

## **Reno Creek Emissions Inventory Calculations** **(Changes Appear in Red)**

Table A-1 shows the anticipated schedule by project phase, over the expected 15-year duration of the Reno Creek ISR Project. The numbers shown in the chart correspond to resource utilization. For example, in year 1 the annual equipment hours available for the uranium recovery operation phase are utilized at 25%. This increases to 50% in year 2, 100% in year 3, 93% in year 4, etc.. In year 14 those resources shift entirely to groundwater restoration. Table A-1 shows a similar complementarity of equipment hours between the construction and decommissioning phases. In both cases, this approach is intended to avoid double counting equipment hours that are shared between two or more phases. Table A-4 presents the resulting hours for each equipment item, attributable to each phase in year 6 when the maximum total emissions are expected to occur.

Table A-2 shows the available equipment hours and months in year 6, by equipment type. Table A-3 lists the horsepower rating, load factor, fuel type, and emission factors for each equipment type. Load factors are a composite of engine throttle settings and the percent of the time the equipment is actually in operation. Sources for emission factors include:

1. AP-42 Table 3.3-1, Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines (THC, SO<sub>2</sub>, CO<sub>2</sub>, Aldehydes)
2. EPA, Exhaust and Crankcase Emission Factors for Non-Road Engine Modeling - Compression Ignition, April 2004 (PM<sub>2.5</sub>)
3. EPA, Control of Emissions of Air Pollution from Non-Road Diesel Engines; Final Rule, Subpart 89.112, October 1998 (all Tiers: NO<sub>x</sub>, CO, PM<sub>10</sub> ; THC for Tier 1)

Note that hazardous air pollutants (HAP) from tailpipe exhaust refer to aldehyde emissions from fuel combustion.

The horsepower levels, load factors, and emission factors in Table A-3 were applied to the equipment hours for each phase in Table A-4. The results were added across all phases, yielding the annual emissions for each pollutant appearing in Tables A-5 through A-12. Yearly emission totals for each pollutant are reproduced in Table 2-2 of the Modeling Protocol document.

Table A-13 lists the estimated fugitive dust emissions for each year of the project, including both the PM<sub>10</sub> and the PM<sub>2.5</sub> forms. The purpose of Table A-13 is to demonstrate that maximum fugitive dust emissions are expected to occur in year 6. Year “-1” refers to pre construction activity. Since dust generating activities are expected to decline sharply after year 10, the last line in Table A-13 gives only a not-to-exceed value for years 11 through 15.

Tables A-14 through A-17 show the estimated fugitive dust emissions for each phase of the project in year 6 (tons of PM<sub>10</sub>). Table A-14 presents emissions from well field construction; the next three tables present only the marginal emissions attributable to uranium recovery operations, groundwater

restoration, and reclamation/decommissioning, respectively. This approach avoids double counting equipment shared between phases. Emission factors are documented in each table, with mobile equipment generally yielding emissions in terms of lbs. per vehicle mile traveled. For special construction equipment, emission factors are provided in lbs. per hour. A control efficiency of 50% is assumed for all project roads, based on periodic dust suppression using a water truck. For the main access road from the public highway to the facilities, a control efficiency of 85% is assumed based on the application of a chemical dust suppressant ( $MgCl_2$ ) along with periodic watering as needed.  $PM_{10}$  emission calculations in Tables A-14 through A-17 are based on the following constants:

Constant	Symbol	Value
AP-42 Section 13.2.2 Equation 1A empirical constant, Table 13.2.2-2	k	1.5
AP-42 Section 13.2.2 Equation 1A empirical constant, Table 13.2.2-2	a	0.9
AP-42 Section 13.2.2 Equation 1A empirical constant, Table 13.2.2-2	b	0.45
Average silt content (%)	s	8.5
Average moisture content (%)	M	10.4
Average number wet days/year	WD	87

In addition, the following clarifications apply:

1. For drill rigs, 20 hours per hole at 1.3 lbs/hole yields 0.07 lb/hr, plus transit lb/VMT at 50% control
2. Transit duty refers to percent of scheduled hours that vehicle is actually traveling
3. For trackhoe and backhoe, used 3.00 and a 1.25-cy buckets; a specific gravity of 1.6 was assumed
4. Where separate factors were not given,  $PM_{10}$  was assumed to be 30% of TSP (AP-42 Section 13.2.2, at 12% silt,  $KPM_{10}/KTSP = 1.5/4.9 = 0.306$ )
5. For industrial unpaved roads, emission factor  $E = k(s/12)a(W/3)b$
6. Wet days per year obtained from Reno Creek meteorological data, 2010-2013

Table A-18 shows fugitive dust emissions from wind erosion on disturbed areas, by year. Table A-19 details the expected annual emissions from stationary equipment, all of which will be fueled by LPG. Note that emission factors and resulting emissions for  $SO_2$  and VOC are not zero, but are rounded to zero due to the level of precision incorporated in Table A-19. Table A-20 summarizes the various sources of greenhouse gas (GHG) emissions, and Table A-21 provides support for the process-related GHG emission calculations.

**Table A-1. Reno Creek ISR Project Schedule and Resource Allocation**

Phase/Year	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
<b>Preconstruction<sup>1</sup></b>	1.00															
<b>Central Processing Plant Construction<sup>2</sup></b>		1.00														
<b>Well Field Construction<sup>3</sup></b>		0.70	0.90	1.00	1.00	1.00	0.85	0.85	0.80	0.50						
<b>Uranium Recovery Operations<sup>4</sup></b>		0.25	0.50	1.00	0.93	0.90	0.91	0.91	0.91	0.90	0.86	0.62	0.10	0.05		
<b>Groundwater Restoration<sup>4</sup></b>					0.07	0.10	0.09	0.09	0.09	0.10	0.14	0.38	0.90	0.95	1.00	
<b>Reclamation/Decommissioning<sup>3</sup></b>							0.15	0.15	0.20	0.50	1.00	1.00	1.00	1.00	1.00	1.00

Footnotes:

<sup>1</sup>Includes Backup Storage Pond Excavation

<sup>2</sup>Includes Administration and Maintenance Shop Construction

<sup>3</sup>Wellfield Construction and Reclamation/Decommissioning work in conjunction, so Resource Allocation between these Phases will sum to 1, except for YRS 1 and 2, the build out years.

<sup>4</sup>Uranium Recovery Operations and Groundwater Restoration work in conjunction, so Resource Allocation between these Phases will sum to 1, except for YRS 1 and 2, the build out years.

