TA 16

Kay, Rebecca, NMENV

From: Smith, Michael [MSmith@TechLawInc.com]
Sent: Monday, August 13, 2007 12:32 PM
To: Kay, Rebecca, NMENV
Subject: RE: Two examples of OB/OD permits

Attachments: OBODM OUTPUT FILES.txt

OBODM OUTPUT FILES.txt (449 B)...

Rebecca,
Attached is a compressed folder containing the air modeling files we discussed. The folder contains 33 files.

1. Twenty seven of the files correspond to 9 of the modeled cases listed in the summary table spreadsheet (those with names beginning with S3).

2. Three additional files are for the treatment of 15,000 pounds of bulk HE each year at 388 (IND15VA, IND15PB, and IND15PP); and

3. Three additional files address the treatment of 20,000 pounds of bulk HE each year at 399 AND 20,000 pounds of HE-contaminated waste each year at 388 (IND20VA, IND20PB, and IND20PP).

Best,
Mike

This inbound email has been scanned by the MessageLabs Email Security System.

16959

Kay, Rebecca, NMENV

From: Smith, Michael [MSmith@TechLawInc.com]
Sent: Monday, August 13, 2007 11:47 AM
To: Kay, Rebecca, NMENV
Subject: TA-16 Burn Ground Spreadsheet Files

Follow Up Flag: Follow up
Flag Status: Red

Attachments: 388_CW_summary_table.xls; 388_HE results_15K.xls; 399_HE results_20K.xls

388_CW_summary_table.xls (19 K... 388_HE ults_15K.xls (46 KB 399_HE ults_20K.xls (47 KB

Rebecca,

Attached are the first group of spreadsheet files. They include:

1. The summary table of modeling results for treatment of HE-contaminated wastes at 388 (388 CW summary table.xls);

2. Screening analysis spreadsheets for the treatment of 20,000 pounds of bulk HE per year at 399 (399 HE results 20K.xls); and

3. Screening analysis spreadsheets for the treatment of 15,000 pounds of bulk HE at 388 (388 HE results 15K.xls).

I will send a second email with the screening analysis spreadsheets for HE-contaminated wastes attached.

Best,
Mike

This inbound email has been scanned by the MessageLabs Email Security System.

Kay, Rebecca, NMENV

From: Smith, Michael [MSmith@TechLawInc.com]
Sent: Monday, August 13, 2007 11:54 AM
To: Kay, Rebecca, NMENV
Subject: Spreadsheet Files for Treatment of HE-Contaminated Wastes

Attachments: 388_CW _20k_RESULTS.xls; 388_CW _22k_RESULTS.xls; 388_CW _250_results.xls

388_CW k_RESULTS.xls (105 388_CW k_RESULTS.xls (104 388_CW 50_results.xls (104

Rebecca,

This is the second email with attached spreadsheet files. The attached files are all for screening analyses of the treatment of HE-contaminated wastes at 388. Included are:

1. Screening analyses for treatment of 20,000 lbs/yr at 250 lb/event (388 CW 20k RESULTS.xls);

2. Screening analyses for treatment of 22,000 lbs/yr at 275 lb/event (388 CW 22k RESULTS.xls); and

3. Screening analyses for treatment of 250 lbs/yr at 250 lb/event (388 CW 250 results.xls).

I can send the spreadsheets for additional cases (listed in the summary table attached my previous email) if you feel it is necessary. If it can wait, I will send them later this week.

Also, I will send the air modeling files attached to separate emails as soon as I get them zipped.

Best,
Mike

This inbound email has been scanned by the MessageLabs Email Security System.

Kay, Rebecca, NMENV

From: Smith, Michael [MSmith@TechLawInc.com]
Sent: Monday, August 13, 2007 1:44 PM
To: Kay, Rebecca, NMENV
Subject: Second and Last SEt of Air Modeling Files

Attachments: Air Model 2.txt

Air Model 2.txt (414 B)

Rebecca,
This second folder contains the last nine air modeling files that pertain to the summary table attached to my first e-mail of today. The folder and its contents are compressed.

Best,
Mike

This inbound email has been scanned by the MessageLabs Email Security System.

Kay, Rebecca, NMENV

From: Smith, Michael [MSmith@TechLawInc.com]
Sent: Wednesday, August 15, 2007 8:31 AM
To: Kay, Rebecca, NMENV
Subject: Spreadsheets and Air Modeling Files for Bulk HE at 388

Attachments: Air Model 3.txt; 388_HE results_18K.xls; 388_HE results_20K.xls; 388_HE_summary_table.xls

Air Model 3.txt (414 B) | 388_HE ults_18K.xls (45 KB | 388_HE ults_20K.xls (45 KB | 388_HE_summary_ able.xls (18 K...

Rebecca,
I've attached three spreadsheet files and a compressed folder containing the air modeling files associated with the treatment of bulk HE at 388.

388 HE summary table.xls presents the air concentration results for various cases of treatment quantities at 388.

Please note: Based on the additional modeling I did yesterday, 18,000 pounds of bulk HE could be treated at 388 during a year and all constituents would "pass" all four screening analyses. Each event would treat 250 pounds of bulk HE (thus, there were 72 events per year). This case is presented in italics in the summary table. This is up from the 15,000 pounds per year that we had previously discussed. The screening results for 18,000 pounds are presented in 388 HE results_18K.xls. I've also included 388 HE results_20K.xls. This file presents the screening results for treating 20,000 pounds and you will see that total chromium does not "pass" when the annual average concentration is compared to 0.1 x PRG for total chromium.

Call with any questions or concerns. I won't be able to work on this the rest of the day (I've got a deliverable to prepare for one of our EPA ROC contracts) but will get back on the write-up tomorrow morning.

Best,
Mike

From: Smith, Michael
Sent: Mon 8/13/2007 3:44 PM
To: rebecca.kay@state.nm.us
Subject: Second and Last SEt of Air Modeling Files

Rebecca,
This second folder contains the last nine air modeling files that pertain to the summary table attached to my first e-mail of today. The folder and its contents are compressed.

Best,
Mike

This inbound email has been scanned by the MessageLabs Email Security System.

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-399
Annual Average Peak Air Concentrations Screening Against 0.1xPRG
20,000 lbs/yr and 1000 lbs/event

OBODM Modeling Results		
Ann. Avg. Vapor	49.574	µg/m³
Ann. Avg. Part. Bnd	29.039	µg/m³
Ann. Avg. Part. Pha	31.854	µg/m³

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m³	SCREENING VALUES PRG Carc µg/m³	PRG Non-Carc µg/m³	0.1*PRG Carc µg/m³	0.1*PRG Non-Carc µg/m³	SCREENING RESULTS PRG Carc	PRG Non-Carc
Barium	4.20E-07	0	1.34E-05		0.52		5.20E-02		NO
Benzene	4.88E-06	1	2.42E-04	2.50E-01	3.10E+01	2.50E-02	3.10E+00	NO	NO
Benzyl alcohol	1.91E-09	1	9.47E-08		1.10E+03		1.10E+02		NO
1-3-Butadiene	4.97E-07	1	2.46E-05	6.10E-02	2.1	6.10E-03	2.10E-01	NO	NO
Carbon monoxide	2.80E-02	1	1.39E+00						
Carbon tetrachloride	6.89E-08	1	3.42E-06	1.30E-01	2.6	1.30E-02	2.60E-01	NO	NO
Chloromethane (methyl chloride)	2.84E-07	1	1.41E-05		9.50E+01		9.50E+00		NO
Chromium (tot)	3.97E-07	0	1.26E-05	1.60E-04		1.60E-05		NO	
Cyclohexane	9.07E-08	1	4.50E-06		6.20E+03		6.20E+02		NO
Dibutyl phthalate	3.30E-07	1	1.64E-05		3.70E+02		3.70E+01		NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.07E-05		2.10E+02		2.10E+01		NO
Diethylphthalate	6.58E-08	1	3.26E-06		2.90E+03		2.90E+02		NO
Ethylbenzene	7.96E-07	1	3.95E-05		1.10E+03		1.10E+02		NO
Ethyl chloride	6.89E-08	1	3.42E-06	2.30E+00	1.00E+04	2.30E-01	1.00E+03	NO	NO
Hexane	9.07E-08	1	4.50E-06		2.10E+02		2.10E+01		NO
Hydrogen chloride	9.97E-04	1	4.94E-02		2.10E+01		2.10E+00		NO
Methylene chloride	7.46E-07	1	3.70E-05	4.10E+00	3.10E+03	4.10E-01	3.10E+02	NO	NO
Nitrogen dioxide	7.50E-02	1	3.72E+00						
Particulate matter	9.00E-02	0	2.87E+00						
Styrene	2.57E-07	1	1.27E-05		1.10E+03		1.10E+02		NO
Toluene	5.44E-07	1	2.70E-05		4.00E+02		4.00E+01		NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.71E-06		2.30E+03		2.30E+02		NO
1,2,4-Trimethylbenzene	4.25E-07	1	2.11E-05		6.2		6.20E-01		NO
1,3,5-Trimethylbenzene	2.99E-07	1	1.48E-05		6.20E+00		6.20E-01		NO
Xylenes	1.67E-06	1	8.28E-05		1.10E+02		1.10E+01		NO
Vinyl chloride	2.23E-07	1	1.11E-05	1.10E-01	1.00E+02	1.10E-02	1.00E+01	NO	NO
Zinc	4.14E-07	0	1.32E-05						

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-399
1-Hour Peak Air Concentrations Screening Against AIEC Values
20,000 lbs/yr and 1000 lbs/event

OBODM Modeling Results		
1-Hour Vapor	33129.3	$\mu g/m^3$
1-Hour Part. Bnd.	22164.2	$\mu g/m^3$
1-Hour Part. Phase	21297.7	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Barium	4.20E-07	0	8.95E-03	8.95E-06	1.5	NO
Benzene	4.88E-06	1	1.62E-01	1.62E-04	1.3	NO
Benzyl alcohol	1.91E-09	1	6.33E-05	6.33E-08	60	NO
1-3-Butadiene	4.97E-07	1	1.65E-02	1.65E-05		
Carbon monoxide	2.80E-02	1	9.28E+02	9.28E-01		
Carbon tetrachloride	6.89E-08	1	2.28E-03	2.28E-06	1.9	NO
Chloromethane (methyl chloride)	2.84E-07	1	9.41E-03	9.41E-06	200	NO
Chromium (tot)	3.97E-07	0	8.46E-03	8.46E-06	1.5	NO
Cyclohexane	9.07E-08	1	3.00E-03	3.00E-06		
Dibutyl phthalate	3.30E-07	1	1.09E-02	1.09E-05	15	NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	7.12E-03	7.12E-06	75	NO
Diethylphthalate	6.58E-08	1	2.18E-03	2.18E-06	15	NO
Ethylbenzene	7.96E-07	1	2.64E-02	2.64E-05	500	NO
Ethyl chloride	6.89E-08	1	2.28E-03	2.28E-06		
Hexane	9.07E-08	1	3.00E-03	3.00E-06		
Hydrogen chloride	9.97E-04	1	3.30E+01	3.30E-02		
Methylene chloride	7.46E-07	1	2.47E-02	2.47E-05	14	NO
Nitrogen dioxide	7.50E-02	1	2.48E+03	2.48E+00		
Particulate matter	9.00E-02	0	1.92E+03	1.92E+00		
Styrene	2.57E-07	1	8.51E-03	8.51E-06	21	NO
Toluene	5.44E-07	1	1.80E-02	1.80E-05	37	NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.14E-03	1.14E-06	68	NO
1,2,4-Trimethylbenzene	4.25E-07	1	1.41E-02	1.41E-05		
1,3,5-Trimethylbenzene	2.99E-07	1	9.91E-03	9.91E-06	125	NO
Xylenes	1.67E-06	1	5.53E-02	5.53E-05	22	NO
Vinyl chloride	2.23E-07	1	7.39E-03	7.39E-06	180	NO
Zinc	4.14E-07	0	8.82E-03	8.82E-06	30	NO

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-399
10-Year Soil Concentrations Screened Against the LANL ESLs and NMED and EPA Region 6 Industrial SSLs
20,000 lbs/yr and 1000 lbs/event

OBODM Modeling Results		
Soil Active Layer	0.02	**meters**
Soil Bulk Density	1200	**kg/m^3**
Ann Avg Part Bnd Dose	28.939	**(µg·hr)/m^3**
Ann Avg Vapor Phase Dose	49.394	**(µg·hr)/m^3**
Ann Avg Part Phase Dose	31.738	**(µg·hr)/m^3**
Ann Part Bnd Grav Dep	1.42E+08	**µg/m^2**
Ann Part Phase Grav Dep	6.55E+08	**µg/m^2**

Contaminant	EF (g/g)	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition µg/m^2	Dry Deposition µg/m^2	Total Deposition µg/m^2	10-Yr Total Deposition µg/m^2	10-Yr Soil Concentration mg/kg	Screening Values: LANL ESL mg/kg	Screening Values: NMED I/O Soil mg/kg	Screening Values: R6 Med Spec Ind SSL mg/kg	Results Ecological Screen	Results Human Health Screen: NMED	Results Human Health Screen: R6
Barium	4.20E-07	0	0.01	2.75E+02	1.33E-07	2.75E+02	2.75E+03	1.15E-01	110	1.00E+05		NO	NO	
Benzene	4.88E-06	1	0.005	0.00E+00	1.21E-06	1.21E-06	1.21E-05	5.02E-10	24	2.58E+01		NO	NO	
Benzyl alcohol	1.91E-09	1	0.005	0.00E+00	4.72E-10	4.72E-10	4.72E-09	1.97E-13			1.00E+05			NO
1-3-Butadiene	4.97E-07	1	0.005	0.00E+00	1.23E-07	1.23E-07	1.23E-06	5.11E-11		2.38E+00			NO	
Carbon monoxide	2.80E-02	1	0.005	0.00E+00	6.92E-03	6.92E-03	6.92E-02	2.88E-06						
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	1.70E-08	1.70E-08	1.70E-07	7.09E-12		8.64E+00			NO	
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	7.01E-08	7.01E-08	7.01E-07	2.92E-11		5.34E+01			NO	
Chromium (tot)	3.97E-07	0	0.01	2.60E+02	1.26E-07	2.60E+02	2.60E+03	1.08E-01	2.3	1.00E+05	5.00E+02	NO	NO	NO
Cyclohexane	9.07E-08	1	0.005	0.00E+00	2.24E-08	2.24E-08	2.24E-07	9.33E-12			1.40E+02			NO
Dibutyl phthalate	3.30E-07	1	0.005	0.00E+00	8.15E-08	8.15E-08	8.15E-07	3.40E-11	1.10E-02	6.84E+04		NO	NO	
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	5.31E-08	5.31E-08	5.31E-07	2.21E-11	11		4.70E+02	NO		NO
Diethylphthalate	6.58E-08	1	0.005	0.00E+00	1.63E-08	1.63E-08	1.63E-07	6.77E-12		1.00E+05			NO	
Ethylbenzene	7.96E-07	1	0.005	0.00E+00	1.97E-07	1.97E-07	1.97E-06	8.19E-11		1.28E+02			NO	
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	1.70E-08	1.70E-08	1.70E-07	7.09E-12		1.54E+02			NO	
Hexane	9.07E-08	1	0.005	0.00E+00	2.24E-08	2.24E-08	2.24E-07	9.33E-12		3.80E+01			NO	
Hydrogen chloride	9.97E-04	1	0.005	0.00E+00	2.46E-04	2.46E-04	2.46E-03	1.03E-07			1.00E+05			NO
Methylene chloride	7.46E-07	1	0.005	0.00E+00	1.84E-07	1.84E-07	1.84E-06	7.68E-11	2.6	4.90E+02		NO	NO	
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	1.85E-02	1.85E-02	1.85E-01	7.72E-06						
Particulate matter	9.00E-02	0	0.01	5.90E+07	2.86E-02	5.90E+07	5.90E+08	2.46E+04						
Styrene	2.57E-07	1	0.005	0.00E+00	6.35E-08	6.35E-08	6.35E-07	2.64E-11		100			NO	
Toluene	5.44E-07	1	0.005	0.00E+00	1.34E-07	1.34E-07	1.34E-06	5.60E-11	23	2.52E+02		NO	NO	
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	8.50E-09	8.50E-09	8.50E-08	3.54E-12		5.63E+02			NO	
1,2,4-Trimethylbenzene	4.25E-07	1	0.005	0.00E+00	1.05E-07	1.05E-07	1.05E-06	4.37E-11		2.13E+02			NO	
1,3,5-Trimethylbenzene	2.99E-07	1	0.005	0.00E+00	7.38E-08	7.38E-08	7.38E-07	3.08E-11		69.2	1.40E+02		NO	NO
Xylenes	1.67E-06	1	0.005	0.00E+00	4.12E-07	4.12E-07	4.12E-06	1.72E-10	1.4	82		NO	NO	
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	5.51E-08	5.51E-08	5.51E-07	2.29E-11		1.40E+01			NO	
Zinc	4.14E-07	0	0.01	2.71E+02	1.31E-07	2.71E+02	2.71E+03	1.13E-01	10	1.00E+05	4.70E+02	NO	NO	NO

Sensitivity of OBODM Results to Variation in Treatment Amounts per Event and Annual Treatment Totals When Burning Bulk HE at TA-16-388

TechLaw, Inc.

8/14/2007

OBODM MODEL FILES	Annual Treatment Quantity (lb/yr)	Treatment Events per Year	Treatment Quantity per Event (lb/event)	1-Hour Vapor Peak Air Concentration ($\mu g/m^3$)	1-Hour PP Peak Air Concentration ($\mu g/m^3$)	1-Hour PB Peak Air Concentration ($\mu g/m^3$)	Ann Avg Vapor Peak Air Concentration ($\mu g/m^3$)	Ann Avg PP Peak Air Concentration ($\mu g/m^3$)	Ann Avg PB Peak Air Concentration ($\mu g/m^3$)
--- Sensitivity of OBODM Results to Changes in Treatment Qnantity per Event ---									
S230K**	30,000	80	375	51330.8	39406.4	37628.9	59.067	45.235	43.448
S2280**	22,400	80	280	52668.2	40327.2	38600.2	59.635	45.627	43.89
S2270**	21,600	80	270	52833.9	40441.1	38720.5	59.703	45.674	43.943
S2260**	20,800	80	260	53005.7	40559	38845.2	59.773	45.723	43.998
IND20**	20,000	80	250	53184	40681.4	38974.6	59.846	45.773	44.055
S2240**	19,200	80	240	53369.3	40808.6	39109.2	59.921	45.825	44.113
--- Sensitivity of OBODM Results to Changes in Frequency of Treatment (i.e., Annual Treatment Quantity) ---									
IND20**	20,000	80	250	53184	40681.4	38974.6	59.846	45.773	44.055
*S218K***	*18,000*	*72*	*250*	*53184*	*40681.4*	*38974.6*	*53.419*	*41.412*	*39.495*
IND15**	15,000	60	250	53184	40681.4	38974.6	50.269	39.026	37.152
IND22**	2,000	8	250	53184	40681.4	38974.6	27.135	20.553	19.932

Note: For the case in italics, all potentially emitted consituents passed the screening analyses.

