

APPENDIX C

IMPACTS EVALUATION

IMPACT ASSESSMENT

TREES RANCH STATE 65H CTB CONTINENTAL RESOURCES INC REEVES COUNTY, TEXAS

	Hourly NO ₂	Hourly SO ₂	Hourly H ₂ S
	E (lb/hr)	E (lb/hr)	E (lb/hr)
Current NRSP Total	24.20	0.79	0.14
Previous NRSP Total	--	--	--
De minimis Limits ¹	4.0	2.0	0.025
Impacts Review Required?	Yes	No	Yes

¹ De minimis limits per Barnett Shale Standard Permit 6002(k)(3)(C).

TABLE C-1

SCREEN MODELING INPUTS AND RESULTS
TREES RANCH STATE 65H CTB
CONTINENTAL RESOURCES INC
REEVES COUNTY, TEXAS

	ENG-1		HTR-1 & HTR-2		LP-FLARE		HP-FLARE		Total
Inputs									
NO _x Emission Rate	0.24 lb/hr NO _x	0.0298 g/sec	0.10 lb/hr NO _x	0.013 g/sec	1.20 lb/hr NO _x	0.152 g/sec	22.55 lb/hr NO _x	2.842 g/sec	
NO _x /NO ₂ Conversion Factor	0.2		0.8		0.8		0.8		
NO ₂ Emission Rate	0.0474 lb/hr NO ₂	0.0060 g/sec	0.084 lb/hr NO ₂	0.011 g/sec	0.9621 lb/hr NO ₂	0.121 g/sec	18.0419 lb/hr NO ₂	2.273 g/sec	
Stack Height	12 ft	3.6576 m	20 ft	6.0960 m	30 ft	9.1440 m	30 ft	9.1440 m	
Stack Inside Diameter	0.50 ft	0.1524 m	6.00 ft	1.8288 m		0.0000 m		0.0000 m	
Heat Rating					8,715,103 BTU/hr		162,015,225 BTU/hr		
Stack Exit Velocity	86.75 ft/sec	26.4414 m/sec	60.00 ft/sec	18.2880 m/sec					
Stack Gas Exit Temp	1,135 ° F	885.9278 ° K	400 ° F	477.594 ° K					
Ambient Air Temp	--	293 ° K	--	293 ° K					
Receptor Height	0 ft	0 m	0 ft	0 m	0 ft	0 m	0 ft	0 m	
Urban/Rural	Rural	Rural	Rural	Rural	Rural	Rural	Rural	Rural	
Downwash	None	None	None	None	None	None	None	None	
Modeled Concentration at 1 lb/hr		55.11 µg/m ³		1.15 µg/m ³		3.09 µg/m ³		0.2 µg/m ³	
Screen Modeling Results (hourly)									
Maximum Modeled Concentration		2.61 µg/m ³		0.10 µg/m ³		2.98 µg/m ³		3.45 µg/m ³	
Number of Identical Units		1		2		1		1	
Total Max. Modeled Concentration		2.61 µg/m ³		0.19 µg/m ³		2.98 µg/m ³		3.45 µg/m ³	
Hourly Results for All Stacks Combined									
Total Modeled Concentration									9.2 µg/m ³
Background Concentration									70.0 µg/m ³
Total Concentration									79.2 µg/m ³
Is Total Concentration less than 188 µg/m³?									YES
Annual Results									
Conversion Factor (hourly to annual)		0.08		0.08		0.08		0.08	
Maximum Annual Concentration		0.21 µg/m ³		0.02 µg/m ³		0.24 µg/m ³		0.28 µg/m ³	
Results for All Stacks Combined									
Total Modeled Concentration									0.7 µg/m ³
Background Concentration									20.0 µg/m ³
Total Concentration									20.7 µg/m ³
Is Total Concentration less than 100 µg/m³?									YES