**Table A-2. Mobile Equipment Fleet Sizes and Duty**

<b>Equipment Item</b>	<b>Number of Units</b>	<b>Operating Months per Year When Active</b>
Scraper	2	2
Grader	2	12
Bulldozer	1	1
Compactor	1	2
Water Truck Dust Suppression	1	9
Front End Loader	2	12
Trackhoe	1	4
Backhoe	4	12
Drill Rig Water Truck	10	9
Drill Rig	10	9
Pickup Truck 3/4 Ton Well Installation Crew	10	9
Heavy Drill Rig	1	4
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	4	12
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	4	12
Fork Lift	1	12
Passenger Vehicle	20	12
Delivery and Product Transport Truck	1	12
560 KW Emergency Generator	1	12
Workover Rig	1	1
Tractor	1	6
Cementing Unit	4	9
3/4 Ton Well Logging Truck	2	12
1-Ton Swabbing Unit	2	12
1-Ton MIT Unit	2	12
Diesel 5 ton Telehandler	1	2
Diesel 4 ton Telehandler	1	12
Gasoline Manlift	4	2
175 KW Diesel Generator	1	4
Service/Fuel Truck	1	2
Concrete Pump Truck	1	1
Caisson Rig (for drilling piers)	1	1
Mixer Trucks (concrete delivery)	8	2
Power Trowel	2	1
Jumping Jack/Plate Tamper	3	1
Pickup Truck 1/2 Ton Construction	2	10
Pickup Truck 3/4 Ton Construction Crew Truck	6	10
Skid Steer/Mini Excavator	2	4
Excavator (Bldg. Exc. And Septic Install)	1	2

**Table A-3. Mobile Equipment Sizes, Load Factors and Combustion Emission Factors**

Basis For Equipment Tailpipe Emissions (Assumes Tier 1 Drill Rig Engines and Tier 3 Mobile Equipment Engines)	Size			Emission Factors (lb/hp-hr)							
	Horse-power	Load Factor	Fuel	THC	NO <sub>x</sub>	CO	SO <sub>2</sub>	CO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	HAP
Scraper	330	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Grader	183	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Bulldozer	410	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Compactor	100	40%	Diesel	0.00247	0.00661	0.00815	0.00205	1.15000	0.00066	0.00064	0.00046
WaterTruck Dust Suppression	325	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Front End Loader	101	40%	Diesel	0.00247	0.00661	0.00815	0.00205	1.15000	0.00048	0.00047	0.00046
Trackhoe	235	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Backhoe	85	40%	Diesel	0.00247	0.00771	0.00815	0.00205	1.15000	0.00066	0.00064	0.00046
Drill Rig Water Truck	400	25%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Drill Rig	350	40%	Diesel	0.00214	0.01512	0.01873	0.00205	1.15000	0.00089	0.00086	0.00046
Pickup Truck 3/4 Ton Well Installation Crew	350	20%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Heavy Drill Rig	750	60%	Diesel	0.00214	0.01512	0.01873	0.00205	1.15000	0.00089	0.00086	0.00046
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	265	20%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	265	20%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Fork Lift	83	40%	Diesel	0.00251	0.03100	0.00668	0.00205	1.15000	0.00220	0.00213	0.00046
Passenger Vehicle	200	20%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Delivery and Product Transport Truck	450	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
560 KW Emergency Generator	750	80%	Diesel	0.00220	0.01057	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Workover Rig	250	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Tractor	175	40%	Diesel	0.00251	0.03100	0.00668	0.00205	1.15000	0.00220	0.00213	0.00046
Cementing Unit	90	25%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
3/4 Ton Well LoggingTruck	350	25%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
1-Ton Swabbing Unit	350	25%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
1-Ton MIT Unit	350	25%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Diesel 5 ton Telehandler	110	25%	Diesel	0.00251	0.03100	0.00668	0.00205	1.15000	0.00220	0.00213	0.00046
Diesel 4 ton Telehandler	99	25%	Diesel	0.00251	0.03100	0.00668	0.00205	1.15000	0.00220	0.00213	0.00046
Gasoline Manlift	82	25%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
175 KW Diesel Generator	235	80%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Service/Fuel Truck	250	25%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Concrete Pump Truck	400	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Caisson Rig (for drilling piers)	443	60%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Mixer Trucks (concrete delivery)	380	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Power Trowel	6	25%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Jumping Jack/Plate Tamper	3	25%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Pickup Truck 1/2 Ton Construction	285	20%	Gasoline	0.02200	0.01100	0.00696	0.00059	1.08000	0.00072	0.00070	0.00049
Pickup Truck 3/4 Ton Construction Crew Truck	397	20%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046
Skid Steer/Mini Excavator	74	25%	Diesel	0.00247	0.00771	0.00815	0.00205	1.15000	0.00066	0.00064	0.00046
Excavator (Bldg. Exc. And Septic Install)	190	40%	Diesel	0.00247	0.00661	0.00573	0.00205	1.15000	0.00033	0.00032	0.00046

**Table A-4. Year 6 Equipment Hours by Phase**

<b>Equipment Item</b>	<b>CPP Construction</b>	<b>Well Field Construction</b>	<b>Uranium Recovery Operations</b>	<b>Groundwater Restoration</b>	<b>Reclamation /Decom- missioning</b>
Scraper	0	0	0	0	0
Grader	0	468	0	0	83
Bulldozer	0	0	0	0	0
Compactor	0	0	0	0	0
WaterTruck Dust Suppression	0	0	1,259	127	0
Front End Loader	0	1,795	0	0	317
Trackhoe	0	704	0	0	0
Backhoe	0	7,181	0	0	1,267
Drill Rig Water Truck	0	13,860	0	0	0
Drill Rig	0	19,800	0	0	0
Pickup Truck 3/4 Ton Well Installation Crew	0	9,900	0	0	0
Heavy Drill Rig	0	0	0	0	0
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0	7,181	0	0	1,267
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0	0	7,677	771	0
Fork Lift	0	0	1,439	0	0
Passenger Vehicle	0	306	538	54	54
Delivery and Product Transport Truck	0	198	480	48	0
560 KW Emergency Generator	0	0	100	0	0
Workover Rig	0	0	0	0	0
Tractor	0	785	0	0	139
Cementing Unit	0	5,386	0	0	950
3/4 Ton Well LoggingTruck	0	3,168	960	0	0
1-Ton Swabbing Unit	0	2,356	840	84	416
1-Ton MIT Unit	0	2,772	840	84	0
Diesel 5 ton Telehandler	0	0	0	0	0
Diesel 4 ton Telehandler	0	0	0	0	0
Gasoline Manlift	0	0	0	0	0
175 KW Diesel Generator	0	0	0	0	0
Service/Fuel Truck	0	0	0	0	0
Concrete Pump Truck	0	0	0	0	0
Caisson Rig (for drilling piers)	0	0	0	0	0
Mixer Trucks (concrete delivery)	0	0	0	0	0
Power Trowel	0	0	0	0	0
Jumping Jack/Plate Tamper	0	0	0	0	0
Pickup Truck 1/2 Ton Construction	0	0	0	0	0
Pickup Truck 3/4 Ton Construction Crew Truck	0	0	0	0	0
Skid Steer/Mini Excavator	0	0	0	0	0
Excavator (Bldg. Exc. And Septic Install)	0	0	0	0	0