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
Annual Average Peak Air Concentrations Screening Against 0.1xPRG
15,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Ann. Avg. Vapor	50.269	µg/m³
Ann. Avg. Part. Bnd	37.152	µg/m³
Ann. Avg. Part. Pha	39.026	µg/m³

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m³	PRG Carc µg/m³	PRG Non-Carc µg/m³	0.1*PRG Carc µg/m³	0.1*PRG Non-Carc µg/m³	SCREENING RESULTS PRG Carc	SCREENING RESULTS PRG Non-Carc
				CREENING VALUE					
Barium	4.20E-07	0	1.64E-05		0.52	0	0.052		NO
Benzene	4.88E-06	1	2.45E-04	2.50E-01	3.10E+01	0.025	3.1	NO	NO
Benzyl alcohol	1.91E-09	1	9.60E-08		1.10E+03	0	110		NO
1-3-Butadiene	4.98E-07	1	2.50E-05	6.10E-02	2.1	0.0061	0.21	NO	NO
Carbon monoxide	2.80E-02	1	1.41E+00			0	0		
Carbon tetrachloride	6.89E-08	1	3.46E-06	1.30E-01	2.6	0.013	0.26	NO	NO
Chloromethane (methyl chloride)	2.84E-07	1	1.43E-05		9.50E+01	0	9.5		NO
Chromium (tot)	3.97E-07	0	1.55E-05	1.60E-04		2E-05	0	NO	
Cyclohexane	9.07E-08	1	4.56E-06		6.20E+03	0	620		NO
Dibutyl phthalate	3.30E-07	1	1.66E-05		3.70E+02	0	37		NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.08E-05		2.10E+02	0	21		NO
Diethylphthalate	6.58E-08	1	3.31E-06		2.90E+03	0	290		NO
Ethylbenzene	7.96E-07	1	4.00E-05		1.10E+03	0	110		NO
Ethyl chloride	6.89E-08	1	3.46E-06	2.3	1.00E+04	0.23	1000	NO	NO
Hexane	9.07E-08	1	4.56E-06		2.10E+02	0	21		NO
Hydrogen chloride	9.97E-04	1	5.01E-02		2.10E+01	0	2.1		NO
Methylene chloride	7.46E-07	1	3.75E-05	4.1	3.10E+03	0.41	310	NO	NO
Nitrogen dioxide	7.50E-02	1	3.77E+00			0	0		
Particulate matter	9.00E-02	0	3.51E+00			0	0		
Styrene	2.57E-07	1	1.29E-05		1.10E+03	0	110		NO
Toluene	5.44E-07	1	2.73E-05		4.00E+02	0	40		NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.73E-06		2.30E+03	0	230		NO
1,2,4-Trimethylbenzene	4.25E-07	1	2.14E-05		6.2	0	0.62		NO
1,3,5-Trimethylbenzene	2.99E-07	1	1.50E-05		6.2	0	0.62		NO
Xylenes	1.67E-06	1	8.39E-05		1.10E+02	0	11		NO
Vinyl chloride	2.23E-07	1	1.12E-05	1.10E-01	1.00E+02	0.011	10	NO	NO
Zinc	4.14E-07	0	1.62E-05			0	0		

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
Maximum 1-Hour Peak Air Concentrations Screening AIEC Values
15,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
1-Hour Vapor	53184	$\mu g/m^3$
1-Hour Part. Bnd.	38974.6	$\mu g/m^3$
1-Hour Part. Phase	40681.4	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Barium	4.20E-07	0	1.71E-02	1.71E-05	1.5	NO
Benzene	4.88E-06	1	2.60E-01	2.60E-04	1.3	NO
Benzyl alcohol	1.91E-09	1	1.02E-04	1.02E-07	60	NO
1-3-Butadiene	4.98E-07	1	2.65E-02	2.65E-05		
Carbon monoxide	2.80E-02	1	1.49E+03	1.49E+00		
Carbon tetrachloride	6.89E-08	1	3.66E-03	3.66E-06	1.9	NO
Chloromethane (methyl chloride)	2.84E-07	1	1.51E-02	1.51E-05	200	NO
Chromium (tot)	3.97E-07	0	1.62E-02	1.62E-05	1.5	NO
Cyclohexane	9.07E-08	1	4.82E-03	4.82E-06		
Dibutyl phthalate	3.30E-07	1	1.76E-02	1.76E-05	15	NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.14E-02	1.14E-05	75	NO
Diethylphthalate	6.58E-08	1	3.50E-03	3.50E-06	15	NO
Ethylbenzene	7.96E-07	1	4.23E-02	4.23E-05	500	NO
Ethyl chloride	6.89E-08	1	3.66E-03	3.66E-06		
Hexane	9.07E-08	1	4.82E-03	4.82E-06		
Hydrogen chloride	9.97E-04	1	5.30E+01	5.30E-02		
Methylene chloride	7.46E-07	1	3.97E-02	3.97E-05	14	NO
Nitrogen dioxide	7.50E-02	1	3.99E+03	3.99E+00		
Particulate matter	9.00E-02	0	3.66E+03	3.66E+00		
Styrene	2.57E-07	1	1.37E-02	1.37E-05	21	NO
Toluene	5.44E-07	1	2.89E-02	2.89E-05	37	NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.83E-03	1.83E-06	68	NO
1,2,4-Trimethylbenzene	4.25E-07	1	2.26E-02	2.26E-05		
1,3,5-Trimethylbenzene	2.99E-07	1	1.59E-02	1.59E-05	125	NO
Xylenes	1.67E-06	1	8.88E-02	8.88E-05	22	NO
Vinyl chloride	2.23E-07	1	1.19E-02	1.19E-05	180	NO
Zinc	4.14E-07	0	1.68E-02	1.68E-05	30	NO

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
10-Year Soil Concentrations Screened Against LANL ESLs and NMED or EPA Region 6 Industrial SSLs
15,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Soil Active Layer	0.02	**meters**
Soil Bulk Density	1200	**kg/m^3**
Ann Avg Part Bnd Dose	9.2938	**(µg·hr)/m^3**
Ann Avg Vapor Phase Dose	12.574	**(µg·hr)/m^3**
Ann Avg Part Phase Dose	9.7637	**(µg·hr)/m^3**
Ann Part Bnd Grav Dep	5.50E+07	**µg/m^2**
Ann Part Phase Grav Dep	2.40E+08	**µg/m^2**

Contaminant	EF g/g	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition µg/m^2	Dry Deposition µg/m^2	Total Deposition µg/m^2
Barium	4.20E-07	0	0.01	1.01E+02	4.10E-08	1.01E+02
Benzene	4.88E-06	1	0.005	0.00E+00	3.07E-07	3.07E-07
Benzyl alcohol	1.91E-09	1	0.005	0.00E+00	1.20E-10	1.20E-10
1-3-Butadiene	4.98E-07	1	0.005	0.00E+00	3.13E-08	3.13E-08
Carbon monoxide	2.80E-02	1	0.005	0.00E+00	1.76E-03	1.76E-03
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	4.33E-09	4.33E-09
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	1.79E-08	1.79E-08
Chromium (tot)	3.97E-07	0	0.01	9.54E+01	3.88E-08	9.54E+01
Cyclohexane	9.07E-08	1	0.005	0.00E+00	5.70E-09	5.70E-09
Dibutyl phthalate	3.30E-07	1	0.005	0.00E+00	2.07E-08	2.07E-08
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	1.35E-08	1.35E-08
Diethylphthalate	6.58E-08	1	0.005	0.00E+00	4.14E-09	4.14E-09
Ethylbenzene	7.96E-07	1	0.005	0.00E+00	5.00E-08	5.00E-08
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	4.33E-09	4.33E-09
Hexane	9.07E-08	1	0.005	0.00E+00	5.70E-09	5.70E-09
Hydrogen chloride	9.97E-04	1	0.005	0.00E+00	6.27E-05	6.27E-05
Methylene chloride	7.46E-07	1	0.005	0.00E+00	4.69E-08	4.69E-08
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	4.72E-03	4.72E-03
Particulate matter	9.00E-02	0	0.01	2.16E+07	8.79E-03	2.16E+07
Styrene	2.57E-07	1	0.005	0.00E+00	1.62E-08	1.62E-08
Toluene	5.44E-07	1	0.005	0.00E+00	3.42E-08	3.42E-08
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	2.16E-09	2.16E-09
1,2,4-Trimethylbenzene	4.25E-07	1	0.005	0.00E+00	2.67E-08	2.67E-08
1,3,5-Trimethylbenzene	2.99E-07	1	0.005	0.00E+00	1.88E-08	1.88E-08
Xylenes	1.67E-06	1	0.005	0.00E+00	1.05E-07	1.05E-07
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	1.40E-08	1.40E-08
Zinc	4.14E-07	0	0.01	9.94E+01	4.04E-08	9.94E+01

		Screening Values			SCREENING RESULTS		
10-Yr Total Deposition	10-Yr Soil Concentration	LANL ESL	NMED I/O Soil	R6 Med Spec Ind SSL	Results Ecological	Results Human Health Screen	
$\mu g/m^2$	mg/kg	mg/kg	mg/kg	mg/kg	Screen	NMED	R6
1.01E+03	4.20E-02	110	1.00E+05		NO	NO	
3.07E-06	1.28E-10	24	2.58E+01		NO	NO	
1.20E-09	5.00E-14			1.00E+05			NO
3.13E-07	1.30E-11		2.38			NO	
1.76E-02	7.33E-07						
4.33E-08	1.80E-12		8.64			NO	
1.79E-07	7.44E-12		5.34E+01			NO	
9.54E+02	3.97E-02	2.3	1.00E+05	5.00E+02	NO	NO	NO
5.70E-08	2.38E-12			1.40E+02			NO
2.07E-07	8.64E-12	1.10E-02	6.84E+04		NO	NO	
1.35E-07	5.63E-12	11		4.70E+02	NO		NO
4.14E-08	1.72E-12		1.00E+05			NO	
5.00E-07	2.09E-11		1.28E+02			NO	
4.33E-08	1.80E-12		1.54E+02			NO	
5.70E-08	2.38E-12		3.80E+01			NO	
6.27E-04	2.61E-08			1.00E+05			NO
4.69E-07	1.95E-11	2.6	4.90E+02		NO	NO	
4.72E-02	1.96E-06						
2.16E+08	9.01E+03						
1.62E-07	6.73E-12		100			NO	
3.42E-07	1.43E-11	23	252		NO	NO	
2.16E-08	9.01E-13		563			NO	
2.67E-07	1.11E-11		213			NO	
1.88E-07	7.83E-12		69.2			NO	
1.05E-06	4.37E-11	1.4	82		NO	NO	
1.40E-07	5.84E-12		14			NO	
9.94E+02	4.14E-02	10	1.00E+05		NO	NO	

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
Annual Average Peak Air Concentrations Screening Against 0.1xPRG
18,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Ann. Avg. Vapor	53.419	µg/m³
Ann. Avg. Part. Bnc	39.495	µg/m³
Ann. Avg. Part. Pha	41.412	µg/m³

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m³	CREENING VALUE PRG Carc µg/m³	PRG Non-Carc µg/m³	0.1*PRG Carc µg/m³	0.1*PRG Non-Carc µg/m³	SCREENING RESULTS PRG Carc	PRG Non-Carc
Barium	4.20E-07	0	1.74E-05		0.52	0	0.052		NO
Benzene	4.88E-06	1	2.61E-04	2.50E-01	3.10E+01	0.025	3.1	NO	NO
Benzyl alcohol	1.91E-09	1	1.02E-07		1.10E+03	0	110		NO
1-3-Butadiene	4.98E-07	1	2.66E-05	6.10E-02	2.1	0.0061	0.21	NO	NO
Carbon monoxide	2.80E-02	1	1.50E+00			0	0		
Carbon tetrachloride	6.89E-08	1	3.68E-06	1.30E-01	2.6	0.013	0.26	NO	NO
Chloromethane (methyl chloride)	2.84E-07	1	1.52E-05		9.50E+01	0	9.5		NO
Chromium (tot)	3.97E-07	0	1.64E-05	1.60E-04		2E-05	0	YES	
Cyclohexane	9.07E-08	1	4.85E-06		6.20E+03	0	620		NO
Dibutyl phthalate	3.30E-07	1	1.76E-05		3.70E+02	0	37		NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.15E-05		2.10E+02	0	21		NO
Diethylphthalate	6.58E-08	1	3.51E-06		2.90E+03	0	290		NO
Ethylbenzene	7.96E-07	1	4.25E-05		1.10E+03	0	110		NO
Ethyl chloride	6.89E-08	1	3.68E-06	2.3	1.00E+04	0.23	1000	NO	NO
Hexane	9.07E-08	1	4.85E-06		2.10E+02	0	21		NO
Hydrogen chloride	9.97E-04	1	5.33E-02		2.10E+01	0	2.1		NO
Methylene chloride	7.46E-07	1	3.99E-05	4.1	3.10E+03	0.41	310	NO	NO
Nitrogen dioxide	7.50E-02	1	4.01E+00			0	0		
Particulate matter	9.00E-02	0	3.73E+00			0	0		
Styrene	2.57E-07	1	1.37E-05		1.10E+03	0	110		NO
Toluene	5.44E-07	1	2.91E-05		4.00E+02	0	40		NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.84E-06		2.30E+03	0	230		NO
1,2,4-Trimethylbenzene	4.25E-07	1	2.27E-05		6.2	0	0.62		NO
1,3,5-Trimethylbenzene	2.99E-07	1	1.60E-05		6.2	0	0.62		NO
Xylenes	1.67E-06	1	8.92E-05		1.10E+02	0	11		NO
Vinyl chloride	2.23E-07	1	1.19E-05	1.10E-01	1.00E+02	0.011	10	NO	NO
Zinc	4.14E-07	0	1.71E-05			0	0		

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
Maximum 1-Hour Peak Air Concentrations Screening AIEC Values
18,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
1-Hour Vapor	53184	$\mu g/m^3$
1-Hour Part. Bnd.	38974.6	$\mu g/m^3$
1-Hour Part. Phase	40681.4	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Barium	4.20E-07	0	1.71E-02	1.71E-05	1.5	NO
Benzene	4.88E-06	1	2.60E-01	2.60E-04	1.3	NO
Benzyl alcohol	1.91E-09	1	1.02E-04	1.02E-07	60	NO
1-3-Butadiene	4.98E-07	1	2.65E-02	2.65E-05		
Carbon monoxide	2.80E-02	1	1.49E+03	1.49E+00		
Carbon tetrachloride	6.89E-08	1	3.66E-03	3.66E-06	1.9	NO
Chloromethane (methyl chloride)	2.84E-07	1	1.51E-02	1.51E-05	200	NO
Chromium (tot)	3.97E-07	0	1.62E-02	1.62E-05	1.5	NO
Cyclohexane	9.07E-08	1	4.82E-03	4.82E-06		
Dibutyl phthalate	3.30E-07	1	1.76E-02	1.76E-05	15	NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.14E-02	1.14E-05	75	NO
Diethylphthalate	6.58E-08	1	3.50E-03	3.50E-06	15	NO
Ethylbenzene	7.96E-07	1	4.23E-02	4.23E-05	500	NO
Ethyl chloride	6.89E-08	1	3.66E-03	3.66E-06		
Hexane	9.07E-08	1	4.82E-03	4.82E-06		
Hydrogen chloride	9.97E-04	1	5.30E+01	5.30E-02		
Methylene chloride	7.46E-07	1	3.97E-02	3.97E-05	14	NO
Nitrogen dioxide	7.50E-02	1	3.99E+03	3.99E+00		
Particulate matter	9.00E-02	0	3.66E+03	3.66E+00		
Styrene	2.57E-07	1	1.37E-02	1.37E-05	21	NO
Toluene	5.44E-07	1	2.89E-02	2.89E-05	37	NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.83E-03	1.83E-06	68	NO
1,2,4-Trimethylbenzene	4.25E-07	1	2.26E-02	2.26E-05		
1,3,5-Trimethylbenzene	2.99E-07	1	1.59E-02	1.59E-05	125	NO
Xylenes	1.67E-06	1	8.88E-02	8.88E-05	22	NO
Vinyl chloride	2.23E-07	1	1.19E-02	1.19E-05	180	NO
Zinc	4.14E-07	0	1.68E-02	1.68E-05	30	NO

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
10-Year Soil Concentrations Screened Against LANL ESLs & NMED or EPA Reg. 6 Industrial SSLs
18,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Soil Active Layer	0.02	**meters**
Soil Bulk Density	1200	**kg/m^3**
Ann Avg Part Bnd Dose	9.8795	**µg·hr)/m^3**
Ann Avg Vapor Phase Dose	13.361	**µg·hr)/m^3**
Ann Avg Part Phase Dose	10.36	**µg·hr)/m^3**
Ann Part Bnd Grav Dep	5.86E+07	**µg/m^2**
Ann Part Phase Grav Dep	2.55E+08	**µg/m^2**

Contaminant	**EF** g/g	**Fv**	**Deposition Velocity, V_D** m/sec	**Gravitational Deposition** µg/m^2	**Dry Deposition** µg/m^2	**Total Deposition** µg/m^2	**10-Yr Total Deposition** µg/m^2
Barium	4.20E-07	0	0.01	1.07E+02	4.35E-08	1.07E+02	1.07E+03
Benzene	4.88E-06	1	0.005	0.00E+00	3.26E-07	3.26E-07	3.26E-06
Benzyl alcohol	1.91E-09	1	0.005	0.00E+00	1.28E-10	1.28E-10	1.28E-09
1-3-Butadiene	4.98E-07	1	0.005	0.00E+00	3.33E-08	3.33E-08	3.33E-07
Carbon monoxide	2.80E-02	1	0.005	0.00E+00	1.87E-03	1.87E-03	1.87E-02
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	4.60E-09	4.60E-09	4.60E-08
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	1.90E-08	1.90E-08	1.90E-07
Chromium (tot)	3.97E-07	0	0.01	1.01E+02	4.11E-08	1.01E+02	1.01E+03
Cyclohexane	9.07E-08	1	0.005	0.00E+00	6.06E-09	6.06E-09	6.06E-08
Dibutyl phthalate	3.30E-07	1	0.005	0.00E+00	2.20E-08	2.20E-08	2.20E-07
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	1.44E-08	1.44E-08	1.44E-07
Diethylphthalate	6.58E-08	1	0.005	0.00E+00	4.40E-09	4.40E-09	4.40E-08
Ethylbenzene	7.96E-07	1	0.005	0.00E+00	5.32E-08	5.32E-08	5.32E-07
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	4.60E-09	4.60E-09	4.60E-08
Hexane	9.07E-08	1	0.005	0.00E+00	6.06E-09	6.06E-09	6.06E-08
Hydrogen chloride	9.97E-04	1	0.005	0.00E+00	6.66E-05	6.66E-05	6.66E-04
Methylene chloride	7.46E-07	1	0.005	0.00E+00	4.98E-08	4.98E-08	4.98E-07
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	5.01E-03	5.01E-03	5.01E-02
Particulate matter	9.00E-02	0	0.01	2.29E+07	9.32E-03	2.29E+07	2.29E+08
Styrene	2.57E-07	1	0.005	0.00E+00	1.72E-08	1.72E-08	1.72E-07
Toluene	5.44E-07	1	0.005	0.00E+00	3.63E-08	3.63E-08	3.63E-07
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	2.30E-09	2.30E-09	2.30E-08
1,2,4-Trimethylbenzene	4.25E-07	1	0.005	0.00E+00	2.84E-08	2.84E-08	2.84E-07
1,3,5-Trimethylbenzene	2.99E-07	1	0.005	0.00E+00	2.00E-08	2.00E-08	2.00E-07
Xylenes	1.67E-06	1	0.005	0.00E+00	1.12E-07	1.12E-07	1.12E-06
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	1.49E-08	1.49E-08	1.49E-07
Zinc	4.14E-07	0	0.01	1.05E+02	4.29E-08	1.05E+02	1.05E+03