TABLE C-2

SCREEN MODELING INPUTS AND RESULTS - H2S
TREES RANCH STATE 65H CTB
CONTINENTAL RESOURCES INC
REEVES COUNTY, TEXAS

	MSS, TANKS, LOADING, & FUGITIVES		HP-FLARE	
Inputs				
H2S Emission Rate	0.13 lb/hr H2S	0.017 g/sec	0.01 lb/hr H2S	0.001 g/sec
Release Height	25.00 ft	7.6200 m	--	--
Longer Side Length	300.00 ft	91.4400 m	--	--
Shorter Side Length	200.00 ft	60.9600 m	--	--
Stack Height	--	--	30 ft	9 m
Stack Inside Diameter	--	--	-- ft	-- m
Heat Rating	--	--	162,015,225 Btu/hr	--
Stack Exit Velocity	--	--	--	--
Stack Gas Exit Temp	--	--	--	--
Ambient Air Temp	--	293 ° K	--	293 ° K
Receptor Height	0 ft	0 m	0 ft	0 m
Urban/Rural	Rural	Rural	Rural	Rural
Downwash	None	None	None	None
Distance to Property Line	2,200 ft	670.560 m	0 ft	
Number of Identical Emission Points		1		1
Modeled Concentration at 1 lb/hr		125.5 µg/m ³		0.2 µg/m ³
Screen Modeling Results H2S				
Maximum 30-min Modeled Concentration at Property Line		16.55 µg/m ³		0.001 µg/m ³
Total 30-min Modeled Concentration		16.56 µg/m ³		
Is Total Concentration less than 162 µg/m³ (0.12 ppm)?		Yes		
Screen Modeling Results SO2				
Maximum 30-min Modeled Concentration		-- µg/m ³		0.10 µg/m ³
Number of Identical Units		1		1
Background		50.00 µg/m ³		
Total 30-min Modeled Concentration		50.19 µg/m ³		
Hourly Results for All Sources Combined				
Total 30-min Modeled Concentration		50.00 µg/m ³		
Is Total Concentration less than De Minimis Level 3 µg/m³?				
Is Total Concentration less than 196 µg/m³?		Yes		

03/28/25
17:25:38

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

MSS, Tanks, Loading, Fugitives

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	0.226040E-04
SOURCE HEIGHT (M)	=	7.6200
LENGTH OF LARGER SIDE (M)	=	91.4400
LENGTH OF SMALLER SIDE (M)	=	60.9600
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.

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

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

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 (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
1.	27.68	1	1.0	1.0	320.0	7.62	6.
100.	119.3	3	1.0	1.0	320.0	7.62	22.
200.	123.8	5	1.0	1.0	10000.0	7.62	23.
300.	119.6	5	1.0	1.0	10000.0	7.62	3.
400.	125.3	6	1.0	1.0	10000.0	7.62	14.
500.	118.2	6	1.0	1.0	10000.0	7.62	0.
600.	106.0	6	1.0	1.0	10000.0	7.62	1.
700.	93.25	6	1.0	1.0	10000.0	7.62	0.
800.	82.09	6	1.0	1.0	10000.0	7.62	0.
900.	72.50	6	1.0	1.0	10000.0	7.62	0.
1000.	64.34	6	1.0	1.0	10000.0	7.62	0.
1100.	57.55	6	1.0	1.0	10000.0	7.62	0.
1200.	51.79	6	1.0	1.0	10000.0	7.62	0.
1300.	46.88	6	1.0	1.0	10000.0	7.62	0.
1400.	42.62	6	1.0	1.0	10000.0	7.62	0.
1500.	38.96	6	1.0	1.0	10000.0	7.62	0.