**Table A-5. Mobile Equipment THC Emissions**

MOBILE EQUIPMENT THC EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.14
Grader	0.02	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Bulldozer	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Compactor	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.05	0.16	0.20	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.05
Front End Loader	0.00	0.07	0.09	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Trackhoe	0.00	0.06	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.04	0.00	0.08	0.08	0.08	0.08	0.08
Backhoe	0.01	0.29	0.32	0.35	0.35	0.35	0.35	0.31	0.29	0.19	0.03	0.03	0.03	0.03	0.03	0.03
Drill Rig Water Truck	0.07	1.20	1.54	1.71	1.71	1.71	1.71	1.45	1.37	0.86	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	0.13	2.07	2.66	2.96	2.96	2.96	2.96	2.52	2.37	1.48	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.33	5.34	6.86	7.62	7.62	7.62	7.62	6.48	6.10	3.81	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	3.45	4.43	4.93	4.93	4.93	4.93	4.93	4.93	4.93	2.46	2.46	2.46	2.46	2.46	2.46
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	1.23	2.46	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	2.71	2.59	2.46	0.00
Fork Lift	0.01	0.07	0.03	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.04	0.01	0.00	0.03	0.03
Passenger Vehicle	0.06	0.35	0.27	0.42	0.42	0.42	0.42	0.41	0.40	0.38	0.34	0.34	0.24	0.23	0.22	0.08
Delivery and Product Transport Truck	0.00	0.15	0.10	0.16	0.16	0.16	0.16	0.15	0.15	0.14	0.12	0.12	0.06	0.06	0.06	0.00
560 KW Emergency Generator	0.00	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.13	0.13	0.13	0.13
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Tractor	0.00	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Cementing Unit	0.00	1.10	1.41	1.57	1.57	1.57	1.57	1.39	1.33	0.98	0.39	0.39	0.39	0.39	0.39	0.39
3/4 Ton Well LoggingTruck	0.02	0.27	0.37	0.45	0.45	0.45	0.45	0.39	0.38	0.27	0.10	0.07	0.01	0.01	0.00	0.00
1-Ton Swabbing Unit	0.00	0.23	0.32	0.40	0.40	0.40	0.40	0.36	0.34	0.26	0.12	0.12	0.08	0.08	0.07	0.02
1-Ton MIT Unit	0.00	0.23	0.32	0.40	0.40	0.40	0.40	0.35	0.34	0.25	0.10	0.10	0.05	0.05	0.05	0.00
Diesel 5 ton Telehandler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel 4 ton Telehandler	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
Gasoline Manlift	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32
175 KW Diesel Generator	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.11	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.03	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL THC</b>	<b>1.05</b>	<b>18.48</b>	<b>22.35</b>	<b>26.56</b>	<b>26.56</b>	<b>26.56</b>	<b>26.56</b>	<b>24.32</b>	<b>23.57</b>	<b>19.09</b>	<b>9.14</b>	<b>9.18</b>	<b>6.69</b>	<b>6.54</b>	<b>6.82</b>	<b>4.06</b>

**Table A-6. Mobile Equipment NO<sub>x</sub> Emissions**

MOBILE EQUIPMENT NO <sub>x</sub> EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.38
Grader	0.05	0.09	0.12	0.13	0.13	0.13	0.13	0.12	0.12	0.09	0.05	0.05	0.05	0.05	0.05	0.05
Bulldozer	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Compactor	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.13	0.42	0.54	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.13	0.13
Front End Loader	0.00	0.20	0.25	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Trackhoe	0.00	0.15	0.20	0.22	0.22	0.22	0.22	0.19	0.17	0.11	0.00	0.22	0.22	0.22	0.22	0.22
Backhoe	0.03	0.89	1.00	1.11	1.11	1.11	1.11	0.95	0.90	0.60	0.09	0.09	0.09	0.09	0.09	0.09
Drill Rig Water Truck	0.20	3.21	4.12	4.58	4.58	4.58	4.58	3.89	3.66	2.29	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	0.90	14.67	18.86	20.95	20.95	20.95	20.95	17.81	16.76	10.48	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.16	2.67	3.43	3.81	3.81	3.81	3.81	3.24	3.05	1.91	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	4.96	4.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	1.72	2.22	2.46	2.46	2.46	2.46	2.46	2.46	2.46	1.23	1.23	1.23	1.23	1.23	1.23
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	0.62	1.23	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	1.35	1.29	1.23	0.00
Fork Lift	0.14	0.82	0.41	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.70	0.51	0.08	0.04	0.41	0.41
Passenger Vehicle	0.03	0.18	0.14	0.21	0.21	0.21	0.21	0.20	0.20	0.19	0.17	0.17	0.12	0.11	0.11	0.04
Delivery and Product Transport Truck	0.00	0.40	0.26	0.43	0.43	0.43	0.43	0.41	0.41	0.37	0.31	0.31	0.17	0.16	0.16	0.00
560 KW Emergency Generator	0.00	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.63	0.63	0.63	0.63
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
Tractor	0.00	0.70	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cementing Unit	0.00	0.55	0.71	0.78	0.78	0.78	0.78	0.70	0.67	0.49	0.20	0.20	0.20	0.20	0.20	0.20
3/4 Ton Well LoggingTruck	0.04	0.72	0.98	1.19	1.19	1.19	1.19	1.06	1.01	0.73	0.26	0.19	0.03	0.02	0.00	0.00
1-Ton Swabbing Unit	0.00	0.63	0.85	1.07	1.07	1.07	1.07	0.96	0.92	0.70	0.33	0.33	0.21	0.21	0.20	0.07
1-Ton MIT Unit	0.00	0.63	0.85	1.07	1.07	1.07	1.07	0.95	0.91	0.67	0.27	0.27	0.15	0.14	0.13	0.00
Diesel 5 ton Telehandler	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
Diesel 4 ton Telehandler	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.81
Gasoline Manlift	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.16
175 KW Diesel Generator	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.06	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.07	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL NO<sub>x</sub></b>	<b>2.41</b>	<b>37.18</b>	<b>42.34</b>	<b>43.42</b>	<b>43.42</b>	<b>43.42</b>	<b>43.42</b>	<b>38.34</b>	<b>36.65</b>	<b>26.49</b>	<b>8.29</b>	<b>8.24</b>	<b>6.42</b>	<b>6.28</b>	<b>7.58</b>	<b>5.86</b>



**Table A-7. Mobile Equipment CO Emissions**

MOBILE EQUIPMENT CO EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.33
Grader	0.05	0.08	0.10	0.12	0.12	0.12	0.12	0.10	0.10	0.08	0.05	0.05	0.05	0.05	0.05	0.05
Bulldozer	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Compactor	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.11	0.36	0.46	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.11	0.11
Front End Loader	0.00	0.24	0.31	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Trackhoe	0.00	0.13	0.17	0.19	0.19	0.19	0.19	0.16	0.15	0.09	0.00	0.19	0.19	0.19	0.19	0.19
Backhoe	0.03	0.94	1.05	1.17	1.17	1.17	1.17	1.01	0.96	0.63	0.10	0.10	0.10	0.10	0.10	0.10
Drill Rig Water Truck	0.17	2.78	3.57	3.97	3.97	3.97	3.97	3.37	3.17	1.98	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	1.11	18.17	23.37	25.96	25.96	25.96	25.96	22.07	20.77	12.98	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.10	1.69	2.17	2.41	2.41	2.41	2.41	2.05	1.93	1.21	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	6.15	6.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	1.09	1.40	1.56	1.56	1.56	1.56	1.56	1.56	1.56	0.78	0.78	0.78	0.78	0.78	0.78
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	0.39	0.78	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	0.86	0.82	0.78	0.00
Fork Lift	0.03	0.18	0.09	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.11	0.02	0.01	0.09	0.09
Passenger Vehicle	0.02	0.11	0.09	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.11	0.11	0.07	0.07	0.07	0.03
Delivery and Product Transport Truck	0.00	0.34	0.23	0.37	0.37	0.37	0.37	0.36	0.35	0.32	0.27	0.27	0.15	0.14	0.14	0.00
560 KW Emergency Generator	0.00	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.34	0.34	0.34	0.34
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Tractor	0.00	0.15	0.19	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Cementing Unit	0.00	0.35	0.45	0.50	0.50	0.50	0.50	0.44	0.42	0.31	0.12	0.12	0.12	0.12	0.12	0.12
3/4 Ton Well LoggingTruck	0.04	0.62	0.85	1.03	1.03	1.03	1.03	0.92	0.87	0.64	0.23	0.17	0.03	0.01	0.00	0.00
1-Ton Swabbing Unit	0.00	0.54	0.74	0.93	0.93	0.93	0.93	0.83	0.80	0.61	0.29	0.29	0.19	0.18	0.17	0.06
1-Ton MIT Unit	0.00	0.54	0.74	0.93	0.93	0.93	0.93	0.82	0.79	0.58	0.23	0.23	0.13	0.12	0.12	0.00
Diesel 5 ton Telehandler	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Diesel 4 ton Telehandler	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17
Gasoline Manlift	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
175 KW Diesel Generator	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.03	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.06	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL CO</b>	<b>2.31</b>	<b>36.69</b>	<b>43.09</b>	<b>42.24</b>	<b>42.24</b>	<b>42.24</b>	<b>42.24</b>	<b>36.79</b>	<b>34.97</b>	<b>24.08</b>	<b>5.14</b>	<b>5.22</b>	<b>4.10</b>	<b>4.02</b>	<b>4.32</b>	<b>3.13</b>