	Screening Values			SCREENING RESULTS		
10-Yr Soil Concentration	LANL ESL	NMED I/O Soil	R6 Med Spec Ind SSL	Results Ecological	Results Human Health Screen	
mg/kg	mg/kg	mg/kg	mg/kg	Screen	NMED	R6
4.46E-02	110	1.00E+05		NO	NO	
1.36E-10	24	2.58E+01		NO	NO	
5.32E-14			1.00E+05			NO
1.39E-11		2.38			NO	
7.79E-07						
1.92E-12		8.64			NO	
7.91E-12		5.34E+01			NO	
4.21E-02	2.3	1.00E+05	5.00E+02	NO	NO	NO
2.52E-12			1.40E+02			NO
9.19E-12	1.10E-02	6.84E+04		NO	NO	
5.98E-12	11		4.70E+02	NO		NO
1.83E-12		1.00E+05			NO	
2.22E-11		1.28E+02			NO	
1.92E-12		1.54E+02			NO	
2.52E-12		3.80E+01			NO	
2.78E-08			1.00E+05			NO
2.08E-11	2.6	4.90E+02		NO	NO	
2.09E-06						
9.55E+03						
7.15E-12		100			NO	
1.51E-11	23	252		NO	NO	
9.58E-13		563			NO	
1.18E-11		213			NO	
8.32E-12		69.2			NO	
4.65E-11	1.4	82		NO	NO	
6.21E-12		14			NO	
4.39E-02	10	1.00E+05		NO	NO	

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
Annual Average Peak Air Concentrations Screening Against 0.1xPRG
20,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Ann. Avg. Vapor	59.846	µg/m³
Ann. Avg. Part. Bnd	44.055	µg/m³
Ann. Avg. Part. Pha	45.773	µg/m³

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m³	CREENING VALUE PRG Carc µg/m³	PRG Non-Carc µg/m³	0.1xPRG Carc µg/m³	0.1xPRG Non-Carc µg/m³	SCREENING RESULTS PRG Carc	PRG Non-Carc
Barium	4.20E-07	0	1.92E-05		0.52	0	0.052		NO
Benzene	4.88E-06	1	2.92E-04	2.50E-01	3.10E+01	0.025	3.1	NO	NO
Benzyl alcohol	1.91E-09	1	1.14E-07		1.10E+03	0	110		NO
1-3-Butadiene	4.98E-07	1	2.98E-05	6.10E-02	2.1	0.0061	0.21	NO	NO
Carbon monoxide	2.80E-02	1	1.68E+00			0	0		
Carbon tetrachloride	6.89E-08	1	4.12E-06	1.30E-01	2.6	0.013	0.26	NO	NO
Chloromethane (methyl chloride)	2.84E-07	1	1.70E-05		9.50E+01	0	9.5		NO
Chromium (tot)	3.97E-07	0	1.82E-05	1.60E-04		1.6E-05	0	YES	
Cyclohexane	9.07E-08	1	5.43E-06		6.20E+03	0	620		NO
Dibutyl phthalate	3.30E-07	1	1.97E-05		3.70E+02	0	37		NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.29E-05		2.10E+02	0	21		NO
Diethylphthalate	6.58E-08	1	3.94E-06		2.90E+03	0	290		NO
Ethylbenzene	7.96E-07	1	4.76E-05		1.10E+03	0	110		NO
Ethyl chloride	6.89E-08	1	4.12E-06	2.3	1.00E+04	0.23	1000	NO	NO
Hexane	9.07E-08	1	5.43E-06		2.10E+02	0	21		NO
Hydrogen chloride	9.97E-04	1	5.97E-02		2.10E+01	0	2.1		NO
Methylene chloride	7.46E-07	1	4.46E-05	4.1	3.10E+03	0.41	310	NO	NO
Nitrogen dioxide	7.50E-02	1	4.49E+00			0	0		
Particulate matter	9.00E-02	0	4.12E+00			0	0		
Styrene	2.57E-07	1	1.54E-05		1.10E+03	0	110		NO
Toluene	5.44E-07	1	3.26E-05		4.00E+02	0	40		NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	2.06E-06		2.30E+03	0	230		NO
1,2,4-Trimethylbenzene	4.25E-07	1	2.54E-05		6.2	0	0.62		NO
1,3,5-Trimethylbenzene	2.99E-07	1	1.79E-05		6.2	0	0.62		NO
Xylenes	1.67E-06	1	9.99E-05		1.10E+02	0	11		NO
Vinyl chloride	2.23E-07	1	1.33E-05	1.10E-01	1.00E+02	0.011	10	NO	NO
Zinc	4.14E-07	0	1.90E-05			0	0		

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
1-Hour Peak Air Concentrations Screening Against AIEC Values
20,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
1-Hour Vapor	33129.3	$\mu g/m^3$
1-Hour Part. Bnd.	22164.2	$\mu g/m^3$
1-Hour Part. Phase	21297.7	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Barium	4.20E-07	0	8.95E-03	8.95E-06	1.5	NO
Benzene	4.88E-06	1	1.62E-01	1.62E-04	1.3	NO
Benzyl alcohol	1.91E-09	1	6.33E-05	6.33E-08	60	NO
1-3-Butadiene	4.97E-07	1	1.65E-02	1.65E-05		
Carbon monoxide	2.80E-02	1	9.28E+02	9.28E-01		
Carbon tetrachloride	6.89E-08	1	2.28E-03	2.28E-06	1.9	NO
Chloromethane (methyl chloride)	2.84E-07	1	9.41E-03	9.41E-06	200	NO
Chromium (tot)	3.97E-07	0	8.46E-03	8.46E-06	1.5	NO
Cyclohexane	9.07E-08	1	3.00E-03	3.00E-06		
Dibutyl phthalate	3.30E-07	1	1.09E-02	1.09E-05	15	NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	7.12E-03	7.12E-06	75	NO
Diethylphthalate	6.58E-08	1	2.18E-03	2.18E-06	15	NO
Ethylbenzene	7.96E-07	1	2.64E-02	2.64E-05	500	NO
Ethyl chloride	6.89E-08	1	2.28E-03	2.28E-06		
Hexane	9.07E-08	1	3.00E-03	3.00E-06		
Hydrogen chloride	9.97E-04	1	3.30E+01	3.30E-02		
Methylene chloride	7.46E-07	1	2.47E-02	2.47E-05	14	NO
Nitrogen dioxide	7.50E-02	1	2.48E+03	2.48E+00		
Particulate matter	9.00E-02	0	1.92E+03	1.92E+00		
Styrene	2.57E-07	1	8.51E-03	8.51E-06	21	NO
Toluene	5.44E-07	1	1.80E-02	1.80E-05	37	NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	1.14E-03	1.14E-06	68	NO
1,2,4-Trimethylbenzene	4.25E-07	1	1.41E-02	1.41E-05		
1,3,5-Trimethylbenzene	2.99E-07	1	9.91E-03	9.91E-06	125	NO
Xylenes	1.67E-06	1	5.53E-02	5.53E-05	22	NO
Vinyl chloride	2.23E-07	1	7.39E-03	7.39E-06	180	NO
Zinc	4.14E-07	0	8.82E-03	8.82E-06	30	NO

SCREENING OF OBODM MODEL RESULTS FOR
BURNING BULK HIGH EXPLOSIVES (HE) at TA-16-388
10-Year Soil Concentrations Screened Against LANL ESLs and NMED or EPA Region 6 Industrial SSLs
20,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Soil Active Layer	0.02	**meters**
Soil Bulk Density	1200	**kg/m^3**
Ann Avg Part Bnd Dose	11.02	**(µg·hr)/m^3**
Ann Avg Vapor Phase Dose	14.969	**(µg·hr)/m^3**
Ann Avg Part Phase Dose	11.452	**(µg·hr)/m^3**
Ann Part Bnd Grav Dep	6.51E+07	**µg/m^2**
Ann Part Phase Grav Dep	2.78E+08	**µg/m^2**

Contaminant	EF g/g	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition µg/m^2	Dry Deposition µg/m^2	Total Deposition µg/m^2
Barium	4.20E-07	0	0.01	1.17E+02	4.81E-08	1.17E+02
Benzene	4.88E-06	1	0.005	0.00E+00	3.65E-07	3.65E-07
Benzyl alcohol	1.91E-09	1	0.005	0.00E+00	1.43E-10	1.43E-10
1-3-Butadiene	4.98E-07	1	0.005	0.00E+00	3.73E-08	3.73E-08
Carbon monoxide	2.80E-02	1	0.005	0.00E+00	2.10E-03	2.10E-03
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	5.16E-09	5.16E-09
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	2.13E-08	2.13E-08
Chromium (tot)	3.97E-07	0	0.01	1.10E+02	4.55E-08	1.10E+02
Cyclohexane	9.07E-08	1	0.005	0.00E+00	6.79E-09	6.79E-09
Dibutyl phthalate	3.30E-07	1	0.005	0.00E+00	2.47E-08	2.47E-08
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	1.61E-08	1.61E-08
Diethylphthalate	6.58E-08	1	0.005	0.00E+00	4.92E-09	4.92E-09
Ethylbenzene	7.96E-07	1	0.005	0.00E+00	5.96E-08	5.96E-08
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	5.16E-09	5.16E-09
Hexane	9.07E-08	1	0.005	0.00E+00	6.79E-09	6.79E-09
Hydrogen chloride	9.97E-04	1	0.005	0.00E+00	7.46E-05	7.46E-05
Methylene chloride	7.46E-07	1	0.005	0.00E+00	5.58E-08	5.58E-08
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	5.61E-03	5.61E-03
Particulate matter	9.00E-02	0	0.01	2.50E+07	1.03E-02	2.50E+07
Styrene	2.57E-07	1	0.005	0.00E+00	1.92E-08	1.92E-08
Toluene	5.44E-07	1	0.005	0.00E+00	4.07E-08	4.07E-08
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	2.57E-09	2.57E-09
1,2,4-Trimethylbenzene	4.25E-07	1	0.005	0.00E+00	3.18E-08	3.18E-08
1,3,5-Trimethylbenzene	2.99E-07	1	0.005	0.00E+00	2.24E-08	2.24E-08
Xylenes	1.67E-06	1	0.005	0.00E+00	1.25E-07	1.25E-07
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	1.67E-08	1.67E-08
Zinc	4.14E-07	0	0.01	1.15E+02	4.74E-08	1.15E+02

		Screening Values			SCREENING RESULTS		
10-Yr Total Deposition	10-Yr Soil Concentration	LANL ESL	NMED I/O Soil	R6 Med Spec Ind SSL	Results Ecological	Results Human Health Screen	
$\mu g/m^2$	mg/kg	mg/kg	mg/kg	mg/kg	Screen	NMED	R6
1.17E+03	4.86E-02	110	1.00E+05		NO	NO	
3.65E-06	1.52E-10	24	2.58E+01		NO	NO	
1.43E-09	5.96E-14			1.00E+05			NO
3.73E-07	1.55E-11		2.38			NO	
2.10E-02	8.73E-07						
5.16E-08	2.15E-12		8.64			NO	
2.13E-07	8.86E-12		5.34E+01			NO	
1.10E+03	4.60E-02	2.3	1.00E+05	5.00E+02	NO	NO	NO
6.79E-08	2.83E-12			1.40E+02			NO
2.47E-07	1.03E-11	1.10E-02	6.84E+04		NO	NO	
1.61E-07	6.70E-12	11		4.70E+02	NO		NO
4.92E-08	2.05E-12		1.00E+05			NO	
5.96E-07	2.48E-11		1.28E+02			NO	
5.16E-08	2.15E-12		1.54E+02			NO	
6.79E-08	2.83E-12		3.80E+01			NO	
7.46E-04	3.11E-08			1.00E+05			NO
5.58E-07	2.33E-11	2.6	4.90E+02		NO	NO	
5.61E-02	2.34E-06						
2.50E+08	1.04E+04						
1.92E-07	8.01E-12		100			NO	
4.07E-07	1.70E-11	23	252		NO	NO	
2.57E-08	1.07E-12		563			NO	
3.18E-07	1.33E-11		213			NO	
2.24E-07	9.32E-12		69.2			NO	
1.25E-06	5.21E-11	1.4	82		NO	NO	
1.67E-07	6.95E-12		14			NO	
1.15E+03	4.79E-02	10	1.00E+05		NO	NO	

Sensitivity of OBODM Results to Variation in Treatment Amounts per Event and Annual Treatment Totals When Burning HE-Contaminated Wastes at TA-16-388

TechLaw, Inc.

8/13/2007

OBODM MODEL FILES	Annual Treatment Quantity (lb/yr)	Treatment Events per Year	Treatment Quantity per Event (lb/event)	1-Hour Vapor Peak Air Concentration (μg/m³)	1-Hour PP Peak Air Concentration (μg/m³)	1-Hour PB Peak Air Concentration (μg/m³)	Ann Avg Vapor Peak Air Concentration (μg/m³)	Ann Avg PP Peak Air Concentration (μg/m³)	Ann Avg PB Peak Air Concentration (μg/m³)
--- Sensitivity of OBODM Results to Changes in Treatment Quantity per Event ---									
S3275**	22,000	80	275	73394.3	56810.2	63139.5	120.85	95.36	97.049
S3260**	20,800	80	260	71870	55696.4	62504.2	122.7	95.667	99.093
*IND20***	*20,000*	*80*	*250*	*70639.2*	*54813.2*	*61911.7*	*123.84*	*95.767*	*100.43*
S3240**	19,200	80	240	71036.6	55112.5	62258.9	123.99	95.847	100.55
S3200**	16,000	80	200	72826.5	56459.4	63822.8	124.6	96.175	101.07
IND82**	8,000	80	100	79845.7	61727.1	69953.9	126.29	96.99	102.5
IND22**	2,000	20	100	79845.7	61727.1	69953.9	64.022	48.636	53.451
--- Sensitivity of OBODM Results to Changes in Frequency of Treatment (i.e., Annual Treatment Quantity) ---									
*IND20***	*20,000*	*80*	*250*	*70639.2*	*54813.2*	*61911.7*	*123.84*	*95.767*	*100.43*
IND15**	15,000	60	250	70639.2	54813.2	61911.7	116.05	90.319	94.352
IND10**	10,000	40	250	70639.2	54813.2	61911.7	93.142	72.9	75.864
S35K**	5,000	20	250	70639.2	54813.2	61911.7	61.388	46.816	51.224
S32-5K**	2,500	10	250	70639.2	54813.2	61911.7	41.82	32.138	35.337
S31250	1,250	5	250	70639.2	54813.2	61911.7	24.877	18.858	21.306
S3500**	500	2	250	70639.2	54813.2	61911.7	13.096	9.8184	11.159
S3250**	250	1	250	70639.2	54813.2	61911.7	8.1223	6.3025	7.1187

SCREENING OF OBODM MODEL RESULTS FOR BURNING HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388

Annual Average Peak Air Concentrations Screened Against 0.1xPRGs

250 lbs/yr and 250 lbs/event (i.e., 1 treatment event per year)

OBODM Modeling Results		
Ann. Avg. Vapor	8.1223	µg/m³
Ann. Avg. Part. Bnd.	7.1187	µg/m³
Ann. Avg. Part. Phase	6.3025	µg/m³

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m³	SCREENING VALUES: PRG Carc µg/m³	PRG Non-Carc µg/m³	0.1xPRG Carc µg/m³	0.1xPRG Non-Carc µg/m³	REENING RESUI PRG Carc	PRG Non-Car
Acenaphthene	1.00E-05	1	8.12E-05		2.20E+02	0.00E+00	2.20E+01		NO
Acetaldehyde	6.30E-05	1	5.12E-04	8.70E-01	9.4	8.70E-02	9.40E-01	NO	NO
Acetone	1.07E-03	1	8.69E-03		3.30E+03	0.00E+00	3.30E+02		NO
Acetonitrile	1.07E-03	1	8.69E-03		6.20E+01	0.00E+00	6.20E+00		NO
Acetophenone	1.74E-07	1	1.41E-06			0.00E+00	0.00E+00		
Acrolein	3.90E-05	1	3.17E-04		2.10E-02	0.00E+00	2.10E-03		NO
Aluminum	7.13E-07	0	4.49E-06		5.1	0.00E+00	5.10E-01		NO
Ammonium Hydroxide	1.07E-03	1	8.69E-03		1.00E+02		1.00E+01		NO
Anthracene	1.50E-05	0.998	1.22E-04		1.10E+03	0.00E+00	1.10E+02		NO
Barium	4.20E-07	0	2.65E-06		0.52	0.00E+00	5.20E-02		NO
BDNPF Ether	6.41E-04	1	5.21E-03						
Benzaldehyde	1.04E-04	1	8.45E-04		3.70E+02	0.00E+00	3.70E+01		NO
Benzene	1.02E-03	1	8.28E-03	2.50E-01	3.10E+01	2.50E-02	3.10E+00	NO	NO
Benzo[a]anthracene	5.00E-06	0.881	4.00E-05	9.20E-03		9.20E-04	0.00E+00	NO	
Benzo[a]pyrene	5.00E-06	0.265	3.69E-05	9.20E-04		9.20E-05	0.00E+00	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.966	5.66E-05	9.20E-03		9.20E-04	0.00E+00	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.273	5.17E-05	9.20E-02		9.20E-03	0.00E+00	NO	
Benzyl alcohol	3.96E-05	1	3.22E-04		1.10E+03	0.00E+00	1.10E+02		NO
1-3-Butadiene	1.34E-06	1	1.09E-05	6.10E-02	2.1	6.10E-03	2.10E-01	NO	NO
Butyl Acetate	2.14E-04	1	1.74E-03						
Butyl benzyl phthalate	1.22E-07	0.948	9.85E-07		7.30E+02	0.00E+00	7.30E+01		NO
Butyl Nitrite	1.07E-06	1	8.69E-06						
Carbon monoxide	9.00E-02	1	7.31E-01			0.00E+00	0.00E+00		
Carbon tetrachloride	6.89E-08	1	5.60E-07	1.30E-01	2.6	1.30E-02	2.60E-01	NO	NO
Chloroform	2.14E-04	1	1.74E-03	8.30E-02	5.10E+01	8.30E-03	5.10E+00	NO	NO
Chloromethane (methyl chloride)	2.84E-07	1	2.31E-06		9.50E+01	0.00E+00	9.50E+00		NO
Chromium (tot)	3.97E-07	0	2.50E-06	1.60E-04		1.60E-05	0.00E+00	NO	
Chrysene	9.00E-06	0.744	7.08E-05	9.20E-01		9.20E-02	0.00E+00	NO	
Crotonaldehyde	6.00E-06	1	4.87E-05	3.50E-03		3.50E-04	0.00E+00	NO	
Cyclohexane	2.67E-05	1	2.17E-04		6.20E+03	0.00E+00	6.20E+02		NO
Dibenzo[ah]anthracene	2.00E-07	0.055	1.43E-06	9.20E-04		9.20E-05	0.00E+00	NO	
Dibutyl phthalate	3.30E-07	0.994	2.68E-06		3.70E+02		3.70E+01		NO
1,2-Dichloroethane	2.14E-03	1	1.74E-02	7.40E-02	5.10E+00	7.40E-03	5.10E-01	YES	NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.75E-06		2.10E+02	0.00E+00	2.10E+01		NO
Diethylphthalate	7.00E-08	1	5.69E-07		2.90E+03	0.00E+00	2.90E+02		NO
Dimethyl phthalate	1.88E-07	1	1.53E-06		3.70E+04	0.00E+00	3.70E+03		NO

