| DOCKETED | |
|---|---|
| Docket Number: | 23-AFC-02 |
| Project Title: | Elmore North Geothermal Project (ENGP) |
| TN #: | 249743 |
| Document Title: | Elmore North Geothermal Project AFC Appendix 5-1 Air Quality |
| Description: | N/A |
| Filer: | Jerry Salamy |
| Organization: | Jacobs |
| Submitter Role: | Applicant Consultant |
| Submission Date: | 4/18/2023 11:32:28 AM |
| Docketed Date: | 4/18/2023 |

# Appendix 5.1A
# Operational Emissions Inventory

**Elmore North Geothermal Project**
**Elmore North Operational Emissions**
**Modeled Emissions Summary**
**April 2023**

| Emissions (lbs/hr) | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Emissions (lbs/hr) | | | | | | | | | | | | | | | | Emissions (lbs/hr) | | | | | |
| Pollutant [a] | Production Flow Back | Production Well Testing | Injection Flow Back | Injection Well Testing | Commissioning | | | | Cold Start | | | | Warm Start | | | Shutdown | Continuous Operation [b] | | Sparger Bypass | Cooling Tower Oxidation Box Bypass | Emergency Engines and Fire Pump (All Sources) | O&M Equipment |
| Location | PTU or MTU | MTU | PTU | MTU | PTU | RM | Sparger | CT | PTU | RM | Sparger | CT | RM | Sparger | CT | RM | Sparger | CT | Sparger | CT | Mutliple Stacks | Mobile |
| Duration (hrs/event) | 24 | 240 | 24 | 240 | 216 | 336 | 168 | 168 | 120 | 74 | 42 | 42 | 15 | 5 | 5 | 36 | 1 | 1 | 1 | 1 | 1 | 1 |
| Events Per Year | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 20 | 20 | 5.5 | 1,346 | 1,346 | 200 | 200 | -- | 8,760 |
| Hours Per Year | 216 | 2,160 | 288 | 2,880 | 216 | 336 | 168 | 168 | 120 | 74 | 42 | 42 | 300 | 100 | 100 | 198 | 1,346 | 1,346 | 200 | 200 | -- | 8,760 |
| $CO_2$ | 1.12E+03 | 4.54E+03 | 1.12E+03 | 4.54E+03 | 2.79E+03 | 1.50E+04 | 1.50E+04 | 0.00E+00 | 2.79E+03 | 1.50E+04 | 3.65E+03 | 0.00E+00 | 1.50E+04 | 5.84E+03 | 0.00E+00 | 1.71E+04 | 1.50E+04 | 0.00E+00 | 1.50E+04 | 1.50E+04 | 2.38E+04 | 1.32E+03 |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.64E+01 | 3.74E+00 |
| ROG | 3.37E-02 | 1.37E-01 | 3.37E-02 | 1.37E-01 | 8.40E-02 | 4.53E-01 | 4.53E-01 | 2.60E-03 | 8.40E-02 | 4.53E-01 | 1.10E-01 | 2.60E-03 | 4.53E-01 | 1.76E-01 | 2.60E-03 | 5.15E-01 | 4.53E-01 | 2.60E-03 | 4.56E-01 | 4.56E-01 | 7.03E+00 | 4.57E-01 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.29E+02 | 4.17E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.41E-04 | 1.26E-02 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.63E+00 | 3.63E+00 | 3.63E+00 | 1.16E+00 | 1.43E-01 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.18E+00 | 2.18E+00 | 2.18E+00 | 1.16E+00 | 1.24E-01 |
| HAPs | 3.38E-02 | 1.37E-01 | 3.38E-02 | 1.37E-01 | 8.43E-02 | 4.55E-01 | 4.53E-01 | 4.26E-03 | 8.43E-02 | 4.55E-01 | 1.10E-01 | 4.26E-03 | 4.55E-01 | 1.76E-01 | 4.26E-03 | 5.16E-01 | 4.53E-01 | 4.26E-03 | 4.58E-01 | 4.58E-01 | 4.88E-02 | 0.00E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.04E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.04E-05 | 0.00E+00 | 0.00E+00 | 2.04E-05 | 0.00E+00 | 0.00E+00 | 2.04E-05 | 2.04E-05 | 2.04E-05 | 0.00E+00 | 0.00E+00 |
| $H_2S$ | 9.95E+00 | 4.04E+01 | 9.95E+00 | 4.04E+01 | 2.48E+01 | 1.34E+02 | 2.81E+00 | 2.68E+00 | 2.48E+01 | 1.34E+02 | 6.83E-01 | 2.68E+00 | 1.34E+02 | 1.09E+00 | 2.68E+00 | 1.52E+02 | 2.81E+00 | 2.68E+00 | 8.31E+01 | 5.64E+01 | 0.00E+00 | 0.00E+00 |
| $NH_3$ | 1.01E-01 | 4.09E-01 | 1.01E-01 | 4.09E-01 | 2.51E-01 | 1.36E+00 | 1.36E+00 | 1.15E+02 | 2.51E-01 | 1.36E+00 | 3.29E-01 | 1.15E+02 | 1.36E+00 | 5.27E-01 | 1.15E+02 | 1.54E+00 | 1.36E+00 | 1.15E+02 | 5.64E+02 | 1.16E+02 | 1.63E+00 | 0.00E+00 |
| $CH_4$ | 2.79E+00 | 1.13E+01 | 2.79E+00 | 1.13E+01 | 6.97E+00 | 3.76E+01 | 3.76E+01 | 0.00E+00 | 6.97E+00 | 3.76E+01 | 9.12E+00 | 0.00E+00 | 3.76E+01 | 1.46E+01 | 0.00E+00 | 4.27E+01 | 3.76E+01 | 0.00E+00 | 3.76E+01 | 3.76E+01 | 9.65E-01 | 4.70E-02 |
| *As* | 4.24E-05 | 1.72E-04 | 4.24E-05 | 1.72E-04 | 1.06E-04 | 5.71E-04 | 0.00E+00 | 2.71E-04 | 1.06E-04 | 5.71E-04 | 0.00E+00 | 2.71E-04 | 5.71E-04 | 0.00E+00 | 2.71E-04 | 6.47E-04 | 0.00E+00 | 2.71E-04 | 2.71E-04 | 2.71E-04 | 0.00E+00 | 0.00E+00 |
| *Hg* | 6.92E-05 | 2.81E-04 | 6.92E-05 | 2.81E-04 | 1.73E-04 | 9.32E-04 | 0.00E+00 | 1.54E-05 | 1.73E-04 | 9.32E-04 | 0.00E+00 | 1.54E-05 | 9.32E-04 | 0.00E+00 | 1.54E-05 | 1.06E-03 | 0.00E+00 | 1.54E-05 | 1.54E-05 | 1.54E-05 | 0.00E+00 | 0.00E+00 |
| *Benzene* | 3.32E-02 | 1.35E-01 | 3.32E-02 | 1.35E-01 | 8.28E-02 | 4.47E-01 | 4.47E-01 | 5.20E-04 | 8.28E-02 | 4.47E-01 | 1.08E-01 | 5.20E-04 | 4.47E-01 | 1.73E-01 | 5.20E-04 | 5.07E-01 | 4.47E-01 | 5.20E-04 | 4.48E-01 | 4.48E-01 | 2.33E-02 | 0.00E+00 |
| *Toluene* | 1.77E-04 | 7.20E-04 | 1.77E-04 | 7.20E-04 | 4.43E-04 | 2.39E-03 | 2.39E-03 | 5.20E-04 | 4.43E-04 | 2.39E-03 | 5.80E-04 | 5.20E-04 | 2.39E-03 | 9.27E-04 | 5.20E-04 | 2.71E-03 | 2.39E-03 | 5.20E-04 | 2.91E-03 | 2.91E-03 | 8.48E-03 | 0.00E+00 |
| *Ethylbenzene* | 1.47E-04 | 5.95E-04 | 1.47E-04 | 5.95E-04 | 3.66E-04 | 1.98E-03 | 1.98E-03 | 5.20E-04 | 3.66E-04 | 1.98E-03 | 4.79E-04 | 5.20E-04 | 1.98E-03 | 7.66E-04 | 5.20E-04 | 2.24E-03 | 1.98E-03 | 5.20E-04 | 2.49E-03 | 2.49E-03 | 0.00E+00 | 0.00E+00 |
| *Xylenes* | 1.47E-04 | 5.95E-04 | 1.47E-04 | 5.95E-04 | 3.66E-04 | 1.98E-03 | 1.98E-03 | 1.04E-03 | 3.66E-04 | 1.98E-03 | 4.79E-04 | 1.04E-03 | 1.98E-03 | 7.66E-04 | 1.04E-03 | 2.24E-03 | 1.98E-03 | 1.04E-03 | 3.01E-03 | 3.01E-03 | 5.83E-03 | 0.00E+00 |
| Argon | 1.50E-02 | 6.08E-02 | 1.50E-02 | 6.08E-02 | 3.74E-02 | 2.02E-01 | 2.02E-01 | 0.00E+00 | 3.74E-02 | 2.02E-01 | 4.89E-02 | 0.00E+00 | 2.02E-01 | 7.82E-02 | 0.00E+00 | 2.29E-01 | 2.02E-01 | 0.00E+00 | 2.02E-01 | 2.02E-01 | 0.00E+00 | 0.00E+00 |
| $N_2$ | 5.21E+00 | 2.11E+01 | 5.21E+00 | 2.11E+01 | 1.30E+01 | 7.02E+01 | 7.02E+01 | 0.00E+00 | 1.30E+01 | 7.02E+01 | 1.70E+01 | 0.00E+00 | 7.02E+01 | 2.72E+01 | 0.00E+00 | 7.97E+01 | 7.02E+01 | 0.00E+00 | 7.02E+01 | 7.02E+01 | 0.00E+00 | 0.00E+00 |
| $H_2$ | 2.98E-02 | 1.21E-01 | 2.98E-02 | 1.21E-01 | 7.44E-02 | 4.02E-01 | 4.02E-01 | 0.00E+00 | 7.44E-02 | 4.02E-01 | 9.74E-02 | 0.00E+00 | 4.02E-01 | 1.56E-01 | 0.00E+00 | 4.56E-01 | 4.02E-01 | 0.00E+00 | 4.02E-01 | 4.02E-01 | 0.00E+00 | 0.00E+00 |
| Aluminum | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 2.88E-05 | 2.88E-05 | 0.00E+00 | 0.00E+00 |
| *Antimony* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.32E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.32E-06 | 0.00E+00 | 0.00E+00 | 4.32E-06 | 0.00E+00 | 0.00E+00 | 4.32E-06 | 4.32E-06 | 4.32E-06 | 0.00E+00 | 0.00E+00 |
| Barium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.38E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.38E-04 | 0.00E+00 | 0.00E+00 | 1.38E-04 | 0.00E+00 | 0.00E+00 | 1.38E-04 | 1.38E-04 | 1.38E-04 | 0.00E+00 | 0.00E+00 |
| *Beryllium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 2.88E-07 | 2.88E-07 | 0.00E+00 | 0.00E+00 |
| *Cobalt* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 0.00E+00 | 0.00E+00 | 2.88E-07 | 2.88E-07 | 2.88E-07 | 0.00E+00 | 0.00E+00 |
| *Cadmium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.64E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.64E-07 | 0.00E+00 | 0.00E+00 | 8.64E-07 | 0.00E+00 | 0.00E+00 | 8.64E-07 | 8.64E-07 | 8.64E-07 | 0.00E+00 | 0.00E+00 |
| *Total Chromium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 1.44E-06 | 1.44E-06 | 0.00E+00 | 0.00E+00 |
| Copper | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.38E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.38E-05 | 0.00E+00 | 0.00E+00 | 1.38E-05 | 0.00E+00 | 0.00E+00 | 1.38E-05 | 1.38E-05 | 1.38E-05 | 0.00E+00 | 0.00E+00 |
| Vanadium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 1.44E-06 | 1.44E-06 | 0.00E+00 | 0.00E+00 |
| Lithium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 2.88E-05 | 2.88E-05 | 0.00E+00 | 0.00E+00 |
| *Manganese* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.32E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.32E-03 | 0.00E+00 | 0.00E+00 | 1.32E-03 | 0.00E+00 | 0.00E+00 | 1.32E-03 | 1.32E-03 | 1.32E-03 | 0.00E+00 | 0.00E+00 |
| *Nickel* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 3.51E-06 | 3.51E-06 | 0.00E+00 | 0.00E+00 |
| *Selenium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.55E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.55E-05 | 0.00E+00 | 0.00E+00 | 4.55E-05 | 0.00E+00 | 0.00E+00 | 4.55E-05 | 4.55E-05 | 4.55E-05 | 0.00E+00 | 0.00E+00 |
| Total Silica | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-03 | 0.00E+00 | 0.00E+00 | 1.44E-03 | 0.00E+00 | 0.00E+00 | 1.44E-03 | 1.44E-03 | 1.44E-03 | 0.00E+00 | 0.00E+00 |
| Silver | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 1.44E-06 | 1.44E-06 | 0.00E+00 | 0.00E+00 |
| Strontium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 0.00E+00 | 0.00E+00 | 2.88E-05 | 2.88E-05 | 2.88E-05 | 0.00E+00 | 0.00E+00 |
| Zinc | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.20E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.20E-04 | 0.00E+00 | 0.00E+00 | 8.20E-04 | 0.00E+00 | 0.00E+00 | 8.20E-04 | 8.20E-04 | 8.20E-04 | 0.00E+00 | 0.00E+00 |
| Diesel PM | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.16E+00 | 1.16E-01 |
| *Chloroform* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Formaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.23E-03 | 0.00E+00 |
| *1,3-Butadiene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.13E-05 | 0.00E+00 |
| PAHs (Unspeciated and excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Naphthalene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.84E-03 | 0.00E+00 |
| *Acetaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.34E-03 | 0.00E+00 |
| *Acrolein* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.03E-04 | 0.00E+00 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.30E-02 | 0.00E+00 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Radon | 9.65E-05 | 3.92E-04 | 9.65E-05 | 3.92E-04 | 2.41E-04 | 1.30E-03 | 1.30E-03 | 8.67E-07 | 2.41E-04 | 1.30E-03 | 3.15E-04 | 8.67E-07 | 1.30E-03 | 5.05E-04 | 8.67E-07 | 1.48E-03 | 1.30E-03 | 8.67E-07 | 1.30E-03 | 1.30E-03 | 0.00E+00 | 0.00E+00 |
| *Acenaphthylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.72E-04 | 0.00E+00 |
| *Acenaphthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.37E-04 | 0.00E+00 |
| *Fluorene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.95E-04 | 0.00E+00 |
| *Phenanthrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E-03 | 0.00E+00 |
| *Anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.72E-05 | 0.00E+00 |
| *Fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.23E-04 | 0.00E+00 |
| *Pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.11E-04 | 0.00E+00 |
| *Benz(a)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.94E-05 | 0.00E+00 |
| *Chrysene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.47E-05 | 0.00E+00 |
| *Benzo(b)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.23E-05 | 0.00E+00 |
| *Benzo(k)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.45E-06 | 0.00E+00 |
| *Benzo(a)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.61E-06 | 0.00E+00 |
| *Indeno(1,2,3-cd)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.23E-05 | 0.00E+00 |
| *Dibenz(a,h)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.05E-05 | 0.00E+00 |
| *Benzo(g,h,l)perylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.65E-05 | 0.00E+00 |
| $N_2O$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.93E-01 | 9.45E-03 |

*Classified as HAPs by the U.S. Environmental Protection Agency*

[a] Radon units are in unit of Curie(s) (Ci) per respective column time unit.

[b] Continuous operation of the turbine system and cooling towers is assumed to occur during hours when the PTU/ MTU/Rock Muffler are not in operation.