**Table A-8. Mobile Equipment SO<sub>2</sub> Emissions**

MOBILE EQUIPMENT SO <sub>2</sub> EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12
Grader	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Bulldozer	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Compactor	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.04	0.13	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.04	0.04
Front End Loader	0.00	0.06	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Trackhoe	0.00	0.05	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.03	0.00	0.07	0.07	0.07	0.07	0.07
Backhoe	0.01	0.24	0.26	0.29	0.29	0.29	0.29	0.25	0.24	0.16	0.02	0.02	0.02	0.02	0.02	0.02
Drill Rig Water Truck	0.06	0.99	1.28	1.42	1.42	1.42	1.42	1.21	1.14	0.71	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	0.12	1.99	2.56	2.84	2.84	2.84	2.84	2.42	2.27	1.42	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.01	0.14	0.18	0.20	0.20	0.20	0.20	0.17	0.16	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	0.67	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	0.09	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.07	0.07	0.07	0.07	0.07	0.07
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	0.03	0.07	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.07	0.07	0.07	0.00
Fork Lift	0.01	0.05	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.01	0.00	0.03	0.03
Passenger Vehicle	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Delivery and Product Transport Truck	0.00	0.12	0.08	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.10	0.10	0.05	0.05	0.05	0.00
560 KW Emergency Generator	0.00	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.12	0.12	0.12	0.12
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Tractor	0.00	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Cementing Unit	0.00	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01
3/4 Ton Well LoggingTruck	0.01	0.22	0.30	0.37	0.37	0.37	0.37	0.33	0.31	0.23	0.08	0.06	0.01	0.00	0.00	0.00
1-Ton Swabbing Unit	0.00	0.19	0.27	0.33	0.33	0.33	0.33	0.30	0.29	0.22	0.10	0.10	0.07	0.06	0.06	0.02
1-Ton MIT Unit	0.00	0.19	0.27	0.33	0.33	0.33	0.33	0.29	0.28	0.21	0.08	0.08	0.05	0.04	0.04	0.00
Diesel 5 ton Telehandler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel 4 ton Telehandler	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
Gasoline Manlift	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
175 KW Diesel Generator	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.02	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL SO<sub>2</sub></b>	<b>0.49</b>	<b>5.88</b>	<b>6.59</b>	<b>6.80</b>	<b>6.80</b>	<b>6.80</b>	<b>6.80</b>	<b>5.96</b>	<b>5.67</b>	<b>3.97</b>	<b>1.07</b>	<b>1.10</b>	<b>0.91</b>	<b>0.89</b>	<b>0.97</b>	<b>0.77</b>

**Table A-9. Mobile Equipment PM<sub>10</sub> Emissions**

MOBILE EQUIPMENT PM <sub>10</sub> EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Grader	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01	0.01
Front End Loader	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Trackhoe	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01
Backhoe	0.00	0.08	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.05	0.01	0.01	0.01	0.01	0.01	0.01
Drill Rig Water Truck	0.01	0.16	0.21	0.23	0.23	0.23	0.23	0.19	0.18	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	0.05	0.86	1.11	1.23	1.23	1.23	1.23	1.05	0.98	0.61	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.01	0.17	0.22	0.25	0.25	0.25	0.25	0.21	0.20	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	0.11	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.08	0.08	0.08	0.08	0.08	0.08
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	0.04	0.08	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.09	0.08	0.08	0.00
Fork Lift	0.01	0.06	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.01	0.00	0.03	0.03
Passenger Vehicle	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Delivery and Product Transport Truck	0.00	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00
560 KW Emergency Generator	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractor	0.00	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Cementing Unit	0.00	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01
3/4 Ton Well LoggingTruck	0.00	0.04	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.01	0.01	0.00	0.00	0.00	0.00
1-Ton Swabbing Unit	0.00	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.00
1-Ton MIT Unit	0.00	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.01	0.01	0.01	0.01	0.01	0.00
Diesel 5 ton Telehandler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel 4 ton Telehandler	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
Gasoline Manlift	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
175 KW Diesel Generator	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL PM<sub>10</sub></b>	<b>0.14</b>	<b>2.21</b>	<b>2.51</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.28</b>	<b>2.19</b>	<b>1.59</b>	<b>0.52</b>	<b>0.51</b>	<b>0.39</b>	<b>0.38</b>	<b>0.47</b>	<b>0.36</b>

**Table A-10. Mobile Equipment PM<sub>2.5</sub> Emissions**

MOBILE EQUIPMENT PM <sub>2.5</sub> EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Grader	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01	0.01
Front End Loader	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Trackhoe	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01
Backhoe	0.00	0.07	0.08	0.09	0.09	0.09	0.09	0.08	0.08	0.05	0.01	0.01	0.01	0.01	0.01	0.01
Drill Rig Water Truck	0.01	0.16	0.20	0.22	0.22	0.22	0.22	0.19	0.18	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	0.05	0.84	1.07	1.19	1.19	1.19	1.19	1.01	0.95	0.60	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.01	0.17	0.22	0.24	0.24	0.24	0.24	0.21	0.19	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	0.11	0.14	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.08	0.08	0.08	0.08	0.08	0.08
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	0.04	0.08	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.09	0.08	0.08	0.00
Fork Lift	0.01	0.06	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.01	0.00	0.03	0.03
Passenger Vehicle	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Delivery and Product Transport Truck	0.00	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00
560 KW Emergency Generator	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractor	0.00	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Cementing Unit	0.00	0.03	0.04	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01
3/4 Ton Well LoggingTruck	0.00	0.03	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.01	0.01	0.00	0.00	0.00	0.00
1-Ton Swabbing Unit	0.00	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00
1-Ton MIT Unit	0.00	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.00
Diesel 5 ton Telehandler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel 4 ton Telehandler	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
Gasoline Manlift	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
175 KW Diesel Generator	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL PM<sub>2.5</sub></b>	<b>0.14</b>	<b>2.14</b>	<b>2.43</b>	<b>2.50</b>	<b>2.50</b>	<b>2.50</b>	<b>2.50</b>	<b>2.22</b>	<b>2.12</b>	<b>1.54</b>	<b>0.50</b>	<b>0.50</b>	<b>0.38</b>	<b>0.37</b>	<b>0.46</b>	<b>0.35</b>