2,4-Dinitrotoluene	3.21E-04	1	2.61E-03		7.30E+00		7.30E-01		NO
DMSO	5.34E-05	1	4.34E-04						
Dioctyl phthalate	9.19E-07	0.852	7.33E-06		1.50E+02	0.00E+00	1.50E+01		NO
Dioxin/Furan TEQ	---	---	1.21E-07	4.50E-08		4.50E-09	0.00E+00	YES	
Ethyl Acetate	2.14E-03	1.000	1.74E-02		3.30E+03	0.00E+00	3.30E+02		NO
Ethylbenzene	5.49E-05	1	4.46E-04		1.10E+03	0.00E+00	1.10E+02		NO
Ethyl chloride	6.89E-08	1	5.60E-07	2.3	1.00E+04	2.30E-01	1.00E+03	NO	NO
Ethanol	2.14E-03	1	1.74E-02						
Fluoanthene	2.00E-05	0.992	1.62E-04		1.50E+02	0.00E+00	1.50E+01		NO
Fluorene	1.00E-06	1	8.12E-06		1.50E+02	0.00E+00	1.50E+01		NO
Formaldehyde	3.03E-04	1	2.46E-03	1.50E-01		1.50E-02		NO	
Hexane	1.60E-05	1	1.30E-04		2.10E+02	0.00E+00	2.10E+01		NO
Hydrogen chloride	1.07E-03	1	8.69E-03		2.10E+01	0.00E+00	2.10E+00		NO
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	3.56E-05	9.20E-03		9.20E-04	0.00E+00	NO	
Isopropyl Alcohol	5.34E-04	1	4.34E-03						
Mercury	2.14E-05	1	1.74E-04		3.10E-01	0.00E+00	3.10E-02		NO
Methanol	9.62E-03	1	7.81E-02		1.80E+03	0.00E+00	1.80E+02		NO
Methylene chloride	3.21E-04	1	2.61E-03	4.1	3.10E+03	4.10E-01	3.10E+02	NO	NO
Methylcyclohexane	1.56E-04	1	1.27E-03		3.10E+03	0.00E+00	3.10E+02		NO
Methyl ethyl ketone	4.27E-05	1	3.47E-04		5.10E+03	0.00E+00	5.10E+02		NO
Methyl isobutyl ketone	1.10E-05	1	8.93E-05		3.10E+03	0.00E+00	3.10E+02		NO
Napthalene	1.62E-04	1	1.32E-03		3.1	0.00E+00	3.10E-01		NO
Nitric Acid	1.07E-03	1	8.69E-03						
Nitrogen dioxide	7.50E-02	1	6.09E-01			0.00E+00	0.00E+00		
Particulate matter	2.00E-01	0	1.26E+00			0.00E+00	0.00E+00		
Phenanthrene	7.17E-06	0.999	5.82E-05			0.00E+00	0.00E+00		
Phenol	1.56E-05	1	1.27E-04		1.10E+03	0.00E+00	1.10E+02		NO
Potassium Hydroxide	1.07E-03	1	8.69E-03						
Pyrene	2.00E-06	0.994	1.62E-05		1.10E+02	0.00E+00	1.10E+01		NO
sodium Hydroxide	4.27E-03	1	3.47E-02						
Styrene	4.99E-05	1	4.05E-04		1.10E+03	0.00E+00	1.10E+02		NO
Sulfur dioxide	2.50E-03	1	2.03E-02			0.00E+00	0.00E+00		
Sulfuric Acid	5.34E-03	1	4.34E-02						
Tetrahydrafuran	3.21E-04	1	2.61E-03	9.90E-01	3.10E+02	9.90E-02	3.10E+01	NO	NO
Toluene	1.07E-03	1	8.69E-03		4.00E+02	0.00E+00	4.00E+01		NO
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	2.79E-07		2.30E+03	0.00E+00	2.30E+02		NO
Trichloroethylene	5.34E-04	1	4.34E-03	1.72E-02	3.70E+01	1.72E-03	3.70E+00	YES	NO
1,2,4-Trimethylbenzene	2.43E-04	1	1.97E-03		6.2	0.00E+00	6.20E-01		NO
1,3,5-Trimethylbenzene	5.57E-04	1	4.52E-03		6.2	0.00E+00	6.20E-01		NO
Xylenes	5.77E-04	1	4.69E-03		1.10E+02	0.00E+00	1.10E+01		NO
Vinyl chloride	2.23E-07	1	1.81E-06	1.10E-01	1.00E+02	1.10E-02	1.00E+01	NO	NO
Zinc	6.26E-05	0	3.95E-04			0.00E+00	0.00E+00		

of Dioxin/Furan TEQ Concentration

			Dioxin/Furan Concentration	TEQ	D/F TEQ Equivalent Concentration
1234678-HpCDD	**1.49E-12**	**0.003**	1.06E-11	**0.01**	1.06E-13
1234678-HpCDF	3.42E-08	0.01	2.44E-07	0.1	2.44E-08
123478-HxCDF	2.13E-08	0.049	1.53E-07	0.1	1.53E-08
1234789-HpCDF	7.89E-09	0.057	5.66E-08	0.01	5.66E-10

123678_HxCDF	9.47E-09	0.052	6.79E-08	0.01	6.79E-10
12378-PeCDF	7.89E-09	0.268	5.83E-08	0.05	2.91E-09
OCDF	3.95E-08	0.002	2.81E-07	0.0001	2.81E-11
234578-HxCDF	5.77E-09	0.055	4.14E-08	0.1	4.14E-09
23478-PeCDF	1.88E-08	0.221	1.38E-07	0.5	6.90E-08
2378-TCDF	5.52E-09	0.77	4.36E-08	0.1	4.36E-09
Total TEQ Equivalent Conc					**1.21E-07**

SCREENING OF OBODM MODEL RESULTS FOR BURNING HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388

1-Hour Peak Air Concentrations Screened Against AIEC Values

250 lbs/yr and 250 lbs/event (i.e., 1 treatment event per year)

OBODM Modeling Results		
1-Hour Vapor	70639.2	$\mu g/m^3$
1-Hour Part. Bnd.	54813.2	$\mu g/m^3$
1-Hour Part. Phase	61911.7	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Acenaphthene	1.00E-05	1	7.06E-01	7.06E-04	1.3	NO
Acetaldehyde	6.30E-05	1	4.45E+00	4.45E-03	81.05	NO
Acetone	1.07E-03	1	7.56E+01	7.56E-02	475	NO
Acetonitrile	1.07E-03	1	7.56E+01	7.56E-02	21.82	NO
Acetophenone	1.74E-07	1	1.23E-02	1.23E-05	30	NO
Acrolein	3.90E-05	1	2.75E+00	2.75E-03	1.90E-04	YES
Aluminum	7.13E-07	0	4.41E-02	4.41E-05		
Ammonium Hydroxide	1.07E-03	1	7.56E+01	7.56E-02		
Anthracene	1.50E-05	0.998	1.06E+00	1.06E-03	6	NO
Barium	4.20E-07	0	2.60E-02	2.60E-05	1.5	NO
BDNPF Ether	6.41E-04	1	4.53E+01	4.53E-02		
Benzaldehyde	1.04E-04	1	7.35E+00	7.35E-03	1.5	NO
Benzene	1.02E-03	1	7.21E+01	7.21E-02	1.3	NO
Benzo[a]anthracene	5.00E-06	0.881	3.44E-01	3.44E-04	0.3	NO
Benzo[a]pyrene	5.00E-06	0.265	2.95E-01	2.95E-04	0.6	NO
Benzo[b&k]fluoanthene	7.00E-06	0.966	4.91E-01	4.91E-04	0.6	NO
Benzo[b&k]fluoanthene	7.00E-06	0.273	4.14E-01	4.14E-04	0.6	NO
Benzyl alcohol	3.96E-05	1	2.80E+00	2.80E-03	60	NO
1-3-Butadiene	1.34E-06	1	9.47E-02	9.47E-05		
Butyl Acetate	2.14E-04	1	1.51E+01	1.51E-02		
Butyl benzyl phthalate	1.22E-07	0.948	8.52E-03	8.52E-06	15	NO
Butyl Nitrite	1.07E-06	1	7.56E-02	7.56E-05		
Carbon monoxide	9.00E-02	1	6.36E+03	6.36E+00		
Carbon tetrachloride	6.89E-08	1	4.87E-03	4.87E-06	1.9	NO
Chloroform	2.14E-04	1	1.51E+01	1.51E-02	0.15	NO
Chloromethane (methyl chloride)	2.84E-07	1	2.01E-02	2.01E-05	200	NO
Chromium (tot)	3.97E-07	0	2.46E-02	2.46E-05	1.5	NO
Chrysene	9.00E-06	0.744	5.99E-01	5.99E-04	0.6	NO
Crotonaldehyde	6.00E-06	1	4.24E-01	4.24E-04		
Cyclohexane	2.67E-05	1	1.89E+00	1.89E-03		
Dibenzo[ah]anthracene	2.00E-07	0.055	1.11E-02	1.11E-05	30	NO
Dibutyl phthalate	3.30E-07	0.994	2.33E-02	2.33E-05	15	NO
1,2-Dichloroethane	2.14E-03	1	1.51E+02	1.51E-01	202	NO

1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.52E-02	1.52E-05	75	NO
Diethylphthalate	7.00E-08	1	4.94E-03	4.94E-06	15	NO
Dimethyl phthalate	1.88E-07	1	1.33E-02	1.33E-05	15	NO
2,4-Dinitrotoluene	3.21E-04	0.999	2.27E+01	2.27E-02	0.6	NO
DMSO	5.34E-05	1	3.77E+00	3.77E-03		
Dioctyl phthalate	9.19E-07	0.852	6.28E-02	6.28E-05	50	NO
1234678-HpCDD	1.49E-12	0.003	8.17E-08	8.17E-11	6.00E-01	NO
Ethyl Acetate	2.14E-03	1.000	1.51E+02	1.51E-01		
Ethylbenzene	5.49E-05	1	3.88E+00	3.88E-03	500	NO
Ethyl chloride	6.89E-08	1	4.87E-03	4.87E-06		
Ethanol	2.14E-03	1	1.51E+02	1.51E-01		
Fluoanthene	2.00E-05	0.992	1.41E+00	1.41E-03	0.015	NO
Fluorene	1.00E-06	1	7.06E-02	7.06E-05	11.56	NO
Formaldehyde	3.03E-04	1	2.14E+01	2.14E-02	0.094	NO
1234678-HpCDF	3.42E-08	0.01	1.88E-03	1.88E-06	1.50E-01	NO
123478-HxCDF	2.13E-08	0.049	1.18E-03	1.18E-06	7.50E-03	NO
1234789-HpCDF	7.89E-09	0.057	4.40E-04	4.40E-07	2.50E-01	NO
123678_HxCDF	9.47E-09	0.052	5.27E-04	5.27E-07	2.50E-03	NO
12378-PeCDF	7.89E-09	0.268	4.66E-04	4.66E-07	7.50E-03	NO
OCDF	3.95E-08	0.002	2.17E-03	2.17E-06	7.50E-03	NO
234578-HxCDF	5.77E-09	0.055	3.21E-04	3.21E-07	1.50E-03	NO
23478-PeCDF	1.88E-08	0.221	1.10E-03	1.10E-06	7.50E-05	NO
2378-TCDF	5.52E-09	0.77	3.70E-04	3.70E-07	2.00E-03	NO
Hexane	1.60E-05	1	1.13E+00	1.13E-03		
Hydrogen chloride	1.07E-03	1	7.56E+01	7.56E-02		
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	2.74E-01	2.74E-04	0.5	NO
Isopropyl Alcohol	5.34E-04	1	3.77E+01	3.77E-02		
Mercury	2.14E-05	1	1.51E+00	1.51E-03	1.80E-03	NO
Methanol	9.62E-03	1	6.80E+02	6.80E-01	28	NO
Methylene chloride	3.21E-04	1	2.27E+01	2.27E-02	14	NO
Methylcyclohexane	1.56E-04	1	1.10E+01	1.10E-02		
Methyl ethyl ketone	4.27E-05	1	3.02E+00	3.02E-03	13	NO
Methyl isobutyl ketone	1.10E-05	1	7.77E-01	7.77E-04	300	NO
Napthalene	1.62E-04	1	1.14E+01	1.14E-02	75	NO
Nitric Acid	1.07E-03	1	7.56E+01	7.56E-02		
Nitrogen dioxide	7.50E-02	1	5.30E+03	5.30E+00		
Particulate matter	2.00E-01	0	1.24E+04	1.24E+01		
Phenanthrene	7.17E-06	0.999	5.06E-01	5.06E-04	1	NO
Phenol	1.56E-05	1	1.10E+00	1.10E-03	5.8	NO
Potassium Hydroxide	1.07E-03	1	7.56E+01	7.56E-02		
Pyrene	2.00E-06	0.994	1.41E-01	1.41E-04	15	NO
sodium Hydroxide	4.27E-03	1	3.02E+02	3.02E-01		
Styrene	4.99E-05	1	3.52E+00	3.52E-03	21	NO
Sulfuric Acid	5.34E-03	1	3.77E+02	3.77E-01		
Sulfur dioxide	2.50E-03	1	1.77E+02	1.77E-01		
Tetrahydrafuran	3.21E-04	1	2.27E+01	2.27E-02	750	NO
Toluene	1.07E-03	1	7.56E+01	7.56E-02	37	NO

1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	2.43E-03	2.43E-06	68	NO
Trichloroethylene	5.34E-04	1	3.77E+01	3.77E-02	698	NO
1,2,4-Trimethylbenzene	2.43E-04	1	1.72E+01	1.72E-02		
1,3,5-Trimethylbenzene	5.57E-04	1	3.93E+01	3.93E-02	125	NO
Xylenes	5.77E-04	1	4.08E+01	4.08E-02	22	NO
Vinyl chloride	2.23E-07	1	1.58E-02	1.58E-05	180	NO
Zinc	6.26E-05	0	3.88E+00	3.88E-03	30	NO

SCREENING OF OBODM MODEL RESULTS FOR BURNING
HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388
10-Year Soil Concentrations Screened Against LANL ESLs and NMED or EPA Region 6 Industrial SSLs
250 lbs/yr and 250 lbs/event (i.e., 1 treatment event per year)

OBODM Modeling Results		
Soil Active Layer	0.02	meters
Soil Bulk Density	1200	kg/m^3
Ann Avg Part Bnd Dose	7.079	(µg·hr)/m^3
Ann Avg Part Phase Dose	6.2671	(µg·hr)/m^3
Ann Avg Vapor Phase Dose	8.076	(µg·hr)/m^3
Ann Part Bnd Grav Dep	1.23E+07	µg/m^2
Ann Part Phase Grav Dep	4.09E+07	µg/m^2