1600.	35.77	6	1.0	1.0	10000.0	7.62	0.
1700.	32.95	6	1.0	1.0	10000.0	7.62	0.
1800.	30.48	6	1.0	1.0	10000.0	7.62	0.
1900.	28.31	6	1.0	1.0	10000.0	7.62	0.
2000.	26.37	6	1.0	1.0	10000.0	7.62	0.
2100.	24.70	6	1.0	1.0	10000.0	7.62	0.
2200.	23.22	6	1.0	1.0	10000.0	7.62	0.
2300.	21.89	6	1.0	1.0	10000.0	7.62	0.
2400.	20.68	6	1.0	1.0	10000.0	7.62	0.
2500.	19.57	6	1.0	1.0	10000.0	7.62	0.
2600.	18.55	6	1.0	1.0	10000.0	7.62	0.
2700.	17.62	6	1.0	1.0	10000.0	7.62	0.
2800.	16.76	6	1.0	1.0	10000.0	7.62	0.
2900.	15.97	6	1.0	1.0	10000.0	7.62	0.
3000.	15.25	6	1.0	1.0	10000.0	7.62	0.
3500.	12.48	6	1.0	1.0	10000.0	7.62	0.
4000.	10.46	6	1.0	1.0	10000.0	7.62	0.
4500.	8.956	6	1.0	1.0	10000.0	7.62	0.
5000.	7.795	6	1.0	1.0	10000.0	7.62	0.
5500.	6.868	6	1.0	1.0	10000.0	7.62	0.
6000.	6.113	6	1.0	1.0	10000.0	7.62	0.
6500.	5.492	6	1.0	1.0	10000.0	7.62	0.
7000.	4.974	6	1.0	1.0	10000.0	7.62	0.
7500.	4.549	6	1.0	1.0	10000.0	7.62	0.
8000.	4.186	6	1.0	1.0	10000.0	7.62	0.
8500.	3.871	6	1.0	1.0	10000.0	7.62	0.
9000.	3.596	6	1.0	1.0	10000.0	7.62	0.
9500.	3.354	6	1.0	1.0	10000.0	7.62	0.
10000.	3.139	6	1.0	1.0	10000.0	7.62	0.
15000.	1.859	6	1.0	1.0	10000.0	7.62	0.
20000.	1.314	6	1.0	1.0	10000.0	7.62	0.
25000.	1.005	6	1.0	1.0	10000.0	7.62	0.
30000.	0.8073	6	1.0	1.0	10000.0	7.62	0.
40000.	0.5807	6	1.0	1.0	10000.0	7.62	0.
50000.	0.4501	6	1.0	1.0	10000.0	7.62	0.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
384. 125.5 6 1.0 1.0 10000.0 7.62 16.

*** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	125.5	384.	0.

03/28/25
17:18:19

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

ENG-1

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 0.126000
STACK HEIGHT (M) = 3.6576
STK INSIDE DIAM (M) = 0.1524
STK EXIT VELOCITY (M/S) = 26.4398
STK GAS EXIT TEMP (K) = 885.9278
AMBIENT AIR TEMP (K) = 293.1500
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.

BOUY. FLUX = 1.007 M**4/S**3; MOM. FLUX = 1.343 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

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

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	25.20	0.97	0.90	NO
100.	52.27	3	3.5	3.5	1120.0	9.81	12.59	7.65	NO
200.	45.18	4	3.0	3.0	960.0	10.84	15.70	8.74	NO
300.	36.09	4	2.0	2.0	640.0	14.43	22.82	12.48	NO
400.	29.70	4	1.5	1.5	480.0	18.02	29.74	15.81	NO
500.	24.70	4	1.5	1.5	480.0	18.02	36.38	18.75	NO
600.	21.95	4	1.0	1.0	320.0	25.20	43.16	22.09	NO
700.	19.47	4	1.0	1.0	320.0	25.20	49.57	24.81	NO
800.	17.14	4	1.0	1.0	320.0	25.20	55.91	27.48	NO
900.	15.09	4	1.0	1.0	320.0	25.20	62.19	30.10	NO
1000.	14.27	6	1.0	1.0	10000.0	28.39	34.61	15.64	NO
1100.	14.56	6	1.0	1.0	10000.0	28.39	37.63	16.42	NO