**Table A-11. Mobile Equipment CO<sub>2</sub> Emissions**

MOBILE EQUIPMENT CO <sub>2</sub> EMISSIONS PER YEAR (TONS)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	67	0	0	0	0	0	0	0	0	0	0	0	0	0	67	67
Grader	9	16	21	23	23	23	23	21	20	16	9	9	9	9	9	9
Bulldozer	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
Compactor	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WaterTruck Dust Suppression	23	73	93	104	104	104	104	104	104	104	104	104	104	104	23	23
Front End Loader	0	34	44	49	49	49	49	49	49	49	49	49	49	49	49	49
Trackhoe	0	27	34	38	38	38	38	32	30	19	0	38	38	38	38	38
Backhoe	4	133	149	165	165	165	165	142	135	89	14	14	14	14	14	14
Drill Rig Water Truck	34	558	717	797	797	797	797	677	638	398	0	0	0	0	0	0
Drill Rig	68	1116	1435	1594	1594	1594	1594	1355	1275	797	0	0	0	0	0	0
Pickup Truck 3/4 Ton Well Installation Crew	16	262	337	374	374	374	374	318	299	187	0	0	0	0	0	0
Heavy Drill Rig	0	378	378	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0	169	218	242	242	242	242	242	242	242	121	121	121	121	121	121
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0	60	121	242	242	242	242	242	242	242	242	242	133	127	121	0
Fork Lift	5	30	15	27	27	27	27	28	27	27	26	19	3	2	15	15
Passenger Vehicle	3	17	13	21	21	21	21	20	20	19	17	17	12	11	11	4
Delivery and Product Transport Truck	0	69	46	75	75	75	75	72	71	65	55	55	30	29	27	0
560 KW Emergency Generator	0	35	35	35	35	35	35	35	35	35	35	35	69	69	69	69
Workover Rig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
Tractor	0	26	33	37	37	37	37	37	37	37	37	37	37	37	37	37
Cementing Unit	0	54	69	77	77	77	77	68	65	48	19	19	19	19	19	19
3/4 Ton Well LoggingTruck	8	125	170	208	208	208	208	184	176	128	46	33	5	3	0	0
1-Ton Swabbing Unit	0	109	149	186	186	186	186	167	160	122	58	58	37	36	35	12
1-Ton MIT Unit	0	109	149	186	186	186	186	165	158	116	46	46	26	24	23	0
Diesel 5 ton Telehandler	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Diesel 4 ton Telehandler	0	30	0	0	0	0	0	0	0	0	0	0	0	0	30	30
Gasoline Manlift	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16	16
175 KW Diesel Generator	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service/Fuel Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete Pump Truck	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caisson Rig (for drilling piers)	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixer Trucks (concrete delivery)	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Power Trowel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jumping Jack/Plate Tamper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Truck 1/2 Ton Construction	5	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Truck 3/4 Ton Construction Crew Truck	12	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skid Steer/Mini Excavator	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavator (Bldg. Exc. And Septic Install)	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL CO<sub>2</sub></b>	<b>292</b>	<b>3715</b>	<b>4225</b>	<b>4479</b>	<b>4479</b>	<b>4479</b>	<b>4479</b>	<b>3958</b>	<b>3783</b>	<b>2740</b>	<b>877</b>	<b>896</b>	<b>706</b>	<b>692</b>	<b>742</b>	<b>541</b>

**Table A-12. Mobile Equipment Formaldehyde Emissions**

MOBILE EQUIPMENT HAP EMISSIONS PER YEAR (TONS - FORMALDEHYDE)																
	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Scraper	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
Grader	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WaterTruck Dust Suppression	0.01	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.01	0.01
Front End Loader	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Trackhoe	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.02	0.02	0.02	0.02	0.02
Backhoe	0.00	0.05	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.01	0.01	0.01	0.01	0.01	0.01
Drill Rig Water Truck	0.01	0.22	0.29	0.32	0.32	0.32	0.32	0.27	0.26	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Drill Rig	0.03	0.45	0.58	0.64	0.64	0.64	0.64	0.55	0.51	0.32	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Well Installation Crew	0.01	0.12	0.15	0.17	0.17	0.17	0.17	0.14	0.13	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Drill Rig	0.00	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	0.00	0.08	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.05	0.05	0.05	0.05	0.05
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	0.00	0.03	0.05	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.06	0.05	0.00
Fork Lift	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Passenger Vehicle	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Delivery and Product Transport Truck	0.00	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00
560 KW Emergency Generator	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03
Workover Rig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractor	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cementing Unit	0.00	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01
3/4 Ton Well LoggingTruck	0.00	0.05	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.05	0.02	0.01	0.00	0.00	0.00	0.00
1-Ton Swabbing Unit	0.00	0.04	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.02	0.02	0.01	0.01	0.01	0.00
1-Ton MIT Unit	0.00	0.04	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.02	0.02	0.01	0.01	0.01	0.00
Diesel 5 ton Telehandler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel 4 ton Telehandler	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Gasoline Manlift	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
175 KW Diesel Generator	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Fuel Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Caisson Rig (for drilling piers)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixer Trucks (concrete delivery)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Trowel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jumping Jack/Plate Tamper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 1/2 Ton Construction	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck 3/4 Ton Construction Crew Truck	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer/Mini Excavator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator (Bldg. Exc. And Septic Install)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL HAP</b>	<b>0.12</b>	<b>1.52</b>	<b>1.74</b>	<b>1.85</b>	<b>1.85</b>	<b>1.85</b>	<b>1.85</b>	<b>1.63</b>	<b>1.56</b>	<b>1.14</b>	<b>0.37</b>	<b>0.38</b>	<b>0.30</b>	<b>0.29</b>	<b>0.31</b>	<b>0.23</b>

**Table A-13. Fugitive Emissions Summary (Tons/Year)**

Year	Active Phases	PM <sub>10</sub>	PM <sub>2.5</sub>
-1	Preconstruction	20.02	2.10
1	Central Processing Plant Construction; Well Field Construction; Uranium Recovery Operations	77.26	7.91
2	Well Field Construction; Uranium Recovery Operations	93.40	9.57
3	Well Field Construction; Uranium Recovery Operations	111.06	11.34
4	Well Field Construction; Uranium Recovery Operations; Groundwater Restoration	111.10	11.34
5	Well Field Construction; Uranium Recovery Operations; Groundwater Restoration	111.48	11.40
6	Well Field Construction; Uranium Recovery Operations; Groundwater Restoration; Reclamation/Decommissioning	112.25	11.51
7	Well Field Construction; Uranium Recovery Operations; Groundwater Restoration; Reclamation/Decommissioning	104.48	10.74
8	Well Field Construction; Uranium Recovery Operations; Groundwater Restoration; Reclamation/Decommissioning	101.98	10.49
9	Well Field Construction; Uranium Recovery Operations; Groundwater Restoration; Reclamation/Decommissioning	86.44	8.94
10	Uranium Recovery Operations; Groundwater Restoration; Reclamation/Decommissioning	52.78	5.54
11-13	Uranium Recovery Operations; Groundwater Restoration; Reclamation/Decommissioning	< 53	< 6
14	Groundwater Restoration; Reclamation/Decommissioning	< 50	< 5
15	Reclamation/Decommissioning	< 50	< 5