Contaminant	EF g/g	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition µg/m^2	Dry Deposition µg/m^2	Total Deposition µg/m^2	10-Yr Total Deposition µg/m^2	10-Yr Soil Concentration mg/kg	Screening Values: LANL ESL mg/kg	NMED I/O Soil mg/kg	R6 Med Spec Ind SSL mg/kg	Results Ecological Screen	Results Human Health Screen: NMED	R6
Acenaphthene	1.00E-05	1	0.005	0.00E+00	1.45E-03	1.45E-03	1.45E-02	6.06E-07	0.25	3.35E+04		NO	NO	
Acetaldehyde	6.30E-05	1	0.005	0.00E+00	9.16E-03	9.16E-03	9.16E-02	3.82E-06		3.84E+02			NO	
Acetone	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05	1.2	2.81E+04		NO	NO	
Acetonitrile	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05			2.30E+03			NO
Acetophenone	1.74E-07	1	0.005	0.00E+00	2.53E-05	2.53E-05	2.53E-04	1.05E-08		1.48E+03			NO	
Acrolein	3.90E-05	1	0.005	0.00E+00	5.67E-03	5.67E-03	5.67E-02	2.36E-06		7.52E-01			NO	
Aluminum	7.13E-07	0	0.01	2.92E+01	1.61E-04	2.92E+01	2.92E+02	1.22E-02		1.00E+05			NO	
Ammonium Hydroxide	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05						
Anthracene	1.50E-05	0.998	0.005	3.68E-01	2.18E-03	3.70E-01	3.70E+00	1.54E-04	210	1.00E+05		NO	NO	
Barium	4.20E-07	0	0.01	1.72E+01	9.48E-05	1.72E+01	1.72E+02	7.17E-03	110	1.00E+05		NO	NO	
BDNPF Ether	6.41E-04	1	0.005	0.00E+00	9.32E-02	9.32E-02	9.32E-01	3.88E-05						
Benzaldehyde	1.04E-04	1	0.005	0.00E+00	1.51E-02	1.51E-02	1.51E-01	6.30E-06			6.80E+04			NO
Benzene	1.02E-03	1	0.005	0.00E+00	1.48E-01	1.48E-01	1.48E+00	6.18E-05	24	2.58E+01		NO	NO	
Benzo[a]anthracene	5.00E-06	0.881	0.005	7.30E+00	7.16E-04	7.30E+00	7.30E+01	3.04E-03	3	2.34E+01		NO	NO	
Benzo[a]pyrene	5.00E-06	0.265	0.005	4.51E+01	6.61E-04	4.51E+01	4.51E+02	1.88E-02	9.6	2.34		NO	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.966	0.005	2.92E+00	1.01E-03	2.92E+00	2.92E+01	1.22E-03	18	2.34E+01		NO	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.273	0.005	6.24E+01	9.26E-04	6.24E+01	6.24E+02	2.60E-02	62	2.34E+02		NO	NO	
Benzyl alcohol	3.96E-05	1	0.005	0.00E+00	5.76E-03	5.76E-03	5.76E-02	2.40E-06			1.00E+05			NO
1-3-Butadiene	1.34E-06	1	0.005	0.00E+00	1.95E-04	1.95E-04	1.95E-03	8.12E-08		2.38			NO	
Butyl Acetate	2.14E-04	1	0.005	0.00E+00	3.11E-02	3.11E-02	3.11E-01	1.30E-05						
Butyl benzyl phthalate	1.22E-07	0.948	0.005	7.78E-02	1.76E-05	7.78E-02	7.78E-01	3.24E-05	90		2.40E+02	NO		NO
Butyl Nitrite	1.07E-06	1	0.005	0.00E+00	1.56E-04	1.56E-04	1.56E-03	6.48E-08						
Carbon monoxide	9.00E-02	1	0.005	0.00E+00	1.31E+01	1.31E+01	1.31E+02	5.45E-03						
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	1.00E-05	1.00E-05	1.00E-04	4.17E-09		8.64			NO	
Chloroform	2.14E-04	1	0.005	0.00E+00	3.11E-02	3.11E-02	3.11E-01	1.30E-05	8	9.59		NO	NO	
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	4.13E-05	4.13E-05	4.13E-04	1.72E-08		5.34E+01			NO	
Chromium (tot)	3.97E-07	0	0.01	1.63E+01	8.96E-05	1.63E+01	1.63E+02	6.77E-03	2.3	1.00E+05	5.00E+02	NO	NO	NO
Chrysene	9.00E-06	0.744	0.005	2.83E+01	1.27E-03	2.83E+01	2.83E+02	1.18E-02	2.4	2.31E+03		NO	NO	
Crotonaldehyde	6.00E-06	1	0.005	0.00E+00	8.72E-04	8.72E-04	8.72E-03	3.63E-07		1.70E-01			NO	
Cyclohexane	2.67E-05	1	0.005	0.00E+00	3.88E-03	3.88E-03	3.88E-02	1.62E-06			1.40E+02			NO
Dibenzo[ah]anthracene	2.00E-07	0.055	0.005	2.32E+00	2.57E-05	2.32E+00	2.32E+01	9.66E-04	12	2.34		NO	NO	
Dibutyl phthalate	3.30E-07	0.994	0.005	2.43E-02	4.79E-05	2.43E-02	2.43E-01	1.01E-05	1.10E-02	6.84E+04		NO	NO	
1,2-Dichloroethane	2.14E-03	1	0.005	0.00E+00	3.11E-01	3.11E-01	3.11E+00	1.30E-04		1.52E+01			NO	
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	3.13E-05	3.13E-05	3.13E-04	1.30E-08	11		4.70E+02	NO		NO
Diethylphthalate	7.00E-08	1	0.005	0.00E+00	1.02E-05	1.02E-05	1.02E-04	4.24E-09		1.00E+05			NO	
Dimethyl phthalate	1.88E-07	1	0.005	0.00E+00	2.73E-05	2.73E-05	2.73E-04	1.14E-08	10	1.00E+05		NO	NO	
2,4-Dinitrotoluene	3.21E-04	0.999	0.005	3.94E+00	4.67E-02	3.98E+00	3.98E+01	1.66E-03		1.37E+03			NO	
DMSO	5.34E-05	1	0.005	0.00E+00	7.76E-03	7.76E-03	7.76E-02	3.23E-06						
Dioctyl phthalate	9.19E-07	0.852	0.005	1.67E+00	1.31E-04	1.67E+00	1.67E+01	6.95E-04	1.1			NO		
Dioxin/Furan TEQ Equivalent	---	---	---	---	---	---	---	7.09E-05	2.90E-07		1.80E-05	YES		NO
Ethyl Acetate	2.14E-03	1.000	0.005	0.00E+00	3.11E-01	3.11E-01	3.11E+00	1.30E-04						
Ethylbenzene	5.49E-05	1	0.005	0.00E+00	7.98E-03	7.98E-03	7.98E-02	3.33E-06		1.28E+02			NO	
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	1.00E-05	1.00E-05	1.00E-04	4.17E-09		1.54E+02			NO	
Ethanol	2.14E-03	1	0.005	0.00E+00	3.11E-01	3.11E-01	3.11E+00	1.30E-04						
Fluoanthene	2.00E-05	0.992	0.005	1.96E+00	2.90E-03	1.97E+00	1.97E+01	8.19E-04	22	2.44E+04		NO	NO	
Fluorene	1.00E-06	1	0.005	0.00E+00	1.45E-04	1.45E-04	1.45E-03	6.06E-08	4.1	2.65E+04		NO	NO	
Formaldehyde	3.03E-04	1	0.005	0.00E+00	4.40E-02	4.40E-02	4.40E-01	1.84E-05			42			NO
Total Furans	---	---	---	---	---	---	---	7.01E-04		2.12E+01	9.5		NO	NO
Hexane	1.60E-05	1	0.005	0.00E+00	2.33E-03	2.33E-03	2.33E-02	9.69E-07		3.80E+01			NO	
Hydrogen chloride	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05			1.00E+05			NO
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	0.005	6.10E+01	6.38E-04	6.10E+01	6.10E+02	2.54E-02	62	2.34E+01		NO	NO	
Isopropyl Alcohol	5.34E-04	1	0.005	0.00E+00	7.76E-02	7.76E-02	7.76E-01	3.23E-05						
Mercury	2.14E-05	1	2.90E-02	0.00E+00	1.80E-02	1.80E-02	1.80E-01	7.52E-06	1.30E-02	1.00E+05		NO	NO	
Methanol	9.62E-03	1	0.005	0.00E+00	1.40E+00	1.40E+00	1.40E+01	5.83E-04		1.00E+05			NO	
Methylene chloride	3.21E-04	1	0.005	0.00E+00	4.67E-02	4.67E-02	4.67E-01	1.94E-05	2.6	4.90E+02		NO	NO	
Methylcyclohexane	1.56E-04	1	0.005	0.00E+00	2.27E-02	2.27E-02	2.27E-01	9.45E-06		7.89E+01			NO	
Methyl ethyl ketone	4.27E-05	1	0.005	0.00E+00	6.21E-03	6.21E-03	6.21E-02	2.59E-06			3.40E+04			NO
Methyl isobutyl ketone	1.10E-05	1	0.005	0.00E+00	1.60E-03	1.60E-03	1.60E-02	6.66E-07		7.01E+03			NO	
Napthalene	1.62E-04	1	0.005	0.00E+00	2.35E-02	2.35E-02	2.35E-01	9.81E-06	0.96	3.00E+02		NO	NO	
Nitric Acid	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05						
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	1.09E+01	1.09E+01	1.09E+02	4.54E-03						
Particulate matter	2.00E-01	0	0.01	8.19E+06	4.51E+01	8.19E+06	8.19E+07	3.41E+03						
Phenanthrene	7.17E-06	0.999	0.005	8.80E-02	1.04E-03	8.90E-02	8.90E-01	3.71E-05	10	2.05E+04		NO	NO	
Phenol	1.56E-05	1	0.005	0.00E+00	2.27E-03	2.27E-03	2.27E-02	9.45E-07	0.79	1.00E+05		NO	NO	
Potassium Hydroxide	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05						
Pyrene	2.00E-06	0.994	0.005	1.47E-01	2.91E-04	1.47E-01	1.47E+00	6.15E-05	18	3.09E+04		NO	NO	
sodium Hydroxide	4.27E-03	1	0.005	0.00E+00	6.21E-01	6.21E-01	6.21E+00	2.59E-04						
Styrene	4.99E-05	1	0.005	0.00E+00	7.25E-03	7.25E-03	7.25E-02	3.02E-06		100			NO	
Sulfuric Acid	5.34E-03	1	0.005	0.00E+00	7.76E-01	7.76E-01	7.76E+00	3.23E-04						
Sulfur dioxide	2.50E-03	1	0.005	0.00E+00	3.63E-01	3.63E-01	3.63E+00	1.51E-04						
Tetrahydrafuran	3.21E-04	1	0.005	0.00E+00	4.67E-02	4.67E-02	4.67E-01	1.94E-05			2.50E+02			NO

Toluene	1.07E-03	1	0.005	0.00E+00	1.56E-01	1.56E-01	1.56E+00	6.48E-05	23	252		NO	NO	
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	5.00E-06	5.00E-06	5.00E-05	2.08E-09		563			NO	
Trichloroethylene	5.34E-04	1	0.005	0.00E+00	7.76E-02	7.76E-02	7.76E-01	3.23E-05	42	1.56		NO	NO	
1,2,4-Trimethylbenzene	2.43E-04	1	0.005	0.00E+00	3.53E-02	3.53E-02	3.53E-01	1.47E-05		213			NO	
1,3,5-Trimethylbenzene	5.57E-04	1	0.005	0.00E+00	8.10E-02	8.10E-02	8.10E-01	3.37E-05		69.2			NO	
Xylenes	5.77E-04	1	0.005	0.00E+00	8.39E-02	8.39E-02	8.39E-01	3.49E-05	1.4	82		NO	NO	
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	3.24E-05	3.24E-05	3.24E-04	1.35E-08		14			NO	
Zinc	6.26E-05	0	0.01	2.56E+03	1.41E-02	2.56E+03	2.56E+04	1.07E+00	10	1.00E+05		NO	NO	

Calculation of Dioxin/Furan TEQ Concentration

Dioxin/Furan TEQ Equivalent Analysis	EF	Fv	Deposition Velocity, V_p	Gravitational Deposition	Dry Deposition	Total Deposition	10-Yr Total Deposition	10-Yr Soil Concentration		TEQ Equivalent
	µg		m/sec	µg/m²	µg/m²	µg/m²	µg/m²	mg/kg	TEQ	Conc
1234678-HpCDD	**1.49E-12**	**0.003**	0.005	1.82E-05	1.68E-10	1.82E-05	1.82E-04	7.59E-09	**0.01**	7.59E-11
1234678-HpCDF	3.42E-08	0.01	0.005	4.15E-01	3.82E-06	4.15E-01	4.15E+00	1.73E-04	0.1	1.73E-05
123478-HxCDF	2.13E-08	0.049	0.005	2.48E-01	2.29E-06	2.48E-01	2.48E+00	1.04E-04	0.1	1.04E-05
1234789-HpCDF	7.89E-09	0.057	0.005	9.13E-02	8.39E-07	9.13E-02	9.13E-01	3.80E-05	0.01	3.80E-07
123678_HxCDF	9.47E-09	0.052	0.005	1.10E-01	1.01E-06	1.10E-01	1.10E+00	4.59E-05	0.01	4.59E-07
12378-PeCDF	7.89E-09	0.268	0.005	7.08E-02	6.52E-07	7.08E-02	7.08E-01	2.95E-05	0.05	1.48E-06
OCDF	3.95E-08	0.002	0.005	4.84E-01	4.45E-06	4.84E-01	4.84E+00	2.01E-04	0.0001	2.01E-08
234578-HxCDF	5.77E-09	0.055	0.005	6.69E-02	6.15E-07	6.69E-02	6.69E-01	2.79E-05	0.1	2.79E-06
23478-PeCDF	1.88E-08	0.221	0.005	1.80E-01	1.65E-06	1.80E-01	1.80E+00	7.49E-05	0.5	3.74E-05
2378-TCDF	5.52E-09	0.77	0.005	1.56E-02	1.43E-07	1.56E-02	1.56E-01	6.49E-06	0.1	6.49E-07
Total TEQ Equivalent Conc										**7.09E-05**
Total Furans Concentration								7.01E-04		

SCREENING OF OBODM MODEL RESULTS FOR BURNING HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388

Annual Average Peak Air Concentrations Screened Against 0.1xPRGs

20,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Ann. Avg. Vapor	123.84	µg/m^3
Ann. Avg. Part. Bnd.	100.43	µg/m^3
Ann. Avg. Part. Phase	95.767	µg/m^3

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m^3	SCREENING VALUES PRG Carc µg/m^3	PRG Non-Carc µg/m^3	0.1xPRG Carc µg/m^3	0.1xPRG Non-Carc µg/m^3
Acenaphthene	1.00E-05	1	1.24E-03		2.20E+02	0.00E+00	2.20E+01
Acetaldehyde	6.30E-05	1	7.80E-03	8.70E-01	9.4	8.70E-02	9.40E-01
Acetone	1.07E-03	1	1.33E-01		3.30E+03	0.00E+00	3.30E+02
Acetonitrile	1.07E-03	1	1.33E-01		6.20E+01	0.00E+00	6.20E+00
Acetophenone	1.74E-07	1	2.15E-05			0.00E+00	0.00E+00
Acrolein	3.90E-05	1	4.83E-03		2.10E-02	0.00E+00	2.10E-03
Aluminum	7.13E-07	0	6.83E-05		5.1	0.00E+00	5.10E-01
Ammonium Hydroxide	1.07E-03	1	1.33E-01		1.00E+02		1.00E+01
Anthracene	1.50E-05	0.998	1.86E-03		1.10E+03	0.00E+00	1.10E+02
Barium	4.20E-07	0	4.02E-05		0.52	0.00E+00	5.20E-02
BDNPF Ether	6.41E-04	1	7.94E-02				
Benzaldehyde	1.04E-04	1	1.29E-02		3.70E+02	0.00E+00	3.70E+01
Benzene	1.02E-03	1	1.26E-01	2.50E-01	3.10E+01	2.50E-02	3.10E+00
Benzo[a]anthracene	5.00E-06	0.881	6.05E-04	9.20E-03		9.20E-04	0.00E+00
Benzo[a]pyrene	5.00E-06	0.265	5.33E-04	9.20E-04		9.20E-05	0.00E+00
Benzo[b&k]fluoanthene	7.00E-06	0.966	8.61E-04	9.20E-03		9.20E-04	0.00E+00
Benzo[b&k]fluoanthene	7.00E-06	0.273	7.48E-04	9.20E-02		9.20E-03	0.00E+00
Benzyl alcohol	3.96E-05	1	4.90E-03		1.10E+03	0.00E+00	1.10E+02
1-3-Butadiene	1.34E-06	1	1.66E-04	6.10E-02	2.1	6.10E-03	2.10E-01
Butyl Acetate	2.14E-04	1	2.65E-02				
Butyl benzyl phthalate	1.22E-07	0.948	1.50E-05		7.30E+02	0.00E+00	7.30E+01
Butyl Nitrite	1.07E-06	1	1.33E-04				
Carbon monoxide	9.00E-02	1	1.11E+01			0.00E+00	0.00E+00
Carbon tetrachloride	6.89E-08	1	8.53E-06	1.30E-01	2.6	1.30E-02	2.60E-01
Chloroform	2.14E-04	1	2.65E-02	8.30E-02	5.10E+01	8.30E-03	5.10E+00
Chloromethane (methyl chloride)	2.84E-07	1	3.52E-05		9.50E+01	0.00E+00	9.50E+00
Chromium (tot)	3.97E-07	0	3.80E-05	1.60E-04		1.60E-05	0.00E+00
Chrysene	9.00E-06	0.744	1.06E-03	9.20E-01		9.20E-02	0.00E+00
Crotonaldehyde	6.00E-06	1	7.43E-04	3.50E-03		3.50E-04	0.00E+00
Cyclohexane	2.67E-05	1	3.31E-03		6.20E+03	0.00E+00	6.20E+02
Dibenzo[ah]anthracene	2.00E-07	0.055	2.03E-05	9.20E-04		9.20E-05	0.00E+00
Dibutyl phthalate	3.30E-07	0.994	4.08E-05		3.70E+02		3.70E+01
1,2-Dichloroethane	2.14E-03	1	2.65E-01	7.40E-02	5.10E+00	7.40E-03	5.10E-01

1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	2.66E-05		2.10E+02	0.00E+00	2.10E+01
Diethylphthalate	7.00E-08	1	8.67E-06		2.90E+03	0.00E+00	2.90E+02
Dimethyl phthalate	1.88E-07	1	2.33E-05		3.70E+04	0.00E+00	3.70E+03
2,4-Dinitrotoluene	3.21E-04	1	3.98E-02		7.30E+00		7.30E-01
DMSO	5.34E-05	1	6.61E-03				
Dioctyl phthalate	9.19E-07	0.852	1.11E-04		1.50E+02	0.00E+00	1.50E+01
Dioxin/Furan TEQ	---	---	1.74E-06	4.50E-08		4.50E-09	0.00E+00
Ethyl Acetate	2.14E-03	1.000	2.65E-01		3.30E+03	0.00E+00	3.30E+02
Ethylbenzene	5.49E-05	1	6.80E-03		1.10E+03	0.00E+00	1.10E+02
Ethyl chloride	6.89E-08	1	8.53E-06	2.3	1.00E+04	2.30E-01	1.00E+03
Ethanol	2.14E-03	1	2.65E-01				
Fluoanthene	2.00E-05	0.992	2.47E-03		1.50E+02	0.00E+00	1.50E+01
Fluorene	1.00E-06	1	1.24E-04		1.50E+02	0.00E+00	1.50E+01
Formaldehyde	3.03E-04	1	3.75E-02	1.50E-01		1.50E-02	
Hexane	1.60E-05	1	1.98E-03		2.10E+02	0.00E+00	2.10E+01
Hydrogen chloride	1.07E-03	1	1.33E-01		2.10E+01	0.00E+00	2.10E+00
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	5.03E-04	9.20E-03		9.20E-04	0.00E+00
Isopropyl Alcohol	5.34E-04	1	6.61E-02				
Mercury	2.14E-05	1	2.65E-03		3.10E-01	0.00E+00	3.10E-02
Methanol	9.62E-03	1	1.19E+00		1.80E+03	0.00E+00	1.80E+02
Methylene chloride	3.21E-04	1	3.98E-02	4.1	3.10E+03	4.10E-01	3.10E+02
Methylcyclohexane	1.56E-04	1	1.93E-02		3.10E+03	0.00E+00	3.10E+02
Methyl ethyl ketone	4.27E-05	1	5.29E-03		5.10E+03	0.00E+00	5.10E+02
Methyl isobutyl ketone	1.10E-05	1	1.36E-03		3.10E+03	0.00E+00	3.10E+02
Napthalene	1.62E-04	1	2.01E-02		3.1	0.00E+00	3.10E-01
Nitric Acid	1.07E-03	1	1.33E-01				
Nitrogen dioxide	7.50E-02	1	9.29E+00			0.00E+00	0.00E+00
Particulate matter	2.00E-01	0	1.92E+01			0.00E+00	0.00E+00
Phenanthrene	7.17E-06	0.999	8.88E-04			0.00E+00	0.00E+00
Phenol	1.56E-05	1	1.93E-03		1.10E+03	0.00E+00	1.10E+02
Potassium Hydroxide	1.07E-03	1	1.33E-01				
Pyrene	2.00E-06	0.994	2.47E-04		1.10E+02	0.00E+00	1.10E+01
sodium Hydroxide	4.27E-03	1	5.29E-01				
Styrene	4.99E-05	1	6.18E-03		1.10E+03	0.00E+00	1.10E+02
Sulfur dioxide	2.50E-03	1	3.10E-01			0.00E+00	0.00E+00
Sulfuric Acid	5.34E-03	1	6.61E-01				
Tetrahydrafuran	3.21E-04	1	3.98E-02	9.90E-01	3.10E+02	9.90E-02	3.10E+01
Toluene	1.07E-03	1	1.33E-01		4.00E+02	0.00E+00	4.00E+01
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	4.26E-06		2.30E+03	0.00E+00	2.30E+02
Trichloroethylene	5.34E-04	1	6.61E-02	1.72E-02	3.70E+01	1.72E-03	3.70E+00
1,2,4-Trimethylbenzene	2.43E-04	1	3.01E-02		6.2	0.00E+00	6.20E-01
1,3,5-Trimethylbenzene	5.57E-04	1	6.90E-02		6.2	0.00E+00	6.20E-01
Xylenes	5.77E-04	1	7.15E-02		1.10E+02	0.00E+00	1.10E+01
Vinyl chloride	2.23E-07	1	2.76E-05	1.10E-01	1.00E+02	1.10E-02	1.00E+01
Zinc	6.26E-05	0	6.00E-03			0.00E+00	0.00E+00

