From: "Joby Adams" <joby@cgrs.com>
To: "Gary Beers" <gbeers@smtpgate.dphe.state.co.us>
Date: 4/30/2010 3:23 PM
Subject: FW: Message from KMBS_C450
Attachments: SKMBS_C45010043013580.pdf

Gary - air stripper efficiencies for hydrocarbons.

Joby Adams, P.G.

Principal-Hydrogeologist

CGRS, Inc.

(970) 493-7780

Direct 970-449-4032

Cell 970-420-6821

Fax: (970) 493-7986

email: Joby@cgrs.com

www.cgrs.com

-----Original Message-----
From: minolta@cgrs.com [mailto:minolta@cgrs.com]
Sent: Friday, April 30, 2010 3:59 PM
To: Joby Adams
Subject: Message from KMBS_C450

STAT MODEL CALCULATIONS 02/12/10
VERSION 4.1 13:16:26

EPG COMPANIES INC.
19900 COUNTY ROAD 81, MAPLE GROVE, MN 55311
PHONE: 763-424-2613 FAX: 763-493-4812

UNIT MODEL:	STAT 400	WATER TEMPERATURE (F):	55.0
WATER FLOW RATE (GPM):	150.0	AIR TEMPERATURE (F):	55.0
AIR FLOW RATE (ACFM):	2100.0	AIR-TO-WATER RATIO:	105:1
OPERATING PRESS (ATM):	1.0	SAFETY FACTOR (%):	15.0

Influent Conc. for BENZENE 9000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	76.11799	2149.3810	65.2440	12.3365
2	94.09651	531.3140	80.6542	15.2504
3	98.52851	132.4344	84.4530	15.9686
4	99.63246	33.0785	85.3993	16.1476
5	99.90815	8.2663	85.6356	16.1923
6	99.97704	2.0660	85.6946	16.2034

Influent Conc. for TOLUENE 37000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	72.03174	10348.2551	253.8261	47.9943
2	91.87647	3005.7060	323.7552	61.2167
3	97.61517	882.3870	343.9773	65.0403
4	99.29771	259.8488	349.9062	66.1614
5	99.79300	76.5912	351.6515	66.4914
6	99.93897	22.5815	352.1659	66.5887

Influent Conc. for ETHYLBENZENE 10000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	73.86412	2613.5883	70.3468	13.3014
2	92.97640	702.3604	88.5489	16.7431
3	98.09863	190.1365	93.4273	17.6655
4	99.48426	51.5737	94.7469	17.9151
5	99.86003	13.9966	95.1048	17.9827
6	99.96201	3.7991	95.2019	18.0011

Influent Conc. for XYLENES (TOTAL) 59000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	74.46140	15067.7757	418.4021	79.1128
2	93.30392	3950.6861	524.2792	99.1324
3	98.23240	1042.8831	551.9725	104.3688
4	99.53257	275.7852	559.2782	105.7502
5	99.87633	72.9643	561.2099	106.1154
6	99.96728	19.3065	561.7209	106.2120

Influent Conc. for TPH AS GAS(ASSUME BENZENE) 59000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	76.11799	14090.3863	427.7106	80.8729
2	94.09651	3483.0586	528.7328	99.9745
3	98.52851	868.1811	553.6364	104.6834
4	99.63246	216.8477	559.8395	105.8563
5	99.90815	54.1904	561.3887	106.1492
6	99.97704	13.5440	561.7758	106.2224

Influent Conc. for METHANOL 100000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	0.37944	99620.5628	3.6137	0.6833
2	0.61863	99381.3722	5.8917	1.1140
3	0.76975	99230.2464	7.3310	1.3862
4	0.86538	99134.6243	8.2417	1.5584
5	0.92593	99074.0660	8.8184	1.6674
6	0.96431	99035.6918	9.1839	1.7365

Influent Conc. for TOTAL VOCs 274000.0 ppb

NO OF TRAY	REMOVAL EFF %	EFF CONC ppb	OFF-GAS CONC ug/l	AIR EMISSION lb/d
1	47.48542	143889.9491	1239.1433	234.3013
2	59.46916	111054.4972	1551.8619	293.4311
3	62.64735	102346.2685	1634.7974	309.1128
4	63.51396	99971.7582	1657.4118	313.3888
5	63.75910	99300.0748	1663.8088	314.5984
6	63.83322	99096.9890	1665.7430	314.9641