**Table A-14. Well Field Construction Fugitive Emissions, Year 6**

Equipment Item	Quantity	Fleet Hours <sup>2</sup>	Transit Duty <sup>8</sup>	Speed (mph)	Weight (tons)	lb/VMT	VMT	lb/hr	Control Efficiency	PM <sub>10</sub> tons/yr	Emission Factor Reference
Scraper	2	0	100%	15	30	2.36	0		50%	0.00	AP-42 Section 13.2.2
Grader	2	468	100%	10		3.06	4,675		50%	3.58	AP-42 Table 11.9-1
Bulldozer	1	0						0.70	0%	0.00	AP-42 Table 11.9-1
Compactor	1	0	100%	10	5	3.06	0		50%	0.00	AP-42 Table 11.9-1
WaterTruck Dust Suppression	1	0	100%	15	16	1.78	0		50%	0.00	AP-42 Section 13.2.2
Front End Loader	2	1,795	100%	10	12	1.56	17,952		50%	7.02	AP-42 Section 13.2.2
Trackhoe <sup>3</sup>	1	704						3.20	0%	1.13	AP-42 Table 11.9-4
Backhoe <sup>3</sup>	4	7,181						1.33	0%	4.78	AP-42 Table 11.9-4
Drill Rig Water Truck	10	13,860	20%	10	16	1.78	27,720		50%	12.33	AP-42 Section 13.2.2
Drill Rig <sup>1</sup>	10	19,800	3%	10	26	2.21	5,940	0.07	50%	3.93	AP-42 13.2.2, 11.9-4
Pickup Truck 3/4 Ton Well Installation Crew	10	9,900	40%	20	3	0.84	79,200		50%	16.59	AP-42 Section 13.2.2
Heavy Drill Rig	1	0		240				0.01	0%	0.00	AP-42 Table 11.9-4
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	4	7,181	40%	20	3	0.84	57,446		50%	12.03	AP-42 Section 13.2.2
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	4	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Fork Lift	1	0	40%	5	1	0.00	0		50%	0.00	AP-42 Section 13.2.2
Passenger Vehicle	20	306	100%	20	2	0.70	6,119		85%	0.32	AP-42 Section 13.2.2
Delivery and Product Transport Truck	1	198	100%	15	30	2.36	2,977		85%	0.53	AP-42 Section 13.2.2
560 KW Emergency Generator	1	0	0%								
Workover Rig	1	0		72				0.02	0%	0.00	AP-42 Table 11.9-4
Tractor	1	785	100%	5	5	1.05	3,927		50%	1.03	AP-42 Section 13.2.2
Cementing Unit	4	5,386	20%	15	10	1.44	16,157		50%	5.82	AP-42 Section 13.2.2
3/4 Ton Well LoggingTruck	2	3,168	20%	10	4	0.95	6,336		50%	1.51	AP-42 Section 13.2.2
1-Ton Swabbing Unit	2	2,356	20%	10	5	1.05	4,713		50%	1.24	AP-42 Section 13.2.2
1-Ton MIT Unit	2	2,772	20%	10	5	1.05	5,544		50%	1.46	AP-42 Section 13.2.2
Diesel 5 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Diesel 4 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Gasoline Manlift	4	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
175 KW Diesel Generator	1	0									
Service/Fuel Truck	1	0	40%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Concrete Pump Truck	1	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Caisson Rig (for drilling piers)	1	0	20%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Mixer Trucks (concrete delivery)	8	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Power Trowel	2	0									
Jumping Jack/Plate Tamper	3	0									
Pickup Truck 1/2 Ton Construction	2	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Pickup Truck 3/4 Ton Construction Crew Truck	6	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Skid Steer/Mini Excavator	2	0						1.07	0%	0.00	AP-42 Table 11.9-4
Excavator (Bldg. Exc. And Septic Install)	1	0						1.33	0%	0.00	AP-42 Table 11.9-4
<b>TOTAL PM10 EMISSIONS (TONS/YEAR)</b>										<b>73.29</b>	



**Table A-15. Uranium Recovery Operations Fugitive Emissions, Year 6**

Equipment Item	Quantity	Fleet Hours <sup>2</sup>	Transit Duty <sup>8</sup>	Speed (mph)	Weight (tons)	lb/VMT	VMT	lb/hr	Control Efficiency	PM <sub>10</sub> tons/yr	Emission Factor Reference
Scraper	2	0	100%	15	30	2.36	0		50%	0.00	AP-42 Section 13.2.2
Grader	2	0	100%	10		3.06	0		50%	0.00	AP-42 Table 11.9-1
Bulldozer	1	0						0.70	0%	0.00	AP-42 Table 11.9-1
Compactor	1	0	100%	10	5	3.06	0		50%	0.00	AP-42 Table 11.9-1
WaterTruck Dust Suppression	1	1,259	100%	15	16	1.78	18,892		50%	8.40	AP-42 Section 13.2.2
Front End Loader	2	0	100%	10	12	1.56	0		50%	0.00	AP-42 Section 13.2.2
Trackhoe <sup>3</sup>	1	0						3.20	0%	0.00	AP-42 Table 11.9-4
Backhoe <sup>3</sup>	4	0						1.33	0%	0.00	AP-42 Table 11.9-4
Drill Rig Water Truck	10	0	20%	10	16	1.78	0		50%	0.00	AP-42 Section 13.2.2
Drill Rig <sup>1</sup>	10	0	3%	10	26	2.21	0	0.07	50%	0.00	AP-42 13.2.2, 11.9-4
Pickup Truck 3/4 Ton Well Installation Crew	10	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Heavy Drill Rig	1	0		240				0.01	0%	0.00	AP-42 Table 11.9-4
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	4	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	4	7,677	40%	20	3	0.84	61,413		50%	12.86	AP-42 Section 13.2.2
Fork Lift	1	1,439	40%	5	1	0.00	2,879		50%	0.00	AP-42 Section 13.2.2
Passenger Vehicle	20	538	100%	20	2	0.70	10,759		85%	0.56	AP-42 Section 13.2.2
Delivery and Product Transport Truck	1	480	100%	15	30	2.36	7,197		85%	1.27	AP-42 Section 13.2.2
560 KW Emergency Generator	1	100	0%								
Workover Rig	1	0		72				0.02	0%	0.00	AP-42 Table 11.9-4
Tractor	1	0	100%	5	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Cementing Unit	4	0	20%	15	10	1.44	0		50%	0.00	AP-42 Section 13.2.2
3/4 Ton Well LoggingTruck	2	960	20%	10	4	0.95	1,919		50%	0.46	AP-42 Section 13.2.2
1-Ton Swabbing Unit	2	840	20%	10	5	1.05	1,679		50%	0.44	AP-42 Section 13.2.2
1-Ton MIT Unit	2	840	20%	10	5	1.05	1,679		50%	0.44	AP-42 Section 13.2.2
Diesel 5 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Diesel 4 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Gasoline Manlift	4	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
175 KW Diesel Generator	1	0									
Service/Fuel Truck	1	0	40%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Concrete Pump Truck	1	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Caisson Rig (for drilling piers)	1	0	20%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Mixer Trucks (concrete delivery)	8	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Power Trowel	2	0									
Jumping Jack/Plate Tamper	3	0									
Pickup Truck 1/2 Ton Construction	2	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Pickup Truck 3/4 Ton Construction Crew Truck	6	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Skid Steer/Mini Excavator	2	0						1.07	0%	0.00	AP-42 Table 11.9-4
Excavator (Bldg. Exc. And Septic Install)	1	0						1.33	0%	0.00	AP-42 Table 11.9-4
<b>TOTAL PM10 EMISSIONS (TONS/YEAR)</b>										<b>24.44</b>	