Calculation of Dioxin/Furan TEQ Concentration

SCREENING OF OBODM MODEL RESULTS FOR BURNING HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388

1-Hour Peak Air Concentrations Screened Against AIEC Values

20,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
1-Hour Vapor	70639.2	$\mu g/m^3$
1-Hour Part. Bnd.	61911.7	$\mu g/m^3$
1-Hour Part. Phase	54813.2	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Acenaphthene	1.00E-05	1	7.06E-01	7.06E-04	1.3	NO
Acetaldehyde	6.30E-05	1	4.45E+00	4.45E-03	81.05	NO
Acetone	1.07E-03	1	7.56E+01	7.56E-02	475	NO
Acetonitrile	1.07E-03	1	7.56E+01	7.56E-02	21.82	NO
Acetophenone	1.74E-07	1	1.23E-02	1.23E-05	30	NO
Acrolein	3.90E-05	1	2.75E+00	2.75E-03	1.90E-04	YES
Aluminum	7.13E-07	0	3.91E-02	3.91E-05		
Ammonium Hydroxide	1.07E-03	1	7.56E+01	7.56E-02		
Anthracene	1.50E-05	0.998	1.06E+00	1.06E-03	6	NO
Barium	4.20E-07	0	2.30E-02	2.30E-05	1.5	NO
BDNPF Ether	6.41E-04	1	4.53E+01	4.53E-02		
Benzaldehyde	1.04E-04	1	7.35E+00	7.35E-03	1.5	NO
Benzene	1.02E-03	1	7.21E+01	7.21E-02	1.3	NO
Benzo[a]anthracene	5.00E-06	0.881	3.48E-01	3.48E-04	0.3	NO
Benzo[a]pyrene	5.00E-06	0.265	3.21E-01	3.21E-04	0.6	NO
Benzo[b&k]fluoanthene	7.00E-06	0.966	4.92E-01	4.92E-04	0.6	NO
Benzo[b&k]fluoanthene	7.00E-06	0.273	4.50E-01	4.50E-04	0.6	NO
Benzyl alcohol	3.96E-05	1	2.80E+00	2.80E-03	60	NO
1-3-Butadiene	1.34E-06	1	9.47E-02	9.47E-05		
Butyl Acetate	2.14E-04	1	1.51E+01	1.51E-02		
Butyl benzyl phthalate	1.22E-07	0.948	8.56E-03	8.56E-06	15	NO
Butyl Nitrite	1.07E-06	1	7.56E-02	7.56E-05		
Carbon monoxide	9.00E-02	1	6.36E+03	6.36E+00		
Carbon tetrachloride	6.89E-08	1	4.87E-03	4.87E-06	1.9	NO
Chloroform	2.14E-04	1	1.51E+01	1.51E-02	0.15	NO
Chloromethane (methyl chloride)	2.84E-07	1	2.01E-02	2.01E-05	200	NO
Chromium (tot)	3.97E-07	0	2.18E-02	2.18E-05	1.5	NO
Chrysene	9.00E-06	0.744	6.16E-01	6.16E-04	0.6	NO
Crotonaldehyde	6.00E-06	1	4.24E-01	4.24E-04		
Cyclohexane	2.67E-05	1	1.89E+00	1.89E-03		
Dibenzo[ah]anthracene	2.00E-07	0.055	1.25E-02	1.25E-05	30	NO
Dibutyl phthalate	3.30E-07	0.994	2.33E-02	2.33E-05	15	NO
1,2-Dichloroethane	2.14E-03	1	1.51E+02	1.51E-01	202	NO

1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.52E-02	1.52E-05	75	NO
Diethylphthalate	7.00E-08	1	4.94E-03	4.94E-06	15	NO
Dimethyl phthalate	1.88E-07	1	1.33E-02	1.33E-05	15	NO
2,4-Dinitrotoluene	3.21E-04	0.999	2.27E+01	2.27E-02	0.6	NO
DMSO	5.34E-05	1	3.77E+00	3.77E-03		
Dioctyl phthalate	9.19E-07	0.852	6.37E-02	6.37E-05	50	NO
1234678-HpCDD	1.49E-12	0.003	9.23E-08	9.23E-11	6.00E-01	NO
Ethyl Acetate	2.14E-03	1.000	1.51E+02	1.51E-01		
Ethylbenzene	5.49E-05	1	3.88E+00	3.88E-03	500	NO
Ethyl chloride	6.89E-08	1	4.87E-03	4.87E-06		
Ethanol	2.14E-03	1	1.51E+02	1.51E-01		
Fluoanthene	2.00E-05	0.992	1.41E+00	1.41E-03	0.015	NO
Fluorene	1.00E-06	1	7.06E-02	7.06E-05	11.56	NO
Formaldehyde	3.03E-04	1	2.14E+01	2.14E-02	0.094	NO
1234678-HpCDF	3.42E-08	0.01	2.12E-03	2.12E-06	1.50E-01	NO
123478-HxCDF	2.13E-08	0.049	1.33E-03	1.33E-06	7.50E-03	NO
1234789-HpCDF	7.89E-09	0.057	4.92E-04	4.92E-07	2.50E-01	NO
123678_HxCDF	9.47E-09	0.052	5.91E-04	5.91E-07	2.50E-03	NO
12378-PeCDF	7.89E-09	0.268	5.07E-04	5.07E-07	7.50E-03	NO
OCDF	3.95E-08	0.002	2.45E-03	2.45E-06	7.50E-03	NO
234578-HxCDF	5.77E-09	0.055	3.60E-04	3.60E-07	1.50E-03	NO
23478-PeCDF	1.88E-08	0.221	1.20E-03	1.20E-06	7.50E-05	NO
2378-TCDF	5.52E-09	0.77	3.79E-04	3.79E-07	2.00E-03	NO
Hexane	1.60E-05	1	1.13E+00	1.13E-03		
Hydrogen chloride	1.07E-03	1	7.56E+01	7.56E-02		
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	3.10E-01	3.10E-04	0.5	NO
Isopropyl Alcohol	5.34E-04	1	3.77E+01	3.77E-02		
Mercury	2.14E-05	1	1.51E+00	1.51E-03	1.80E-03	NO
Methanol	9.62E-03	1	6.80E+02	6.80E-01	28	NO
Methylene chloride	3.21E-04	1	2.27E+01	2.27E-02	14	NO
Methylcyclohexane	1.56E-04	1	1.10E+01	1.10E-02		
Methyl ethyl ketone	4.27E-05	1	3.02E+00	3.02E-03	13	NO
Methyl isobutyl ketone	1.10E-05	1	7.77E-01	7.77E-04	300	NO
Napthalene	1.62E-04	1	1.14E+01	1.14E-02	75	NO
Nitric Acid	1.07E-03	1	7.56E+01	7.56E-02		
Nitrogen dioxide	7.50E-02	1	5.30E+03	5.30E+00		
Particulate matter	2.00E-01	0	1.10E+04	1.10E+01		
Phenanthrene	7.17E-06	0.999	5.06E-01	5.06E-04	1	NO
Phenol	1.56E-05	1	1.10E+00	1.10E-03	5.8	NO
Potassium Hydroxide	1.07E-03	1	7.56E+01	7.56E-02		
Pyrene	2.00E-06	0.994	1.41E-01	1.41E-04	15	NO
sodium Hydroxide	4.27E-03	1	3.02E+02	3.02E-01		
Styrene	4.99E-05	1	3.52E+00	3.52E-03	21	NO
Sulfuric Acid	5.34E-03	1	3.77E+02	3.77E-01		
Sulfur dioxide	2.50E-03	1	1.77E+02	1.77E-01		
Tetrahydrafuran	3.21E-04	1	2.27E+01	2.27E-02	750	NO
Toluene	1.07E-03	1	7.56E+01	7.56E-02	37	NO

SCREENING OF OBODM MODEL RESULTS FOR BURNING
HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388
10-Year Soil Concentrations Screened Against LANL ESLs and NMED or EPA Region 6 Industrial SSLs
20,000 lbs/yr and 250 lbs/event

OBODM Modeling Results		
Soil Active Layer	0.02	meters
Soil Bulk Density	1200	kg/m³
Ann Avg Part Bnd Dose	100.07	(µg·hr)/m³
Ann Avg Part Phase Dose	95.425	(µg·hr)/m³
Ann Avg Vapor Phase Dose	123.37	(µg·hr)/m³
Ann Part Bnd Grav Dep	2.61E+08	µg/m²
Ann Part Phase Grav Dep	1.02E+09	µg/m²

Contaminant	EF g/g	Fv	Deposition Velocity, V_p m/sec	Gravitational Deposition µg/m²	Dry Deposition µg/m²	Total Deposition µg/m²	10-Yr Total Deposition µg/m²	10-Yr Soil Concentration mg/kg	Screening Values: LANL ESL mg/kg	NMED I/O Soil mg/kg	R6 Med Spec Ind SSL mg/kg	Results Ecological Screen	Results Human Health Screen: NMED	R6
Acenaphthene	1.00E-05	1	0.005	0.00E+00	2.22E-02	2.22E-02	2.22E-01	9.25E-06	0.25	3.35E+04		NO	NO	
Acetaldehyde	6.30E-05	1	0.005	0.00E+00	1.40E-01	1.40E-01	1.40E+00	5.83E-05		3.84E+02			NO	
Acetone	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04	1.2	2.81E+04		NO	NO	
Acetonitrile	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04			2.30E+03			NO
Acetophenone	1.74E-07	1	0.005	0.00E+00	3.86E-04	3.86E-04	3.86E-03	1.61E-07		1.48E+03			NO	
Acrolein	3.90E-05	1	0.005	0.00E+00	8.66E-02	8.66E-02	8.66E-01	3.61E-05		7.52E-01			NO	
Aluminum	7.13E-07	0	0.01	7.27E+02	2.45E-03	7.27E+02	7.27E+03	3.03E-01		1.00E+05			NO	
Ammonium Hydroxide	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04						
Anthracene	1.50E-05	0.998	0.005	7.84E+00	3.33E-02	7.88E+00	7.88E+01	3.28E-03	210	1.00E+05		NO	NO	
Barium	4.20E-07	0	0.01	4.28E+02	1.44E-03	4.28E+02	4.28E+03	1.79E-01	110	1.00E+05		NO	NO	
BDNPF Ether	6.41E-04	1	0.005	0.00E+00	1.42E+00	1.42E+00	1.42E+01	5.93E-04						
Benzaldehyde	1.04E-04	1	0.005	0.00E+00	2.31E-01	2.31E-01	2.31E+00	9.62E-05			6.80E+04			NO
Benzene	1.02E-03	1	0.005	0.00E+00	2.27E+00	2.27E+00	2.27E+01	9.44E-04	24	2.58E+01		NO	NO	
Benzo[a]anthracene	5.00E-06	0.881	0.005	1.56E+02	1.09E-02	1.56E+02	1.56E+03	6.48E-02	3	2.34E+01		NO	NO	
Benzo[a]pyrene	5.00E-06	0.265	0.005	9.61E+02	9.56E-03	9.61E+02	9.61E+03	4.00E-01	9.6	2.34		NO	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.966	0.005	6.22E+01	1.54E-02	6.22E+01	6.22E+02	2.59E-02	18	2.34E+01		NO	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.273	0.005	1.33E+03	1.34E-02	1.33E+03	1.33E+04	5.54E-01	62	2.34E+02		NO	NO	
Benzyl alcohol	3.96E-05	1	0.005	0.00E+00	8.79E-02	8.79E-02	8.79E-01	3.66E-05			1.00E+05			NO
1-3-Butadiene	1.34E-06	1	0.005	0.00E+00	2.98E-03	2.98E-03	2.98E-02	1.24E-06		2.38			NO	
Butyl Acetate	2.14E-04	1	0.005	0.00E+00	4.75E-01	4.75E-01	4.75E+00	1.98E-04						
Butyl benzyl phthalate	1.22E-07	0.948	0.005	1.66E+00	2.68E-04	1.66E+00	1.66E+01	6.91E-04	90		2.40E+02	NO		NO
Butyl Nitrite	1.07E-06	1	0.005	0.00E+00	2.38E-03	2.38E-03	2.38E-02	9.90E-07						
Carbon monoxide	9.00E-02	1	0.005	0.00E+00	2.00E+02	2.00E+02	2.00E+03	8.33E-02						
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	1.53E-04	1.53E-04	1.53E-03	6.38E-08		8.64			NO	
Chloroform	2.14E-04	1	0.005	0.00E+00	4.75E-01	4.75E-01	4.75E+00	1.98E-04	8	9.59		NO	NO	
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	6.31E-04	6.31E-04	6.31E-03	2.63E-07		5.34E+01			NO	
Chromium (tot)	3.97E-07	0	0.01	4.05E+02	1.36E-03	4.05E+02	4.05E+03	1.69E-01	2.3	1.00E+05	5.00E+02	NO	NO	NO
Chrysene	9.00E-06	0.744	0.005	6.02E+02	1.90E-02	6.02E+02	6.02E+03	2.51E-01	2.4	2.31E+03		NO	NO	
Crotonaldehyde	6.00E-06	1	0.005	0.00E+00	1.33E-02	1.33E-02	1.33E-01	5.55E-06		1.70E-01			NO	
Cyclohexane	2.67E-05	1	0.005	0.00E+00	5.93E-02	5.93E-02	5.93E-01	2.47E-05			1.40E+02			NO
Dibenzo[ah]anthracene	2.00E-07	0.055	0.005	4.94E+01	3.65E-04	4.94E+01	4.94E+02	2.06E-02	12	2.34		NO	NO	
Dibutyl phthalate	3.30E-07	0.994	0.005	5.18E-01	7.32E-04	5.18E-01	5.18E+00	2.16E-04	1.10E-02	6.84E+04		NO	NO	
1,2-Dichloroethane	2.14E-03	1	0.005	0.00E+00	4.75E+00	4.75E+00	4.75E+01	1.98E-03		1.52E+01			NO	
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	4.77E-04	4.77E-04	4.77E-03	1.99E-07	11		4.70E+02	NO		NO
Diethylphthalate	7.00E-08	1	0.005	0.00E+00	1.55E-04	1.55E-04	1.55E-03	6.48E-08		1.00E+05			NO	
Dimethyl phthalate	1.88E-07	1	0.005	0.00E+00	4.17E-04	4.17E-04	4.17E-03	1.74E-07	10	1.00E+05		NO	NO	
2,4-Dinitrotoluene	3.21E-04	0.999	0.005	8.39E+01	7.13E-01	8.46E+01	8.46E+02	3.53E-02		1.37E+03			NO	
DMSO	5.34E-05	1	0.005	0.00E+00	1.19E-01	1.19E-01	1.19E+00	4.94E-05						
Dioctyl phthalate	9.19E-07	0.852	0.005	3.56E+01	1.98E-03	3.56E+01	3.56E+02	1.48E-02	1.1			NO		
Dioxin/Furan TEQ Equivalent	---	---	---	---	---	---	---	1.51E-03	2.90E-07		1.80E-05	YES		YES
Ethyl Acetate	2.14E-03	1.000	0.005	0.00E+00	4.75E+00	4.75E+00	4.75E+01	1.98E-03						
Ethylbenzene	5.49E-05	1	0.005	0.00E+00	1.22E-01	1.22E-01	1.22E+00	5.08E-05		1.28E+02			NO	
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	1.53E-04	1.53E-04	1.53E-03	6.38E-08		1.54E+02			NO	
Ethanol	2.14E-03	1	0.005	0.00E+00	4.75E+00	4.75E+00	4.75E+01	1.98E-03						
Fluoanthene	2.00E-05	0.992	0.005	4.18E+01	4.43E-02	4.19E+01	4.19E+02	1.74E-02	22	2.44E+04		NO	NO	
Fluorene	1.00E-06	1	0.005	0.00E+00	2.22E-03	2.22E-03	2.22E-02	9.25E-07	4.1	2.65E+04		NO	NO	
Formaldehyde	3.03E-04	1	0.005	0.00E+00	6.73E-01	6.73E-01	6.73E+00	2.80E-04			42			NO
Total Furans	---	---	---	---	---	---	---	1.49E-02		2.12E+01	9.5		NO	NO
Hexane	1.60E-05	1	0.005	0.00E+00	3.55E-02	3.55E-02	3.55E-01	1.48E-05		3.80E+01			NO	
Hydrogen chloride	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04			1.00E+05			NO
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	0.005	1.30E+03	9.02E-03	1.30E+03	1.30E+04	5.42E-01	62	2.34E+01		NO	NO	
Isopropyl Alcohol	5.34E-04	1	0.005	0.00E+00	1.19E+00	1.19E+00	1.19E+01	4.94E-04						
Mercury	2.14E-05	1	2.90E-02	0.00E+00	2.76E-01	2.76E-01	2.76E+00	1.15E-04	1.30E-02	1.00E+05		NO	NO	
Methanol	9.62E-03	1	0.005	0.00E+00	2.14E+01	2.14E+01	2.14E+02	8.90E-03		1.00E+05			NO	
Methylene chloride	3.21E-04	1	0.005	0.00E+00	7.13E-01	7.13E-01	7.13E+00	2.97E-04	2.6	4.90E+02		NO	NO	
Methylcyclohexane	1.56E-04	1	0.005	0.00E+00	3.46E-01	3.46E-01	3.46E+00	1.44E-04		7.89E+01			NO	
Methyl ethyl ketone	4.27E-05	1	0.005	0.00E+00	9.48E-02	9.48E-02	9.48E-01	3.95E-05			3.40E+04			NO
Methyl isobutyl ketone	1.10E-05	1	0.005	0.00E+00	2.44E-02	2.44E-02	2.44E-01	1.02E-05		7.01E+03			NO	
Napthalene	1.62E-04	1	0.005	0.00E+00	3.60E-01	3.60E-01	3.60E+00	1.50E-04	0.96	3.00E+02		NO	NO	
Nitric Acid	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04						
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	1.67E+02	1.67E+02	1.67E+03	6.94E-02						
Particulate matter	2.00E-01	0	0.01	2.04E+08	6.87E+02	2.04E+08	2.04E+09	8.50E+04						
Phenanthrene	7.17E-06	0.999	0.005	1.87E+00	1.59E-02	1.89E+00	1.89E+01	7.88E-04	10	2.05E+04		NO	NO	
Phenol	1.56E-05	1	0.005	0.00E+00	3.46E-02	3.46E-02	3.46E-01	1.44E-05	0.79	1.00E+05		NO	NO	
Potassium Hydroxide	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04						
Pyrene	2.00E-06	0.994	0.005	3.14E+00	4.44E-03	3.14E+00	3.14E+01	1.31E-03	18	3.09E+04		NO	NO	
sodium Hydroxide	4.27E-03	1	0.005	0.00E+00	9.48E+00	9.48E+00	9.48E+01	3.95E-03						
Styrene	4.99E-05	1	0.005	0.00E+00	1.11E-01	1.11E-01	1.11E+00	4.62E-05		100			NO	
Sulfuric Acid	5.34E-03	1	0.005	0.00E+00	1.19E+01	1.19E+01	1.19E+02	4.94E-03						
Sulfur dioxide	2.50E-03	1	0.005	0.00E+00	5.55E+00	5.55E+00	5.55E+01	2.31E-03						
Tetrahydrafuran	3.21E-04	1	0.005	0.00E+00	7.13E-01	7.13E-01	7.13E+00	2.97E-04			2.50E+02			NO

