Scott R. Grace
Environmental Restoration Division
DOE/RFO

GRANULAR ACTIVATED CARBON (GAC) USAGE, OPERABLE UNIT 2 SUBSURFACE INTERIM MEASURES/INTERIM REMEDIAL ACTION (IM/IRA) SOIL VAPOR EXTRACTION (SVE) PILOT TEST, SITE 1 - P JL-011-94

As per discussions with the Environmental Protection Agency and the Colorado Department of Health on February 4, 1994, and in the final Technical Memorandum Number 1, EG&G Rocky Flats, Inc. has reviewed the potential granular activated carbon (GAC) usage for the above referenced project. To date, pilot test numbers 1 and 2 and a portion of pilot test number 3 have been completed. Attachment 1 is a summary of the pilot test and data used to evaluate GAC usage over the pilot test. The following assumptions were used to evaluate GAC usage:

- Average soil gas extraction flow rates were estimated based on data from pilot tests 1, 2 and 3
- Average Volatile Organic Compound (VOC) loadings were estimated based on inline flame ionization detection from pilot tests 1, 2 and 3
- Estimated molecular weight for total VOCs are assumed to equal tetrachloroethylene (PCE)
- The lead 1800 pound GAC unit is assumed to have a five percent loading rate prior to being exhausted

Based on these assumptions, the lead GAC unit may be exhausted during pilot test 8. These estimates are preliminary and will be updated as new pilot test data is available.

If you have any questions, please contact Michael D. Klein at extension 6950.



Peter J. Laurin
Operable Unit 2 Project Manager
Remediation Project Management

MDK:jlm

Orig. and 1 cc - S. R. Grace

Attachment:
As Stated

CC:
E. A. Dillé - Aguirre Engineering
T. C. Greengard - SMS, Inc.

**DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE**

PATS T130G		
File #	2	2
Lab #		
RPM Action Tracking		
Admin. Record/080	2	2
Correspondence Control	X	X
CLASSIFICATION:		
UC		
UNCLASSIFIED	X	X
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER
SIGNATURE
DOCUMENT CLASSIFICATION REVIEW
WAIVER PER CLASSIFICATION OFFICE
DATE
IN REPLY TO RFP CC NO:

ACTION ITEM STATUS
 OPEN CLOSED
 PARTIAL

LTR APPROVALS:

ORIGINATOR & TYPIST INITIALS

MDK:jlm

ATTACHMENT 1
 O12 SUBSURFACE IM/IRA
 ESTIMATED CARBON
 USAGE

PILOT TEST No. (ppm/vv)	AVERAGE VOC CONCENTRATION (ppm/vv)	AVERAGE VOC CONCENTRATION (mg/d)	AVERAGE FLOW RATE (gpm)	AVERAGE VOC REMOVAL FLOW RATE (gpm/sd)	HOURS OF OPERATION	LIBS OF VOC REMOVED
1	1600	10872	6	0.24	4	1
2	1950	13260	13	0.64	53	33
3	700	4757	1	0.02	48	1
4	700	4757	7	0.12	48	6
5	1950	13260	16	0.79	16	13
6	2100	14270	18	0.96	16	15
7	800	5436	9	0.18	16	3
8	2100	14270	20	1.07	16	17
9	800	5436	11	0.22	16	4
TOTAL LIBS VOCS =						95

Woodward-Clyde
 Federal Services