**First Year Annual Emissions (With Commissioning)**

| Pollutant [a] | Emissions (tpy) | | | | | | | | | | | | | | | | Emissions (tpy) | | | | | | Total Emissions (tpy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production Flow Back | Production Well Testing | Injection Flow Back | Injection Well Testing | Commissioning | | | | Cold Start | | | | Warm Start | | | Shutdown | Continuous Operation [b] | | Sparger Bypass | Cooling Tower Oxidation Box Bypass | Emergency Engines and Fire Pump (All Sources) | O&M Equipment | |
| Location | MTU | MTU | PTU | MTU | PTU | RM | Sparger | CT | PTU | RM | Sparger | CT | RM | Sparger | CT | RM | Sparger | CT | Sparger | CT | Mutliple Stacks | Mobile | |
| $CO_2$ | 1.21E+02 | 4.90E+03 | 1.61E+02 | 6.53E+03 | 3.01E+02 | 2.53E+03 | 1.26E+03 | 0.00E+00 | 1.67E+02 | 5.57E+02 | 7.66E+01 | 0.00E+00 | 2.26E+03 | 2.92E+02 | 0.00E+00 | 1.69E+03 | 1.01E+04 | 0.00E+00 | 1.50E+03 | 1.50E+03 | 5.95E+02 | 2.57E+02 | 3.48E+04 |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.60E-01 | 6.57E-01 | 1.32E+00 |
| ROG | 3.63E-03 | 1.48E-01 | 4.85E-03 | 1.97E-01 | 9.07E-03 | 7.62E-02 | 3.81E-02 | 2.18E-04 | 5.04E-03 | 1.68E-02 | 2.31E-03 | 5.46E-05 | 6.80E-02 | 8.80E-03 | 1.30E-04 | 5.09E-02 | 3.05E-01 | 1.75E-03 | 4.56E-02 | 4.56E-02 | 1.76E-01 | 8.55E-02 | 1.29E+00 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.22E+00 | 1.14E+00 | 4.36E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 2.53E-03 | 2.53E-03 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.44E+00 | 3.63E-01 | 3.63E-01 | 2.90E-02 | 2.65E-02 | 3.22E+00 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.46E+00 | 2.18E-01 | 2.18E-01 | 2.90E-02 | 2.19E-02 | 1.95E+00 |
| HAPs | 3.65E-03 | 1.48E-01 | 4.86E-03 | 1.97E-01 | 9.10E-03 | 7.64E-02 | 3.81E-02 | 3.58E-04 | 5.06E-03 | 1.68E-02 | 2.31E-03 | 8.96E-05 | 6.82E-02 | 8.80E-03 | 2.13E-04 | 5.11E-02 | 3.05E-01 | 2.87E-03 | 4.58E-02 | 4.58E-02 | 1.22E-03 | 0.00E+00 | 1.03E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.72E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.29E-07 | 0.00E+00 | 0.00E+00 | 1.02E-06 | 0.00E+00 | 0.00E+00 | 1.38E-05 | 2.04E-06 | 2.04E-06 | 0.00E+00 | 0.00E+00 | 2.10E-05 |
| $H_2S$ | 1.07E+00 | 4.36E+01 | 1.43E+00 | 5.82E+01 | 2.68E+00 | 2.25E+01 | 2.36E-01 | 2.25E-01 | 1.49E+00 | 4.96E+00 | 1.43E-02 | 5.63E-02 | 2.01E+01 | 5.46E-02 | 1.34E-01 | 1.51E+01 | 1.89E+00 | 1.80E+00 | 8.31E+00 | 5.64E+00 | 0.00E+00 | 0.00E+00 | 1.89E+02 |
| $NH_3$ | 1.09E-02 | 4.42E-01 | 1.45E-02 | 5.89E-01 | 2.72E-02 | 2.28E-01 | 1.14E-01 | 9.65E+00 | 1.51E-02 | 5.02E-02 | 6.91E-03 | 2.41E+00 | 2.04E-01 | 2.63E-02 | 5.75E+00 | 1.52E-01 | 9.13E-01 | 7.73E+01 | 5.64E+01 | 1.16E+01 | 4.07E-02 | 0.00E+00 | 1.66E+02 |
| $CH_4$ | 3.02E-01 | 1.22E+01 | 4.02E-01 | 1.63E+01 | 7.53E-01 | 6.32E+00 | 3.16E+00 | 0.00E+00 | 4.18E-01 | 1.39E+00 | 1.92E-01 | 0.00E+00 | 5.64E+00 | 7.30E-01 | 0.00E+00 | 4.23E+00 | 2.53E+01 | 0.00E+00 | 3.76E+00 | 3.76E+00 | 2.41E-02 | 8.94E-03 | 8.50E+01 |
| *As* | 4.57E-06 | 1.86E-04 | 6.10E-06 | 2.48E-04 | 1.14E-05 | 9.58E-05 | 0.00E+00 | 2.28E-05 | 6.34E-06 | 2.11E-05 | 0.00E+00 | 5.69E-06 | 8.56E-05 | 0.00E+00 | 1.35E-05 | 6.41E-05 | 0.00E+00 | 1.82E-04 | 2.71E-05 | 2.71E-05 | 0.00E+00 | 0.00E+00 | 1.01E-03 |
| *Hg* | 7.47E-06 | 3.03E-04 | 9.96E-06 | 4.04E-04 | 1.86E-05 | 1.56E-04 | 0.00E+00 | 1.29E-06 | 1.04E-05 | 3.45E-05 | 0.00E+00 | 3.24E-07 | 1.40E-04 | 0.00E+00 | 7.71E-07 | 1.05E-04 | 0.00E+00 | 1.04E-05 | 1.54E-06 | 1.54E-06 | 0.00E+00 | 0.00E+00 | 1.20E-03 |
| *Benzene* | 3.58E-03 | 1.45E-01 | 4.78E-03 | 1.94E-01 | 8.95E-03 | 7.51E-02 | 3.75E-02 | 4.36E-05 | 4.97E-03 | 1.65E-02 | 2.28E-03 | 1.09E-05 | 6.71E-02 | 8.67E-03 | 2.60E-05 | 5.02E-02 | 3.01E-01 | 3.50E-04 | 4.48E-02 | 4.48E-02 | 5.82E-04 | 0.00E+00 | 1.01E+00 |
| *Toluene* | 1.92E-05 | 7.78E-04 | 2.55E-05 | 1.04E-03 | 4.78E-05 | 4.02E-04 | 2.01E-04 | 4.36E-05 | 2.66E-05 | 8.84E-05 | 1.22E-05 | 1.09E-05 | 3.59E-04 | 4.64E-05 | 2.60E-05 | 2.69E-04 | 1.61E-03 | 3.50E-04 | 2.91E-04 | 2.91E-04 | 2.12E-04 | 0.00E+00 | 6.14E-03 |
| *Ethylbenzene* | 1.58E-05 | 6.43E-04 | 2.11E-05 | 8.57E-04 | 3.95E-05 | 3.32E-04 | 1.66E-04 | 4.36E-05 | 2.20E-05 | 7.31E-05 | 1.01E-05 | 1.09E-05 | 2.96E-04 | 3.83E-05 | 2.60E-05 | 2.22E-04 | 1.33E-03 | 3.50E-04 | 2.49E-04 | 2.49E-04 | 0.00E+00 | 0.00E+00 | 4.99E-03 |
| *Xylenes* | 1.58E-05 | 6.43E-04 | 2.11E-05 | 8.57E-04 | 3.95E-05 | 3.32E-04 | 1.66E-04 | 8.73E-05 | 2.20E-05 | 7.31E-05 | 1.01E-05 | 2.18E-05 | 2.96E-04 | 3.83E-05 | 5.20E-05 | 2.22E-04 | 1.33E-03 | 6.99E-04 | 3.01E-04 | 3.01E-04 | 1.46E-04 | 0.00E+00 | 5.67E-03 |
| Argon | 1.62E-03 | 6.56E-02 | 2.16E-03 | 8.75E-02 | 4.04E-03 | 3.39E-02 | 1.69E-02 | 0.00E+00 | 2.24E-03 | 7.46E-03 | 1.03E-03 | 0.00E+00 | 3.02E-02 | 3.91E-03 | 0.00E+00 | 2.27E-02 | 1.36E-01 | 0.00E+00 | 2.02E-02 | 2.02E-02 | 0.00E+00 | 0.00E+00 | 4.55E-01 |
| $N_2$ | 5.63E-01 | 2.28E+01 | 7.50E-01 | 3.05E+01 | 1.40E+00 | 1.18E+01 | 5.90E+00 | 0.00E+00 | 7.80E-01 | 2.60E+00 | 3.57E-01 | 0.00E+00 | 1.05E+01 | 1.36E+00 | 0.00E+00 | 7.89E+00 | 4.72E+01 | 0.00E+00 | 7.02E+00 | 7.02E+00 | 0.00E+00 | 0.00E+00 | 1.58E+02 |
| $H_2$ | 3.22E-03 | 1.31E-01 | 4.29E-03 | 1.74E-01 | 8.04E-03 | 6.75E-02 | 3.37E-02 | 0.00E+00 | 4.47E-03 | 1.49E-02 | 2.05E-03 | 0.00E+00 | 6.02E-02 | 7.79E-03 | 0.00E+00 | 4.51E-02 | 2.70E-01 | 0.00E+00 | 4.02E-02 | 4.02E-02 | 0.00E+00 | 0.00E+00 | 9.07E-01 |
| Aluminum | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.42E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-07 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.94E-05 | 2.88E-06 | 2.88E-06 | 0.00E+00 | 0.00E+00 | 2.96E-05 |
| *Antimony* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.63E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.07E-08 | 0.00E+00 | 0.00E+00 | 2.16E-07 | 0.00E+00 | 0.00E+00 | 2.91E-06 | 4.32E-07 | 4.32E-07 | 0.00E+00 | 0.00E+00 | 4.44E-06 |
| Barium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.16E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-06 | 0.00E+00 | 0.00E+00 | 6.91E-06 | 0.00E+00 | 0.00E+00 | 9.30E-05 | 1.38E-05 | 1.38E-05 | 0.00E+00 | 0.00E+00 | 1.42E-04 |
| *Beryllium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.42E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-09 | 0.00E+00 | 0.00E+00 | 1.44E-08 | 0.00E+00 | 0.00E+00 | 1.94E-07 | 2.88E-08 | 2.88E-08 | 0.00E+00 | 0.00E+00 | 2.96E-07 |
| *Cobalt* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.42E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-09 | 0.00E+00 | 0.00E+00 | 1.44E-08 | 0.00E+00 | 0.00E+00 | 1.94E-07 | 2.88E-08 | 2.88E-08 | 0.00E+00 | 0.00E+00 | 2.96E-07 |
| *Cadmium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.25E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.81E-08 | 0.00E+00 | 0.00E+00 | 4.32E-08 | 0.00E+00 | 0.00E+00 | 5.81E-07 | 8.64E-08 | 8.64E-08 | 0.00E+00 | 0.00E+00 | 8.88E-07 |
| *Total Chromium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | 0.00E+00 | 0.00E+00 | 7.20E-08 | 0.00E+00 | 0.00E+00 | 9.69E-07 | 1.44E-07 | 1.44E-07 | 0.00E+00 | 0.00E+00 | 1.48E-06 |
| Copper | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.16E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-07 | 0.00E+00 | 0.00E+00 | 6.91E-07 | 0.00E+00 | 0.00E+00 | 9.30E-06 | 1.38E-06 | 1.38E-06 | 0.00E+00 | 0.00E+00 | 1.42E-05 |
| Vanadium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | 0.00E+00 | 0.00E+00 | 7.20E-08 | 0.00E+00 | 0.00E+00 | 9.69E-07 | 1.44E-07 | 1.44E-07 | 0.00E+00 | 0.00E+00 | 1.48E-06 |
| Lithium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.42E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-07 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.94E-05 | 2.88E-06 | 2.88E-06 | 0.00E+00 | 0.00E+00 | 2.96E-05 |
| *Manganese* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.11E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.78E-05 | 0.00E+00 | 0.00E+00 | 6.62E-05 | 0.00E+00 | 0.00E+00 | 8.91E-04 | 1.32E-04 | 1.32E-04 | 0.00E+00 | 0.00E+00 | 1.36E-03 |
| *Nickel* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.95E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.38E-08 | 0.00E+00 | 0.00E+00 | 1.76E-07 | 0.00E+00 | 0.00E+00 | 2.36E-06 | 3.51E-07 | 3.51E-07 | 0.00E+00 | 0.00E+00 | 3.61E-06 |
| *Selenium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.82E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.55E-07 | 0.00E+00 | 0.00E+00 | 2.27E-06 | 0.00E+00 | 0.00E+00 | 3.06E-05 | 4.55E-06 | 4.55E-06 | 0.00E+00 | 0.00E+00 | 4.68E-05 |
| Total Silica | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-05 | 0.00E+00 | 0.00E+00 | 7.20E-05 | 0.00E+00 | 0.00E+00 | 9.69E-04 | 1.44E-04 | 1.44E-04 | 0.00E+00 | 0.00E+00 | 1.48E-03 |
| Silver | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | 0.00E+00 | 0.00E+00 | 7.20E-08 | 0.00E+00 | 0.00E+00 | 9.69E-07 | 1.44E-07 | 1.44E-07 | 0.00E+00 | 0.00E+00 | 1.48E-06 |
| Strontium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.42E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-07 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.94E-05 | 2.88E-06 | 2.88E-06 | 0.00E+00 | 0.00E+00 | 2.96E-05 |
| Zinc | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.89E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.72E-05 | 0.00E+00 | 0.00E+00 | 4.10E-05 | 0.00E+00 | 0.00E+00 | 5.52E-04 | 8.20E-05 | 8.20E-05 | 0.00E+00 | 0.00E+00 | 8.43E-04 |
| Diesel PM | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-02 | 1.63E-02 | 4.53E-02 |
| *Chloroform* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Formaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.08E-05 | 0.00E+00 | 8.08E-05 |
| *1,3-Butadiene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.82E-07 | 0.00E+00 | 7.82E-07 |
| PAHs (Unspeciated and excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Naphthalene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.60E-05 | 0.00E+00 | 9.60E-05 |
| *Acetaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.36E-05 | 0.00E+00 | 3.36E-05 |
| *Acrolein* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.57E-06 | 0.00E+00 | 7.57E-06 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.08E-03 | 0.00E+00 | 2.08E-03 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Radon | 2.08E-02 | 8.46E-01 | 2.78E-02 | 1.13E+00 | 5.20E-02 | 4.37E-01 | 2.18E-01 | 1.46E-04 | 2.89E-02 | 9.62E-02 | 1.32E-02 | 3.64E-05 | 3.90E-01 | 5.05E-02 | 8.67E-05 | 2.92E-01 | 1.75E+00 | 1.17E-03 | 2.60E-01 | 2.60E-01 | 0.00E+00 | 0.00E+00 | 5.87E+00 |
| *Acenaphthylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.80E-06 | 0.00E+00 | 6.80E-06 |
| *Acenaphthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.42E-06 | 0.00E+00 | 3.42E-06 |
| *Fluorene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.87E-06 | 0.00E+00 | 9.87E-06 |
| *Phenanthrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-05 | 0.00E+00 | 3.02E-05 |
| *Anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.30E-07 | 0.00E+00 | 9.30E-07 |
| *Fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-06 | 0.00E+00 | 3.08E-06 |
| *Pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.79E-06 | 0.00E+00 | 2.79E-06 |
| *Benz(a)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.85E-07 | 0.00E+00 | 4.85E-07 |
| *Chrysene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.12E-06 | 0.00E+00 | 1.12E-06 |
| *Benzo(b)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.07E-07 | 0.00E+00 | 8.07E-07 |
| *Benzo(k)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.61E-07 | 0.00E+00 | 1.61E-07 |
| *Benzo(a)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.90E-07 | 0.00E+00 | 1.90E-07 |
| *Indeno(1,2,3-cd)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-07 | 0.00E+00 | 3.08E-07 |
| *Dibenz(a,h)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.63E-07 | 0.00E+00 | 2.63E-07 |
| *Benzo(g,h,l)perylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.13E-07 | 0.00E+00 | 4.13E-07 |
| $N_2O$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.82E-03 | 1.57E-03 | 6.40E-03 |

*Classified as HAPs by the U.S. Environmental Protection Agency*

[a] Radon units are in unit of Curie(s) (Ci) per respective column time unit.

[b] Continuous operation of the turbine system and cooling towers is assumed to occur during hours when the PTU/ MTU/Rock Muffler are not in operation.

**Subsequent Year Annual Emissions (Without Commissioning)**

| Pollutant [a] | Emissions (tpy) | | | | | | | | | | | | | | | | | Emissions (tpy) | | | | | Total Emissions (tpy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production Flow Back | Production Well Testing | Injection Flow Back | Injection Well Testing | Commissioning | | | | Cold Start | | | | Warm Start | | | Shutdown | Continuous Operation [b] | | Sparger Bypass | Cooling Tower Oxidation Box Bypass | Emergency Engines and Fire Pump (All Sources) | O&M Equipment | |
| Location | PTU | MTU | PTU | MTU | PTU | RM | Sparger | CT | PTU | RM | Sparger | CT | RM | Sparger | CT | RM | Sparger | CT | Sparger | CT | Mutliple Stacks | Mobile | |
| Duration (hrs/event) | 24 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 120 | 74 | 42 | 42 | 15 | 5 | 5 | 36 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Events Per Year | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 20 | 20 | 20 | 5.5 | 7,058 | 7,058 | 200 | 200 | -- | 8,760 | |
| Hours Per Year | 216 | 0 | 288 | 0 | 0 | 0 | 0 | 0 | 120 | 74 | 42 | 42 | 300 | 100 | 100 | 198 | 7,058 | 7,058 | 200 | 200 | -- | 8,760 | |
| $CO_2$ | 1.21E+02 | 0.00E+00 | 1.61E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.67E+02 | 5.57E+02 | 7.66E+01 | 0.00E+00 | 2.26E+03 | 2.92E+02 | 0.00E+00 | 1.69E+03 | 5.31E+04 | 0.00E+00 | 1.50E+03 | 1.50E+03 | 5.95E+02 | 2.57E+02 | 6.23E+04 |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.60E-01 | 6.57E-01 | 1.32E+00 |
| ROG | 3.63E-03 | 0.00E+00 | 4.85E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.04E-03 | 1.68E-02 | 2.31E-03 | 5.46E-05 | 6.80E-02 | 8.80E-03 | 1.30E-04 | 5.09E-02 | 1.60E+00 | 9.17E-03 | 4.56E-02 | 4.56E-02 | 1.76E-01 | 8.55E-02 | 2.12E+00 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.22E+00 | 1.14E+00 | 4.36E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 2.53E-03 | 2.53E-03 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.28E+01 | 3.63E-01 | 3.63E-01 | 2.90E-02 | 2.65E-02 | 1.36E+01 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.68E+00 | 2.18E-01 | 2.18E-01 | 2.90E-02 | 2.19E-02 | 8.17E+00 |
| HAPs | 3.65E-03 | 0.00E+00 | 4.86E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.06E-03 | 1.68E-02 | 2.31E-03 | 8.96E-05 | 6.82E-02 | 8.80E-03 | 2.13E-04 | 5.11E-02 | 1.60E+00 | 1.50E-02 | 4.58E-02 | 4.58E-02 | 1.22E-03 | 0.00E+00 | 1.87E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.29E-07 | 0.00E+00 | 0.00E+00 | 1.02E-06 | 0.00E+00 | 0.00E+00 | 7.21E-05 | 2.04E-06 | 2.04E-06 | 0.00E+00 | 0.00E+00 | 7.77E-05 |
| $H_2S$ | 1.07E+00 | 0.00E+00 | 1.43E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.49E+00 | 4.96E+00 | 1.43E-02 | 5.63E-02 | 2.01E+01 | 5.46E-02 | 1.34E-01 | 1.51E+01 | 9.93E+00 | 9.46E+00 | 8.31E+00 | 5.64E+00 | 0.00E+00 | 0.00E+00 | 7.77E+01 |
| $NH_3$ | 1.09E-02 | 0.00E+00 | 1.45E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.51E-02 | 5.02E-02 | 6.91E-03 | 2.41E+00 | 2.04E-01 | 2.63E-02 | 5.75E+00 | 1.52E-01 | 4.79E+00 | 4.06E+02 | 5.64E+01 | 1.16E+01 | 4.07E-02 | 0.00E+00 | 4.87E+02 |
| $CH_4$ | 3.02E-01 | 0.00E+00 | 4.02E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.18E-01 | 1.39E+00 | 1.92E-01 | 0.00E+00 | 5.64E+00 | 7.30E-01 | 0.00E+00 | 4.23E+00 | 1.33E+02 | 0.00E+00 | 3.76E+00 | 3.76E+00 | 2.41E-02 | 8.94E-03 | 1.54E+02 |
| *As* | 4.57E-06 | 0.00E+00 | 6.10E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.34E-06 | 2.11E-05 | 0.00E+00 | 5.69E-06 | 8.56E-05 | 0.00E+00 | 1.35E-05 | 6.41E-05 | 0.00E+00 | 9.56E-04 | 2.71E-05 | 2.71E-05 | 0.00E+00 | 0.00E+00 | 1.22E-03 |
| *Hg* | 7.47E-06 | 0.00E+00 | 9.96E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.04E-05 | 3.45E-05 | 0.00E+00 | 3.24E-07 | 1.40E-04 | 0.00E+00 | 7.71E-07 | 1.05E-04 | 0.00E+00 | 5.44E-05 | 1.54E-06 | 1.54E-06 | 0.00E+00 | 0.00E+00 | 3.65E-04 |
| *Benzene* | 3.58E-03 | 0.00E+00 | 4.78E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.97E-03 | 1.65E-02 | 2.28E-03 | 1.09E-05 | 6.71E-02 | 8.67E-03 | 2.60E-05 | 5.02E-02 | 1.58E+00 | 1.83E-03 | 4.48E-02 | 4.48E-02 | 5.82E-04 | 0.00E+00 | 1.83E+00 |
| *Toluene* | 1.92E-05 | 0.00E+00 | 2.55E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.66E-05 | 8.84E-05 | 1.22E-05 | 1.09E-05 | 3.59E-04 | 4.64E-05 | 2.60E-05 | 2.69E-04 | 8.43E-03 | 1.83E-03 | 2.91E-04 | 2.91E-04 | 2.12E-04 | 0.00E+00 | 1.19E-02 |
| *Ethylbenzene* | 1.58E-05 | 0.00E+00 | 2.11E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.20E-05 | 7.31E-05 | 1.01E-05 | 1.09E-05 | 2.96E-04 | 3.83E-05 | 2.60E-05 | 2.22E-04 | 6.97E-03 | 1.83E-03 | 2.49E-04 | 2.49E-04 | 0.00E+00 | 0.00E+00 | 1.00E-02 |
| *Xylenes* | 1.58E-05 | 0.00E+00 | 2.11E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.20E-05 | 7.31E-05 | 1.01E-05 | 2.18E-05 | 2.96E-04 | 3.83E-05 | 5.20E-05 | 2.22E-04 | 6.97E-03 | 3.67E-03 | 3.01E-04 | 3.01E-04 | 1.46E-04 | 0.00E+00 | 1.22E-02 |
| Argon | 1.62E-03 | 0.00E+00 | 2.16E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E-03 | 7.46E-03 | 1.03E-03 | 0.00E+00 | 3.02E-02 | 3.91E-03 | 0.00E+00 | 2.27E-02 | 7.11E-01 | 0.00E+00 | 2.02E-02 | 2.02E-02 | 0.00E+00 | 0.00E+00 | 8.23E-01 |
| $N_2$ | 5.63E-01 | 0.00E+00 | 7.50E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.80E-01 | 2.60E+00 | 3.57E-01 | 0.00E+00 | 1.05E+01 | 1.36E+00 | 0.00E+00 | 7.89E+00 | 2.48E+02 | 0.00E+00 | 7.02E+00 | 7.02E+00 | 0.00E+00 | 0.00E+00 | 2.87E+02 |
| $H_2$ | 3.22E-03 | 0.00E+00 | 4.29E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.47E-03 | 1.49E-02 | 2.05E-03 | 0.00E+00 | 6.02E-02 | 7.79E-03 | 0.00E+00 | 4.51E-02 | 1.42E+00 | 0.00E+00 | 4.02E-02 | 4.02E-02 | 0.00E+00 | 0.00E+00 | 1.64E+00 |
| Aluminum | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-07 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.02E-04 | 2.88E-06 | 2.88E-06 | 0.00E+00 | 0.00E+00 | 1.09E-04 |
| *Antimony* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.07E-08 | 0.00E+00 | 0.00E+00 | 2.16E-07 | 0.00E+00 | 0.00E+00 | 1.52E-05 | 4.32E-07 | 4.32E-07 | 0.00E+00 | 0.00E+00 | 1.64E-05 |
| Barium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-06 | 0.00E+00 | 0.00E+00 | 6.91E-06 | 0.00E+00 | 0.00E+00 | 4.88E-04 | 1.38E-05 | 1.38E-05 | 0.00E+00 | 0.00E+00 | 5.25E-04 |
| *Beryllium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-09 | 0.00E+00 | 0.00E+00 | 1.44E-08 | 0.00E+00 | 0.00E+00 | 1.02E-06 | 2.88E-08 | 2.88E-08 | 0.00E+00 | 0.00E+00 | 1.09E-06 |
| *Cobalt* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-09 | 0.00E+00 | 0.00E+00 | 1.44E-08 | 0.00E+00 | 0.00E+00 | 1.02E-06 | 2.88E-08 | 2.88E-08 | 0.00E+00 | 0.00E+00 | 1.09E-06 |
| *Cadmium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.81E-08 | 0.00E+00 | 0.00E+00 | 4.32E-08 | 0.00E+00 | 0.00E+00 | 3.05E-06 | 8.64E-08 | 8.64E-08 | 0.00E+00 | 0.00E+00 | 3.28E-06 |
| *Total Chromium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | 0.00E+00 | 0.00E+00 | 7.20E-08 | 0.00E+00 | 0.00E+00 | 5.08E-06 | 1.44E-07 | 1.44E-07 | 0.00E+00 | 0.00E+00 | 5.47E-06 |
| Copper | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-07 | 0.00E+00 | 0.00E+00 | 6.91E-07 | 0.00E+00 | 0.00E+00 | 4.88E-05 | 1.38E-06 | 1.38E-06 | 0.00E+00 | 0.00E+00 | 5.25E-05 |
| Vanadium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | 0.00E+00 | 0.00E+00 | 7.20E-08 | 0.00E+00 | 0.00E+00 | 5.08E-06 | 1.44E-07 | 1.44E-07 | 0.00E+00 | 0.00E+00 | 5.47E-06 |
| Lithium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-07 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.02E-04 | 2.88E-06 | 2.88E-06 | 0.00E+00 | 0.00E+00 | 1.09E-04 |
| *Manganese* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.78E-05 | 0.00E+00 | 0.00E+00 | 6.62E-05 | 0.00E+00 | 0.00E+00 | 4.67E-03 | 1.32E-04 | 1.32E-04 | 0.00E+00 | 0.00E+00 | 5.03E-03 |
| *Nickel* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.38E-08 | 0.00E+00 | 0.00E+00 | 1.76E-07 | 0.00E+00 | 0.00E+00 | 1.24E-05 | 3.51E-07 | 3.51E-07 | 0.00E+00 | 0.00E+00 | 1.33E-05 |
| *Selenium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.55E-07 | 0.00E+00 | 0.00E+00 | 2.27E-06 | 0.00E+00 | 0.00E+00 | 1.61E-04 | 4.55E-06 | 4.55E-06 | 0.00E+00 | 0.00E+00 | 1.73E-04 |
| Total Silica | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-05 | 0.00E+00 | 0.00E+00 | 7.20E-05 | 0.00E+00 | 0.00E+00 | 5.08E-03 | 1.44E-04 | 1.44E-04 | 0.00E+00 | 0.00E+00 | 5.47E-03 |
| Silver | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | 0.00E+00 | 0.00E+00 | 7.20E-08 | 0.00E+00 | 0.00E+00 | 5.08E-06 | 1.44E-07 | 1.44E-07 | 0.00E+00 | 0.00E+00 | 5.47E-06 |
| Strontium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-07 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 0.00E+00 | 0.00E+00 | 1.02E-04 | 2.88E-06 | 2.88E-06 | 0.00E+00 | 0.00E+00 | 1.09E-04 |
| Zinc | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.72E-05 | 0.00E+00 | 0.00E+00 | 4.10E-05 | 0.00E+00 | 0.00E+00 | 2.90E-03 | 8.20E-05 | 8.20E-05 | 0.00E+00 | 0.00E+00 | 3.12E-03 |
| Diesel PM | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-02 | 1.63E-02 | 4.53E-02 |
| *Chloroform* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Formaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.08E-05 | 0.00E+00 | 8.08E-05 |
| *1,3-Butadiene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.82E-07 | 0.00E+00 | 7.82E-07 |
| PAHs (Unspeciated and excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Naphthalene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.60E-05 | 0.00E+00 | 9.60E-05 |
| *Acetaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.36E-05 | 0.00E+00 | 3.36E-05 |
| *Acrolein* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.57E-06 | 0.00E+00 | 7.57E-06 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.08E-03 | 0.00E+00 | 2.08E-03 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Radon | 2.08E-02 | 0.00E+00 | 2.78E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.89E-02 | 9.62E-02 | 1.32E-02 | 3.64E-05 | 3.90E-01 | 5.05E-02 | 8.67E-05 | 2.92E-01 | 9.18E+00 | 6.12E-03 | 2.60E-01 | 2.60E-01 | 0.00E+00 | 0.00E+00 | 1.06E+01 |
| *Acenaphthylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.80E-06 | 0.00E+00 | 6.80E-06 |
| *Acenaphthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.42E-06 | 0.00E+00 | 3.42E-06 |
| *Fluorene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.87E-06 | 0.00E+00 | 9.87E-06 |
| *Phenanthrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-05 | 0.00E+00 | 3.02E-05 |
| *Anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.30E-07 | 0.00E+00 | 9.30E-07 |
| *Fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-06 | 0.00E+00 | 3.08E-06 |
| *Pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.79E-06 | 0.00E+00 | 2.79E-06 |
| *Benz(a)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.85E-07 | 0.00E+00 | 4.85E-07 |
| *Chrysene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.12E-06 | 0.00E+00 | 1.12E-06 |
| *Benzo(b)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.07E-07 | 0.00E+00 | 8.07E-07 |
| *Benzo(k)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.61E-07 | 0.00E+00 | 1.61E-07 |
| *Benzo(a)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.90E-07 | 0.00E+00 | 1.90E-07 |
| *Indeno(1,2,3-cd)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-07 | 0.00E+00 | 3.08E-07 |
| *Dibenz(a,h)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.63E-07 | 0.00E+00 | 2.63E-07 |
| *Benzo(g,h,l)perylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.13E-07 | 0.00E+00 | 4.13E-07 |
| $N_2O$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.82E-03 | 1.57E-03 | 6.40E-03 |

*Classified as HAPs by the U.S. Environmental Protection Agency*

[a] Radon units are in unit of Curie(s) (Ci) per respective column time unit.