1200.	14.67	6	1.0	1.0	10000.0	28.39	40.63	17.18	NO
1300.	14.64	6	1.0	1.0	10000.0	28.39	43.62	17.92	NO
1400.	14.50	6	1.0	1.0	10000.0	28.39	46.59	18.65	NO
1500.	14.28	6	1.0	1.0	10000.0	28.39	49.54	19.37	NO
1600.	14.00	6	1.0	1.0	10000.0	28.39	52.47	20.07	NO
1700.	13.69	6	1.0	1.0	10000.0	28.39	55.39	20.75	NO
1800.	13.35	6	1.0	1.0	10000.0	28.39	58.30	21.43	NO
1900.	13.00	6	1.0	1.0	10000.0	28.39	61.19	22.10	NO
2000.	12.63	6	1.0	1.0	10000.0	28.39	64.07	22.75	NO
2100.	12.25	6	1.0	1.0	10000.0	28.39	66.93	23.31	NO
2200.	11.87	6	1.0	1.0	10000.0	28.39	69.78	23.85	NO
2300.	11.50	6	1.0	1.0	10000.0	28.39	72.62	24.39	NO
2400.	11.15	6	1.0	1.0	10000.0	28.39	75.45	24.91	NO
2500.	10.81	6	1.0	1.0	10000.0	28.39	78.27	25.43	NO
2600.	10.48	6	1.0	1.0	10000.0	28.39	81.07	25.93	NO
2700.	10.16	6	1.0	1.0	10000.0	28.39	83.87	26.43	NO
2800.	9.861	6	1.0	1.0	10000.0	28.39	86.65	26.92	NO
2900.	9.571	6	1.0	1.0	10000.0	28.39	89.43	27.41	NO
3000.	9.292	6	1.0	1.0	10000.0	28.39	92.19	27.89	NO
3500.	8.074	6	1.0	1.0	10000.0	28.39	105.89	29.83	NO
4000.	7.100	6	1.0	1.0	10000.0	28.39	119.38	31.64	NO
4500.	6.310	6	1.0	1.0	10000.0	28.39	132.69	33.33	NO
5000.	5.659	6	1.0	1.0	10000.0	28.39	145.84	34.93	NO
5500.	5.115	6	1.0	1.0	10000.0	28.39	158.85	36.45	NO
6000.	4.655	6	1.0	1.0	10000.0	28.39	171.72	37.90	NO
6500.	4.263	6	1.0	1.0	10000.0	28.39	184.48	39.29	NO
7000.	3.924	6	1.0	1.0	10000.0	28.39	197.12	40.62	NO
7500.	3.636	6	1.0	1.0	10000.0	28.39	209.66	41.77	NO
8000.	3.383	6	1.0	1.0	10000.0	28.39	222.10	42.87	NO
8500.	3.160	6	1.0	1.0	10000.0	28.39	234.45	43.93	NO
9000.	2.963	6	1.0	1.0	10000.0	28.39	246.71	44.96	NO
9500.	2.786	6	1.0	1.0	10000.0	28.39	258.89	45.95	NO
10000.	2.627	6	1.0	1.0	10000.0	28.39	270.99	46.92	NO
15000.	1.636	6	1.0	1.0	10000.0	28.39	388.49	55.34	NO
20000.	1.182	6	1.0	1.0	10000.0	28.39	501.00	60.71	NO
25000.	0.9171	6	1.0	1.0	10000.0	28.39	609.79	65.24	NO
30000.	0.7446	6	1.0	1.0	10000.0	28.39	715.62	69.20	NO
40000.	0.5420	6	1.0	1.0	10000.0	28.39	920.25	74.82	NO
50000.	0.4236	6	1.0	1.0	10000.0	28.39	1117.45	79.51	NO

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

60.	55.11	3	8.0	8.0	2560.0	6.35	7.93	4.80	NO
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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	55.11	60.	0.

03/28/25
17:20:57

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

HTR-1 & HTR-2

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 0.126000
STACK HEIGHT (M) = 6.0960
STK INSIDE DIAM (M) = 1.8288
STK EXIT VELOCITY (M/S) = 18.2874
STK GAS EXIT TEMP (K) = 477.5944
AMBIENT AIR TEMP (K) = 293.1500
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.