Toluene	1.07E-03	1	0.005	0.00E+00	2.38E+00	2.38E+00	2.38E+01	9.90E-04	23	252		NO	NO	
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	7.64E-05	7.64E-05	7.64E-04	3.18E-08		563			NO	
Trichloroethylene	5.34E-04	1	0.005	0.00E+00	1.19E+00	1.19E+00	1.19E+01	4.94E-04	42	1.56		NO	NO	
1,2,4-Trimethylbenzene	2.43E-04	1	0.005	0.00E+00	5.40E-01	5.40E-01	5.40E+00	2.25E-04		213			NO	
1,3,5-Trimethylbenzene	5.57E-04	1	0.005	0.00E+00	1.24E+00	1.24E+00	1.24E+01	5.15E-04		69.2			NO	
Xylenes	5.77E-04	1	0.005	0.00E+00	1.28E+00	1.28E+00	1.28E+01	5.34E-04	1.4	82		NO	NO	
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	4.95E-04	4.95E-04	4.95E-03	2.06E-07		14			NO	
Zinc	6.26E-05	0	0.01	6.39E+04	2.15E-01	6.39E+04	6.39E+05	2.66E+01	10	1.00E+05		YES	NO	

Calculation of Dioxin/Furan TEQ Concentration

Dioxin/Furan TEQ Equivalent Analysis	EF g/g	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition $\mu g/m^2$	Dry Deposition $\mu g/m^2$	Total Deposition $\mu g/m^2$	10-Yr Total Deposition $\mu g/m^2$	10-Yr Soil Concentration mg/kg	TEQ	TEQ Equivalent Conc
1234678-HpCDD	**1.49E-12**	**0.003**	0.005	3.88E-04	2.55E-09	3.88E-04	3.88E-03	1.62E-07	**0.01**	1.62E-09
1234678-HpCDF	3.42E-08	0.01	0.005	8.85E+00	5.82E-05	8.85E+00	8.85E+01	3.69E-03	0.1	3.69E-04
123478-HxCDF	2.13E-08	0.049	0.005	5.30E+00	3.48E-05	5.30E+00	5.30E+01	2.21E-03	0.1	2.21E-04
1234789-HpCDF	7.89E-09	0.057	0.005	1.95E+00	1.28E-05	1.95E+00	1.95E+01	8.10E-04	0.01	8.10E-06
123678_HxCDF	9.47E-09	0.052	0.005	2.35E+00	1.54E-05	2.35E+00	2.35E+01	9.78E-04	0.01	9.78E-06
12378-PeCDF	7.89E-09	0.268	0.005	1.51E+00	9.92E-06	1.51E+00	1.51E+01	6.29E-04	0.05	3.15E-05
OCDF	3.95E-08	0.002	0.005	1.03E+01	6.77E-05	1.03E+01	1.03E+02	4.29E-03	0.0001	4.29E-07
234578-HxCDF	5.77E-09	0.055	0.005	1.43E+00	9.37E-06	1.43E+00	1.43E+01	5.94E-04	0.1	5.94E-05
23478-PeCDF	1.88E-08	0.221	0.005	3.83E+00	2.52E-05	3.83E+00	3.83E+01	1.60E-03	0.5	7.98E-04
2378-TCDF	5.52E-09	0.77	0.005	3.32E-01	2.18E-06	3.32E-01	3.32E+00	1.38E-04	0.1	1.38E-05
Total TEQ Equivalent Conc										**1.51E-03**
Total Furans Concentration								1.49E-02		

SCREENING OF OBODM MODEL RESULTS FOR BURNING HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388

Annual Average Peak Air Concentrations Screened Against 0.1xPRGs

22,000 lbs/yr and 275 lbs/event

OBODM Modeling Results		
Ann. Avg. Vapor	120.85	µg/m³
Ann. Avg. Part. Bnd	97.049	µg/m³
Ann. Avg. Part. Pha	95.36	µg/m³

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. µg/m³	SCREENING VALUES: PRG Carc µg/m³	PRG Non-Carc µg/m³	0.1xPRG Carc µg/m³	0.1xPRG Non-Carc µg/m³	SCREENING RESULTS: PRG Carc	PRG Non-Carc
Acenaphthene	1.00E-05	1	1.21E-03		2.20E+02	0.00E+00	2.20E+01		NO
Acetaldehyde	6.30E-05	1	7.61E-03	8.70E-01	9.4	8.70E-02	9.40E-01	NO	NO
Acetone	1.07E-03	1	1.29E-01		3.30E+03	0.00E+00	3.30E+02		NO
Acetonitrile	1.07E-03	1	1.29E-01		6.20E+01	0.00E+00	6.20E+00		NO
Acetophenone	1.74E-07	1	2.10E-05			0.00E+00	0.00E+00		
Acrolein	3.90E-05	1	4.71E-03		2.10E-02	0.00E+00	2.10E-03		YES
Aluminum	7.13E-07	0	6.80E-05		5.1	0.00E+00	5.10E-01		NO
Ammonium Hydroxide	1.07E-03	1	1.29E-01		1.00E+02		1.00E+01		NO
Anthracene	1.50E-05	1	1.81E-03		1.10E+03	0.00E+00	1.10E+02		NO
Barium	4.20E-07	0	4.01E-05		0.52	0.00E+00	5.20E-02		NO
BDNPF Ether	6.41E-04	1	7.75E-02						
Benzaldehyde	1.04E-04	1	1.26E-02		3.70E+02	0.00E+00	3.70E+01		NO
Benzene	1.02E-03	1	1.23E-01	2.50E-01	3.10E+01	2.50E-02	3.10E+00	YES	NO
Benzo[a]anthracene	5.00E-06	0.881	5.90E-04	9.20E-03		9.20E-04	0.00E+00	NO	
Benzo[a]pyrene	5.00E-06	0.265	5.17E-04	9.20E-04		9.20E-05	0.00E+00	YES	
Benzo[b&k]fluoanthene	7.00E-06	0.97	8.40E-04	9.20E-03		9.20E-04	0.00E+00	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.27	7.25E-04	9.20E-02		9.20E-03	0.00E+00	NO	
Benzyl alcohol	3.96E-05	1	4.79E-03		1.10E+03	0.00E+00	1.10E+02		NO
1-3-Butadiene	1.34E-06	1	1.62E-04	6.10E-02	2.1	6.10E-03	2.10E-01	NO	NO
Butyl Acetate	2.14E-04	1	2.59E-02						
Butyl benzyl phthalate	1.22E-07	0.95	1.46E-05		7.30E+02	0.00E+00	7.30E+01		NO
Butyl Nitrite	1.07E-06	1	1.29E-04						
Carbon monoxide	9.00E-02	1	1.09E+01			0.00E+00	0.00E+00		
Carbon tetrachloride	6.89E-08	1	8.33E-06	1.30E-01	2.6	1.30E-02	2.60E-01	NO	NO
Chloroform	2.14E-04	1	2.59E-02	8.30E-02	5.10E+01	8.30E-03	5.10E+00	YES	NO
Chloromethane (methyl chloride)	2.84E-07	1	3.43E-05		9.50E+01	0.00E+00	9.50E+00		NO
Chromium (tot)	3.97E-07	0	3.79E-05	1.60E-04		1.60E-05	0.00E+00	YES	
Chrysene	9.00E-06	0.74	1.03E-03	9.20E-01		9.20E-02	0.00E+00	NO	
Crotonaldehyde	6.00E-06	1	7.25E-04	3.50E-03		3.50E-04	0.00E+00	YES	

Cyclohexane	2.67E-05	1	3.23E-03		6.20E+03	0.00E+00	6.20E+02		NO
Dibenzo[ah]anthracene	2.00E-07	0.06	1.97E-05	9.20E-04		9.20E-05	0.00E+00	NO	
Dibutyl phthalate	3.30E-07	0.99	3.98E-05		3.70E+02		3.70E+01		NO
1,2-Dichloroethane	2.14E-03	1	2.59E-01	7.40E-02	5.10E+00	7.40E-03	5.10E-01	YES	NO
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	2.60E-05		2.10E+02	0.00E+00	2.10E+01		NO
Diethylphthalate	7.00E-08	1	8.46E-06		2.90E+03	0.00E+00	2.90E+02		NO
Dimethyl phthalate	1.88E-07	1	2.27E-05		3.70E+04	0.00E+00	3.70E+03		NO
2,4-Dinitrotoluene	3.21E-04	1	3.88E-02		7.30E+00		7.30E-01		NO
DMSO	5.34E-05	1	6.45E-03						
Dioctyl phthalate	9.19E-07	0.85	1.08E-04		1.50E+02	0.00E+00	1.50E+01		NO
Dioxin/Furan TEQ	---	---	1.68E-06	4.50E-08		4.50E-09	0.00E+00	YES	
Ethyl Acetate	2.14E-03	1.000	2.59E-01		3.30E+03	0.00E+00	3.30E+02		NO
Ethylbenzene	5.49E-05	1	6.63E-03		1.10E+03	0.00E+00	1.10E+02		NO
Ethyl chloride	6.89E-08	1	8.33E-06	2.3	1.00E+04	2.30E-01	1.00E+03	NO	NO
Ethanol	2.14E-03	1	2.59E-01						
Fluoanthene	2.00E-05	0.99	2.41E-03		1.50E+02	0.00E+00	1.50E+01		NO
Fluorene	1.00E-06	1	1.21E-04		1.50E+02	0.00E+00	1.50E+01		NO
Formaldehyde	3.03E-04	1	3.66E-02	1.50E-01		1.50E-02		YES	
Hexane	1.60E-05	1	1.93E-03		2.10E+02	0.00E+00	2.10E+01		NO
Hydrogen chloride	1.07E-03	1	1.29E-01		2.10E+01	0.00E+00	2.10E+00		NO
Indeno[1,2,3-cd]pyrene	5.00E-06	0.01	4.86E-04	9.20E-03		9.20E-04	0.00E+00	NO	
Isopropyl Alcohol	5.34E-04	1	6.45E-02						
Mercury	2.14E-05	1	2.59E-03		3.10E-01	0.00E+00	3.10E-02		NO
Methanol	9.62E-03	1	1.16E+00		1.80E+03	0.00E+00	1.80E+02		NO
Methylene chloride	3.21E-04	1	3.88E-02	4.1	3.10E+03	4.10E-01	3.10E+02	NO	NO
Methylcyclohexane	1.56E-04	1	1.89E-02		3.10E+03	0.00E+00	3.10E+02		NO
Methyl ethyl ketone	4.27E-05	1	5.16E-03		5.10E+03	0.00E+00	5.10E+02		NO
Methyl isobutyl ketone	1.10E-05	1	1.33E-03		3.10E+03	0.00E+00	3.10E+02		NO
Napthalene	1.62E-04	1	1.96E-02		3.1	0.00E+00	3.10E-01		NO
Nitric Acid	1.07E-03	1	1.29E-01						
Nitrogen dioxide	7.50E-02	1	9.06E+00			0.00E+00	0.00E+00		
Particulate matter	2.00E-01	0	1.91E+01			0.00E+00	0.00E+00		
Phenanthrene	7.17E-06	1	8.66E-04			0.00E+00	0.00E+00		
Phenol	1.56E-05	1	1.89E-03		1.10E+03	0.00E+00	1.10E+02		NO
Potassium Hydroxide	1.07E-03	1	1.29E-01						
Pyrene	2.00E-06	0.99	2.41E-04		1.10E+02	0.00E+00	1.10E+01		NO
sodium Hydroxide	4.27E-03	1	5.16E-01						
Styrene	4.99E-05	1	6.03E-03		1.10E+03	0.00E+00	1.10E+02		NO
Sulfur dioxide	2.50E-03	1	3.02E-01			0.00E+00	0.00E+00		
Sulfuric Acid	5.34E-03	1	6.45E-01						
Tetrahydrafuran	3.21E-04	1	3.88E-02	9.90E-01	3.10E+02	9.90E-02	3.10E+01	NO	NO
Toluene	1.07E-03	1	1.29E-01		4.00E+02	0.00E+00	4.00E+01		NO

1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	4.16E-06		2.30E+03	0.00E+00	2.30E+02		NO
Trichloroethylene	5.34E-04	1	6.45E-02	1.72E-02	3.70E+01	1.72E-03	3.70E+00	YES	NO
1,2,4-Trimethylbenzene	2.43E-04	1	2.94E-02		6.2	0.00E+00	6.20E-01		NO
1,3,5-Trimethylbenzene	5.57E-04	1	6.73E-02		6.2	0.00E+00	6.20E-01		NO
Xylenes	5.77E-04	1	6.97E-02		1.10E+02	0.00E+00	1.10E+01		NO
Vinyl chloride	2.23E-07	1	2.69E-05	1.10E-01	1.00E+02	1.10E-02	1.00E+01	NO	NO
Zinc	6.26E-05	0	5.97E-03			0.00E+00	0.00E+00		

			Dioxin/Furan Concentratic	TEQ	D/F TEQ Equivalent oncentration
1234678-HpCDD	**1.49E-12**	**0**	1.45E-10	**0.01**	1.45E-12
1234678-HpCDF	3.42E-08	0.01	3.33E-06	0.1	3.33E-07
123478-HxCDF	2.13E-08	0.05	2.09E-06	0.1	2.09E-07
1234789-HpCDF	7.89E-09	0.06	7.76E-07	0.01	7.76E-09
123678_HxCDF	9.47E-09	0.05	9.31E-07	0.01	9.31E-09
12378-PeCDF	7.89E-09	0.27	8.16E-07	0.05	4.08E-08
OCDF	3.95E-08	0	3.84E-06	0.0001	3.84E-10
234578-HxCDF	5.77E-09	0.06	5.68E-07	0.1	5.68E-08
23478-PeCDF	1.88E-08	0.22	1.92E-06	0.5	9.62E-07
2378-TCDF	5.52E-09	0.77	6.37E-07	0.1	6.37E-08
tal TEQ Equivalent Conc					**1.68E-06**

SCREENING OF OBODM MODEL RESULTS FOR BURNING HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388

1-Hour Peak Air Concentrations Screened Against AIEC Values

22,000 lbs/yr and 275 lbs/event

OBODM Modeling Results		
1-Hour Vapor	73394.3	$\mu g/m^3$
1-Hour Part. Bnd.	63139.5	$\mu g/m^3$
1-Hour Part. Phase	56810.2	$\mu g/m^3$

Contaminant	EF (g/g)	Fv	Ann. Avg. Air Conc. $\mu g/m^3$	Ann. Avg. Air Conc. mg/m^3	Screening Value AIEC mg/m^3	Screening Results
Acenaphthene	1.00E-05	1	7.34E-01	7.34E-04	1.3	NO
Acetaldehyde	6.30E-05	1	4.62E+00	4.62E-03	81.05	NO
Acetone	1.07E-03	1	7.85E+01	7.85E-02	475	NO
Acetonitrile	1.07E-03	1	7.85E+01	7.85E-02	21.82	NO
Acetophenone	1.74E-07	1	1.28E-02	1.28E-05	30	NO
Acrolein	3.90E-05	1	2.86E+00	2.86E-03	1.90E-04	YES
Aluminum	7.13E-07	0	4.05E-02	4.05E-05		
Ammonium Hydroxide	1.07E-03	1	7.85E+01	7.85E-02		
Anthracene	1.50E-05	0.998	1.10E+00	1.10E-03	6	NO
Barium	4.20E-07	0	2.39E-02	2.39E-05	1.5	NO
BDNPF Ether	6.41E-04	1	4.70E+01	4.70E-02		
Benzaldehyde	1.04E-04	1	7.63E+00	7.63E-03	1.5	NO
Benzene	1.02E-03	1	7.49E+01	7.49E-02	1.3	NO
Benzo[a]anthracene	5.00E-06	0.881	3.61E-01	3.61E-04	0.3	NO
Benzo[a]pyrene	5.00E-06	0.265	3.29E-01	3.29E-04	0.6	NO
Benzo[b&k]fluoanthene	7.00E-06	0.966	5.11E-01	5.11E-04	0.6	NO
Benzo[b&k]fluoanthene	7.00E-06	0.273	4.62E-01	4.62E-04	0.6	NO
Benzyl alcohol	3.96E-05	1	2.91E+00	2.91E-03	60	NO
1-3-Butadiene	1.34E-06	1	9.83E-02	9.83E-05		
Butyl Acetate	2.14E-04	1	1.57E+01	1.57E-02		
Butyl benzyl phthalate	1.22E-07	0.948	8.89E-03	8.89E-06	15	NO
Butyl Nitrite	1.07E-06	1	7.85E-02	7.85E-05		
Carbon monoxide	9.00E-02	1	6.61E+03	6.61E+00		
Carbon tetrachloride	6.89E-08	1	5.06E-03	5.06E-06	1.9	NO
Chloroform	2.14E-04	1	1.57E+01	1.57E-02	0.15	NO
Chloromethane (methyl chloride)	2.84E-07	1	2.08E-02	2.08E-05	200	NO
Chromium (tot)	3.97E-07	0	2.26E-02	2.26E-05	1.5	NO
Chrysene	9.00E-06	0.744	6.37E-01	6.37E-04	0.6	NO
Crotonaldehyde	6.00E-06	1	4.40E-01	4.40E-04		
Cyclohexane	2.67E-05	1	1.96E+00	1.96E-03		
Dibenzo[ah]anthracene	2.00E-07	0.055	1.27E-02	1.27E-05	30	NO
Dibutyl phthalate	3.30E-07	0.994	2.42E-02	2.42E-05	15	NO
1,2-Dichloroethane	2.14E-03	1	1.57E+02	1.57E-01	202	NO