[b] Continuous operation of the turbine system and cooling towers is assumed to occur during hours when the PTU/ MTU/Rock Muffler are not in operation.

**Subsequent Year Annual Emissions (8,760 Hours of Routine Power Generation)**

| Pollutant [a] | Production Flow Back | Production Well Testing | Injection Flow Back | Injection Well Testing | Commissioning (Emissions (tpy)) | | | | Cold Start | | | | Warm Start | | | Shutdown | Continuous Operation [b] (Emissions (tpy)) | | Sparger Bypass | Cooling Tower Oxidation Box Bypass | Emergency Engines and Fire Pump (All Sources) | O&M Equipment | Total Emissions (tpy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Location** | PTU | MTU | PTU | MTU | PTU | RM | Sparger | CT | PTU | RM | Sparger | CT | RM | Sparger | CT | RM | Sparger | CT | Sparger | CT | Mutliple Stacks | Mobile | |
| **Duration (hrs/event)** | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 74 | 42 | 42 | 15 | 5 | 5 | 36 | 1 | 1 | 1 | 1 | 1 | 1 | |
| **Events Per Year** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,760 | 8,760 | 0 | 0 | -- | 8,760 | |
| **Hours Per Year** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,760 | 8,760 | 0 | 0 | -- | 8,760 | |
| $CO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.59E+04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.95E+02 | 2.57E+02 | 6.68E+04 |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.60E-01 | 6.57E-01 | 1.32E+00 |
| ROG | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.99E+00 | 1.14E-02 | 0.00E+00 | 0.00E+00 | 1.76E-01 | 8.55E-02 | 2.26E+00 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.22E+00 | 1.14E+00 | 4.36E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.51E-06 | 2.53E-03 | 2.53E-03 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.59E+01 | 0.00E+00 | 0.00E+00 | 2.90E-02 | 2.65E-02 | 1.59E+01 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.53E+00 | 0.00E+00 | 0.00E+00 | 2.90E-02 | 2.19E-02 | 9.58E+00 |
| HAPs | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.99E+00 | 1.87E-02 | 0.00E+00 | 0.00E+00 | 1.22E-03 | 0.00E+00 | 2.01E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.95E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.95E-05 |
| $H_2S$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.23E+01 | 1.17E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.41E+01 |
| $NH_3$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.94E+00 | 5.03E+02 | 0.00E+00 | 0.00E+00 | 4.07E-02 | 0.00E+00 | 5.09E+02 |
| $CH_4$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.65E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.41E-02 | 8.94E-03 | 1.65E+02 |
| *As* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.19E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.19E-03 |
| *Hg* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.75E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.75E-05 |
| *Benzene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.96E+00 | 2.28E-03 | 0.00E+00 | 0.00E+00 | 5.82E-04 | 0.00E+00 | 1.96E+00 |
| *Toluene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.05E-02 | 2.28E-03 | 0.00E+00 | 0.00E+00 | 2.12E-04 | 0.00E+00 | 1.30E-02 |
| *Ethylbenzene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.65E-03 | 2.28E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.09E-02 |
| *Xylenes* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.65E-03 | 4.55E-03 | 0.00E+00 | 0.00E+00 | 1.46E-04 | 0.00E+00 | 1.33E-02 |
| Argon | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.83E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.83E-01 |
| $N_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.07E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.07E+02 |
| $H_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.76E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.76E+00 |
| Aluminum | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-04 |
| *Antimony* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.89E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.89E-05 |
| Barium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-04 |
| *Beryllium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-06 |
| *Cobalt* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-06 |
| *Cadmium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.78E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.78E-06 |
| *Total Chromium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-06 |
| Copper | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-05 |
| Vanadium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-06 |
| Lithium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-04 |
| *Manganese* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.80E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.80E-03 |
| *Nickel* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.54E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.54E-05 |
| *Selenium* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.99E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.99E-04 |
| Total Silica | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-03 |
| Silver | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.30E-06 |
| Strontium | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E-04 |
| Zinc | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.59E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.59E-03 |
| Diesel PM | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E-02 | 1.63E-02 | 4.53E-02 |
| *Chloroform* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Formaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.08E-05 | 0.00E+00 | 8.08E-05 |
| *1,3-Butadiene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.82E-07 | 0.00E+00 | 7.82E-07 |
| PAHs (Unspeciated and excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| *Naphthalene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.60E-05 | 0.00E+00 | 9.60E-05 |
| *Acetaldehyde* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.36E-05 | 0.00E+00 | 3.36E-05 |
| *Acrolein* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.57E-06 | 0.00E+00 | 7.57E-06 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.08E-03 | 0.00E+00 | 2.08E-03 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Radon | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.14E+01 | 7.59E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.14E+01 |
| *Acenaphthylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.80E-06 | 0.00E+00 | 6.80E-06 |
| *Acenaphthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.42E-06 | 0.00E+00 | 3.42E-06 |
| *Fluorene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.87E-06 | 0.00E+00 | 9.87E-06 |
| *Phenanthrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-05 | 0.00E+00 | 3.02E-05 |
| *Anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.30E-07 | 0.00E+00 | 9.30E-07 |
| *Fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-06 | 0.00E+00 | 3.08E-06 |
| *Pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.79E-06 | 0.00E+00 | 2.79E-06 |
| *Benz(a)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.85E-07 | 0.00E+00 | 4.85E-07 |
| *Chrysene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.12E-06 | 0.00E+00 | 1.12E-06 |
| *Benzo(b)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.07E-07 | 0.00E+00 | 8.07E-07 |
| *Benzo(k)fluoranthene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.61E-07 | 0.00E+00 | 1.61E-07 |
| *Benzo(a)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.90E-07 | 0.00E+00 | 1.90E-07 |
| *Indeno(1,2,3-cd)pyrene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-07 | 0.00E+00 | 3.08E-07 |
| *Dibenz(a,h)anthracene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.63E-07 | 0.00E+00 | 2.63E-07 |
| *Benzo(g,h,i)perylene* | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.13E-07 | 0.00E+00 | 4.13E-07 |
| $N_2O$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.82E-03 | 1.57E-03 | 6.40E-03 |

*Classified as HAPs by the U.S. Environmental Protection Agency*

[a] Radon units are in unit of Curie(s) (Ci) per respective column time unit.

[b] Continuous operation of the turbine system and cooling towers is assumed to occur during hours when the PTU/ MTU/Rock Muffler are not in operation.

**Elmore North Geothermal Project**
**Elmore North Operational Emissions Emissions**
**Summary**
**April 2023**

**Elmore North Operational Emissions**

| Period | Operation | Criteria Pollutant Emissions | | | | | | GHG Pollutant Emissions | | | | $H_2S$ Emissions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CO | VOC | $NO_X$ | $SO_2$ | $PM_{10}$ [d] | $PM_{2.5}$ [d] | $CO_2$ | $N_2O$ | $CH_4$ | $CO_2e$ [e] | $H_2S$ |
| Daily | PTU Max Daily Emissions (lbs/day) [a] | 0.00 | 2.02 | 0.00 | 0.00 | 0.00 | 0.00 | 66,938 | 0.00 | 167 | 71,120 | 596 |
| | MTU Max Daily Emissions (lbs/day) [a] | 0.00 | 3.28 | 0.00 | 0.00 | 0.00 | 0.00 | 108,841 | 0.00 | 272 | 115,641 | 969 |
| | Rock Muffler Max Daily Emissions (lbs/day) [a] | 0.00 | 12.35 | 0.00 | 0.00 | 0.00 | 0.00 | 409,934 | 0.00 | 1,024 | 435,544 | 3,651 |
| | Cooling Tower and Sparger Max Daily Emissions (lbs/day) [a] | 0.00 | 10.94 | 0.00 | 0.00 | 87.1 | 52.24 | 361,189 | 0.00 | 903 | 383,755 | 3,348 |
| | Fire Pump Max Daily Emissions (lbs/day) [b] | 0.42 | 0.05 | 1.78 | 0.00 | 0.06 | 0.06 | 130 | 0.00 | 0.01 | 131 | 0.00 |
| | Emergency Generator Max Daily Emissions (lbs/day) [c] | 257 | 14.0 | 49.2 | 0.00 | 2.20 | 2.20 | 47,316 | 0.38 | 1.92 | 47,478 | 0.00 |
| | O&M Equipment and Vehicles Max Daily Emissions (lbs/day) | 33.4 | 3.66 | 29.9 | 0.10 | 1.14 | 1.00 | 10,546 | 0.08 | 0.38 | 10,578 | 0.00 |
| | Insulating Gas Daily Emissions (lbs/day) | -- | -- | -- | -- | -- | -- | -- | -- | -- | 375 | -- |
| | **Non-Routine Max Daily Emissions (lbs/day) [f]** | **291** | **30.0** | **80.9** | **0.10** | **3.40** | **3.26** | **467,925** | **0.46** | **1,027** | **494,106** | **3,651** |
| | **Routine Max Daily Emissions (lbs/day) [f]** | **291** | **28.6** | **80.9** | **0.10** | **90.5** | **55.5** | **419,181** | **0.46** | **905** | **442,316** | **3,348** |
| | **ICAPCD Thresholds of Significance (lbs/day) [g]** | **550** | **137** | **137** | **150** | **150** | **550** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** |
| | **Exceeds Threshold (Y/N)?** | **N** | **N** | **N** | **N** | **N** | **N** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** |
| Commissioning Year | PTU Annual Emission (tpy) | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 629 | 0.00 | 1.57 | 669 | 5.61 |
| | MTU Annual Emissions (tpy) | 0.00 | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 11,549 | 0.00 | 28.9 | 12,271 | 103 |
| | Rock Muffler Annual Emissions (tpy) | 0.00 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 7,034 | 0.00 | 17.6 | 7,473 | 62.6 |
| | Cooling Tower and Sparger Annual Emissions (tpy) | 0.00 | 0.45 | 0.00 | 0.00 | 3.17 | 1.90 | 14,771 | 0.00 | 36.9 | 15,694 | 18.37 |
| | Fire Pump Annual Emissions (tpy) | 0.01 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 3.26 | 0.00 | 0.00 | 3.27 | 0.00 |
| | Emergency Generator Annual Emissions (tpy) | 3.2 | 0.17 | 0.62 | 0.00 | 0.03 | 0.03 | 591 | 0.00 | 0.02 | 593 | 0.00 |
| | O&M Equipment and Vehicles Annual Emissions (tpy) | 1.14 | 0.09 | 0.66 | 0.00 | 0.03 | 0.02 | 257 | 0.00 | 0.01 | 258 | 0.00 |
| | Insulating Gas Annual Emissions (tpy) | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68.4 | -- |
| | **Annual Emissions (tpy) [h]** | **4.36** | **1.29** | **1.32** | **0.00** | **3.22** | **1.95** | **34,835** | **0.01** | **85.0** | **37,029** | **189** |
| Non- Commissioning Year With Startups, Shutdowns and Emission Control Downtime | PTU Annual Emission (tpy) | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 449 | 0.00 | 1.12 | 477 | 4.00 |
| | MTU Annual Emissions (tpy) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Rock Muffler Annual Emissions (tpy) | 0.00 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 4,505 | 0.00 | 11.3 | 4,787 | 40.1 |
| | Cooling Tower and Sparger Annual Emissions (tpy) | 0.00 | 1.71 | 0.00 | 0.00 | 13.53 | 8.12 | 56,488 | 0.00 | 141 | 60,018 | 33.6 |
| | Fire Pump Annual Emissions (tpy) | 0.01 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 3.26 | 0.00 | 0.00 | 3.27 | 0.00 |
| | Emergency Generator Annual Emissions (tpy) | 3.2 | 0.17 | 0.62 | 0.00 | 0.03 | 0.03 | 591 | 0.00 | 0.02 | 593 | 0.00 |
| | O&M Equipment and Vehicles Annual Emissions (tpy) | 1.14 | 0.09 | 0.66 | 0.00 | 0.03 | 0.02 | 257 | 0.00 | 0.01 | 258 | 0.00 |
| | Insulating Gas Annual Emissions (tpy) | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68.4 | -- |
| | **Annual Emissions (tpy) [h]** | **4.36** | **2.12** | **1.32** | **0.00** | **13.6** | **8.17** | **62,294** | **0.01** | **154** | **66,204** | **77.7** |
| Non- Commissioning Year With no Start-ups, Shutdowns, or Emission Control Downtime | PTU Annual Emission (tpy) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | MTU Annual Emissions (tpy) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Rock Muffler Annual Emissions (tpy) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Cooling Tower and Sparger Annual Emissions (tpy) | 0.00 | 2.00 | 0.00 | 0.00 | 15.89 | 9.53 | 65,917 | 0.00 | 165 | 70,035 | 24.1 |
| | Fire Pump Annual Emissions (tpy) | 0.010 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 3.26 | 0.00 | 0.00 | 3.27 | 0.00 |
| | Emergency Generator Annual Emissions (tpy) | 3.2 | 0.17 | 0.62 | 0.00 | 0.03 | 0.03 | 591 | 0.00 | 0.02 | 593 | 0.00 |
| | O&M Equipment and Vehicles Annual Emissions (tpy) | 1.14 | 0.09 | 0.66 | 0.00 | 0.03 | 0.02 | 257 | 0.00 | 0.01 | 258 | 0.00 |
| | Insulating Gas Annual Emissions (tpy) | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68.4 | -- |
| | **Annual Emissions (tpy) [h]** | **4.36** | **2.26** | **1.32** | **0.00** | **15.9** | **9.58** | **66,769** | **0.01** | **165** | **70,958** | **24.1** |

N/A = Not applicable (i.e., no operational emission significance threshold exists for this pollutant)
lbs/day = pound(s) per day
[a] Daily emissions assume the following hours of operation at the maximum hourly emission rate: 24
[b] Daily emissions assume the following hours of operation at the maximum hourly emission rate: 1
[c] Daily emissions assume the following hours of operation at the maximum hourly emission rate: 2
[d] These estimates include both fugitive dust emissions and exhaust emissions.
[e] The following global warming potentials were used to estimate $CO_2$ equivalent emissions, per 40 CFR Part 98, Table A-1:
$CH_4$ = 25
$N_2O$ = 298
[f] Non-routine and routine daily emission scenarios are summarized below:
Non-Routine: PTU/MTU/Rock Muffler/Fire Pump/Emergency Generators/Insulating Gas/O&M Equipment and Vehicles
Routine: Spargers/Cooling Towers/Emergency Generators/Fire Pump/Insulating Gas/O&M Equipment and Vehicles
[g] ICAPCD Thresholds of Significance taken from Table 1 of the *2017 CEQA Air Quality Handbook* (ICAPCD 2017).
[h] ICAPCD does not have established annual emission significance thresholds.

## Table 2.1 Brine Composition at Existing Elmore and Leathers Wellheads

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Brine Composition**
**April 2023**

**Elmore Wells**

| Wellname | NCG/Steam Ratio (ppmw) | Steam Flow (kph) | $CO_2$/Steam Ratio (ppmw) | $H_2S$/Steam Ratio (ppmw) | $NH_3$/Steam Ratio (ppmw) | Argon/Steam Ratio (ppmw) | $N_2$/Steam Ratio (ppmw) | $CH_4$/Steam Ratio (ppmw) | $H_2$/Steam Ratio (ppmw) |
|---|---|---|---|---|---|---|---|---|---|
| Elmore 12 | 5,854 | 92 | 5,223 | 119 | 458 | 0.123 | 36.10 | 17 | 0.503 |
| Elmore 14 | 3,287 | 143 | 2,750 | 87 | 438 | 0.054 | 6.65 | 5 | 0.222 |
| Elmore 15 | 1,906 | 114 | 1,432 | 57 | 413 | 0.040 | 2.76 | 2 | 0.193 |
| Elmore 16 | 12,190 | 112 | 11,528 | 171 | 446 | 0.095 | 15.51 | 28 | 0.565 |
| **Total** | | **461** | | | | | | | |

ppmw = part(s) per million by weight
NCG = Non-condensible gas
kph = thousand pounds per hour

**Leather Wells**

| Wellname | NCG/Steam Ratio (ppmw) | Steam Flow (kph) | $CO_2$/Steam Ratio (ppmw) | $H_2S$/Steam Ratio (ppmw) | $NH_3$/Steam Ratio (ppmw) | Argon/Steam Ratio (ppmw) | $N_2$/Steam Ratio (ppmw) | $CH_4$/Steam Ratio (ppmw) | $H_2$/Steam Ratio (ppmw) |
|---|---|---|---|---|---|---|---|---|---|
| River Ranch 08 | 18,914 | 44 | 18,258 | 82 | 401 | 0.288 | 127 | 46 | 0.209 |
| River Ranch 09 | 16,990 | 55 | 16,355 | 87 | 435 | 0.208 | 86 | 28 | 0.262 |
| River Ranch 11 | 16,723 | 55 | 16,023 | 83 | 420 | 0.312 | 163 | 34 | 0.214 |
| River Ranch 14 | 23,640 | 111 | 23,029 | 81 | 355 | 0.277 | 102 | 73 | 0.178 |
| River Ranch 18 | 16,970 | 120 | 16,377 | 109 | 399 | 0.167 | 59 | 37 | 0.280 |
| **Total** | | **385** | | | | | | | |

ppmw = part(s) per million by weight
NCG = Non-condensible gas
kph = thousand pounds per hour

## Table 2.1 Brine Composition at Existing Elmore and Leathers Wellheads

**All Wells**

| Wellname | NCG Mass Flow Rate (lbs/hr) | Total Mass Flow $CO_2$ (lbs/hr) | Total Mass Flow $H_2S$ (lbs/hr) | Total Mass Flow $NH_3$ (lbs/hr) | Total Mass Flow Argon (lbs/hr) | Total Mass Flow $N_2$ (lbs/hr) | Total Mass Flow $CH_4$ (lbs/hr) | Total Mass Flow $H_2$ (lbs/hr) |
|---|---|---|---|---|---|---|---|---|
| Elmore 12 | 538 | 480 | 10.96 | 42.12 | 0.011 | 3.32 | 1.53 | 0.046 |
| Elmore 14 | 470 | 393 | 12.48 | 62.64 | 0.008 | 0.95 | 0.65 | 0.032 |
| Elmore 15 | 217 | 163 | 6.46 | 47.05 | 0.005 | 0.31 | 0.21 | 0.022 |
| Elmore 16 | 1,371 | 1,296 | 19.26 | 50.11 | 0.011 | 1.74 | 3.20 | 0.063 |
| River Ranch 08 | 829 | 801 | 3.58 | 17.59 | 0.013 | 5.59 | 2.00 | 0.009 |
| River Ranch 09 | 933 | 898 | 4.77 | 23.87 | 0.011 | 4.69 | 1.54 | 0.014 |
| River Ranch 11 | 927 | 888 | 4.58 | 23.28 | 0.017 | 9.04 | 1.90 | 0.012 |
| River Ranch 14 | 2,631 | 2,563 | 9.02 | 39.53 | 0.031 | 11.30 | 8.13 | 0.020 |
| River Ranch 18 | 2,036 | 1,965 | 13.03 | 47.91 | 0.020 | 7.11 | 4.45 | 0.034 |
| **Totals** | **9,952** | **9,448** | **84.13** | **354.11** | **0.127** | **44.06** | **23.61** | **0.252** |

NCG = Non-condensible gas
lbs/hr = pound(s) per hour

**Weighted Average Concentration of Constituents in Steam**

| Avg. NCG/Steam Ratio (ppmw) | Avg. $CO_2$/Steam Ratio (ppmw) | Avg. $H_2S$/Steam Ratio (ppmw) | Avg. $NH_3$/Steam Ratio (ppmw) | Avg. Argon/Steam Ratio (ppmw) | Avg. $N_2$/Steam Ratio (ppmw) | Avg. $CH_4$/Steam Ratio (ppmw) | Avg. $H_2$/Steam Ratio (ppmw) |
|---|---|---|---|---|---|---|---|
| **11,753** | **11,156** | **99.35** | **418.16** | **0.15** | **52.03** | **27.88** | **0.30** |

ppmw = part(s) per million by weight
NCG = Non-condensible gas

## Table 2.2 Arsenic, Mercury, Ammonia and Radon Test Results in NCG Stream at the Existing Units

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Arsenic, Mercury, Ammonia and Radon Analytical Data**
**April 2023**

**Arsenic, Mercury and Ammonia Analytical Data**

| Location | Measured As Flux in NCG (lbs/hr) * | Measured Hg Flux in NCG (lbs/hr) * | Measured $NH_3$ Flux in NCG (lbs/hr) * |
|---|---|---|---|
| Elmore NCG Sparger | 3.68E-04 | 1.63E-04 | 1.42E-01 |
| Leathers NCG + Heat Recovery | 7.73E-04 | 1.70E-03 | 2.57E+00 |
| **Totals** | **5.71E-04** | **9.32E-04** | **1.36E+00** |
| **NCG Flowrate** | **15,854** | **lbs/hr** | |

* Measured values from 2022 Source Tests; totals represent the average of analytical data, based on what the Applicant felt to be most representative.

NCG = Non-condensible gas

lbs/hr = pound(s) per hour

**Radon Analytical Data**

| Location | Measured NCG Rn-222 Activity-Concentrations (pCi/l) * | Corrected Mass Flux Rn-222 (lbs/hr) * | Rn-222 Specific Activity (Ci/g) * | Corrected Calculated Rn-222 Activity Flux (Ci/hr) * |
|---|---|---|---|---|
| Elmore NCG Sparger * | 2,515 | 2.91E-06 | 1.54E+05 | 9.87E-04 |
| Leathers NCG + Heat Recovery * | 1,041 | 4.75E-06 | 1.54E+05 | 1.61E-03 |
| **Totals** | **1,778** | **3.83E-06** | **1.54E+05** | **1.30E-03** |

* Measured values from 2022 Source Tests; totals represent the average of analytical data, based on what the Applicant felt to be most representative.