**Table A-16. Groundwater Restoration Fugitive Emissions, Year 6**

Equipment Item	Quantity	Fleet Hours <sup>2</sup>	Transit Duty <sup>8</sup>	Speed (mph)	Weight (tons)	lb/VMT	VMT	lb/hr	Control Efficiency	PM <sub>10</sub> tons/yr	Emission Factor Reference
Scraper	2	0	100%	15	30	2.36	0		50%	0.00	AP-42 Section 13.2.2
Grader	2	0	100%	10		3.06	0		50%	0.00	AP-42 Table 11.9-1
Bulldozer	1	0						0.70	0%	0.00	AP-42 Table 11.9-1
Compactor	1	0	100%	10	5	3.06	0		50%	0.00	AP-42 Table 11.9-1
WaterTruck Dust Suppression	1	127	100%	15	16	1.78	1,898		50%	0.84	AP-42 Section 13.2.2
Front End Loader	2	0	100%	10	12	1.56	0		50%	0.00	AP-42 Section 13.2.2
Trackhoe <sup>3</sup>	1	0						3.20	0%	0.00	AP-42 Table 11.9-4
Backhoe <sup>3</sup>	4	0						1.33	0%	0.00	AP-42 Table 11.9-4
Drill Rig Water Truck	10	0	20%	10	16	1.78	0		50%	0.00	AP-42 Section 13.2.2
Drill Rig <sup>1</sup>	10	0	3%	10	26	2.21	0	0.07	50%	0.00	AP-42 13.2.2, 11.9-4
Pickup Truck 3/4 Ton Well Installation Crew	10	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Heavy Drill Rig	1	0		240				0.01	0%	0.00	AP-42 Table 11.9-4
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	4	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	4	771	40%	20	3	0.84	6,171		50%	1.29	AP-42 Section 13.2.2
Fork Lift	1	0	40%	5	1	0.00	0		50%	0.00	AP-42 Section 13.2.2
Passenger Vehicle	20	54	100%	20	2	0.70	1,081		85%	0.06	AP-42 Section 13.2.2
Delivery and Product Transport Truck	1	48	100%	15	30	2.36	723		85%	0.13	AP-42 Section 13.2.2
560 KW Emergency Generator	1	0	0%								
Workover Rig	1	0		72				0.02	0%	0.00	AP-42 Table 11.9-4
Tractor	1	0	100%	5	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Cementing Unit	4	0	20%	15	10	1.44	0		50%	0.00	AP-42 Section 13.2.2
3/4 Ton Well LoggingTruck	2	0	20%	10	4	0.95	0		50%	0.00	AP-42 Section 13.2.2
1-Ton Swabbing Unit	2	84	20%	10	5	1.05	169		50%	0.04	AP-42 Section 13.2.2
1-Ton MIT Unit	2	84	20%	10	5	1.05	169		50%	0.04	AP-42 Section 13.2.2
Diesel 5 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Diesel 4 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Gasoline Manlift	4	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
175 KW Diesel Generator	1	0									
Service/Fuel Truck	1	0	40%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Concrete Pump Truck	1	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Caisson Rig (for drilling piers)	1	0	20%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Mixer Trucks (concrete delivery)	8	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Power Trowel	2	0									
Jumping Jack/Plate Tamper	3	0									
Pickup Truck 1/2 Ton Construction	2	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Pickup Truck 3/4 Ton Construction Crew Truck	6	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Skid Steer/Mini Excavator	2	0						1.07	0%	0.00	AP-42 Table 11.9-4
Excavator (Bldg. Exc. And Septic Install)	1	0						1.33	0%	0.00	AP-42 Table 11.9-4
<b>TOTAL PM10 EMISSIONS (TONS/YEAR)</b>										<b>2.41</b>	

**Table A-17. Reclamation/Decommissioning Fugitive Emissions, Year 6**

Equipment Item	Quantity	Fleet Hours <sup>2</sup>	Transit Duty <sup>8</sup>	Speed (mph)	Weight (tons)	lb/VMT	VMT	lb/hr	Control Efficiency	PM <sub>10</sub> tons/yr	Emission Factor Reference
Scraper	2	0	100%	15	30	2.36	0		50%	0.00	AP-42 Section 13.2.2
Grader	2	83	100%	10		3.06	825		50%	0.63	AP-42 Table 11.9-1
Bulldozer	1	0						0.70	0%	0.00	AP-42 Table 11.9-1
Compactor	1	0	100%	10	5	3.06	0		50%	0.00	AP-42 Table 11.9-1
WaterTruck Dust Suppression	1	0	100%	15	16	1.78	0		50%	0.00	AP-42 Section 13.2.2
Front End Loader	2	317	100%	10	12	1.56	3,168		50%	1.24	AP-42 Section 13.2.2
Trackhoe <sup>3</sup>	1	0						3.20	0%	0.00	AP-42 Table 11.9-4
Backhoe <sup>3</sup>	4	1,267						1.33	0%	0.84	AP-42 Table 11.9-4
Drill Rig Water Truck	10	0	20%	10	16	1.78	0		50%	0.00	AP-42 Section 13.2.2
Drill Rig <sup>1</sup>	10	0	3%	10	26	2.21	0	0.07	50%	0.00	AP-42 13.2.2, 11.9-4
Pickup Truck 3/4 Ton Well Installation Crew	10	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Heavy Drill Rig	1	0		240				0.01	0%	0.00	AP-42 Table 11.9-4
Pickup Truck 1/2 Ton Wellfield Construction/Reclamation	4	1,267	40%	20	3	0.84	10,138		50%	2.12	AP-42 Section 13.2.2
Pickup Truck 1/2 Ton Wellfield Operations/Restoration	4	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Fork Lift	1	0	40%	5	1	0.00	0		50%	0.00	AP-42 Section 13.2.2
Passenger Vehicle	20	54	100%	20	2	0.70	1,080		85%	0.06	AP-42 Section 13.2.2
Delivery and Product Transport Truck	1	0	100%	15	30	2.36	0		85%	0.00	AP-42 Section 13.2.2
560 KW Emergency Generator	1	0	0%								
Workover Rig	1	0		72				0.02	0%	0.00	AP-42 Table 11.9-4
Tractor	1	139	100%	5	5	1.05	693		50%	0.18	AP-42 Section 13.2.2
Cementing Unit	4	950	20%	15	10	1.44	2,851		50%	1.03	AP-42 Section 13.2.2
3/4 Ton Well LoggingTruck	2	0	20%	10	4	0.95	0		50%	0.00	AP-42 Section 13.2.2
1-Ton Swabbing Unit	2	416	20%	10	5	1.05	832		50%	0.22	AP-42 Section 13.2.2
1-Ton MIT Unit	2	0	20%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Diesel 5 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Diesel 4 ton Telehandler	1	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Gasoline Manlift	4	0	10%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
175 KW Diesel Generator	1	0									
Service/Fuel Truck	1	0	40%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Concrete Pump Truck	1	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Caisson Rig (for drilling piers)	1	0	20%	10	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Mixer Trucks (concrete delivery)	8	0	20%	15	5	1.05	0		50%	0.00	AP-42 Section 13.2.2
Power Trowel	2	0									
Jumping Jack/Plate Tamper	3	0									
Pickup Truck 1/2 Ton Construction	2	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Pickup Truck 3/4 Ton Construction Crew Truck	6	0	40%	20	3	0.84	0		50%	0.00	AP-42 Section 13.2.2
Skid Steer/Mini Excavator	2	0						1.07	0%	0.00	AP-42 Table 11.9-4
Excavator (Bldg. Exc. And Septic Install)	1	0						1.33	0%	0.00	AP-42 Table 11.9-4
<b>TOTAL PM10 EMISSIONS (TONS/YEAR)</b>										<b>6.32</b>	