BOUY. FLUX = 57.907 M**4/S**3; MOM. FLUX = 171.635 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

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

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	449.1	448.14	4.32	4.31	NO
100.	0.5452E-01	6	1.0	1.0	10000.0	101.53	27.57	27.37	NO
200.	0.2164	4	20.0	20.0	6400.0	26.06	15.85	9.02	NO
300.	0.8439	4	20.0	20.0	6400.0	26.06	22.96	12.73	NO
400.	1.116	4	20.0	20.0	6400.0	26.06	29.84	16.01	NO
500.	1.133	4	20.0	20.0	6400.0	26.06	36.57	19.13	NO
600.	1.049	4	20.0	20.0	6400.0	26.06	43.18	22.12	NO
700.	0.9391	4	20.0	20.0	6400.0	26.06	49.59	24.85	NO
800.	0.8322	4	20.0	20.0	6400.0	26.06	55.93	27.52	NO
900.	0.7403	4	15.0	15.0	4800.0	34.54	62.45	30.65	NO
1000.	0.6829	4	15.0	15.0	4800.0	34.54	68.65	33.18	NO
1100.	0.6277	4	15.0	15.0	4800.0	34.54	74.79	35.15	NO

1200.	0.5778	4	15.0	15.0	4800.0	34.54	80.88	37.06	NO
1300.	0.5331	4	15.0	15.0	4800.0	34.54	86.93	38.92	NO
1400.	0.4980	4	10.0	10.0	3200.0	50.30	93.41	41.81	NO
1500.	0.4757	4	10.0	10.0	3200.0	50.30	99.35	43.54	NO
1600.	0.4540	4	10.0	10.0	3200.0	50.30	105.25	45.24	NO
1700.	0.4330	4	10.0	10.0	3200.0	50.30	111.13	46.90	NO
1800.	0.4129	4	10.0	10.0	3200.0	50.30	116.97	48.53	NO
1900.	0.3939	4	10.0	10.0	3200.0	50.30	122.78	50.14	NO
2000.	0.3759	4	10.0	10.0	3200.0	50.30	128.57	51.72	NO
2100.	0.3636	5	3.0	3.0	10000.0	85.84	102.59	41.29	NO
2200.	0.3711	5	3.0	3.0	10000.0	85.84	106.79	42.07	NO
2300.	0.3777	5	2.5	2.5	10000.0	90.84	111.29	43.61	NO
2400.	0.3848	5	2.5	2.5	10000.0	90.84	115.46	44.36	NO
2500.	0.3911	5	2.5	2.5	10000.0	90.84	119.62	45.09	NO
2600.	0.3973	5	2.0	2.0	10000.0	97.38	124.14	46.84	NO
2700.	0.4037	5	2.0	2.0	10000.0	97.38	128.27	47.55	NO
2800.	0.4095	5	2.0	2.0	10000.0	97.38	132.38	48.25	NO
2900.	0.4147	5	2.0	2.0	10000.0	97.38	136.48	48.94	NO
3000.	0.4203	5	1.5	1.5	10000.0	106.57	141.08	51.06	NO
3500.	0.4452	5	1.5	1.5	10000.0	106.57	161.33	54.32	NO
4000.	0.4699	5	1.0	1.0	10000.0	121.11	182.05	59.64	NO
4500.	0.4803	5	1.0	1.0	10000.0	121.11	201.78	62.21	NO
5000.	0.4854	5	1.0	1.0	10000.0	121.11	221.31	64.68	NO
5500.	0.4865	5	1.0	1.0	10000.0	121.11	240.67	67.06	NO
6000.	0.4846	5	1.0	1.0	10000.0	121.11	259.86	69.36	NO
6500.	0.4803	5	1.0	1.0	10000.0	121.11	278.88	71.59	NO
7000.	0.4744	5	1.0	1.0	10000.0	121.11	297.76	73.76	NO
7500.	0.4671	5	1.0	1.0	10000.0	121.11	316.49	75.86	NO
8000.	0.4651	6	1.0	1.0	10000.0	101.53	223.65	50.31	NO
8500.	0.4653	6	1.0	1.0	10000.0	101.53	235.92	51.22	NO
9000.	0.4646	6	1.0	1.0	10000.0	101.53	248.11	52.10	NO
9500.	0.4633	6	1.0	1.0	10000.0	101.53	260.23	52.97	NO
10000.	0.4615	6	1.0	1.0	10000.0	101.53	272.27	53.81	NO
15000.	0.4260	6	1.0	1.0	10000.0	101.53	389.38	61.28	NO
20000.	0.3723	6	1.0	1.0	10000.0	101.53	501.69	66.17	NO
25000.	0.3297	6	1.0	1.0	10000.0	101.53	610.36	70.35	NO
30000.	0.2954	6	1.0	1.0	10000.0	101.53	716.11	74.04	NO
40000.	0.2421	6	1.0	1.0	10000.0	101.53	920.63	79.32	NO
50000.	0.2055	6	1.0	1.0	10000.0	101.53	1117.76	83.76	NO