NCG = Non-condensible gas

pCi/l = pico Curie(s) per liter

lbs/hr = pound(s) per hour

Ci/g = Curie(s) per gram

Ci/hr = Curie(s) per hour

## Table 2.3 BTEX Test Results in NCG Stream at the Existing Units

**Elmore North Geothermal Project**
**Elmore North Operational Emissions**
**BTEX Analytical Data**
**April 2023**

**BTEX Analytical Sampling Results**

| Location | Measured Benzene Flux (lbs/hr) * | Measured Toluene Flux (lbs/hr) ** | Measured Ethylbenzene Flux (lbs/hr) ** | Measured Xylenes Flux (lbs/hr) ** |
|---|---|---|---|---|
| Elmore NCG Sparger | 0.05 | 2.00E-03 | 5.60E-04 | 5.60E-04 |
| Leathers NCG + Heat Recovery | 0.40 | 2.78E-03 | 3.39E-03 | 3.39E-03 |
| **Totals** | **0.45** | **2.39E-03** | **1.98E-03** | **1.98E-03** |

* Measured values from 2022 Source Tests; totals represent the sum of analytical data, based on what the Applicant felt to be most representative.

** Measured values from 2022 Source Tests; totals represent the average of analytical data, based on what the Applicant felt to be most representative.

NCG = Non-condensible gas

lbs/hr = pound(s) per hour

## Table 2.4 Emissions During Production Well Flow Back and Testing

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Production Flow Back and Well Testing Emission Calculations**
**April 2023**

| | | |
|---|---|---|
| **Production Flow Back** | | |
| Brine Flow Rate through Production or Mobile Testing Unit (PTU/MTU) * | 96,000 | gallons/hr |
| Density of Brine at 260°C and TDS>20% ** | 1 | $g/cm^3$ |
| Brine Flow Rate through PTU/MTU | 801,145 | lbs/hr |
| Flash % | 25% | |
| Steam Flow Rate through PTU/MTU | 200,286 | lbs/hr |
| Duration of Well Flowback | 24 | hr/well |
| Number of Wells Flowed Back | 9 | wells/event |
| Number of Events per Year | 1 | event/year |
| **Production Well Testing** | | |
| Brine Flow Rate through MTU *** | 1,626,000 | lbs/hr |
| Flash % | 25% | |
| Steam Flow Rate through MTU | 406,500 | lbs/hr |
| Duration of Well Testing | 240 | hr/well |
| Number of Wells Tested | 9 | wells/event |
| Number of Events per Year | 1 | event/year |
| Average NCG:Steam Ratio | 11,753 | ppmw |
| NCG Mass Flow Rate to PTU/MTU during Flow Back | 1,177 | lbs/hr |
| NCG Mass Flow Rate to MTU during Testing | 4,777 | lbs/hr |
| NCG Correction to Account for Flow Restrictions, etc. | 50% | As provided by Applicant; only applicable to flow back |

* Brine flows through the MTU during commissioning flow back and through the PTU during maintenance flow back.

** Reference: Alan E Williams and Michael A McKibben, Aug 1989, A brine interface in the Salton Sea Geothermal System, California: Fluid geochemical and isotopic characteristics, Geochimica et Cosmochimica Acta Volume 53, Issue 8, Pages 1905-1920.

*** Well testing is considered a commissioning activity with brine flowing through the MTU.

## Table 2.4 Emissions During Production Well Flow Back and Testing

**Production Flow Back and Well Testing Emissions Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Component Mass Flowrate through PTU/MTU during Production Flow Back | Total Production Flow Back Emissions | Component Mass Flowrate through MTU during Production Well Testing | Total Production Well Testing Emisisons |
|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/hr)** | **(lbs/event)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 1.12E+03 | 2.41E+05 | 4.54E+03 | 9.80E+06 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 9.95E+00 | 2.15E+03 | 4.04E+01 | 8.72E+04 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 1.01E-01 | 2.18E+01 | 4.09E-01 | 8.83E+02 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 5.21E+00 | 1.13E+03 | 2.11E+01 | 4.57E+04 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 2.79E+00 | 6.03E+02 | 1.13E+01 | 2.45E+04 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 2.98E-02 | 6.44E+00 | 1.21E-01 | 2.61E+02 |
| As | 4.23E-04 | 3.60E-08 | 4.24E-05 | 9.15E-03 | 1.72E-04 | 3.71E-01 |
| Hg | 6.91E-04 | 5.88E-08 | 6.92E-05 | 1.49E-02 | 2.81E-04 | 6.06E-01 |
| Benzene | 3.31E-01 | 2.82E-05 | 3.32E-02 | 7.17E+00 | 1.35E-01 | 2.91E+02 |
| Toluene | 1.77E-03 | 1.51E-07 | 1.77E-04 | 3.83E-02 | 7.20E-04 | 1.56E+00 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 1.47E-04 | 3.17E-02 | 5.95E-04 | 1.29E+00 |
| Xylenes | 1.46E-03 | 1.25E-07 | 1.47E-04 | 3.17E-02 | 5.95E-04 | 1.29E+00 |
| Argon | 1.49E-01 | 1.27E-05 | 1.50E-02 | 3.23E+00 | 6.08E-02 | 1.31E+02 |
| ***Radon Calculations*** | | | | | | |
| **Pollutant** | **($Ci/10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/hr)** | **(Ci/event)** |
| Radon | 9.64E-04 | 8.20E-08 | 9.65E-05 | 2.08E-02 | 3.92E-04 | 8.46E-01 |

ppmw = part(s) per million by weight
NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour

**Table 2.4 Emissions During Production Well Flow Back and Testing**

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Injection Flow Back and Well Testing Emission Calculations**
**April 2023**

| | | |
|---|---|---|
| **Injection Flow Back** | | |
| Brine Flow Rate through PTU | 96,000 | gallons/hr |
| Density of Brine at 260°C and TDS>20% * | 1 | $g/cm^3$ |
| Brine Flow Rate through PTU | 801,145 | lbs/hr |
| Flash % | 25% | |
| Steam Flow Rate through PTU | 200,286 | lbs/hr |
| Duration of Well Flowback | 24 | hr/well |
| Number of Wells Flowed Back | 12 | wells/event |
| Number of Events per Year | 1 | event/year |
| **Injection Well Testing** | | |
| Brine Flow Rate through MTU ** | 1,626,000 | lbs/hr |
| Flash % | 25% | |
| Steam Flow Rate through MTU | 406,500 | lbs/hr |
| Duration of Well Testing | 240 | hr/well |
| Number of Wells Tested | 12 | wells/event |
| Number of Events per Year | 1 | event/year |
| Average NCG:Steam Ratio | 11,753 | ppmw |
| NCG Mass Flow Rate to PTU during Injection Flow Back | 1,177 | lbs/hr |
| NCG Mass Flow Rate to PTU during Testing | 4,777 | lbs/hr |
| NCG Correction to Account for Flow Restrictions, etc. | 50% | As provided by Applicant; only applicable to flow back |

* Reference: Alan E Williams and Michael A McKibben, Aug 1989, A brine interface in the Salton Sea Geothermal System, California: Fluid geochemical and isotopic characteristics, Geochimica et Cosmochimica Acta Volume 53, Issue 8, Pages 1905-1920.
** Well testing is considered a commissioning activity with brine flowing through the MTU.

## Table 2.4 Emissions During Production Well Flow Back and Testing

**Injection Flow Back and Well Testing Emissions Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Component Mass Flowrate through PTU during Injection Flow Back | Total Injection Flow Back Emissions | Component Mass Flowrate through MTU during Injection Well Testing | Total Injection Well Testing Emisisons |
|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/hr)** | **(lbs/event)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 1.12E+03 | 3.22E+05 | 4.54E+03 | 1.31E+07 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 9.95E+00 | 2.87E+03 | 4.04E+01 | 1.16E+05 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 1.01E-01 | 2.90E+01 | 4.09E-01 | 1.18E+03 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 5.21E+00 | 1.50E+03 | 2.11E+01 | 6.09E+04 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 2.79E+00 | 8.04E+02 | 1.13E+01 | 3.26E+04 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 2.98E-02 | 8.59E+00 | 1.21E-01 | 3.49E+02 |
| As | 4.23E-04 | 3.60E-08 | 4.24E-05 | 1.22E-02 | 1.72E-04 | 4.95E-01 |
| Hg | 6.91E-04 | 5.88E-08 | 6.92E-05 | 1.99E-02 | 2.81E-04 | 8.08E-01 |
| Benzene | 3.31E-01 | 2.82E-05 | 3.32E-02 | 9.56E+00 | 1.35E-01 | 3.88E+02 |
| Toluene | 1.77E-03 | 1.51E-07 | 1.77E-04 | 5.11E-02 | 7.20E-04 | 2.07E+00 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 1.47E-04 | 4.22E-02 | 5.95E-04 | 1.71E+00 |
| Xylenes | 1.46E-03 | 1.25E-07 | 1.47E-04 | 4.22E-02 | 5.95E-04 | 1.71E+00 |
| Argon | 1.49E-01 | 1.27E-05 | 1.50E-02 | 4.31E+00 | 6.08E-02 | 1.75E+02 |
| ***Radon Calculations*** | | | | | | |
| **Pollutant** | **(Ci/$10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/hr)** | **(Ci/event)** |
| Radon | 9.64E-04 | 8.20E-08 | 9.65E-05 | 2.78E-02 | 3.92E-04 | 1.13E+00 |

ppmw = part(s) per million by weight
NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour

## Table 2.6 NCG Emissions During Commissioning Events

### Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Commissioning Emission Calculations**
**April 2023**

| | | |
|---|---|---|
| **Average NCG:Steam Ratio** | **11,753** | **ppmw** |
| **Well Warm-up at PTU** | | |
| Steam Flow Rate | 250,000 | lbs/hr |
| Duration of Well Warm-up | 24 | hr for first well/event |
| Duration of Well Warm-up | 192 | hr for 8 wells/event |
| Number of Events per Year | 1 | One time event during first year of operation |
| NCG @ Steam Flow = 250,000 lbs/hr | 2,938 | lbs/hr |
| NCG @ Steam Flow = 450,000 lbs/hr | 5,289 | lbs/hr |
| NCG @ Steam Flow = 674,391 lbs/hr | 7,926 | lbs/hr |
| **Production Line and Equipment Warm-up @ Rock Muffler (RM)** | | |
| Steam Flow Rate | 674,391 | lbs/hr |
| Duration | 48 | hr/event |
| Number of Events per Year | 1 | One time event during first year of operation |
| NCG Flow Rate to RM | 7,926 | lbs/hr |
| **Steam Blow @ RM** | | |
| Steam Flow Rate | 2,296,528 | lbs/hr |
| Duration | 240 | hr/event |
| Number of Events per Year | 1 | One time event during first year of operation |
| NCG Flow Rate to RM [a] | 15,854 | lbs/hr |
| **Turbine Preheat and Auxiliary Loops** | | |
| Total Steam Flow Rate | 674,391 | lbs/hr |
| Steam Flow to RM | 450,000 | lbs/hr |
| Steam Flow to Turbine | 224,391 | lbs/hr |
| Duration | 48 | hr/event |
| Number of Events per Year | 1 | One time event during first year of operation |
| NCG Flow Rate to RM | 5,289 | lbs/hr |
| NCG Flow Rate to Sparger | 2,637 | lbs/hr |
| **Turbine Load Test** | | |
| Total Steam Flow Rate | 2,296,528 | lbs/hr |
| Duration | 72 | hr/event |
| Number of Events per Year | 1 | One time event during first year of operation |
| NCG Flow Rate to Sparger [a] | 15,854 | lbs/hr |
| **Turbine Performance Test** | | |
| Total Steam Flow Rate | 2,296,528 | lbs/hr |
| Duration | 48 | hr/event |
| Number of Events per Year | 1 | One time event during first year of operation |
| NCG Flow Rate to Sparger [a] | 15,854 | lbs/hr |

## Table 2.6 NCG Emissions During Commissioning Events

**Commissioning Emissions Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Component Flowrate @ Steam Flow = 250,000 | Component Flowrate @ Steam Flow = 450,000 | Component Flowrate @ Steam Flow = 674,391 | Component Flowrate @ Steam Flow = 2,296,528 a | Well Warm-up Emisisons | Emissions during Production Line and Equipment Warm-up @ RM | Emissions through RM during Steam Blow | Emissions through RM during Turbine Preheat |
|---|---|---|---|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 2.79E+03 | 5.02E+03 | 7.52E+03 | 1.50E+04 | 6.02E+05 | 3.61E+05 | 3.61E+06 | 2.41E+05 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 2.48E+01 | 4.47E+01 | 6.70E+01 | 1.34E+02 | 5.36E+03 | 3.22E+03 | 3.22E+04 | 2.15E+03 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 2.51E-01 | 4.53E-01 | 6.78E-01 | 1.36E+00 | 5.43E+01 | 3.26E+01 | 3.26E+02 | 2.17E+01 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 1.30E+01 | 2.34E+01 | 3.51E+01 | 7.02E+01 | 2.81E+03 | 1.68E+03 | 1.68E+04 | 1.12E+03 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 6.97E+00 | 1.25E+01 | 1.88E+01 | 3.76E+01 | 1.51E+03 | 9.02E+02 | 9.03E+03 | 6.02E+02 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 7.44E-02 | 1.34E-01 | 2.01E-01 | 4.02E-01 | 1.61E+01 | 9.64E+00 | 9.64E+01 | 6.43E+00 |
| As | 4.23E-04 | 3.60E-08 | 1.06E-04 | 1.90E-04 | 2.85E-04 | 5.71E-04 | 2.28E-02 | 1.37E-02 | 1.37E-01 | 9.13E-03 |
| Hg | 6.91E-04 | 5.88E-08 | 1.73E-04 | 3.11E-04 | 4.66E-04 | 9.32E-04 | 3.73E-02 | 2.24E-02 | 2.24E-01 | 1.49E-02 |
| Benzene | 3.31E-01 | 2.82E-05 | 8.28E-02 | 1.49E-01 | 2.23E-01 | 4.47E-01 | 1.79E+01 | 1.07E+01 | 1.07E+02 | 7.16E+00 |
| Toluene | 1.77E-03 | 1.51E-07 | 4.43E-04 | 7.97E-04 | 1.19E-03 | 2.39E-03 | 9.57E-02 | 5.74E-02 | 5.74E-01 | 3.83E-02 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 3.66E-04 | 6.59E-04 | 9.87E-04 | 1.98E-03 | 7.91E-02 | 4.74E-02 | 4.74E-01 | 3.16E-02 |
| Xylenes | 1.46E-03 | 1.25E-07 | 3.66E-04 | 6.59E-04 | 9.87E-04 | 1.98E-03 | 7.91E-02 | 4.74E-02 | 4.74E-01 | 3.16E-02 |
| Argon | 1.49E-01 | 1.27E-05 | 3.74E-02 | 6.73E-02 | 1.01E-01 | 2.02E-01 | 8.07E+00 | 4.84E+00 | 4.84E+01 | 3.23E+00 |
| ***Radon Calculations*** | | | | | | | | | | |
| **Pollutant** | **($Ci/10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** |
| Radon | 9.64E-04 | 8.20E-08 | 2.41E-04 | 4.34E-04 | 6.50E-04 | 1.30E-03 | 5.20E-02 | 3.12E-02 | 3.12E-01 | 2.08E-02 |

ppmw = part(s) per million by weight

NCG = Non-condensible gas

lb = pound(s)
lbs/hr = pound(s) per hour

Ci = Curie(s)
Ci/hr = Curie(s) per hour

[a] Steam flows greater than the sum of the high pressure and standard pressure steam flows assume the following NCG correction factor, based on the low pressure steam flow being comprised of only a fraction of the NCG concentration as the high and standard pressure steam flows: 59%

## Table 2.6 NCG Emissions During Commissioning Events

| NCG Component | Sparger Burner | Emissions through Sparger during Turbine Preheat [a] | Emissions through Sparger during Turbine Load Test | Emissions through Sparger during Turbine Performance Test | Stack Emissions through Sparger during Turbine Preheat | Stack Emissions through Sparger during Turbine Load Test | Stack Emissions through Sparger during Turbine Performance Test |
|---|---|---|---|---|---|---|---|
| ***Criteria Pollutant, GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | |
| **Pollutant** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ROG | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $H_2S$ | 0.00E+00 | 5.34E-01 | 2.81E+00 | 2.81E+00 | 2.56E+01 | 2.03E+02 | 1.35E+02 |
| $NH_3$ | 0.00E+00 | 2.57E-01 | 1.36E+00 | 1.36E+00 | 1.23E+01 | 9.77E+01 | 6.51E+01 |
| $N_2$ | 0.00E+00 | 1.33E+01 | 7.02E+01 | 7.02E+01 | 6.39E+02 | 5.05E+03 | 3.37E+03 |
| $CH_4$ | 0.00E+00 | 7.13E+00 | 3.76E+01 | 3.76E+01 | 3.42E+02 | 2.71E+03 | 1.81E+03 |
| $H_2$ | 0.00E+00 | 7.61E-02 | 4.02E-01 | 4.02E-01 | 3.65E+00 | 2.89E+01 | 1.93E+01 |
| As | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Hg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Benzene | 0.00E+00 | 8.47E-02 | 4.47E-01 | 4.47E-01 | 4.07E+00 | 3.22E+01 | 2.15E+01 |
| Toluene | 0.00E+00 | 4.53E-04 | 2.39E-03 | 2.39E-03 | 2.17E-02 | 1.72E-01 | 1.15E-01 |
| Ethylbenzene | 0.00E+00 | 3.74E-04 | 1.98E-03 | 1.98E-03 | 1.80E-02 | 1.42E-01 | 9.48E-02 |
| Xylenes | 0.00E+00 | 3.74E-04 | 1.98E-03 | 1.98E-03 | 1.80E-02 | 1.42E-01 | 9.48E-02 |
| Argon | 0.00E+00 | 3.82E-02 | 2.02E-01 | 2.02E-01 | 1.83E+00 | 1.45E+01 | 9.68E+00 |
| $CO_2$ | 0.00E+00 | 2.85E+03 | 1.50E+04 | 1.50E+04 | 1.37E+05 | 1.08E+06 | 7.22E+05 |
| Formaldehyde | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PAH's (excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Naphthalene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Acetaldehyde | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Acrolein | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ***Radon Calculations*** | | | | | | | |
| **Pollutant** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** |
| Radon | 0.00E+00 | 2.46E-04 | 1.30E-03 | 1.30E-03 | 1.18E-02 | 9.36E-02 | 6.24E-02 |

NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour
[a] Assumes all steam supplied to turbine is high-pressure steam.

**Table 2.7 NCG Emissions During Cold Start-up**

## Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Cold Startup Emission Calculations**
**April 2023**

| | | |
|---|---|---|
| **Average NCG:Steam Ratio** | **11,753** | **ppmw** |
| **Well Warm-up @ PTU** | | |
| Steam Flow Rate | 250,000 | lbs/hr |
| Duration of Well Warm-up | 24 | hr for first well/event |
| Duration of Well Warm-up | 96 | hr for 8 wells/event |
| Number of Events per Year | 1 | event/year |
| NCG @ Steam Flow = 250,000 lbs/hr | 2,938 | lbs/hr |
| NCG @ Steam Flow = 450,000 lbs/hr | 5,289 | lbs/hr |
| NCG @ Steam Flow = 674,391 lbs/hr | 7,926 | lbs/hr |
| **Production Line and Equipment Warm-up @ RM** | | |
| Steam Flow Rate | 674,391 | lbs/hr |
| Duration | 32 | hr/event |
| Number of Events per Year | 1 | event/year |
| NCG Flow Rate to RM | 7,926 | lbs/hr |
| **Turbine Preheat and Auxiliary Loops** | | |
| Total Steam Flow Rate | 674,391 | lbs/hr |
| Steam Flow to RM | 450,000 | lbs/hr |
| Steam Flow to Turbine | 224,391 | lbs/hr |
| Duration | 24 | hr/event |
| Number of Events per Year | 1 | event/year |
| NCG Flow Rate to RM | 5,289 | lbs/hr |
| NCG Flow Rate to Sparger | 2,637 | lbs/hr |
| **Auxiliary Equipment Start-up** | | |
| Total Steam Flow Rate | 674,391 | lbs/hr |
| Steam Flow to RM | 470,000 | lbs/hr |
| Steam Flow to Turbine | 204,391 | lbs/hr |
| Duration | 12 | hr/event |
| Number of Events per Year | 1 | event/year |
| NCG Flow Rate to RM | 5,524 | lbs/hr |
| NCG Flow Rate to Sparger | 2,402 | lbs/hr |
| **Functional Trip Test** | | |
| Total Steam Flow Rate | 674,391 | lbs/hr |
| Duration | 6 | hr/event |
| Number of Events per Year | 1 | event/year |
| NCG Flow Rate to RM | 7,926 | lbs/hr |
| **Gradual Steam Delivery to Turbine** | | |
| Initital Steam Flow Rate | 0 | lbs/hr |
| Final Steam Flow Rate | 2,296,528 | lbs/hr |
| Duration | 6 | hr/event |
| Number of Events per Year | 1 | event/year |
| Average Steam Flow Rate to Sparger | 287,066 | lbs/hr |