1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	1.58E-02	1.58E-05	75	NO
Diethylphthalate	7.00E-08	1	5.14E-03	5.14E-06	15	NO
Dimethyl phthalate	1.88E-07	1	1.38E-02	1.38E-05	15	NO
2,4-Dinitrotoluene	3.21E-04	0.999	2.36E+01	2.36E-02	0.6	NO
DMSO	5.34E-05	1	3.92E+00	3.92E-03		
Dioctyl phthalate	9.19E-07	0.852	6.61E-02	6.61E-05	50	NO
1234678-HpCDD	1.49E-12	0.003	9.41E-08	9.41E-11	6.00E-01	NO
Ethyl Acetate	2.14E-03	1.000	1.57E+02	1.57E-01		
Ethylbenzene	5.49E-05	1	4.03E+00	4.03E-03	500	NO
Ethyl chloride	6.89E-08	1	5.06E-03	5.06E-06		
Ethanol	2.14E-03	1	1.57E+02	1.57E-01		
Fluoanthene	2.00E-05	0.992	1.47E+00	1.47E-03	0.015	NO
Fluorene	1.00E-06	1	7.34E-02	7.34E-05	11.56	NO
Formaldehyde	3.03E-04	1	2.22E+01	2.22E-02	0.094	NO
1234678-HpCDF	3.42E-08	0.01	2.16E-03	2.16E-06	1.50E-01	NO
123478-HxCDF	2.13E-08	0.049	1.36E-03	1.36E-06	7.50E-03	NO
1234789-HpCDF	7.89E-09	0.057	5.03E-04	5.03E-07	2.50E-01	NO
123678_HxCDF	9.47E-09	0.052	6.03E-04	6.03E-07	2.50E-03	NO
12378-PeCDF	7.89E-09	0.268	5.20E-04	5.20E-07	7.50E-03	NO
OCDF	3.95E-08	0.002	2.49E-03	2.49E-06	7.50E-03	NO
234578-HxCDF	5.77E-09	0.055	3.68E-04	3.68E-07	1.50E-03	NO
23478-PeCDF	1.88E-08	0.221	1.23E-03	1.23E-06	7.50E-05	NO
2378-TCDF	5.52E-09	0.77	3.92E-04	3.92E-07	2.00E-03	NO
Hexane	1.60E-05	1	1.17E+00	1.17E-03		
Hydrogen chloride	1.07E-03	1	7.85E+01	7.85E-02		
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	3.16E-01	3.16E-04	0.5	NO
Isopropyl Alcohol	5.34E-04	1	3.92E+01	3.92E-02		
Mercury	2.14E-05	1	1.57E+00	1.57E-03	1.80E-03	NO
Methanol	9.62E-03	1	7.06E+02	7.06E-01	28	NO
Methylene chloride	3.21E-04	1	2.36E+01	2.36E-02	14	NO
Methylcyclohexane	1.56E-04	1	1.14E+01	1.14E-02		
Methyl ethyl ketone	4.27E-05	1	3.13E+00	3.13E-03	13	NO
Methyl isobutyl ketone	1.10E-05	1	8.07E-01	8.07E-04	300	NO
Napthalene	1.62E-04	1	1.19E+01	1.19E-02	75	NO
Nitric Acid	1.07E-03	1	7.85E+01	7.85E-02		
Nitrogen dioxide	7.50E-02	1	5.50E+03	5.50E+00		
Particulate matter	2.00E-01	0	1.14E+04	1.14E+01		
Phenanthrene	7.17E-06	0.999	5.26E-01	5.26E-04	1	NO
Phenol	1.56E-05	1	1.14E+00	1.14E-03	5.8	NO
Potassium Hydroxide	1.07E-03	1	7.85E+01	7.85E-02		
Pyrene	2.00E-06	0.994	1.47E-01	1.47E-04	15	NO
sodium Hydroxide	4.27E-03	1	3.13E+02	3.13E-01		
Styrene	4.99E-05	1	3.66E+00	3.66E-03	21	NO
Sulfuric Acid	5.34E-03	1	3.92E+02	3.92E-01		
Sulfur dioxide	2.50E-03	1	1.83E+02	1.83E-01		
Tetrahydrafuran	3.21E-04	1	2.36E+01	2.36E-02	750	NO
Toluene	1.07E-03	1	7.85E+01	7.85E-02	37	NO

1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	2.52E-03	2.52E-06	68	NO
Trichloroethylene	5.34E-04	1	3.92E+01	3.92E-02	698	NO
1,2,4-Trimethylbenzene	2.43E-04	1	1.78E+01	1.78E-02		
1,3,5-Trimethylbenzene	5.57E-04	1	4.09E+01	4.09E-02	125	NO
Xylenes	5.77E-04	1	4.23E+01	4.23E-02	22	NO
Vinyl chloride	2.23E-07	1	1.64E-02	1.64E-05	180	NO
Zinc	6.26E-05	0	3.56E+00	3.56E-03	30	NO

SCREENING OF OBODM MODEL RESULTS FOR BURNING
HIGH EXPLOSIVE (HE) CONTAMINATED WASTES at TA-16-388
10-Year Soil Concentrations Screened Against LANL ESLs and NMED or EPA Region 6 Industrial SSLs
22,000 lbs/yr and 275 lbs/event

OBODM Modeling Results		
Soil Active Layer	0.02	meters
Soil Bulk Density	1200	kg/m³
Ann Avg Part Bnd Dose	96.566	(µg·hr)/m³
Ann Avg Part Phase Dose	94.886	(µg·hr)/m³
Ann Avg Vapor Phase Dose	120.22	(µg·hr)/m³
Ann Part Bnd Grav Dep	2.80E+08	µg/m²
Ann Part Phase Grav Dep	1.18E+09	µg/m²

Contaminant	EF g/g	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition µg/m²	Dry Deposition µg/m²	Total Deposition µg/m²	10-Yr Total Deposition µg/m²	10-Yr Soil Concentration mg/kg	Screening Values: LANL ESL mg/kg	NMED I/O Soil mg/kg	R6 Med Spec Ind SSL mg/kg	Results Ecological Screen	Results Human Health Screen: NMED	R6
Acenaphthene	1.00E-05	1	0.005	0.00E+00	2.16E-02	2.16E-02	2.16E-01	9.02E-06	0.25	3.35E+04		NO	NO	
Acetaldehyde	6.30E-05	1	0.005	0.00E+00	1.36E-01	1.36E-01	1.36E+00	5.68E-05		3.84E+02			NO	
Acetone	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04	1.2	2.81E+04		NO	NO	
Acetonitrile	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04			2.30E+03			NO
Acetophenone	1.74E-07	1	0.005	0.00E+00	3.77E-04	3.77E-04	3.77E-03	1.57E-07		1.48E+03			NO	
Acrolein	3.90E-05	1	0.005	0.00E+00	8.44E-02	8.44E-02	8.44E-01	3.52E-05		7.52E-01			NO	
Aluminum	7.13E-07	0	0.01	8.44E+02	2.44E-03	8.44E+02	8.44E+03	3.52E-01		1.00E+05			NO	
Ammonium Hydroxide	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04						
Anthracene	1.50E-05	0.998	0.005	8.39E+00	3.24E-02	8.42E+00	8.42E+01	3.51E-03	210	1.00E+05		NO	NO	
Barium	4.20E-07	0	0.01	4.97E+02	1.43E-03	4.97E+02	4.97E+03	2.07E-01	110	1.00E+05		NO	NO	
BDNPF Ether	6.41E-04	1	0.005	0.00E+00	1.39E+00	1.39E+00	1.39E+01	5.78E-04						
Benzaldehyde	1.04E-04	1	0.005	0.00E+00	2.25E-01	2.25E-01	2.25E+00	9.38E-05			6.80E+04			NO
Benzene	1.02E-03	1	0.005	0.00E+00	2.21E+00	2.21E+00	2.21E+01	9.20E-04	24	2.58E+01		NO	NO	
Benzo[a]anthracene	5.00E-06	0.881	0.005	1.66E+02	1.06E-02	1.66E+02	1.66E+03	6.93E-02	3	2.34E+01		NO	NO	
Benzo[a]pyrene	5.00E-06	0.265	0.005	1.03E+03	9.26E-03	1.03E+03	1.03E+04	4.28E-01	9.6	2.34		NO	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.966	0.005	6.66E+01	1.50E-02	6.66E+01	6.66E+02	2.77E-02	18	2.34E+01		NO	NO	
Benzo[b&k]fluoanthene	7.00E-06	0.273	0.005	1.42E+03	1.30E-02	1.42E+03	1.42E+04	5.93E-01	62	2.34E+02		NO	NO	
Benzyl alcohol	3.96E-05	1	0.005	0.00E+00	8.57E-02	8.57E-02	8.57E-01	3.57E-05			1.00E+05			NO
1-3-Butadiene	1.34E-06	1	0.005	0.00E+00	2.90E-03	2.90E-03	2.90E-02	1.21E-06		2.38			NO	
Butyl Acetate	2.14E-04	1	0.005	0.00E+00	4.63E-01	4.63E-01	4.63E+00	1.93E-04						
Butyl benzyl phthalate	1.22E-07	0.948	0.005	1.77E+00	2.61E-04	1.77E+00	1.77E+01	7.39E-04	90		2.40E+02	NO		NO
Butyl Nitrite	1.07E-06	1	0.005	0.00E+00	2.32E-03	2.32E-03	2.32E-02	9.65E-07						
Carbon monoxide	9.00E-02	1	0.005	0.00E+00	1.95E+02	1.95E+02	1.95E+03	8.11E-02						
Carbon tetrachloride	6.89E-08	1	0.005	0.00E+00	1.49E-04	1.49E-04	1.49E-03	6.21E-08		8.64			NO	
Chloroform	2.14E-04	1	0.005	0.00E+00	4.63E-01	4.63E-01	4.63E+00	1.93E-04	8	9.59		NO	NO	
Chloromethane (methyl chloride)	2.84E-07	1	0.005	0.00E+00	6.15E-04	6.15E-04	6.15E-03	2.56E-07		5.34E+01			NO	
Chromium (tot)	3.97E-07	0	0.01	4.70E+02	1.36E-03	4.70E+02	4.70E+03	1.96E-01	2.3	1.00E+05	5.00E+02	NO	NO	NO
Chrysene	9.00E-06	0.744	0.005	6.44E+02	1.85E-02	6.44E+02	6.44E+03	2.68E-01	2.4	2.31E+03		NO	NO	
Crotonaldehyde	6.00E-06	1	0.005	0.00E+00	1.30E-02	1.30E-02	1.30E-01	5.41E-06		1.70E-01			NO	
Cyclohexane	2.67E-05	1	0.005	0.00E+00	5.78E-02	5.78E-02	5.78E-01	2.41E-05			1.40E+02			NO
Dibenzo[ah]anthracene	2.00E-07	0.055	0.005	5.29E+01	3.52E-04	5.29E+01	5.29E+02	2.20E-02	12	2.34		NO	NO	
Dibutyl phthalate	3.30E-07	0.994	0.005	5.54E-01	7.13E-04	5.54E-01	5.54E+00	2.31E-04	1.10E-02	6.84E+04		NO	NO	
1,2-Dichloroethane	2.14E-03	1	0.005	0.00E+00	4.63E+00	4.63E+00	4.63E+01	1.93E-03		1.52E+01			NO	
1,1-Dichloroethylene (vinylidene Cl)	2.15E-07	1	0.005	0.00E+00	4.65E-04	4.65E-04	4.65E-03	1.94E-07	11		4.70E+02	NO		NO
Diethylphthalate	7.00E-08	1	0.005	0.00E+00	1.51E-04	1.51E-04	1.51E-03	6.31E-08		1.00E+05			NO	
Dimethyl phthalate	1.88E-07	1	0.005	0.00E+00	4.07E-04	4.07E-04	4.07E-03	1.70E-07	10	1.00E+05		NO	NO	
2,4-Dinitrotoluene	3.21E-04	0.999	0.005	8.98E+01	6.94E-01	9.05E+01	9.05E+02	3.77E-02		1.37E+03			NO	
DMSO	5.34E-05	1	0.005	0.00E+00	1.16E-01	1.16E-01	1.16E+00	4.81E-05						
Dioctyl phthalate	9.19E-07	0.852	0.005	3.80E+01	1.93E-03	3.80E+01	3.80E+02	1.58E-02	1.1			NO		
Dioxin/Furan TEQ Equivalent	---	---	---	---	---	---	---	1.62E-03	2.90E-07		1.80E-05	YES		YES
Ethyl Acetate	2.14E-03	1.000	0.005	0.00E+00	4.63E+00	4.63E+00	4.63E+01	1.93E-03						
Ethylbenzene	5.49E-05	1	0.005	0.00E+00	1.19E-01	1.19E-01	1.19E+00	4.95E-05		1.28E+02			NO	
Ethyl chloride	6.89E-08	1	0.005	0.00E+00	1.49E-04	1.49E-04	1.49E-03	6.21E-08		1.54E+02			NO	
Ethanol	2.14E-03	1	0.005	0.00E+00	4.63E+00	4.63E+00	4.63E+01	1.93E-03						
Fluoanthene	2.00E-05	0.992	0.005	4.47E+01	4.32E-02	4.48E+01	4.48E+02	1.87E-02	22	2.44E+04		NO	NO	
Fluorene	1.00E-06	1	0.005	0.00E+00	2.16E-03	2.16E-03	2.16E-02	9.02E-07	4.1	2.65E+04		NO	NO	
Formaldehyde	3.03E-04	1	0.005	0.00E+00	6.56E-01	6.56E-01	6.56E+00	2.73E-04			42			NO
Total Furans	---	---	---	---	---	---	---	1.60E-02		2.12E+01	9.5		NO	NO
Hexane	1.60E-05	1	0.005	0.00E+00	3.46E-02	3.46E-02	3.46E-01	1.44E-05		3.80E+01			NO	
Hydrogen chloride	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04			1.00E+05			NO
Indeno[1,2,3-cd]pyrene	5.00E-06	0.005	0.005	1.39E+03	8.70E-03	1.39E+03	1.39E+04	5.80E-01	62	2.34E+01		NO	NO	
Isopropyl Alcohol	5.34E-04	1	0.005	0.00E+00	1.16E+00	1.16E+00	1.16E+01	4.81E-04						
Mercury	2.14E-05	1	2.90E-02	0.00E+00	2.69E-01	2.69E-01	2.69E+00	1.12E-04	1.30E-02	1.00E+05		NO	NO	
Methanol	9.62E-03	1	0.005	0.00E+00	2.08E+01	2.08E+01	2.08E+02	8.67E-03		1.00E+05			NO	
Methylene chloride	3.21E-04	1	0.005	0.00E+00	6.95E-01	6.95E-01	6.95E+00	2.89E-04	2.6	4.90E+02		NO	NO	
Methylcyclohexane	1.56E-04	1	0.005	0.00E+00	3.38E-01	3.38E-01	3.38E+00	1.41E-04		7.89E+01			NO	
Methyl ethyl ketone	4.27E-05	1	0.005	0.00E+00	9.24E-02	9.24E-02	9.24E-01	3.85E-05			3.40E+04			NO
Methyl isobutyl ketone	1.10E-05	1	0.005	0.00E+00	2.38E-02	2.38E-02	2.38E-01	9.92E-06		7.01E+03			NO	
Napthalene	1.62E-04	1	0.005	0.00E+00	3.51E-01	3.51E-01	3.51E+00	1.46E-04	0.96	3.00E+02		NO	NO	
Nitric Acid	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04						
Nitrogen dioxide	7.50E-02	1	0.005	0.00E+00	1.62E+02	1.62E+02	1.62E+03	6.76E-02						
Particulate matter	2.00E-01	0	0.01	2.37E+08	6.83E+02	2.37E+08	2.37E+09	9.87E+04						
Phenanthrene	7.17E-06	0.999	0.005	2.01E+00	1.55E-02	2.02E+00	2.02E+01	8.42E-04	10	2.05E+04		NO	NO	
Phenol	1.56E-05	1	0.005	0.00E+00	3.38E-02	3.38E-02	3.38E-01	1.41E-05	0.79	1.00E+05		NO	NO	
Potassium Hydroxide	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04						
Pyrene	2.00E-06	0.994	0.005	3.36E+00	4.32E-03	3.36E+00	3.36E+01	1.40E-03	18	3.09E+04		NO	NO	
sodium Hydroxide	4.27E-03	1	0.005	0.00E+00	9.24E+00	9.24E+00	9.24E+01	3.85E-03						
Styrene	4.99E-05	1	0.005	0.00E+00	1.08E-01	1.08E-01	1.08E+00	4.50E-05		100			NO	
Sulfuric Acid	5.34E-03	1	0.005	0.00E+00	1.16E+01	1.16E+01	1.16E+02	4.81E-03						
Sulfur dioxide	2.50E-03	1	0.005	0.00E+00	5.41E+00	5.41E+00	5.41E+01	2.25E-03						
Tetrahydrafuran	3.21E-04	1	0.005	0.00E+00	6.95E-01	6.95E-01	6.95E+00	2.89E-04			2.50E+02			NO

Toluene	1.07E-03	1	0.005	0.00E+00	2.32E+00	2.32E+00	2.32E+01	9.65E-04	23	252		NO	NO	
1,1,1-Trichloroethane (methyl chloroform)	3.44E-08	1	0.005	0.00E+00	7.44E-05	7.44E-05	7.44E-04	3.10E-08		563			NO	
Trichloroethylene	5.34E-04	1	0.005	0.00E+00	1.16E+00	1.16E+00	1.16E+01	4.81E-04	42	1.56		NO	NO	
1,2,4-Trimethylbenzene	2.43E-04	1	0.005	0.00E+00	5.26E-01	5.26E-01	5.26E+00	2.19E-04		213			NO	
1,3,5-Trimethylbenzene	5.57E-04	1	0.005	0.00E+00	1.21E+00	1.21E+00	1.21E+01	5.02E-04		69.2			NO	
Xylenes	5.77E-04	1	0.005	0.00E+00	1.25E+00	1.25E+00	1.25E+01	5.20E-04	1.4	82		NO	NO	
Vinyl chloride	2.23E-07	1	0.005	0.00E+00	4.83E-04	4.83E-04	4.83E-03	2.01E-07		14			NO	
Zinc	6.26E-05	0	0.01	7.41E+04	2.14E-01	7.41E+04	7.41E+05	3.09E+01	10	1.00E+05		YES	NO	

Calculation of Dioxin/Furan TEQ Concentration

Dioxin/Furan TEQ Equivalent Analysis	EF g/g	Fv	Deposition Velocity, V_D m/sec	Gravitational Deposition $\mu g/m^2$	Dry Deposition $\mu g/m^2$	Total Deposition $\mu g/m^2$	10-Yr Total Deposition $\mu g/m^2$	10-Yr Soil Concentration mg/kg	TEQ	TEQ Equivalent Conc
1234678-HpCDD	**1.49E-12**	**0.003**	0.005	4.15E-04	2.54E-09	4.15E-04	4.15E-03	1.73E-07	**0.01**	1.73E-09
1234678-HpCDF	3.42E-08	0.01	0.005	9.47E+00	5.78E-05	9.47E+00	9.47E+01	3.95E-03	0.1	3.95E-04
123478-HxCDF	2.13E-08	0.049	0.005	5.66E+00	3.46E-05	5.66E+00	5.66E+01	2.36E-03	0.1	2.36E-04
1234789-HpCDF	7.89E-09	0.057	0.005	2.08E+00	1.27E-05	2.08E+00	2.08E+01	8.67E-04	0.01	8.67E-06
123678_HxCDF	9.47E-09	0.052	0.005	2.51E+00	1.53E-05	2.51E+00	2.51E+01	1.05E-03	0.01	1.05E-05
12378-PeCDF	7.89E-09	0.268	0.005	1.62E+00	9.86E-06	1.62E+00	1.62E+01	6.73E-04	0.05	3.36E-05
OCDF	3.95E-08	0.002	0.005	1.10E+01	6.73E-05	1.10E+01	1.10E+02	4.59E-03	0.0001	4.59E-07
234578-HxCDF	5.77E-09	0.055	0.005	1.52E+00	9.31E-06	1.52E+00	1.52E+01	6.35E-04	0.1	6.35E-05
23478-PeCDF	1.88E-08	0.221	0.005	4.10E+00	2.50E-05	4.10E+00	4.10E+01	1.71E-03	0.5	8.53E-04
2378-TCDF	5.52E-09	0.77	0.005	3.55E-01	2.17E-06	3.55E-01	3.55E+00	1.48E-04	0.1	1.48E-05
Total TEQ Equivalent Conc										**1.62E-03**
Total Furans Concentration								1.60E-02		