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

457.	1.145	4	20.0	20.0	6400.0	26.06	33.76	17.83	NO
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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	1.145	457.	0.

03/28/25
17:22:16

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

LP-FLARE

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = FLARE
EMISSION RATE (G/S) = 0.126000
FLARE STACK HEIGHT (M) = 9.1440
TOT HEAT RLS (CAL/S) = 610047.
RECEPTOR HEIGHT (M) = 0.0000
URBAN/RURAL OPTION = RURAL
EFF RELEASE HEIGHT (M) = 11.8009
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.

BOUY. FLUX = 10.115 M**4/S**3; MOM. FLUX = 6.168 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

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

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	131.92	1.48	1.43	NO
100.	0.3600	3	10.0	10.2	3200.0	23.75	12.64	7.73	NO
200.	2.953	3	10.0	10.2	3200.0	23.75	23.85	14.42	NO
300.	2.999	3	8.0	8.1	2560.0	26.74	34.56	20.77	NO
400.	2.721	3	5.0	5.1	1600.0	35.71	45.17	27.31	NO
500.	2.621	4	8.0	8.2	2560.0	26.62	36.39	18.78	NO
600.	2.470	4	8.0	8.2	2560.0	26.62	42.93	21.63	NO
700.	2.296	4	5.0	5.1	1600.0	35.51	49.65	24.97	NO
800.	2.215	4	5.0	5.1	1600.0	35.51	55.98	27.63	NO
900.	2.089	4	4.5	4.6	1440.0	38.14	62.34	30.41	NO
1000.	1.970	4	4.5	4.6	1440.0	38.14	68.54	32.96	NO
1100.	1.857	4	4.0	4.1	1280.0	41.43	74.79	35.16	NO
1200.	1.750	4	3.5	3.6	1120.0	45.67	81.02	37.37	NO
1300.	1.662	4	3.5	3.6	1120.0	45.67	87.06	39.21	NO