## Table 2.7 NCG Emissions During Cold Start-up

**Cold Startup Emissions Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Component Flowrate @ Steam Flow = 250,000 | Component Flowrate @ Steam Flow = 450,000 | Component Flowrate @ Steam Flow = 674,391 | Component Flowrate @ Steam Flow = 2,296,528 a | Well Warm-up Emisisons | Emissions during Equipment Warm-up @ RM | Emissions through RM during Turbine Preheat | Emissions through RM during Auxiliary Equipment Start-up | Emissions through RM during Trip Test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 2.79E+03 | 5.02E+03 | 7.52E+03 | 1.50E+04 | 3.35E+05 | 2.41E+05 | 1.20E+05 | 6.29E+04 | 4.51E+04 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 2.48E+01 | 4.47E+01 | 6.70E+01 | 1.34E+02 | 2.98E+03 | 2.14E+03 | 1.07E+03 | 5.60E+02 | 4.02E+02 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 2.51E-01 | 4.53E-01 | 6.78E-01 | 1.36E+00 | 3.02E+01 | 2.17E+01 | 1.09E+01 | 5.67E+00 | 4.07E+00 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 1.30E+01 | 2.34E+01 | 3.51E+01 | 7.02E+01 | 1.56E+03 | 1.12E+03 | 5.62E+02 | 2.93E+02 | 2.11E+02 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 6.97E+00 | 1.25E+01 | 1.88E+01 | 3.76E+01 | 8.36E+02 | 6.02E+02 | 3.01E+02 | 1.57E+02 | 1.13E+02 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 7.44E-02 | 1.34E-01 | 2.01E-01 | 4.02E-01 | 8.93E+00 | 6.43E+00 | 3.22E+00 | 1.68E+00 | 1.20E+00 |
| As | 4.23E-04 | 3.60E-08 | 1.06E-04 | 1.90E-04 | 2.85E-04 | 5.71E-04 | 1.27E-02 | 9.13E-03 | 4.57E-03 | 2.39E-03 | 1.71E-03 |
| Hg | 6.91E-04 | 5.88E-08 | 1.73E-04 | 3.11E-04 | 4.66E-04 | 9.32E-04 | 2.07E-02 | 1.49E-02 | 7.46E-03 | 3.89E-03 | 2.79E-03 |
| Benzene | 3.31E-01 | 2.82E-05 | 8.28E-02 | 1.49E-01 | 2.23E-01 | 4.47E-01 | 9.94E+00 | 7.15E+00 | 3.58E+00 | 1.87E+00 | 1.34E+00 |
| Toluene | 1.77E-03 | 1.51E-07 | 4.43E-04 | 7.97E-04 | 1.19E-03 | 2.39E-03 | 5.32E-02 | 3.82E-02 | 1.91E-02 | 9.99E-03 | 7.17E-03 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 3.66E-04 | 6.59E-04 | 9.87E-04 | 1.98E-03 | 4.39E-02 | 3.16E-02 | 1.58E-02 | 8.26E-03 | 5.92E-03 |
| Xylenes | 1.46E-03 | 1.25E-07 | 3.66E-04 | 6.59E-04 | 9.87E-04 | 1.98E-03 | 4.39E-02 | 3.16E-02 | 1.58E-02 | 8.26E-03 | 5.92E-03 |
| Argon | 1.49E-01 | 1.27E-05 | 3.74E-02 | 6.73E-02 | 1.01E-01 | 2.02E-01 | 4.48E+00 | 3.23E+00 | 1.61E+00 | 8.43E-01 | 6.05E-01 |
| ***Radon Calculations*** | | | | | | | | | | | |
| **Pollutant** | **($Ci/10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** |
| Radon | 9.64E-04 | 8.20E-08 | 2.41E-04 | 4.34E-04 | 6.50E-04 | 1.30E-03 | 2.89E-02 | 2.08E-02 | 1.04E-02 | 5.44E-03 | 3.90E-03 |

ppmw = part(s) per million by weight

NCG = Non-condensible gas

lb = pound(s)

lbs/hr = pound(s) per hour

Ci = Curie(s)

Ci/hr = Curie(s) per hour

[a] Steam flows greater than the sum of the high pressure and standard pressure steam flows assume the following NCG correction factor, based on the low pressure steam flow being comprised of only a fraction of the NCG concentration as the high and standard pressure steam flows: 59%

**Table 2.7 NCG Emissions During Cold Start-up**

**Cold Startup Sparger Emissions Data**

| NCG Component | Sparger Burner | Emissions through Sparger during Turbine Preheat [a] | Emissions through Sparger during Auxiliary Equipment Start-up [a] | Emissions through Sparger during Gradual Steam Delivery to Turbine [a] | Stack Emissions through Sparger during Turbine Preheat | Stack Emissions through Sparger during Auxiliary Equipment Start-up | Stack Emissions through Sparger during Gradual Steam Delivery to Turbine |
|---|---|---|---|---|---|---|---|
| ***Criteria Pollutant, GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | |
| **Pollutant** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** |
| NOx | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| ROG | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| CO | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| $SO_2$ | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| $PM_{10}$ | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Lead | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| $PM_{2.5}$ | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| $H_2S$ | 0.0E+00 | 5.3E-01 | 4.9E-01 | 6.8E-01 | 1.3E+01 | 5.8E+00 | 4.1E+00 |
| $NH_3$ | 0.0E+00 | 2.6E-01 | 2.3E-01 | 3.3E-01 | 6.2E+00 | 2.8E+00 | 2.0E+00 |
| $N_2$ | 0.0E+00 | 1.3E+01 | 1.2E+01 | 1.7E+01 | 3.2E+02 | 1.5E+02 | 1.0E+02 |
| $CH_4$ | 0.0E+00 | 7.1E+00 | 6.5E+00 | 9.1E+00 | 1.7E+02 | 7.8E+01 | 5.5E+01 |
| $H_2$ | 0.0E+00 | 7.6E-02 | 6.9E-02 | 9.7E-02 | 1.8E+00 | 8.3E-01 | 5.8E-01 |
| As | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Hg | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Benzene | 0.0E+00 | 8.5E-02 | 7.7E-02 | 1.1E-01 | 2.0E+00 | 9.3E-01 | 6.5E-01 |
| Toluene | 0.0E+00 | 4.5E-04 | 4.1E-04 | 5.8E-04 | 1.1E-02 | 5.0E-03 | 3.5E-03 |
| Ethylbenzene | 0.0E+00 | 3.7E-04 | 3.4E-04 | 4.8E-04 | 9.0E-03 | 4.1E-03 | 2.9E-03 |
| Xylenes | 0.0E+00 | 3.7E-04 | 3.4E-04 | 4.8E-04 | 9.0E-03 | 4.1E-03 | 2.9E-03 |
| Argon | 0.0E+00 | 3.8E-02 | 3.5E-02 | 4.9E-02 | 9.2E-01 | 4.2E-01 | 2.9E-01 |
| $CO_2$ | 0.0E+00 | 2.9E+03 | 2.6E+03 | 3.6E+03 | 6.8E+04 | 3.1E+04 | 2.2E+04 |
| Formaldehyde | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| PAH's (excluding naphthalene) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Acetaldehyde | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Acrolein | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Propylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| Hexane | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| ***Radon Calculations*** | | | | | | | |
| **Pollutant** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** |
| Radon | 0.0E+00 | 2.5E-04 | 2.2E-04 | 3.2E-04 | 5.9E-03 | 2.7E-03 | 1.9E-03 |

NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour
[a] Assumes all steam supplied to turbine is high-pressure steam.

## Table 2.8 NCG Emissions During Warm Startup

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Warm Startup Emission Calculations**
**April 2023**

**Assumptions**

1. During trips, steam is diverted from turbine to RM for 10 hours.
2. Steam is gradually diverted back from RM to Turbine in 10 hours.

| | | |
|---|---|---|
| **Average NCG:Steam Ratio** | **11,753** | **ppmw** |

**Step 1 @ Rock Mufler**

| | | |
|---|---|---|
| Steam Flow Rate | 2,296,528 | lbs/hr |
| Duration | 10 | hr/event |
| Number of Events per Year | 20 | event/year |
| NCG Fow Rate to RM [a] | 15,854 | lbs/hr |

**Step 2**

| | | |
|---|---|---|
| Total Steam Flow Rate | 2,296,528 | lbs/hr |
| Initial Steam Flow to RM | 2,296,528 | lbs/hr |
| Final Steam Flow to RM | 0 | lbs/hr |
| Initial Steam Flow to Turbine | 0 | lbs/hr |
| Final Steam Flow to Turbine | 2,296,528 | lbs/hr |
| Duration | 5 | hr/event/source |
| Number of Events per Year | 20 | event/year |
| Average Steam Flow Rate to RM | 459,306 | lbs/hr |
| Average Steam Flow Rate to Turbine | 459,306 | lbs/hr |

## Table 2.8 NCG Emissions During Warm Startup

**Warm Startup Emissions Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Component Flowrate @ Steam Flow = 2,296,528 a | Emissions through RM during Step 1 | Emissions through RM during Step 2 |
|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/event)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 1.50E+04 | 1.50E+05 | 1.50E+04 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 1.34E+02 | 1.34E+03 | 1.34E+02 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 1.36E+00 | 1.36E+01 | 1.36E+00 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 7.02E+01 | 7.02E+02 | 7.02E+01 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 3.76E+01 | 3.76E+02 | 3.76E+01 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 4.02E-01 | 4.02E+00 | 4.02E-01 |
| As | 4.23E-04 | 3.60E-08 | 5.71E-04 | 5.71E-03 | 5.71E-04 |
| Hg | 6.91E-04 | 5.88E-08 | 9.32E-04 | 9.32E-03 | 9.32E-04 |
| Benzene | 3.31E-01 | 2.82E-05 | 4.47E-01 | 4.47E+00 | 4.47E-01 |
| Toluene | 1.77E-03 | 1.51E-07 | 2.39E-03 | 2.39E-02 | 2.39E-03 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 1.98E-03 | 1.98E-02 | 1.98E-03 |
| Xylenes | 1.46E-03 | 1.25E-07 | 1.98E-03 | 1.98E-02 | 1.98E-03 |
| Argon | 1.49E-01 | 1.27E-05 | 2.02E-01 | 2.02E+00 | 2.02E-01 |
| ***Radon Calculations*** | | | | | |
| **Pollutant** | **($Ci/10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/event)** |
| Radon | 9.64E-04 | 8.20E-08 | 1.30E-03 | 1.30E-02 | 1.30E-03 |

ppmw = part(s) per million by weight

NCG = Non-condensible gas

lb = pound(s)

lbs/hr = pound(s) per hour

Ci = Curie(s)

Ci/hr = Curie(s) per hour

[a] Steam flows greater than the sum of the high pressure and standard pressure steam flows assume the following NCG correction factor, based on the low pressure steam flow being comprised of only a fraction of the NCG concentration as the high and standard pressure steam flows: 59%

## Table 2.8 NCG Emissions During Warm Startup

**Warm Startup Sparger Emissions Data**

| NCG Component | Sparger Burner | Emissions through Sparger during Gradual Steam Delivery to Turbine [a] | Stack Emissions through Sparger during Gradual Steam Delivery to Turbine |
|---|---|---|---|
| ***Criteria Pollutant, GHG & Volatile/Non-Volatile Compound Calculations*** | | | |
| **Pollutant** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/event)** |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ROG | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $H_2S$ | 0.00E+00 | 1.09E+00 | 5.46E+00 |
| $NH_3$ | 0.00E+00 | 5.27E-01 | 2.63E+00 |
| $N_2$ | 0.00E+00 | 2.72E+01 | 1.36E+02 |
| $CH_4$ | 0.00E+00 | 1.46E+01 | 7.30E+01 |
| $H_2$ | 0.00E+00 | 1.56E-01 | 7.79E-01 |
| As | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Hg | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Benzene | 0.00E+00 | 1.73E-01 | 8.67E-01 |
| Toluene | 0.00E+00 | 9.27E-04 | 4.64E-03 |
| Ethylbenzene | 0.00E+00 | 7.66E-04 | 3.83E-03 |
| Xylenes | 0.00E+00 | 7.66E-04 | 3.83E-03 |
| Argon | 0.00E+00 | 7.82E-02 | 3.91E-01 |
| $CO_2$ | 0.00E+00 | 5.84E+03 | 2.92E+04 |
| Formaldehyde | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PAH's (excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Naphthalene | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Acetaldehyde | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Acrolein | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ***Radon Calculations*** | | | |
| **Pollutant** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/event)** |
| Radon | 0.00E+00 | 5.05E-04 | 2.52E-03 |

NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour
[a] Assumes all steam supplied to turbine is high-pressure steam.

**Table 2.9 NCG Emissions During Shutdown**

## Elmore North Geothermal Project

**Elmore North Operational Emissions Shutdown**
**Emission Calculations**
**April 2023**

| | | |
|---|---|---|
| **Average NCG:Steam Ratio** | **11,753** | **ppmw** |

**Steam Vented through RM**

| | | |
|---|---|---|
| Total Duration | 36 | hr/event |
| Duration for One Well | 4 | hr/event |
| Initital Steam Flow Rate | 2,296,528 | lbs/hr |
| Steam Flow Rate after 4 hours | 2,041,358 | lbs/hr |
| Steam Flow Rate after 8 hours | 1,786,188 | lbs/hr |
| Steam Flow Rate after 12 hours | 1,531,019 | lbs/hr |
| Steam Flow Rate after 16 hours | 1,275,849 | lbs/hr |
| Steam Flow Rate after 20 hours | 1,020,679 | |
| Steam Flow Rate after 24 hours | 765,509 | |
| Steam Flow Rate after 28 hours | 510,340 | |
| Steam Flow Rate after 32 hours | 255,170 | |
| Final Steam Flow Rate after 36 hours | 0 | lbs/hr |
| Number of events per year | 5.5 | event/year |

**Shutdown Emissions Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Component Flowrate @ Steam Flow = 255,170 | Component Flowrate @ Steam Flow = 510,340 | Component Flowrate @ Steam Flow = 765,509 | Component Flowrate @ Steam Flow = 1,020,679 | Component Flowrate @ Steam Flow = 1,275,849 | Component Flowrate @ Steam Flow = 1,531,019 | Component Flowrate @ Steam Flow = 1,786,188 a | Component Flowrate @ Steam Flow = 2,041,358 a | Component Flowrate @ Steam Flow = 2,296,528 a | Emissions when One Well is Taken Offline | Emissions when Two Wells are Taken Offline | Emissions when Three Wells are Taken Offline | Emissions when Four Wells are Taken Offline | Emissions when Five Wells are Taken Offline | Emissions when Six Wells are Taken Offline | Emissions when Seven Wells are Taken Offline | Emissions when Eight Wells are Taken Offline | Total Emissions through RM during Shutdown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | | | | | | | | | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** | **(lbs/event)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 2.85E+03 | 5.69E+03 | 8.54E+03 | 1.14E+04 | 1.42E+04 | 1.71E+04 | 1.17E+04 | 1.34E+04 | 1.50E+04 | 5.35E+04 | 4.68E+04 | 6.83E+04 | 5.69E+04 | 4.55E+04 | 3.42E+04 | 2.28E+04 | 1.14E+04 | 3.39E+05 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 2.54E+01 | 5.07E+01 | 7.61E+01 | 1.01E+02 | 1.27E+02 | 1.52E+02 | 1.04E+02 | 1.19E+02 | 1.34E+02 | 4.77E+02 | 4.17E+02 | 6.08E+02 | 5.07E+02 | 4.06E+02 | 3.04E+02 | 2.03E+02 | 1.01E+02 | 3.02E+03 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 2.57E-01 | 5.13E-01 | 7.70E-01 | 1.03E+00 | 1.28E+00 | 1.54E+00 | 1.06E+00 | 1.21E+00 | 1.36E+00 | 4.82E+00 | 4.22E+00 | 6.16E+00 | 5.13E+00 | 4.11E+00 | 3.08E+00 | 2.05E+00 | 1.03E+00 | 3.06E+01 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 1.33E+01 | 2.66E+01 | 3.98E+01 | 5.31E+01 | 6.64E+01 | 7.97E+01 | 5.46E+01 | 6.24E+01 | 7.02E+01 | 2.50E+02 | 2.18E+02 | 3.19E+02 | 2.66E+02 | 2.12E+02 | 1.59E+02 | 1.06E+02 | 5.31E+01 | 1.58E+03 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 7.11E+00 | 1.42E+01 | 2.13E+01 | 2.85E+01 | 3.56E+01 | 4.27E+01 | 2.93E+01 | 3.34E+01 | 3.76E+01 | 1.34E+02 | 1.17E+02 | 1.71E+02 | 1.42E+02 | 1.14E+02 | 8.54E+01 | 5.69E+01 | 2.85E+01 | 8.48E+02 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 7.60E-02 | 1.52E-01 | 2.28E-01 | 3.04E-01 | 3.80E-01 | 4.56E-01 | 3.12E-01 | 3.57E-01 | 4.02E-01 | 1.43E+00 | 1.25E+00 | 1.82E+00 | 1.52E+00 | 1.22E+00 | 9.12E-01 | 6.08E-01 | 3.04E-01 | 9.06E+00 |
| As | 4.23E-04 | 3.60E-08 | 1.08E-04 | 2.16E-04 | 3.24E-04 | 4.32E-04 | 5.40E-04 | 6.47E-04 | 4.44E-04 | 5.07E-04 | 5.71E-04 | 2.03E-03 | 1.77E-03 | 2.59E-03 | 2.16E-03 | 1.73E-03 | 1.29E-03 | 8.63E-04 | 4.32E-04 | 1.29E-02 |
| Hg | 6.91E-04 | 5.88E-08 | 1.76E-04 | 3.52E-04 | 5.29E-04 | 7.05E-04 | 8.81E-04 | 1.06E-03 | 7.25E-04 | 8.28E-04 | 9.32E-04 | 3.31E-03 | 2.90E-03 | 4.23E-03 | 3.52E-03 | 2.82E-03 | 2.11E-03 | 1.41E-03 | 7.05E-04 | 2.10E-02 |
| Benzene | 3.31E-01 | 2.82E-05 | 8.46E-02 | 1.69E-01 | 2.54E-01 | 3.38E-01 | 4.23E-01 | 5.07E-01 | 3.48E-01 | 3.97E-01 | 4.47E-01 | 1.59E+00 | 1.39E+00 | 2.03E+00 | 1.69E+00 | 1.35E+00 | 1.01E+00 | 6.76E-01 | 3.38E-01 | 1.01E+01 |
| Toluene | 1.77E-03 | 1.51E-07 | 4.52E-04 | 9.04E-04 | 1.36E-03 | 1.81E-03 | 2.26E-03 | 2.71E-03 | 1.86E-03 | 2.12E-03 | 2.39E-03 | 8.50E-03 | 7.44E-03 | 1.09E-02 | 9.04E-03 | 7.23E-03 | 5.43E-03 | 3.62E-03 | 1.81E-03 | 5.39E-02 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 3.74E-04 | 7.47E-04 | 1.12E-03 | 1.49E-03 | 1.87E-03 | 2.24E-03 | 1.54E-03 | 1.76E-03 | 1.98E-03 | 7.02E-03 | 6.14E-03 | 8.97E-03 | 7.47E-03 | 5.98E-03 | 4.48E-03 | 2.99E-03 | 1.49E-03 | 4.45E-02 |
| Xylenes | 1.46E-03 | 1.25E-07 | 3.74E-04 | 7.47E-04 | 1.12E-03 | 1.49E-03 | 1.87E-03 | 2.24E-03 | 1.54E-03 | 1.76E-03 | 1.98E-03 | 7.02E-03 | 6.14E-03 | 8.97E-03 | 7.47E-03 | 5.98E-03 | 4.48E-03 | 2.99E-03 | 1.49E-03 | 4.45E-02 |
| Argon | 1.49E-01 | 1.27E-05 | 3.81E-02 | 7.63E-02 | 1.14E-01 | 1.53E-01 | 1.91E-01 | 2.29E-01 | 1.57E-01 | 1.79E-01 | 2.02E-01 | 7.17E-01 | 6.27E-01 | 9.15E-01 | 7.63E-01 | 6.10E-01 | 4.58E-01 | 3.05E-01 | 1.53E-01 | 4.55E+00 |
| ***Radon Calculations*** | | | | | | | | | | | | | | | | | | | | |
| **Pollutant** | **(Ci/$10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** | **(Ci/event)** |
| Radon | 9.64E-04 | 8.20E-08 | 2.46E-04 | 4.92E-04 | 7.38E-04 | 9.84E-04 | 1.23E-03 | 1.48E-03 | 1.01E-03 | 1.16E-03 | 1.30E-03 | 4.62E-03 | 4.05E-03 | 5.90E-03 | 4.92E-03 | 3.94E-03 | 2.95E-03 | 1.97E-03 | 9.84E-04 | 2.93E-02 |

ppmw = part(s) per million by weight
NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour

[a] Steam flows greater than the sum of the high pressure and standard pressure steam flows assume the following NCG correction factor, based on the low pressure steam flow being comprised of only a fraction of the NCG concentration as the high and standard pressure steam flows: 59%

## Table 2.10 NCG Emissions During Normal Operation

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Sparger Emission Calculations**
**April 2023**

**Normal Continuous Operation at Sparger**

| | | | | |
|---|---|---|---|---|
| Nominal Brine Flow Rate to High Pressure (HP) Separator | 10,934,588 | lbs/hr | | |
| Steam Flow Rate to Turbine - HP | 1,183,725 | lbs/hr | 100% | NCG |
| Steam Flow Rate to Turbine - Standard Pressure (SP) | 438,412 | lbs/hr | 30% | NCG |
| Steam Flow Rate to Turbine - Low Pressure (LP) | 674,391 | lbs/hr | 5% | NCG |
| Average NCG:Steam Ratio | 11,753 | ppmw | | |
| NCG Flow Rate to Turbine | 15,854 | lbs/hr | | |

**Sparger Emission Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Mass Flow Rate into Turbine | Partitioned into NCG [a, b] | Mass Flow Rate to Sparger | Sparger DRE | Hourly Emissions | Annual Emissions |
|---|---|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(%)** | **(lbs/hr)** | **(%)** | **(lbs/hr)** | **(tpy)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 1.50E+04 | 100% | 1.50E+04 | 0% | 1.50E+04 | 6.44E+04 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 1.34E+02 | 60% | 8.04E+01 | 96.5% | 2.81E+00 | 1.20E+01 |
| $NH_3$ | 1.01E+00 | 8.56E-05 | 1.36E+00 | 100% | 1.36E+00 | 0% | 1.36E+00 | 5.81E+00 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 7.02E+01 | 100% | 7.02E+01 | 0% | 7.02E+01 | 3.00E+02 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 3.76E+01 | 100% | 3.76E+01 | 0% | 3.76E+01 | 1.61E+02 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 4.02E-01 | 100% | 4.02E-01 | 0% | 4.02E-01 | 1.72E+00 |
| As | 4.23E-04 | 3.60E-08 | 5.71E-04 | 0% | 0.00E+00 | 0% | 0.00E+00 | 0.00E+00 |
| Hg | 6.91E-04 | 5.88E-08 | 9.32E-04 | 0% | 0.00E+00 | 0% | 0.00E+00 | 0.00E+00 |
| Benzene | 3.31E-01 | 2.82E-05 | 4.47E-01 | 100% | 4.47E-01 | 0% | 4.47E-01 | 1.91E+00 |
| Toluene | 1.77E-03 | 1.51E-07 | 2.39E-03 | 100% | 2.39E-03 | 0% | 2.39E-03 | 1.02E-02 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 1.98E-03 | 100% | 1.98E-03 | 0% | 1.98E-03 | 8.45E-03 |
| Xylenes | 1.46E-03 | 1.25E-07 | 1.98E-03 | 100% | 1.98E-03 | 0% | 1.98E-03 | 8.45E-03 |
| Argon | 1.49E-01 | 1.27E-05 | 2.02E-01 | 100% | 2.02E-01 | 0% | 2.02E-01 | 8.63E-01 |
| ***Radon Calculations*** | | | | | | | | |
| **Pollutant** | **(Ci/$10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(%)** | **(Ci/hr)** | **(%)** | **(Ci/hr)** | **(Ci/year)** |
| Radon | 9.64E-04 | 8.20E-08 | 1.30E-03 | 100% | 1.30E-03 | 0% | 1.30E-03 | 1.11E+01 |

ppmw = part(s) per million by weight
DRE = Destruction and Removal Efficiency
NCG = Non-condensible gas
lb = pound(s)

lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour
tpy = ton(s) per year

[a] $NH_3$ is conservatively assumed to be partitioned 100% into NCG flows.