Table A-18. Wind Erosion Emissions

Disturbance Schedule							Emissions		
Year	Short Term Disturbed Acres	Long Term Disturbed Acres	Total Acres Disturbed per Year	Total Acres Disturbed	Total Acres Reclaimed	Net Acres Exposed	TSP Emission Factor (tons/acre/yr)	PM <sub>10</sub> Emissions (tons/yr)	PM <sub>2.5</sub> Emissions (tons/yr)
-1	0.0	17.4	17.4	17.4	0	17.4	0.38	1.98	0.30
1	12.0	2.6	14.6	32.0	0	32.0	0.38	3.64	0.55
2	15.0	5.4	20.3	52.3	12	40.3	0.38	4.60	0.69
3	12.0	3.4	15.4	67.7	15	40.7	0.38	4.64	0.70
4	12.0	3.4	15.4	83.1	12	44.1	0.38	5.02	0.75
5	12.0	3.4	15.4	98.5	12	47.4	0.38	5.41	0.81
6	12.0	3.4	15.4	113.9	12	50.8	0.38	5.79	0.87
7	12.0	3.4	15.4	129.3	14.6	51.6	0.38	5.88	0.88
8	12.0	3.4	15.4	144.7	15.4	51.6	0.38	5.88	0.88
9	7.5	2.1	9.6	154.3	15.4	45.9	0.38	5.23	0.78
10	0.0	0.0	0.0	154.3	10.9	35.0	0.38	3.99	0.60
11	0.0	0.0	0.0	154.3	3.4	31.6	0.38	3.60	0.54
12	0.0	0.0	0.0	154.3	3.4	28.3	0.38	3.22	0.48
13	0.0	0.0	0.0	154.3	3.4	24.9	0.38	2.84	0.43
14	0.0	0.0	0.0	154.3	3.4	21.6	0.38	2.46	0.37
15	0.0	0.0	0.0	154.3	21.6	0.0	0.38	0.00	0.00

Source: AP-42 Table 11.9-4

**Table A-19. Stationary Equipment Emissions**

<b>Gas-Fired Small Equipment</b>					
Item	Vacuum Dryers	Main Heater	Furnace	Radiant Heaters	
Number of Units	2	1	1	7	
Operating hours/yr	3,650	4,380	4,380	4,380	
Maximum duty (MMBtu/hr)	1.30	1.20	0.11	0.14	
Heating value (MMbtu/gal)	91.5	91.5	91.5	91.5	
Years in operation	13	16	16	16	
<b>LPG Emission Factors (lb/10<sup>3</sup> gal) - Sources: AP-42 Table 1.5-1, Table 1.4-3</b>					
Pollutant	Vacuum Dryer	Main Heater	Furnace	Radiant Heaters	
NO <sub>x</sub>	13.0	13.0	13.0	13.0	
CO	7.5	7.5	7.5	7.5	
PM <sub>10</sub> /PM <sub>2.5</sub>	0.7	0.7	0.7	0.7	
SO <sub>2</sub>	0.0	0.0	0.0	0.0	
TOC	1.0	1.0	1.0	1.0	
VOC	0.0	0.0	0.0	0.0	
CO <sub>2</sub>	12,500	12,500	12,500	12,500	
HAP	0.007	0.007	0.007	0.007	
<b>Emissions (tons/yr)</b>					
Pollutant	Vacuum Dryers	Main Heater	Furnace	Radiant Heaters	Total
NO <sub>x</sub>	0.67	0.37	0.03	0.30	1.39
CO	0.39	0.22	0.02	0.18	0.80
PM <sub>10</sub> /PM <sub>2.5</sub>	0.04	0.02	0.00	0.02	0.07
SO <sub>2</sub>	0.00	0.00	0.00	0.00	0.00
TOC	0.05	0.03	0.00	0.02	0.11
VOC	0.00	0.00	0.00	0.00	0.00
CO <sub>2</sub>	648.22	359.02	31.41	293.20	1331.85
HAP	0.00	0.00	0.00	0.00	0.00

**Table A-20. Greenhouse Gas Emissions**

Source	Tons/Yr (Max)
Engine tailpipe	4,479
Propane combustion	1,332
U <sub>3</sub> O <sub>8</sub> recovery process	755
Electricity consumption	39,422
<b>TOTAL GHG EMISSIONS</b>	<b>45,988</b>

**Table A-21. Process GHG Emissions**

ASSUMPTIONS	
Only greenhouse gas produced in ISR operation is Carbon Dioxide	
Carbon Dioxide is released when acidifying pregnant eluate prior to precipitation of uranyl peroxide.	
1.157	cu ft CO <sub>2</sub> /cu ft Natural Gas ( <u>The Making Shaping and Treating of Steel</u> , 9th Edition 1971 p. 72)
1049	btu/cu ft Natural Gas Pocket Ref 3rd Edition pg 330
117	Molecular Weight AMV
6	lb U <sub>3</sub> O <sub>8</sub> Per Cubic Foot of Loaded Resin
2,408,605	lb/yr as UO <sub>4</sub> 2H <sub>2</sub> O Conversion Factor U to UO <sub>4</sub> 2H <sub>2</sub> O
2,000,000	lb/yr U as U <sub>3</sub> O <sub>8</sub> 338 Molecular Weight UO <sub>4</sub> 2H <sub>2</sub> O
1,696,000	lb/yr U as U 1.420168 Conversion Factor
CARBON DIOXIDE FROM UranylTriCarbonate BREAKDOWN	
3,232,376	gm -Mole/yr UO <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub>
9,697,129	gm-Mole/yr CO <sub>2</sub> Released
426,674	kg/yr CO <sub>2</sub> Released
470.3	short ton CO <sub>2</sub> /yr Released
CARBON DIOXIDE FROM BREAKDOWN OF CARBONATE IN ELUATE	
333,333	Cubic Feet Resin Processed Per year
1,000,000	Cubic Feet of Eluate Produced Per Year
2%	Sodium Carbonate in Eluate
1.1	Estimated specific gravity of eluate
1,372,800	lb/yr Sodium Carbonate in Eluate
42%	CO <sub>2</sub> in Sodium Carbonate
569,842	lb/yr CO <sub>2</sub> released from Eluate
285	Short Tons CO <sub>2</sub> released per year from Eluate
Summary of CO <sub>2</sub> Release	
CO <sub>2</sub> from UTC Breakdown	470.3
CO <sub>2</sub> from Sodium Carbonate in Eluate	285
Total Annual CO <sub>2</sub> Production	755 short tons per year