1400.	1.576	4	3.5	3.6	1120.0	45.67	93.06	41.02	NO
1500.	1.503	4	3.0	3.1	960.0	51.31	99.19	43.17	NO
1600.	1.438	4	3.0	3.1	960.0	51.31	105.10	44.88	NO
1700.	1.375	4	3.0	3.1	960.0	51.31	110.98	46.56	NO
1800.	1.381	5	1.0	1.1	10000.0	74.85	88.82	36.14	NO
1900.	1.430	5	1.0	1.1	10000.0	74.85	93.11	37.09	NO
2000.	1.473	5	1.0	1.1	10000.0	74.85	97.38	38.03	NO
2100.	1.499	5	1.0	1.1	10000.0	74.85	101.64	38.86	NO
2200.	1.521	5	1.0	1.1	10000.0	74.85	105.88	39.69	NO
2300.	1.538	5	1.0	1.1	10000.0	74.85	110.11	40.50	NO
2400.	1.552	5	1.0	1.1	10000.0	74.85	114.32	41.30	NO
2500.	1.561	5	1.0	1.1	10000.0	74.85	118.52	42.09	NO
2600.	1.567	5	1.0	1.1	10000.0	74.85	122.70	42.87	NO
2700.	1.571	5	1.0	1.1	10000.0	74.85	126.87	43.64	NO
2800.	1.571	5	1.0	1.1	10000.0	74.85	131.03	44.41	NO
2900.	1.570	5	1.0	1.1	10000.0	74.85	135.17	45.16	NO
3000.	1.566	5	1.0	1.1	10000.0	74.85	139.30	45.90	NO
3500.	1.566	6	1.0	1.1	10000.0	63.55	106.68	32.53	NO
4000.	1.586	6	1.0	1.1	10000.0	63.55	120.08	34.20	NO
4500.	1.585	6	1.0	1.1	10000.0	63.55	133.32	35.77	NO
5000.	1.568	6	1.0	1.1	10000.0	63.55	146.42	37.27	NO
5500.	1.541	6	1.0	1.1	10000.0	63.55	159.38	38.69	NO
6000.	1.508	6	1.0	1.1	10000.0	63.55	172.21	40.06	NO
6500.	1.471	6	1.0	1.1	10000.0	63.55	184.93	41.38	NO
7000.	1.432	6	1.0	1.1	10000.0	63.55	197.55	42.65	NO
7500.	1.387	6	1.0	1.1	10000.0	63.55	210.06	43.74	NO
8000.	1.343	6	1.0	1.1	10000.0	63.55	222.48	44.79	NO
8500.	1.301	6	1.0	1.1	10000.0	63.55	234.81	45.81	NO
9000.	1.260	6	1.0	1.1	10000.0	63.55	247.05	46.80	NO
9500.	1.220	6	1.0	1.1	10000.0	63.55	259.22	47.75	NO
10000.	1.183	6	1.0	1.1	10000.0	63.55	271.31	48.68	NO
15000.	0.8871	6	1.0	1.1	10000.0	63.55	388.71	56.84	NO
20000.	0.6970	6	1.0	1.1	10000.0	63.55	501.17	62.08	NO
25000.	0.5718	6	1.0	1.1	10000.0	63.55	609.93	66.52	NO
30000.	0.4835	6	1.0	1.1	10000.0	63.55	715.74	70.41	NO
40000.	0.3691	6	1.0	1.1	10000.0	63.55	920.34	75.94	NO
50000.	0.2980	6	1.0	1.1	10000.0	63.55	1117.52	80.56	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
236. 3.095 3 10.0 10.2 3200.0 23.75 27.82 16.74 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)
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SIMPLE TERRAIN	3.095	236.	0.

03/28/25
17:23:44

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

HP-FLARE

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = FLARE
EMISSION RATE (G/S) = 0.126000
FLARE STACK HEIGHT (M) = 9.1440
TOT HEAT RLS (CAL/S) = 0.113409E+08
RECEPTOR HEIGHT (M) = 0.0000
URBAN/RURAL OPTION = RURAL
EFF RELEASE HEIGHT (M) = 19.8860
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.

BOUY. FLUX = 188.035 M**4/S**3; MOM. FLUX = 114.660 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

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

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	874.9	873.91	3.68	3.66	NO
100.	0.5897E-02	6	1.0	1.5	10000.0	144.46	35.82	35.67	NO
200.	0.7312E-02	5	1.0	1.3	10000.0	177.04	46.38	45.33	NO
300.	0.8011E-02	5	1.0	1.3	10000.0	177.04	47.98	45.74	NO
400.	0.8798E-02	5	1.0	1.3	10000.0	177.04	50.01	46.19	NO
500.	0.3516E-01	4	20.0	22.2	6400.0	57.63	36.90	19.75	NO
600.	0.9653E-01	1	3.0	3.1	960.0	304.56	145.46	164.92	NO
700.	0.1357	1	3.0	3.1	960.0	304.56	165.83	223.18	NO
800.	0.1478	4	20.0	22.2	6400.0	57.63	56.50	28.65	NO
900.	0.1721	1	1.5	1.6	590.2	589.23	245.41	394.87	NO
1000.	0.1893	1	1.5	1.6	590.2	589.23	264.61	482.12	NO
1100.	0.1904	1	1.5	1.6	590.2	589.23	279.26	578.63	NO
1200.	0.1848	4	20.0	22.2	6400.0	57.63	81.26	37.89	NO
1300.	0.1821	4	20.0	22.2	6400.0	57.63	87.29	39.72	NO