[b] As and Hg are assumed to be partitioned 0% into NCG flows based on their boiling points being at temperatures higher than the typical operating temperature of the cooling tower basin (i.e., they remain in liquid form).

## Table 2.10 NCG Emissions During Normal Operation

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Sparger Bypass Emission Calculations**
**April 2023**

**Maintenace at Sparger**

| | | | | |
|---|---|---|---|---|
| Nominal Brine Flow Rate to HP Separator | 10,934,588 | lbs/hr | | |
| Steam Flow Rate to Turbine - HP | 1,183,725 | lbs/hr | 100% | NCG |
| Steam Flow Rate to Turbine - SP | 438,412 | lbs/hr | 30% | NCG |
| Steam Flow Rate to Turbine - LP | 674,391 | lbs/hr | 5% | NCG |
| Average NCG:Steam Ratio | 11,753 | ppmw | | |
| NCG Flow Rate to Turbine | 15,854 | lbs/hr | | |
| Hours Bypassing Sparger | 200 | hr/year | | |

**Sparger Bypass Emission Data**

| NCG Component | Average Component/Steam Ratio | Average Component/NCG Mass Fraction | Mass Flow Rate into Turbine | Partitioned into NCG [a] | Mass Flow Rate to Sparger | Sparger DRE [b] | Hourly Emissions | Annual Emissions |
|---|---|---|---|---|---|---|---|---|
| ***GHG & Volatile/Non-Volatile Compound Calculations*** | | | | | | | | |
| **Pollutant** | **(ppmw)** | **(lb/lb NCG)** | **(lbs/hr)** | **(%)** | **(lbs/hr)** | **(%)** | **(lbs/hr)** | **(tpy)** |
| $CO_2$ | 1.12E+04 | 9.49E-01 | 1.50E+04 | 100% | 1.50E+04 | 0% | 1.50E+04 | 1.50E+03 |
| $H_2S$ | 9.94E+01 | 8.45E-03 | 1.34E+02 | 60% | 8.04E+01 | 0% | 8.04E+01 | 8.04E+00 |
| $NH_3$ | 4.18E+02 | 3.56E-02 | 5.64E+02 | 80% | 4.49E+02 | 0% | 4.49E+02 | 4.49E+01 |
| $N_2$ | 5.20E+01 | 4.43E-03 | 7.02E+01 | 100% | 7.02E+01 | 0% | 7.02E+01 | 7.02E+00 |
| $CH_4$ | 2.79E+01 | 2.37E-03 | 3.76E+01 | 100% | 3.76E+01 | 0% | 3.76E+01 | 3.76E+00 |
| $H_2$ | 2.98E-01 | 2.53E-05 | 4.02E-01 | 100% | 4.02E-01 | 0% | 4.02E-01 | 4.02E-02 |
| As | 4.23E-04 | 3.60E-08 | 5.71E-04 | 0% | 0.00E+00 | 0% | 0.00E+00 | 0.00E+00 |
| Hg | 6.91E-04 | 5.88E-08 | 9.32E-04 | 0% | 0.00E+00 | 0% | 0.00E+00 | 0.00E+00 |
| Benzene | 3.31E-01 | 2.82E-05 | 4.47E-01 | 100% | 4.47E-01 | 0% | 4.47E-01 | 4.47E-02 |
| Toluene | 1.77E-03 | 1.51E-07 | 2.39E-03 | 100% | 2.39E-03 | 0% | 2.39E-03 | 2.39E-04 |
| Ethylbenzene | 1.46E-03 | 1.25E-07 | 1.98E-03 | 100% | 1.98E-03 | 0% | 1.98E-03 | 1.98E-04 |
| Xylenes | 1.46E-03 | 1.25E-07 | 1.98E-03 | 100% | 1.98E-03 | 0% | 1.98E-03 | 1.98E-04 |
| Argon | 1.49E-01 | 1.27E-05 | 2.02E-01 | 100% | 2.02E-01 | 0% | 2.02E-01 | 2.02E-02 |
| ***Radon Calculations*** | | | | | | | | |
| **Pollutant** | **($Ci/10^6$ lb Steam)** | **(Ci/lb NCG)** | **(Ci/hr)** | **(%)** | **(Ci/hr)** | **(%)** | **(Ci/hr)** | **(Ci/year)** |
| Radon | 9.64E-04 | 8.20E-08 | 1.30E-03 | 100% | 1.30E-03 | 0% | 1.30E-03 | 2.60E-01 |

ppmw = part(s) per million by weight
DRE = Destruction and Removal Efficiency
NCG = Non-condensible gas
lb = pound(s)
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour
tpy = ton(s) per year

[a] As and Hg are assumed to be partitioned 0% into NCG flows based on their boiling points being at temperatures higher than the typical operating temperature of the cooling tower basin (i.e., they remain in liquid form).
[b] During sparger bypass operations, no emission controls are operational; therefore, the DRE for all pollutants is 0%.

## Table 2.12 Total NCG Emissions during Normal Operation

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Sparger Emission Summary**
**April 2023**

**Sparger Emission Summary**

| NCG Component | Sparger Bypass Emissions | Sparger Normal Operation Emissions | Total Stack Hourly Emissions | Total Stack Annual Emissions |
|---|---|---|---|---|
| ***Criteria Pollutant, GHG & Volatile/Non-Volatile Compound Calculations*** | | | | |
| **Pollutant** | **(lbs/hr)** | **(lbs/hr)** | **(lbs/hr)** | **(tpy)** |
| NOx | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ROG | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CO | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $SO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Lead | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $H_2S$ | 8.04E+01 | 2.81E+00 | 8.04E+01 | 2.01E+01 |
| $NH_3$ | 4.49E+02 | 1.36E+00 | 4.49E+02 | 5.07E+01 |
| $N_2$ | 7.02E+01 | 7.02E+01 | 7.02E+01 | 3.07E+02 |
| $CH_4$ | 3.76E+01 | 3.76E+01 | 3.76E+01 | 1.65E+02 |
| $H_2$ | 4.02E-01 | 4.02E-01 | 4.02E-01 | 1.76E+00 |
| As | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Hg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Benzene | 4.47E-01 | 4.47E-01 | 4.47E-01 | 1.96E+00 |
| Toluene | 2.39E-03 | 2.39E-03 | 2.39E-03 | 1.05E-02 |
| Ethylbenzene | 1.98E-03 | 1.98E-03 | 1.98E-03 | 8.65E-03 |
| Xylenes | 1.98E-03 | 1.98E-03 | 1.98E-03 | 8.65E-03 |
| Argon | 2.02E-01 | 2.02E-01 | 2.02E-01 | 8.83E-01 |
| $CO_2$ | 1.50E+04 | 1.50E+04 | 1.50E+04 | 6.59E+04 |
| Formaldehyde | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PAH's (excluding naphthalene) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Naphthalene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Acetaldehyde | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Acrolein | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Propylene | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Hexane | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ***Radon Calculations*** | | | | |
| **Pollutant** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/hr)** | **(Ci/year)** |
| Radon | 1.30E-03 | 1.30E-03 | 1.30E-03 | 1.14E+01 |

NCG = Non-condensible gas
lbs/hr = pound(s) per hour
Ci = Curie(s)
Ci/hr = Curie(s) per hour
tpy = ton(s) per year

## Table 2.13   Cooling Tower PM Emissions During Normal Operation

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Cooling Tower Particulate Emission Data**
**April 2023**

**Cooling Tower Particulate Emission Calculations**

| Parameter | Units | Scenario 1 Value | Data Source |
|---|---|---|---|
| Water Circulation Rate | gpm | 230,000 | 2 banks of 7 cells X 115,000 gpm/bank |
| Total Liquid Drift | % | 0.00050 | BACT/Vendor |
| Maximum TDS of Circulated Water | ppmw | 9,000 | Highest Concentration Expected Based on Actuals from Other Applicant-owned Facilities |
| TDS in Make-up Water [a] | ppmw | 690 | IID 2021 lab sampling - Vail 4 |
| Cycles of Concentration | Dimensionless | 13 | -- |
| Fraction of TDS as $PM_{10}$ | Mass Fraction | 70% | South Coast Air Quality Management District. 2006. *Final- Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds.* Appendix A. October. |
| Fraction of TDS as $PM_{2.5}$ | Mass Fraction | 42% | South Coast Air Quality Management District. 2006. *Final- Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds.* Appendix A. October. |
| ***Emissions Summary*** | | | |
| TSP [b] | lbs/hr | 5.18 | -- |
| $PM_{10}$ [c] | lbs/hr | 3.63 | -- |
| $PM_{2.5}$ [c] | lbs/hr | 2.18 | -- |

ppmw = part(s) per million by weight
gpm = gallon(s) per minute
lbs/hr = pound(s) per hour
TDS = Total Dissolved Solids

[a] TDS of make-up water assumed equal to the TDS in condensate.
[b] TSP emission rate calculated based on EPA's *AP-42*, Section 13.4, Table 13.4-1 (EPA 1995), modified to the Elmore North design.
[c] $PM_{10}$ and $PM_{2.5}$ emission rates calculated consistent with the TSP emission rate, assuming only a fraction of TDS is $PM_{10}$ or $PM_{2.5}$, respectively.

## Table 2.15 Cooling Tower TAC Emissions During Normal Operation

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Cooling Tower TAC Emission Data**
**April 2023**

| | | |
|---|---|---|
| Cooling Tower Recirculation Rate | 230,000 | gpm |
| Drift Eliminator Efficiency | 0.00050% | |
| Cooling Tower Cylces of Concentration | 8 | |
| Cooling Tower Makeup Rate | 4,151 | gpm |
| Water Evaporated from Cooling Tower | 3,631 | gpm |

**Cooling Tower TAC Emission Calculations**

| Constituents | Concentration Analyzed in Condensate [a] | Hourly Emissions [b, c, d] |
|---|---|---|
| ***Non-Volatile Compound Calculations*** | | |
| **Pollutant** | **(µg/L)** | **(lbs/hr)** |
| Aluminum | 50 | 2.88E-05 |
| Antimony | 7.5 | 4.32E-06 |
| As | 470.5 | 2.71E-04 |
| Barium | 240 | 1.38E-04 |
| Beryllium | 0.5 | 2.88E-07 |
| Cobalt | 0.5 | 2.88E-07 |
| Cadmium | 1.5 | 8.64E-07 |
| Total Chromium | 2.5 | 1.44E-06 |
| Copper | 24 | 1.38E-05 |
| Vanadium | 2.5 | 1.44E-06 |
| Lead | 35.5 | 2.04E-05 |
| Lithium | 50 | 2.88E-05 |
| Manganese | 2,300 | 1.32E-03 |
| Hg | 26.8 | 1.54E-05 |
| Nickel | 6.1 | 3.51E-06 |
| Selenium | 79 | 4.55E-05 |
| Total Silica | 2,500 | 1.44E-03 |
| Silver | 2.5 | 1.44E-06 |
| Strontium | 50 | 2.88E-05 |
| Zinc | 1,425 | 8.20E-04 |

## Table 2.15 Cooling Tower TAC Emissions During Normal Operation

| Constituents | Concentration Analyzed in Condensate [a] | Hourly Emissions [b, c, d] |
|---|---|---|
| ***Volatile Compound Calculations*** | | |
| **Pollutant** | **(µg/L)** | **(lbs/hr)** |
| Ammonia (mg/L) | 55.3 | 1.15E+02 |
| $H_2S$ | N/A | 2.68E+00 |
| Benzene | 0.25 | 5.2E-04 |
| Ethylbenzene | 0.25 | 5.2E-04 |
| Toluene | 0.25 | 5.2E-04 |
| Xylenes (m+p+o) | 0.5 | 1.0E-03 |
| ***Radon Calculations*** | | |
| **Pollutant** | **(Ci/L)** | **(Ci/hr)** |
| Radon | 9.20E-13 | 8.67E-07 |

µg/L = microgram(s) per liter
mg/L = milligram(s) per liter
gpm = gallon(s) per minute
lbs/hr = pound(s) per hour
Ci/L = Curie(s) per Liter
Ci/hr = Curie(s) per hour

[a] Data represent the average of 2022 source testing data from Elmore and Leathers. Analytes that were registered as non-detect were analyzed at 1/2 the detection limit. Based on the likelihood of compounds being volatized during the first pass through the Cooling Tower, data for volatile compounds were best represented by Cooling Tower Hotwell measurements, whereas non-volatile compounds (i.e., metals) were best represented by Cooling Tower Blowdown measurements.

[b] Emissions were estimated as follows:

| | |
|---|---|
| Emission Rate for Non-Volatile Compounds: | ER (lbs/hr) = Recirculation Rate (gpm) * 60 min/hr * 3.785 liters/gal * HAP Concentration (µg/L) * 1 lb / 453.6 g * 1 g / 10^6 µg * Drift Fraction |
| Emission Rate for Volatile Compounds: | ER (lbs/hr) = Makeup Rate (gpm) * 60 min/hr * 3.785 liters/gal * HAP Concentration (µg/L) * 1 lb / 453.6 g * 1 g / 10^6 µg * Volatilization Fraction (assumed to be one) |

[c] $H_2S$ abatement efficiency of Oxidation Box is: 95%

Ammonia emissions calculated based on an effective concentration, which was derived from a mass balance of ammonia detected in both the Hot Well and Blowdown streams (230 mg/L at 4,383 gpm and 1,500 mg/L at 519 gpm, respectively).

**Table 2.15 Cooling Tower TAC Emissions During Normal Operation**

# Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Cooling Tower Oxidation Box Bypass TAC Emission Data**
**April 2023**

| | | |
|---|---|---|
| Cooling Tower Recirculation Rate | 230,000 | gpm |
| Drift Eliminator Efficiency | 0.00050% | |
| Cooling Tower Cylces of Concentration | 8 | |
| Cooling Tower Makeup Rate | 4,151 | gpm |
| Water Evaporated from Cooling Tower | 3,631 | gpm |

**Cooling Tower Oxidation Box Bypass TAC Emission Calculations**

| Constituents | Concentration Analyzed in Condensate [a] | Hourly Emissions [b, c, d] |
|---|---|---|
| ***Non-Volatile Compound Calculations*** | | |
| **Pollutant** | **(μg/L)** | **(lbs/hr)** |
| Aluminum | 50 | 2.88E-05 |
| Antimony | 7.5 | 4.32E-06 |
| Arsenic | 470.5 | 2.71E-04 |
| Barium | 240 | 1.38E-04 |
| Beryllium | 0.5 | 2.88E-07 |
| Cobalt | 0.5 | 2.88E-07 |
| Cadmium | 1.5 | 8.64E-07 |
| Total Chromium | 2.5 | 1.44E-06 |
| Copper | 24 | 1.38E-05 |
| Vanadium | 2.5 | 1.44E-06 |
| Lead | 35.5 | 2.04E-05 |
| Lithium | 50 | 2.88E-05 |
| Manganese | 2,300 | 1.32E-03 |
| Mercury | 26.8 | 1.54E-05 |
| Nickel | 6.1 | 3.51E-06 |
| Selenium | 79 | 4.55E-05 |
| Total Silica | 2,500 | 1.44E-03 |
| Silver | 2.5 | 1.44E-06 |
| Strontium | 50 | 2.88E-05 |
| Zinc | 1,425 | 8.20E-04 |

## Table 2.15 Cooling Tower TAC Emissions During Normal Operation

| *Volatile Compound Calculations* | | |
|---|---|---|
| **Pollutant** | **(µg/L)** | **(lbs/hr)** |
| Ammonia (mg/L) | 55.3 | 1.15E+02 |
| $H_2S$ | N/A | 5.36E+01 |
| Benzene | 0.25 | 5.2E-04 |
| Ethylbenzene | 0.25 | 5.2E-04 |
| Toluene | 0.25 | 5.2E-04 |
| Xylenes (m+p+o) | 0.5 | 1.0E-03 |
| *Radon Calculations* | | |
| **Pollutant** | **(Ci/L)** | **(Ci/hr)** |
| Radon | 9.20E-13 | 8.67E-07 |

µg/L = microgram(s) per liter

mg/L = milligram(s) per liter

gpm = gallon(s) per minute

lb/hr = pound(s) per hour

Ci/L = Curie(s) per liter

Ci/hr = Curie(s) per hour

[a] Data represent the average of 2022 source testing data from Elmore and Leathers. Analytes that were registered as non-detect were analyzed at 1/2 the detection limit. Based on the likelihood of compounds being volatized during the first pass through the Cooling Tower, data for volatile compounds were best represented by Cooling Tower Hotwell measurements, whereas non-volatile compounds (i.e., metals) were best represented by Cooling Tower Blowdown measurements.

[b] Emissions were estimated as follows:

| | |
|---|---|
| Emission Rate for Non-Volatile Compounds: | ER (lbs/hr) = Recirculation Rate (gpm) * 60 min/hr * 3.785 liters/gal * HAP Concentration (µg/L) * 1 lb / 453.6 g * 1 g / 10^6 µg * Drift Fraction |
| Emission Rate for Volatile Compounds: | ER (lbs/hr) = Makeup Rate (gpm) * 60 min/hr * 3.785 liters/gal * HAP Concentration (µg/L) * 1 lb / 453.6 g * 1 g / 10^6 µg * Volatilization Fraction (assumed to be one) |

[c] Oxbox bypass assumes 0% control of $H_2S$.

[d] Ammonia emissions calculated based on an effective concentration, which was derived from a mass balance of ammonia detected in both the Hot Well and Blowdown streams (230 mg/L at 4,383 gpm and 1,500 mg/L at 519 gpm, respectively).

## Table 2.17 Emissions from Operation and Maintenance Equipment

### Elmore North Geothermal Project

**Elmore North Operational Emissions**
**O&M Emission Calculations**
**April 2023**

**O&M Equipment and Vehicle Emission Rates**

| O&M Equipment and Vehicle | Fuel | Equipment Type | Usage [a] (hr or mile/hr) | Emission Factors (lbs/hr or lb/mile) | | | | | | | | | Emission Rates (lbs/hr) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $NO_X$ | CO | VOC | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $NO_X$ | CO | VOC | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
| Water Truck | Diesel | Construction Equipment | 1 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 |
| Dump Truck | Diesel | Construction Equipment | 1 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 |
| On-Site Pickup Truck | Gasoline | Vehicle | 20 | 4.70E-04 | 7.30E-03 | 1.20E-04 | 8.37E-06 | 4.02E-05 | 1.74E-05 | 8.27E-01 | 3.01E-05 | 2.03E-06 | 9.39E-03 | 1.46E-01 | 2.41E-03 | 1.67E-04 | 8.05E-04 | 3.49E-04 | 1.65E+01 | 6.02E-04 | 4.05E-05 |
| Off-Site Pickup Trucks | Gasoline | Vehicle | 50 | 4.70E-04 | 7.30E-03 | 1.20E-04 | 8.37E-06 | 4.02E-05 | 1.74E-05 | 8.27E-01 | 3.01E-05 | 2.03E-06 | 2.35E-02 | 3.65E-01 | 6.02E-03 | 4.19E-04 | 2.01E-03 | 8.72E-04 | 4.13E+01 | 1.50E-03 | 1.01E-04 |
| Off-Site Haul Truck | Diesel | Vehicle | 50 | 2.67E-03 | 2.03E-04 | 2.18E-05 | 2.95E-05 | 2.25E-04 | 9.23E-05 | 3.10E+00 | 1.01E-06 | 6.78E-06 | 1.34E-01 | 1.02E-02 | 1.09E-03 | 1.48E-03 | 1.12E-02 | 4.61E-03 | 1.55E+02 | 5.07E-05 | 3.39E-04 |
| Forklift | Diesel | Construction Equipment | 1 | 1.52E-01 | 2.73E-01 | 1.06E-02 | 4.13E-04 | 3.65E-03 | 3.36E-03 | 4.47E+01 | 1.81E-03 | 3.63E-04 | 1.52E-01 | 2.73E-01 | 1.06E-02 | 4.13E-04 | 3.65E-03 | 3.36E-03 | 4.47E+01 | 1.81E-03 | 3.63E-04 |
| Boom Truck | Diesel | Construction Equipment | 1 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 |
| Crane-50T | Diesel | Construction Equipment | 1 | 5.00E-01 | 3.94E-01 | 4.93E-02 | 1.14E-03 | 2.01E-02 | 1.85E-02 | 1.24E+02 | 5.02E-03 | 1.00E-03 | 5.00E-01 | 3.94E-01 | 4.93E-02 | 1.14E-03 | 2.01E-02 | 1.85E-02 | 1.24E+02 | 5.02E-03 | 1.00E-03 |
| Excavator | Diesel | Construction Equipment | 1 | 1.06E-01 | 1.27E-01 | 1.25E-02 | 1.63E-04 | 3.59E-03 | 3.31E-03 | 1.77E+01 | 7.19E-04 | 1.44E-04 | 1.06E-01 | 1.27E-01 | 1.25E-02 | 1.63E-04 | 3.59E-03 | 3.31E-03 | 1.77E+01 | 7.19E-04 | 1.44E-04 |
| Backhoe | Diesel | Construction Equipment | 1 | 1.50E-01 | 2.39E-01 | 1.47E-02 | 3.35E-04 | 6.66E-03 | 6.12E-03 | 3.63E+01 | 1.47E-03 | 2.95E-04 | 1.50E-01 | 2.39E-01 | 1.47E-02 | 3.35E-04 | 6.66E-03 | 6.12E-03 | 3.63E+01 | 1.47E-03 | 2.95E-04 |
| Yardogs | Diesel | Construction Equipment | 1 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 | 3.89E-01 | 3.76E-01 | 5.78E-02 | 1.54E-03 | 1.40E-02 | 1.28E-02 | 1.66E+02 | 6.74E-03 | 1.35E-03 |
| Pressure Washers | Diesel | Construction Equipment | 1 | 4.09E-02 | 3.03E-02 | 4.94E-03 | 7.94E-05 | 1.71E-03 | 1.57E-03 | 5.36E+00 | 2.17E-04 | 4.35E-05 | 4.09E-02 | 3.03E-02 | 4.94E-03 | 7.94E-05 | 1.71E-03 | 1.57E-03 | 5.36E+00 | 2.17E-04 | 4.35E-05 |
| Welders | Diesel | Construction Equipment | 1 | 1.73E-01 | 2.08E-01 | 2.44E-02 | 3.35E-04 | 5.97E-03 | 5.49E-03 | 2.59E+01 | 1.05E-03 | 2.10E-04 | 1.73E-01 | 2.08E-01 | 2.44E-02 | 3.35E-04 | 5.97E-03 | 5.49E-03 | 2.59E+01 | 1.05E-03 | 2.10E-04 |
| Manlift | Diesel | Construction Equipment | 1 | 9.07E-02 | 9.78E-02 | 4.98E-03 | 1.70E-04 | 6.81E-04 | 6.26E-04 | 1.85E+01 | 7.48E-04 | 1.50E-04 | 9.07E-02 | 9.78E-02 | 4.98E-03 | 1.70E-04 | 6.81E-04 | 6.26E-04 | 1.85E+01 | 7.48E-04 | 1.50E-04 |
| Air Compressors | Diesel | Construction Equipment | 2 | 1.51E-01 | 1.91E-01 | 2.27E-02 | 2.88E-04 | 5.31E-03 | 4.89E-03 | 2.23E+01 | 9.03E-04 | 1.81E-04 | 3.03E-01 | 3.82E-01 | 4.55E-02 | 5.75E-04 | 1.06E-02 | 9.77E-03 | 4.45E+01 | 1.81E-03 | 3.61E-04 |
| Carry Deck | Diesel | Construction Equipment | 1 | 5.00E-01 | 3.94E-01 | 4.93E-02 | 1.14E-03 | 2.01E-02 | 1.85E-02 | 1.24E+02 | 5.02E-03 | 1.00E-03 | 5.00E-01 | 3.94E-01 | 4.93E-02 | 1.14E-03 | 2.01E-02 | 1.85E-02 | 1.24E+02 | 5.02E-03 | 1.00E-03 |

lbs/hr = pound(s) per hour
lb/mile = pound(s) per mile
mile/hr = mile(s) per hour
[a] Assumes two air compressors.

