

Screen3 Calculator					
Company	Tundra Oil & Gas		Date Reviewed	23-Jan-18	
Facility	12-22-1-27 multi tank battery		Name		
RED are inputs					
Oil (m3)	2.1		Treater	Flare	Tank Vent
H2O (m3)	0.7	% volume of total	0	0	100
GOR (m3/m3)	90	m3	0	0	189
Total Gas=		189 m3			
Mole Fraction	0.0008	Date of test	29-Mar-17	from Compressor Inlet	
	Treater	Flare	Tank Vent		
Vent Height (m)	4.5	Vent Height (m)	12	Vent Height (m)	6
Stack ID (m)	0.4573	Stack ID (m)	0.0762	Stack ID (m)	0.0762
	point	point	point	Source	
RESULTS					
Treater					
Vent stack Exit Flow Rate			0 m3/s		
Emission Rate	H2S			0 g/s	
	SO2			0 g/s	
Vent stack area	0.164240204 m2				
Vent stack exit velocity	0 m/s				
Flare					
Vent stack Exit Flow Rate			0 m3/s		
Emission Rate	H2S			0 g/s	
	SO2			0 g/s	
Vent stack area	0.004560233 m2				
Vent stack exit velocity	0 m/s				
Tank Vent					
Vent stack Exit Flow Rate			0.00000175 m3/s		
Emission Rate	H2S			0.002522468 g/s	
	SO2			0.004741573 g/s	
Vent stack area	0.004560233 m2				
Vent stack exit velocity	FALSE		m/s		

01/23/18

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*** SCREEN3 MODEL RUN ***
*** VERSION DATED 13043 ***

• H₂S 100% gas volume
Vented
• 2.1m³/day oil

C:\Tools\Screen 3\12-22-1-27 multibatt-now.scr

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.252247E-02
STACK HEIGHT (M)	=	6.0000
STK INSIDE DIAM (M)	=	0.0762
STK EXIT VELOCITY (M/S)	=	0.0004
STK GAS EXIT TEMP (K)	=	293.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 0.17500000E-05 (M**3/S)

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST	CONC		U10M	USTK	MIX HT	PLUME	SIGMA
SIGMA	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)
Z (M)	DWASH						
1.	0.000	1	1.0	1.0	320.0	5.77	0.41
0.18	NO						
100.	9.779	5	1.0	1.0	10000.0	5.77	6.12
3.53	NO						

200.	9.392	6	1.0	1.0	10000.0	5.77	7.73
4.09 NO							
300.	7.507	6	1.0	1.0	10000.0	5.77	11.23
5.62 NO							
400.	5.566	6	1.0	1.0	10000.0	5.77	14.64
7.05 NO							
500.	4.203	6	1.0	1.0	10000.0	5.77	17.97
8.40 NO							
600.	3.269	6	1.0	1.0	10000.0	5.77	21.24
9.69 NO							
700.	2.613	6	1.0	1.0	10000.0	5.77	24.46
10.93 NO							
800.	2.160	6	1.0	1.0	10000.0	5.77	27.63
11.98 NO							
900.	1.821	6	1.0	1.0	10000.0	5.77	30.78
12.98 NO							
1000.	1.559	6	1.0	1.0	10000.0	5.77	33.88
13.95 NO							
1100.	1.359	6	1.0	1.0	10000.0	5.77	36.96
14.82 NO							
1200.	1.197	6	1.0	1.0	10000.0	5.77	40.01
15.66 NO							
1300.	1.065	6	1.0	1.0	10000.0	5.77	43.04
16.47 NO							
1400.	0.9553	6	1.0	1.0	10000.0	5.77	46.05
17.26 NO							
1500.	0.8629	6	1.0	1.0	10000.0	5.77	49.03
18.03 NO							

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

52.	10.67	3	1.0	1.0	320.0	5.77	6.92
4.16 NO							

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
----- SIMPLE TERRAIN	----- 10.67	----- 52.	----- 0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