1400.	0.1782	4	20.0	22.2	6400.0	57.63	93.27	41.50	NO
1500.	0.1734	4	20.0	22.2	6400.0	57.63	99.22	43.24	NO
1600.	0.1683	4	20.0	22.2	6400.0	57.63	105.13	44.95	NO
1700.	0.1628	4	20.0	22.2	6400.0	57.63	111.01	46.62	NO
1800.	0.1572	4	20.0	22.2	6400.0	57.63	116.86	48.26	NO
1900.	0.1516	4	20.0	22.2	6400.0	57.63	122.67	49.88	NO
2000.	0.1462	4	20.0	22.2	6400.0	57.63	128.46	51.46	NO
2100.	0.1408	4	20.0	22.2	6400.0	57.63	134.22	53.02	NO
2200.	0.1356	4	20.0	22.2	6400.0	57.63	139.96	54.56	NO
2300.	0.1306	4	20.0	22.2	6400.0	57.63	145.67	56.08	NO
2400.	0.1262	4	15.0	16.6	4800.0	72.45	151.70	58.46	NO
2500.	0.1232	4	15.0	16.6	4800.0	72.45	157.35	59.91	NO
2600.	0.1201	4	15.0	16.6	4800.0	72.45	162.97	61.35	NO
2700.	0.1171	4	15.0	16.6	4800.0	72.45	168.58	62.76	NO
2800.	0.1141	4	15.0	16.6	4800.0	72.45	174.17	64.16	NO
2900.	0.1111	4	15.0	16.6	4800.0	72.45	179.73	65.54	NO
3000.	0.1083	4	15.0	16.6	4800.0	72.45	185.28	66.91	NO
3500.	0.9838E-01	2	1.5	1.6	590.2	589.23	496.24	461.64	NO
4000.	0.9416E-01	2	1.5	1.6	590.2	589.23	551.83	525.98	NO
4500.	0.9377E-01	5	2.5	3.2	10000.0	135.68	201.81	62.33	NO
5000.	0.9839E-01	5	2.0	2.5	10000.0	144.62	221.74	66.13	NO
5500.	0.1026	5	2.0	2.5	10000.0	144.62	241.07	68.46	NO
6000.	0.1066	5	1.5	1.9	10000.0	157.18	260.74	72.59	NO
6500.	0.1101	5	1.5	1.9	10000.0	157.18	279.70	74.73	NO
7000.	0.1129	5	1.0	1.3	10000.0	177.04	299.32	79.85	NO
7500.	0.1165	5	1.0	1.3	10000.0	177.04	317.96	81.80	NO
8000.	0.1196	5	1.0	1.3	10000.0	177.04	336.48	83.70	NO
8500.	0.1221	5	1.0	1.3	10000.0	177.04	354.87	85.57	NO
9000.	0.1242	5	1.0	1.3	10000.0	177.04	373.15	87.39	NO
9500.	0.1259	5	1.0	1.3	10000.0	177.04	391.33	89.18	NO
10000.	0.1273	5	1.0	1.3	10000.0	177.04	409.39	90.93	NO
15000.	0.1251	5	1.0	1.3	10000.0	177.04	585.11	105.58	NO
20000.	0.1152	5	1.0	1.3	10000.0	177.04	753.66	118.17	NO
25000.	0.1025	5	1.0	1.3	10000.0	177.04	916.76	127.07	NO
30000.	0.9190E-01	5	1.0	1.3	10000.0	177.04	1075.48	135.00	NO
40000.	0.7820E-01	6	1.0	1.5	10000.0	144.46	920.91	82.56	NO
50000.	0.7093E-01	6	1.0	1.5	10000.0	144.46	1117.99	86.82	NO

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

1055.	0.1914	1	1.5	1.6	590.2	589.23	272.49	532.73	NO
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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	0.1914	1055.	0.