## Table 2.17 Emissions from Operation and Maintenance Equipment

**O&M Equipment and Vehicle Emissions**

| O&M Equipment and Vehicle | Fuel | Equipment Type | Usage [b] | Emission Rates (lbs/day) [a] | | | | | | | | | Emission Rates (tpy) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (hr/year) | $NO_X$ | CO | VOC | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $NO_X$ | CO | VOC | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
| Water Truck | Diesel | Construction Equipment | 200 | 3.11E+00 | 3.01E+00 | 4.62E-01 | 1.23E-02 | 1.12E-01 | 1.03E-01 | 1.33E+03 | 5.39E-02 | 1.08E-02 | 3.89E-02 | 3.76E-02 | 5.78E-03 | 1.54E-04 | 1.40E-03 | 1.28E-03 | 1.66E+01 | 6.74E-04 | 1.35E-04 |
| Dump Truck | Diesel | Construction Equipment | 200 | 3.11E+00 | 3.01E+00 | 4.62E-01 | 1.23E-02 | 1.12E-01 | 1.03E-01 | 1.33E+03 | 5.39E-02 | 1.08E-02 | 3.89E-02 | 3.76E-02 | 5.78E-03 | 1.54E-04 | 1.40E-03 | 1.28E-03 | 1.66E+01 | 6.74E-04 | 1.35E-04 |
| On-Site Pickup Truck | Gasoline | Vehicle | 2,000 | 7.51E-02 | 1.17E+00 | 1.93E-02 | 1.34E-03 | 6.44E-03 | 2.79E-03 | 1.32E+02 | 4.82E-03 | 3.24E-04 | 9.39E-03 | 1.46E-01 | 2.41E-03 | 1.67E-04 | 8.05E-04 | 3.49E-04 | 1.65E+01 | 6.02E-04 | 4.05E-05 |
| Off-Site Pickup Trucks | Gasoline | Vehicle | 2,000 | 1.88E-01 | 2.92E+00 | 4.81E-02 | 3.35E-03 | 1.61E-02 | 6.98E-03 | 3.31E+02 | 1.20E-02 | 8.11E-04 | 2.35E-02 | 3.65E-01 | 6.02E-03 | 4.19E-04 | 2.01E-03 | 8.72E-04 | 4.13E+01 | 1.50E-03 | 1.01E-04 |
| Off-Site Haul Truck | Diesel | Vehicle | 400 | 1.07E+00 | 8.13E-02 | 8.74E-03 | 1.18E-02 | 9.00E-02 | 3.69E-02 | 1.24E+03 | 4.06E-04 | 2.71E-03 | 2.67E-02 | 2.03E-03 | 2.18E-04 | 2.95E-04 | 2.25E-03 | 9.23E-04 | 3.10E+01 | 1.01E-05 | 6.78E-05 |
| Forklift | Diesel | Construction Equipment | 200 | 1.21E+00 | 2.18E+00 | 8.47E-02 | 3.31E-03 | 2.92E-02 | 2.69E-02 | 3.58E+02 | 1.45E-02 | 2.90E-03 | 1.52E-02 | 2.73E-02 | 1.06E-03 | 4.13E-05 | 3.65E-04 | 3.36E-04 | 4.47E+00 | 1.81E-04 | 3.63E-05 |
| Boom Truck | Diesel | Construction Equipment | 450 | 3.11E+00 | 3.01E+00 | 4.62E-01 | 1.23E-02 | 1.12E-01 | 1.03E-01 | 1.33E+03 | 5.39E-02 | 1.08E-02 | 8.76E-02 | 8.47E-02 | 1.30E-02 | 3.45E-04 | 3.14E-03 | 2.89E-03 | 3.74E+01 | 1.52E-03 | 3.03E-04 |
| Crane-50T | Diesel | Construction Equipment | 384 | 4.00E+00 | 3.15E+00 | 3.95E-01 | 9.15E-03 | 1.61E-01 | 1.48E-01 | 9.90E+02 | 4.02E-02 | 8.03E-03 | 9.60E-02 | 7.57E-02 | 9.47E-03 | 2.19E-04 | 3.86E-03 | 3.55E-03 | 2.38E+01 | 9.64E-04 | 1.93E-04 |
| Excavator | Diesel | Construction Equipment | 260 | 8.45E-01 | 1.01E+00 | 1.00E-01 | 1.31E-03 | 2.87E-02 | 2.64E-02 | 1.42E+02 | 5.75E-03 | 1.15E-03 | 1.37E-02 | 1.65E-02 | 1.63E-03 | 2.12E-05 | 4.67E-04 | 4.30E-04 | 2.30E+00 | 9.34E-05 | 1.87E-05 |
| Backhoe | Diesel | Construction Equipment | 260 | 1.20E+00 | 1.92E+00 | 1.18E-01 | 2.68E-03 | 5.33E-02 | 4.90E-02 | 2.90E+02 | 1.18E-02 | 2.36E-03 | 1.95E-02 | 3.11E-02 | 1.92E-03 | 4.36E-05 | 8.65E-04 | 7.96E-04 | 4.72E+00 | 1.91E-04 | 3.83E-05 |
| Yardogs | Diesel | Construction Equipment | 260 | 3.11E+00 | 3.01E+00 | 4.62E-01 | 1.23E-02 | 1.12E-01 | 1.03E-01 | 1.33E+03 | 5.39E-02 | 1.08E-02 | 5.06E-02 | 4.89E-02 | 7.51E-03 | 2.00E-04 | 1.81E-03 | 1.67E-03 | 2.16E+01 | 8.77E-04 | 1.75E-04 |
| Pressure Washers | Diesel | Construction Equipment | 450 | 3.27E-01 | 2.43E-01 | 3.95E-02 | 6.36E-04 | 1.36E-02 | 1.26E-02 | 4.28E+01 | 1.74E-03 | 3.48E-04 | 9.20E-03 | 6.82E-03 | 1.11E-03 | 1.79E-05 | 3.84E-04 | 3.53E-04 | 1.21E+00 | 4.89E-05 | 9.78E-06 |
| Welders | Diesel | Construction Equipment | 450 | 1.38E+00 | 1.66E+00 | 1.95E-01 | 2.68E-03 | 4.77E-02 | 4.39E-02 | 2.07E+02 | 8.42E-03 | 1.68E-03 | 3.88E-02 | 4.68E-02 | 5.48E-03 | 7.54E-05 | 1.34E-03 | 1.24E-03 | 5.84E+00 | 2.37E-04 | 4.73E-05 |
| Manlift | Diesel | Construction Equipment | 384 | 7.26E-01 | 7.82E-01 | 3.99E-02 | 1.36E-03 | 5.44E-03 | 5.01E-03 | 1.48E+02 | 5.99E-03 | 1.20E-03 | 1.74E-02 | 1.88E-02 | 9.57E-04 | 3.27E-05 | 1.31E-04 | 1.20E-04 | 3.54E+00 | 1.44E-04 | 2.87E-05 |
| Air Compressors | Diesel | Construction Equipment | 800 | 2.42E+00 | 3.06E+00 | 3.64E-01 | 4.60E-03 | 8.50E-02 | 7.82E-02 | 3.56E+02 | 1.44E-02 | 2.89E-03 | 1.21E-01 | 1.53E-01 | 1.82E-02 | 2.30E-04 | 4.25E-03 | 3.91E-03 | 1.78E+01 | 7.22E-04 | 1.44E-04 |
| Carry Deck | Diesel | Construction Equipment | 200 | 4.00E+00 | 3.15E+00 | 3.95E-01 | 9.15E-03 | 1.61E-01 | 1.48E-01 | 9.90E+02 | 4.02E-02 | 8.03E-03 | 5.00E-02 | 3.94E-02 | 4.93E-03 | 1.14E-04 | 2.01E-03 | 1.85E-03 | 1.24E+01 | 5.02E-04 | 1.00E-04 |

hr/year = hour(s) per year
lbs/day = pound(s) per day
tpy = ton(s) per year
[a] Equipment and vehicle operations assume 8 hours per day
[b] Each of the site's two (2) air compressors are assumed to operate 800 hours per year.

## Elmore North Geothermal Project

**Elmore North Operational Emissions**
**Fire Pump Emission Data**
**April 2023**

| Engine Information | Value |
|---|---|
| Engine Rating (kW) | 236 |
| Annual Hours of Operations (hrs/yr) | 50 |
| Fuel Use (gal/hr) | 6 |
| Heat Input (MMBtu/hr) [a] | 0.8 |

kW = kilowatt
hrs/yr = hour(s) per year
gal/hr = gallon(s) per hour
MMBtu/hr = million British thermal unit(s) per hour
[a] Heat input for Fire Pump calculated based upon 1 horsepower = 2,544 Btu/hr.

**Criteria Pollutant Emissions**

| Pollutant | Emission Factor (g/kW-hr) | Basis | 1-Hour Emission Rate (lbs/hr) | Annual Emissons (tpy) | Annual Average Hourly Emissions (lbs/hr) |
|---|---|---|---|---|---|
| $NO_X$ Emissions | 3.4 | Vendor Data | 1.78E+00 | 4.46E-02 | 1.02E-02 |
| CO Emissions | 0.8 | Vendor Data | 4.16E-01 | 1.04E-02 | 2.38E-03 |
| $PM_{10}$ Emissions | 0.11 | Vendor Data | 5.72E-02 | 1.43E-03 | 3.27E-04 |
| $PM_{2.5}$ Emissions | 0.11 | Vendor Data | 5.72E-02 | 1.43E-03 | 3.27E-04 |
| $SO_x$ Emissions | 0.00001 | Calculated based upon 15 ppm USLD | 2.70E-06 | 6.76E-08 | 1.54E-08 |
| VOC Emissions | 0.09 | Vendor Data | 4.68E-02 | 1.17E-03 | 2.67E-04 |

g/kW-hr = gram(s) per kilowatt-hour
lbs/hr = pound(s) per hour
ppm = part(s) per million
tpy = ton(s) per year
USLD = Ultra low sulfur diesel

**Toxic Emissions**

| Pollutant | Emission Factor (lb/MMBTU) [a] | Fire Pump Emissions (lbs/yr) | Fire Pump Emissions (tpy) |
|---|---|---|---|
| Benzene | 9.33E-04 | 3.73E-02 | 1.87E-05 |
| Toluene | 4.09E-04 | 1.64E-02 | 8.18E-06 |
| Xylenes | 2.85E-04 | 1.14E-02 | 5.70E-06 |
| Formaldehyde | 1.18E-03 | 4.72E-02 | 2.36E-05 |
| 1,3-Butadiene | 3.91E-05 | 1.56E-03 | 7.82E-07 |
| Acetaldehyde | 7.67E-04 | 3.07E-02 | 1.53E-05 |
| Acrolein | 9.25E-05 | 3.70E-03 | 1.85E-06 |
| Naphthalene | 8.48E-05 | 3.39E-03 | 1.70E-06 |
| Propylene | 2.58E-03 | 1.03E-01 | 5.16E-05 |
| Acenaphthylene | 5.06E-06 | 2.02E-04 | 1.01E-07 |
| Acenaphthene | 1.42E-06 | 5.68E-05 | 2.84E-08 |
| Fluorene | 2.92E-05 | 1.17E-03 | 5.84E-07 |
| Phenanthrene | 2.94E-05 | 1.18E-03 | 5.88E-07 |
| Anthracene | 1.87E-06 | 7.48E-05 | 3.74E-08 |
| Fluoranthene | 7.61E-06 | 3.04E-04 | 1.52E-07 |
| Pyrene | 4.78E-06 | 1.91E-04 | 9.56E-08 |
| Benz(a)anthracene | 1.68E-06 | 6.72E-05 | 3.36E-08 |
| Chrysene | 3.53E-07 | 1.41E-05 | 7.06E-09 |
| Benzo(b)fluoranthene | 9.91E-08 | 3.96E-06 | 1.98E-09 |
| Benzo(k)fluoranthene | 1.55E-07 | 6.20E-06 | 3.10E-09 |
| Benzo(a)pyrene | 1.88E-07 | 7.52E-06 | 3.76E-09 |
| Indeno(1,2,3-cd)pyrene | 3.75E-07 | 1.50E-05 | 7.50E-09 |
| Dibenz(a,h)anthracene | 5.83E-07 | 2.33E-05 | 1.17E-08 |
| Benzo(g,h,l)perylene | 4.89E-07 | 1.96E-05 | 9.78E-09 |

lb/MMBtu = pound(s) per million British thermal unit
lbs/yr = pound(s) per year

tpy = ton(s) per year
[a] Toxic Emission Factors from EPA's *AP-42*, Section 3.3, Table 3.3-2 (EPA 1996).

| Stack Parameters | Value | Units |
|---|---|---|
| Stack Diameter | 0.50 | feet |
| Stack Diameter | 0.15 | meters |
| Stack Height | 10.92 | feet |
| Stack Height | 3.33 | meters |
| Stack Flow | 1400 | cubic feet per minute |
| Stack Flow | 39.66 | cubic meters per minute |
| Exit Velocity | 36.23 | meters per second |
| Stack Temperature | 961 | degrees Fahrenheit (°F) |
| Stack Temperature | 789.26 | degrees Kelvin (K) |

**GHG Emissions**

| Source Name | $CO_2$ Emissions (tpy) | $CH_4$ Emissions (tpy) | $N_2O$ Emissions (tpy) | $CO_2e$ Emissions (tpy) |
|---|---|---|---|---|
| Fire Pump | 3.26 | 1.32E-04 | 2.65E-05 | 3.27 |

tpy = ton(s) per year

| Diesel Fuel GHG Emission Factors and Conversions | | | Source |
|---|---|---|---|
| $CO_2$ | 73.96 | kg/MMBtu | 40 CFR 98.33, Table C-1 |
| $CH_4$ | 3.00E-03 | kg/MMBtu | 40 CFR 98.33, Table C-2 |
| $N_2O$ | 6.00E-04 | kg/MMBtu | 40 CFR 98.33, Table C-2 |
| Default HHV | 0.1380 | MMBtu/gal | 40 CFR 98.33, Table C-1 |
| Density of Distillate #2 | 7.05 | lbs/gallon | AP-42, Appendix A |
| Conversion | 1.1023 | ton/tonne | -- |
| Conversion | 0.0010 | tonne/kg | -- |

HHV = Higher Heating Value
kg/MMBtu = kilogram(s) per million British thermal unit
MMBtu/gal = million British thermal unit(s) per gallon
lbs = pound(s)
kg = kilogram(s)

| Global Warming Potentials (GWP) | | Source |
|---|---|---|
| GWP $CO_2$ = | 1 | 40 CFR 98 Subpart A, Table A-1 |
| GWP $CH_4$ = | 25 | 40 CFR 98 Subpart A, Table A-1 |
| GWP $N_2O$ = | 298 | 40 CFR 98 Subpart A, Table A-1 |

**Elmore North Geothermal Project**
**Elmore North Operational Emissions**
**Generator 1 Emission Data**
**April 2023**

| Engine Information | Value |
|---|---|
| Engine Rating (kW) | 2,700 |
| Engine Rating (HP) | 3,621 |
| Annual Hours of Operations (hrs/yr) | 50 |
| Fuel Use (gal/hr) | 175 |
| Heat Input (MMBtu/hr) | 24.1 |

kW = kilowatt(s)
HP = horsepower
hrs/yr = hour(s) per year
gal/hr = gallon(s) per hour
MMBtu/hr = million British thermal unit(s) per hour

**Criteria Pollutant Emissions**

| Pollutant | Emission Factor (g/kW-hr) | Basis | 1-Hour Emission Rate (lbs/hr) | Annual Emissons (tpy) | Annual Average Hourly Emissions (lbs/hr) |
|---|---|---|---|---|---|
| $NO_X$ Emissions | 0.67 | Applicant Provided Data | 4.0 | 0.10 | 0.023 |
| CO Emissions | 3.5 | Applicant Provided Data | 20.8 | 0.52 | 0.12 |
| $PM_{10}$ Emissions | 0.03 | Applicant Provided Data | 0.18 | 0.00 | 0.001 |
| $PM_{2.5}$ Emissions | 0.03 | Applicant Provided Data | 0.18 | 0.00 | 0.001 |
| $SO_x$ Emissions | 0.00001 | Calculated based upon 15 ppm ULSD | 8.14E-05 | 2.04E-06 | 4.65E-07 |
| VOC Emissions | 0.19 | Applicant Provided Data | 1.13 | 0.03 | 0.006 |

g/kW-hr = gram(s) per kilowatt-hour
lbs/hr = pound(s) per hour
ppm = part(s) per million
tpy = ton(s) per year
USLD = Ultra low sulfur diesel

**Toxic Emissions**

| Pollutant | Emission Factor (lb/MMBTU) [a] | Controlled Generator Emissions (lbs/yr) [b] | Controlled Generator Emissions (tpy) |
|---|---|---|---|
| Benzene | 7.76E-04 | 1.87E-01 | 9.35E-05 |
| Toluene | 2.81E-04 | 6.77E-02 | 3.39E-05 |
| Xylenes | 1.93E-04 | 4.65E-02 | 2.33E-05 |
| Formaldehyde | 7.89E-05 | 1.90E-02 | 9.51E-06 |
| Acetaldehyde | 2.52E-05 | 6.07E-03 | 3.04E-06 |
| Acrolein | 7.88E-06 | 1.90E-03 | 9.49E-07 |
| Naphthalene | 1.30E-04 | 3.13E-02 | 1.57E-05 |
| Propylene | 2.79E-03 | 6.72E-01 | 3.36E-04 |
| Ammonia | 5 ppm slip [c] | 1.39E+01 | 6.93E-03 |
| Acenaphthylene | 9.23E-06 | 2.22E-03 | 1.11E-06 |
| Acenaphthene | 4.68E-06 | 1.13E-03 | 5.64E-07 |
| Fluorene | 1.28E-05 | 3.08E-03 | 1.54E-06 |
| Phenanthrene | 4.08E-05 | 9.83E-03 | 4.92E-06 |
| Anthracene | 1.23E-06 | 2.96E-04 | 1.48E-07 |
| Fluoranthene | 4.03E-06 | 9.71E-04 | 4.86E-07 |
| Pyrene | 3.71E-06 | 8.94E-04 | 4.47E-07 |
| Benz(a)anthracene | 6.22E-07 | 1.50E-04 | 7.49E-08 |
| Chrysene | 1.53E-06 | 3.69E-04 | 1.84E-07 |
| Benzo(b)fluoranthene | 1.11E-06 | 2.67E-04 | 1.34E-07 |
| Benzo(k)fluoranthene | 2.18E-07 | 5.25E-05 | 2.63E-08 |
| Benzo(a)pyrene | 2.57E-07 | 6.19E-05 | 3.10E-08 |
| Indeno(1,2,3-cd)pyrene | 4.14E-07 | 9.98E-05 | 4.99E-08 |
| Dibenz(a,h)anthracene | 3.46E-07 | 8.34E-05 | 4.17E-08 |
| Benzo(g,h,l)perylene | 5.56E-07 | 1.34E-04 | 6.70E-08 |

lb/MMBtu = pound(s) per million British thermal unit
lbs/yr = pound(s) per year
tpy = ton(s) per year

[b] Control efficiencies use industry standard of 80% control of VOCs for Tier 4 engines.
[c] 5 ppm ammonia slip typical estimate for Selective Catalytic Reduction (SCR) systems.

[a] Toxic Emission Factors from EPA's *AP-42*, Section 3.4, Tables 3.4-3 and 3.4-4 (EPA 1996).

| Stack Parameters | Value | Units |
|---|---|---|
| Stack Diameter | 1.17 | feet |
| Stack Diameter | 0.36 | meters |
| Stack Height | 23.39 | feet |
| Stack Height | 7.13 | meters |
| Stack Flow | 19459 | cubic feet per minute |
| Stack Flow | 551.21 | cubic meters per minute |
| Exit Velocity | 92.50 | meters per second |
| Stack Temperature | 914 | °F |
| Stack Temperature | 763.15 | K |

**GHG Emissions**

| Source Name | $CO_2$ Emissions (tpy) | $CH_4$ Emissions (tpy) | $N_2O$ Emissions (tpy) | $CO_2e$ Emissions (tpy) |
|---|---|---|---|---|
| Generator 1 | 98.22 | 0.004 | 0.001 | 98.55 |

tpy = ton(s) per year

| Diesel Fuel GHG Emission Factors and Conversions | | | Source |
|---|---|---|---|
| $CO_2$ | 73.96 | kg/MMBtu | 40 CFR 98.33, Table C-1 |
| $CH_4$ | 3.00E-03 | kg/MMBtu | 40 CFR 98.33, Table C-2 |
| $N_2O$ | 6.00E-04 | kg/MMBtu | 40 CFR 98.33, Table C-2 |
| Default HHV | 0.1380 | MMBtu/gal | 40 CFR 98.33, Table C-1 |
| Density of Distillate #2 | 7.05 | lbs/gallon | AP-42, Appendix A |
| Conversion | 1.1023 | ton/tonne | -- |
| | 0.0010 | tonne/kg | -- |
| | 28.3168 | $L/ft^3$ | -- |
| Molar Volume of Air at STP | 22.4 | L/mol | -- |

HHV = Higher Heating Value
kg/MMBtu = kilogram(s) per million British thermal unit
MMBtu/gal = million British thermal unit(s) per gallon
lbs = pound(s)
kg = kilogram(s)
$L/ft^3$ = liter(s) per cubic foot
L = liter(s)

| Global Warming Potentials | | Source |
|---|---|---|
| GWP $CO_2$ = | 1 | 40 CFR 98 Subpart A, Table A-1 |
| GWP $CH_4$ = | 25 | 40 CFR 98 Subpart A, Table A-1 |
| GWP $N_2O$ = | 298 | 40 CFR 98 Subpart A, Table A-1 |

**Elmore North Geothermal Project**
**Elmore North Operational Emissions**
**Generator 2-5 Emission Data**
**April 2023**

| Engine Information | Value |
|---|---|
| Engine Rating (kW) | 3,490 |
| Engine Rating (HP) | 4,680 |
| Annual Hours of Operations (hrs/yr) | 50 |
| Fuel Use (gal/hr) | 219 |
| Heat Input (MMBtu/hr) | 30.2 |
| Generator Count | 4 |

kW = kilowatt
HP = horsepower
hrs/yr = hour(s) per year
gal/hr = gallon(s) per hour
MMBtu/hr = million British thermal unit(s) per hour

**Criteria Pollutant Emissions Per Generator**

| Pollutant | Emission Factor (g/kW-hr) | Basis | 1-Hour Emission Rate (lbs/hr) | Annual Emissons (tpy) | Annual Average Hourly Emissions (lbs/hr) |
|---|---|---|---|---|---|
| $NO_X$ Emissions | 0.67 | Applicant Provided Data | 5.2 | 0.13 | 0.029 |
| CO Emissions | 3.5 | Applicant Provided Data | 26.9 | 0.67 | 0.15 |
| $PM_{10}$ Emissions | 0.03 | Applicant Provided Data | 0.23 | 0.01 | 0.001 |
| $PM_{2.5}$ Emissions | 0.03 | Applicant Provided Data | 0.23 | 0.01 | 0.001 |
| $SO_x$ Emissions | 0.000002 | Calculated based upon 15 ppm ULSD | 1.41E-05 | 3.53E-07 | 8.05E-08 |
| VOC Emissions | 0.19 | Applicant Provided Data | 1.46 | 0.04 | 0.008 |

g/kW-hr = gram(s) per kilowatt-hour
lbs/hr = pound(s) per hour
ppm = part(s) per million
tpy = ton(s) per year
USLD = Ultra low sulfur diesel

**Toxic Emissions Per Generator**

| Pollutant | Emission Factor (lb/MMBTU) [a] | Controlled Generator Emissions (lbs/yr) [b] | Controlled Generator Emissions (tpy) |
|---|---|---|---|
| Benzene | 7.76E-04 | 2.35E-01 | 1.17E-04 |
| Toluene | 2.81E-04 | 8.50E-02 | 4.25E-05 |
| Xylenes | 1.93E-04 | 5.84E-02 | 2.92E-05 |
| Formaldehyde | 7.89E-05 | 2.39E-02 | 1.19E-05 |
| Acetaldehyde | 2.52E-05 | 7.62E-03 | 3.81E-06 |
| Acrolein | 7.88E-06 | 2.38E-03 | 1.19E-06 |
| Naphthalene | 1.30E-04 | 3.93E-02 | 1.97E-05 |
| Propylene | 2.79E-03 | 8.44E-01 | 4.22E-04 |
| Ammonia | 5 ppm slip [c] | 1.69E+01 | 8.44E-03 |
| Acenaphthylene | 9.23E-06 | 2.79E-03 | 1.40E-06 |
| Acenaphthene | 4.68E-06 | 1.42E-03 | 7.08E-07 |
| Fluorene | 1.28E-05 | 3.87E-03 | 1.94E-06 |
| Phenanthrene | 4.08E-05 | 1.23E-02 | 6.17E-06 |
| Anthracene | 1.23E-06 | 3.72E-04 | 1.86E-07 |
| Fluoranthene | 4.03E-06 | 1.22E-03 | 6.10E-07 |
| Pyrene | 3.71E-06 | 1.12E-03 | 5.61E-07 |
| Benz(a)anthracene | 6.22E-07 | 1.88E-04 | 9.41E-08 |
| Chrysene | 1.53E-06 | 4.63E-04 | 2.31E-07 |
| Benzo(b)fluoranthene | 1.11E-06 | 3.36E-04 | 1.68E-07 |
| Benzo(k)fluoranthene | 2.18E-07 | 6.59E-05 | 3.30E-08 |
| Benzo(a)pyrene | 2.57E-07 | 7.77E-05 | 3.89E-08 |
| Indeno(1,2,3-cd)pyrene | 4.14E-07 | 1.25E-04 | 6.26E-08 |
| Dibenz(a,h)anthracene | 3.46E-07 | 1.05E-04 | 5.23E-08 |
| Benzo(g,h,l)perylene | 5.56E-07 | 1.68E-04 | 8.41E-08 |

lb/MMBtu = pound(s) per million British thermal unit
lbs/yr = pound(s) per year

[a] Toxic Emission Factors from EPA's *AP-42*, Section 3.4, Tables 3.4-3 and 3.4-4 (EPA 1996)
[b] Control efficiencies use industry standard of 80% control of VOCs for Tier 4 engines.

tpy = ton(s) per year

[c] 5 ppm ammonia slip typical estimate for SCR systems.

| Stack Parameters | Value | Units |
|---|---|---|
| Stack Diameter | 1.17 | feet |
| Stack Diameter | 0.36 | meters |
| Stack Height | 23.54 | feet |
| Stack Height | 7.17 | meters |
| Stack Flow | 23,696 | cubic feet per minute |
| Stack Flow | 671.23 | cubic meters per minute |
| Exit Velocity | 112.64 | meters per second |
| Stack Temperature | 887 | °F |
| Stack Temperature | 748.15 | K |

**GHG Emissions Per Generator**

| Source Name | $CO_2$ Emissions (tpy) | $CH_4$ Emissions (tpy) | $N_2O$ Emissions (tpy) | $CO_2e$ Emissions (tpy) |
|---|---|---|---|---|
| Generator 2-4 | 123.31 | 0.005 | 0.001 | 123.73 |

tpy = ton(s) per year

| Diesel Fuel GHG Emission Factors and Conversions | | | Source |
|---|---|---|---|
| $CO_2$ | 73.96 | kg/MMBtu | 40 CFR 98.33, Table C-1 |
| $CH_4$ | 3.00E-03 | kg/MMBtu | 40 CFR 98.33, Table C-2 |
| $N_2O$ | 6.00E-04 | kg/MMBtu | 40 CFR 98.33, Table C-2 |
| Default HHV | 0.1380 | MMBtu/gal | 40 CFR 98.33, Table C-1 |
| Density of Distillate #2 | 7.05 | lbs/gallon | AP-42, Appendix A |
| Conversion | 1.1023 | ton/tonne | -- |
| | 0.0010 | tonne/kg | -- |
| | 28.3168 | $L/ft^3$ | -- |
| Molar Volume of Air at STP | 22.4 | L/mol | -- |

HHV = Higher Heating Value
kg/MMBtu = kilogram(s) per million British thermal unit
MMBtu/gal = million British thermal unit(s) per gallon
lbs = pound(s)
kg = kilogram(s)
$L/ft^3$ = liter(s) per cubic foot
L = liter(s)

| Global Warming Potentials | | Source |
|---|---|---|
| GWP $CO_2$ = | 1 | 40 CFR 98 Subpart A, Table A-1 |
| GWP $CH_4$ = | 25 | 40 CFR 98 Subpart A, Table A-1 |
| GWP $N_2O$ = | 298 | 40 CFR 98 Subpart A, Table A-1 |

**Elmore North Geothermal Project**
**Elmore North Operational Emissions**
**Insulating Gas Emissions**
**April 2023**

| Engine Information | Value |
|---|---|
| Insulating Gas Used in Equipment | Sulfur Hexafluoride |
| Mass of Insulating Gas Used (lbs) | 300 |
| Gas Global Warming Potential [a] | 22,800 |
| $CO_2e$ System Capacity (Metric Tons) [b] | 3,054 |
| Assumed Annual Emissions (Metric Tons/Year) | 61.07 |

lbs = pound(s)

[a] Global Warming Potential from 40 CFR Part 98, Table A-1

[b] Estimated leak rate based upon Califonia Regulation for Reducing Greenhouse Gas Emissions from Gas-Insulated Equipment (17 CCR 95353, Tables 4 and 5) for data years through 2034.

## Elmore North Geothermal Project

**Elmore North Operational Emissions**
**O&M Equipment Emission Factors**
**April 2023**

### O&M Equipment Emission Factor Data

| Equipment Type | Fuel | Horsepower [a] | Load Factor [a] | CalEEMOD Equipment Category | Equipment Exhaust Emission Factors (g/hp-hr) [b,c] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CO | VOC | $NO_X$ | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
| Crane-50T | Diesel | 367 | 0.29 | Cranes | 1.68E+00 | 2.10E-01 | 2.13E+00 | 4.87E-03 | 8.57E-02 | 7.89E-02 | 5.28E+02 | 2.14E-02 | 4.28E-03 |
| Water Truck | Diesel | 376 | 0.38 | Off-Highway Trucks | 1.19E+00 | 1.83E-01 | 1.24E+00 | 4.87E-03 | 4.43E-02 | 4.08E-02 | 5.28E+02 | 2.14E-02 | 4.28E-03 |
| Dump Truck | Diesel | 376 | 0.38 | Off-Highway Trucks | 1.19E+00 | 1.83E-01 | 1.24E+00 | 4.87E-03 | 4.43E-02 | 4.08E-02 | 5.28E+02 | 2.14E-02 | 4.28E-03 |
| Excavator | Diesel | 36 | 0.38 | Excavators | 4.20E+00 | 4.15E-01 | 3.50E+00 | 5.42E-03 | 1.19E-01 | 1.10E-01 | 5.87E+02 | 2.38E-02 | 4.76E-03 |
| Backhoe | Diesel | 84 | 0.37 | Tractors/Loaders /Backhoes | 3.49E+00 | 2.15E-01 | 2.19E+00 | 4.89E-03 | 9.72E-02 | 8.94E-02 | 5.30E+02 | 2.15E-02 | 4.30E-03 |
| Yardogs | Diesel | 376 | 0.38 | Off-Highway Trucks | 1.19E+00 | 1.83E-01 | 1.24E+00 | 4.87E-03 | 4.43E-02 | 4.08E-02 | 5.28E+02 | 2.14E-02 | 4.28E-03 |
| Pressure washers | Diesel | 14 | 0.3 | Pressure Washers | 3.28E+00 | 5.34E-01 | 4.41E+00 | 8.58E-03 | 1.84E-01 | 1.69E-01 | 5.78E+02 | 2.35E-02 | 4.69E-03 |
| Welders | Diesel | 46 | 0.45 | Welders | 4.56E+00 | 5.34E-01 | 3.78E+00 | 7.35E-03 | 1.31E-01 | 1.20E-01 | 5.68E+02 | 2.31E-02 | 4.61E-03 |
| Forklift | Diesel | 96 | 0.4 | Rough Terrain Forklifts | 3.22E+00 | 1.25E-01 | 1.79E+00 | 4.88E-03 | 4.31E-02 | 3.97E-02 | 5.29E+02 | 2.14E-02 | 4.29E-03 |
| Boom Truck | Diesel | 376 | 0.38 | Off-Highway Trucks | 1.19E+00 | 1.83E-01 | 1.24E+00 | 4.87E-03 | 4.43E-02 | 4.08E-02 | 5.28E+02 | 2.14E-02 | 4.28E-03 |
| Carry Deck | Diesel | 367 | 0.29 | Cranes | 1.68E+00 | 2.10E-01 | 2.13E+00 | 4.87E-03 | 8.57E-02 | 7.89E-02 | 5.28E+02 | 2.14E-02 | 4.28E-03 |
| Air Compressors | Diesel | 37 | 0.48 | Air Compressors | 4.88E+00 | 5.81E-01 | 3.86E+00 | 7.35E-03 | 1.36E-01 | 1.25E-01 | 5.68E+02 | 2.31E-02 | 4.61E-03 |
| Manlift | Diesel | 46 | 0.31 | Aerial Lifts | 3.11E+00 | 1.58E-01 | 2.89E+00 | 5.42E-03 | 2.16E-02 | 1.99E-02 | 5.87E+02 | 2.38E-02 | 4.76E-03 |

g/hp-hr = gram(s) per horsepower hour

[a] Construction equipment horsepower and load factor taken from Table G-12 of Appendix G of the *CalEEMod User's Guide* (ICF 2022).

[b] Construction equipment emission factors taken from Table G-11 of Appendix G of the *CalEEMod User's Guide* (ICF 2022).

[c] Based on the preliminary construction schedule, construction is expected to begin in 2024. Despite operations occuring later than construction, 2024 emission factors were used for all calculations to provide a more conservative emissions estimate.

## Elmore North Geothermal Project

**Elmore North Operational Emissions**
**O&M Vehicle Emission Factors**
**April 2023**

**Vehicle Exhaust Emission Factors**

| Vehicle Type | Location of Vehicle Operation [a] | Vehicle Class [b] | 2024 Exhaust Emission Factors (g/mile) [c, d] | | | | | | | | | Paved Road Fugitive Dust Emission Factors (g/mile) [e] | | Unpaved Road Fugitive Dust Emission Factors (g/mile) [e] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CO | VOC | $SO_2$ | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $PM_{10}$ | $PM_{2.5}$ | $PM_{10}$ | $PM_{2.5}$ |
| Pickup Truck | Onsite, Offsite | Light-duty truck | 3.313 | 0.055 | 0.004 | 0.213 | 0.018 | 0.008 | 375.110 | 0.014 | 0.001 | 0.299 | 0.075 | 658.809 | 65.743 |
| Haul Trucks | Offsite | Heavy-duty Diesel | 0.092 | 0.010 | 0.013 | 1.213 | 0.102 | 0.042 | 1,404.258 | 0.000 | 0.003 | 0.299 | 0.075 | N/A | N/A |

g/mile = gram(s) per mile
[a] Offsite vehicle emissions occur as a result of roadway travel.
[b] The vehicle classes are represented as follows:
Light-duty Truck: Assumed to be 50% LDT1 Gas and 50% LDT2 Gas values, based on an understanding of the vehicle type.
Heavy-duty Diesel: Assumed to be 100% HHDT DSL values, per Section 4.6.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).
[c] Exhaust and idling emission factors from EMFAC2021 for Imperial County, calendar year 2024. A speed of 40 mph was assumed for all vehicles. An average temperature of 78°F and humidity of 40% were used per Table B-1 of *CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions* (UC Davis 2007).
[d] Although operation will occur after 2026, 2024 emission factors and fuel economy were used, as appropriate, to provide a more conservative emissions estimate.
[e] Paved and unpaved road emission factors calculated using CalEEMod methodology, as described below assuming no emission controls. The unpaved road fugitive dust emission factors only apply to onsite vehicle travel on unpaved roads.

**Derivation of Paved Road Emission Factors**
**Vehicles on Paved Roads**

| Parameter | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|
| Average Weight [a] | 2.4 | 2.4 |
| k [a] | 1.0 | 0.25 |
| sL [a] | 0.1 | 0.1 |
| P [b] | 5.0 | 5.0 |
| **Emission Factor (g/mile) [c]** | 0.299 | 0.075 |

g/mile = gram(s) per mile
[a] Average Weight, k, and sL taken as the CalEEMod statewide defaults from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).
[b] P taken as the CalEEMod default value for the Imperial County Airport from Table G-2 of Appendix G of the *CalEEMod User's Guide* (ICF 2022).
[c] Emission factor calculated using the following equation from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):
Emission Factor (g/mile) = k (g/mile) x $[sL\ (g/m^2)]^{0.91}$ x $[\text{Average Weight (tons)}]^{1.02}$ x (1 - P (days) / [4 x 365 days])

**Fugitive Dust Emission Factors for Unpaved Roads**
**Vehicles on Unpaved Surfaces at Industrial Sites**

| Parameter | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|
| k [a] | 1.80 | 0.18 |
| s [a] | 8.5 | 8.5 |
| M [a] | 0.5 | 0.5 |
| S [a] | 40 | 40 |
| C [b] | 0.00047 | 0.00036 |
| P [c] | 5 | 5 |
| **Emission Factor (lb/mile) [d]** | 1.452 | 0.145 |

lb/mile = pound(s) per mile
[a] k, s, M, and S are taken as the CalEEMod default values from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022); k was converted from g to lbs.
[b] C taken as the default values from Table 13.2.2-4 of *AP-42* (EPA 2006), per Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).
[c] P taken as the CalEEMod default value for the Imperial County Airport from Table G-2 of Appendix G of the *CalEEMod User's Guide* (ICF 2022).
[d] Emission factor calculated using the following equation from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):
Emission Factor (lb/mile) = ({[k (lb/mile) x (s (%) / 12) x $(S\ (mph) / 30)^{0.5}$] / $[M\ (\%) / 0.5]^{0.2}$} - C (lb/mile)) x (1 - P (days) / 365 days)

# Appendix 5.1B
# Operational Air Quality Impacts Analysis

## Elmore North Geothermal Project

**Elmore North Operational Air Quality Impacts Analysis**

**Source Parameters**

**April 2023**

**Elmore North Operational Modeled Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| CT1 | POINT | DEFAULT | Cooling Tower 1 | 630,402.12 | 3,672,170.77 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT2 | POINT | DEFAULT | Cooling Tower 2 | 630,413.15 | 3,672,159.98 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT3 | POINT | DEFAULT | Cooling Tower 3 | 630,424.17 | 3,672,149.81 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT4 | POINT | DEFAULT | Cooling Tower 4 | 630,435.10 | 3,672,138.91 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT5 | POINT | DEFAULT | Cooling Tower 5 | 630,446.02 | 3,672,128.65 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT6 | POINT | DEFAULT | Cooling Tower 6 | 630,456.94 | 3,672,117.96 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT7 | POINT | DEFAULT | Cooling Tower 7 | 630,467.86 | 3,672,107.58 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT8 | POINT | DEFAULT | Cooling Tower 8 | 630,510.87 | 3,672,205.27 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT9 | POINT | DEFAULT | Cooling Tower 9 | 630,521.90 | 3,672,194.69 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT10 | POINT | DEFAULT | Cooling Tower 10 | 630,532.92 | 3,672,184.32 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT11 | POINT | DEFAULT | Cooling Tower 11 | 630,543.84 | 3,672,173.84 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT12 | POINT | DEFAULT | Cooling Tower 12 | 630,554.66 | 3,672,163.04 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT13 | POINT | DEFAULT | Cooling Tower 13 | 630,565.69 | 3,672,152.56 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| CT14 | POINT | DEFAULT | Cooling Tower 14 | 630,576.61 | 3,672,142.19 | -68.58 | 12.98 | 311.76 | 7.91 | 10.63 |
| PTU_1 | POINT | DEFAULT | PTU with Warm-up AFT | 630,206.07 | 3,672,337.22 | -68.58 | 18.29 | 373.15 | 6.72 | 2.24 |
| PTU_2 | POINT | DEFAULT | PTU with Warm-up AFT | 630,216.85 | 3,672,337.25 | -68.58 | 18.29 | 373.15 | 6.72 | 2.24 |
| FPUMP | POINT | DEFAULT | Fire Water Pump | 630,588.13 | 3,672,252.14 | -68.58 | 4.60 | 665.00 | 53.30 | 0.15 |
| G2_1 | POINT | DEFAULT | Generator 2 (3.49 MW) Stack 1 | 630,348.70 | 3,672,065.53 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G2_2 | POINT | DEFAULT | Generator 2 (3.49 MW) Stack 2 | 630,348.70 | 3,672,067.41 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G2_3 | POINT | DEFAULT | Generator 2 (3.49 MW) Stack 3 | 630,348.70 | 3,672,069.29 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G3_1 | POINT | DEFAULT | Generator 3 (3.49 MW) Stack 1 | 630,348.79 | 3,672,058.17 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G3_2 | POINT | DEFAULT | Generator 3 (3.49 MW) Stack 2 | 630,348.79 | 3,672,060.05 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G3_3 | POINT | DEFAULT | Generator 3 (3.49 MW) Stack 3 | 630,348.79 | 3,672,061.93 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G4_1 | POINT | DEFAULT | Generator 4 (3.49 MW) Stack 1 | 630,348.78 | 3,672,051.23 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G4_2 | POINT | DEFAULT | Generator 4 (3.49 MW) Stack 2 | 630,348.78 | 3,672,053.11 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G4_3 | POINT | DEFAULT | Generator 4 (3.49 MW) Stack 3 | 630,348.78 | 3,672,054.99 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G5_1 | POINT | DEFAULT | Generator 5 (3.49 MW) Stack 1 | 630,348.77 | 3,672,044.28 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G5_2 | POINT | DEFAULT | Generator 5 (3.49 MW) Stack 2 | 630,348.77 | 3,672,046.16 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G5_3 | POINT | DEFAULT | Generator 5 (3.49 MW) Stack 3 | 630,348.77 | 3,672,048.04 | -68.58 | 6.26 | 748.15 | 46.36 | 0.32 |
| G1_1 | POINT | DEFAULT | Generator 1 (2.7 MW) Stack 1 | 630,523.09 | 3,672,287.71 | -68.58 | 6.22 | 763.15 | 38.08 | 0.32 |
| G1_2 | POINT | DEFAULT | Generator 1 (2.7 MW) Stack 2 | 630,523.09 | 3,672,289.59 | -68.58 | 6.22 | 763.15 | 38.08 | 0.32 |
| G1_3 | POINT | DEFAULT | Generator 1 (2.7 MW) Stack 3 | 630,523.09 | 3,672,291.47 | -68.58 | 6.22 | 763.15 | 38.08 | 0.32 |
| RMP | POINT | DEFAULT | Rock Muffler | 630,421.44 | 3,672,208.12 | -68.58 | 7.32 | 402.00 | 4.33 | 9.29 |

Note: Coordinates presented are UTM NAD83 Zone 11

m = meter(s)

K = Kelvin

m/s = meter(s) per second

**Elmore North Geothermal Project**

**Elnore North Operational Air Quality Impacts Analysis**

**Source Emission Rates**

**April 2023**

**Elmore North Operational Modeled Source Emission Rates**

| Source ID | Source Type | Stack Release Type | Source Description | H2S (g/s) | CO (g/s) | CO8 (g/s) | NO2 (g/s) | NO2A (g/s) | PM25 (g/s) | PM25A (g/s) | PM10 (g/s) | PM10A (g/s) | SO2 (g/s) | SO23 (g/s) | SO24 (g/s) | SO2A (g/s) | NO2C (g/s) | HNO3 (g/s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CT1 | POINT | DEFAULT | Cooling Tower 1 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT2 | POINT | DEFAULT | Cooling Tower 2 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT3 | POINT | DEFAULT | Cooling Tower 3 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT4 | POINT | DEFAULT | Cooling Tower 4 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT5 | POINT | DEFAULT | Cooling Tower 5 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT6 | POINT | DEFAULT | Cooling Tower 6 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT7 | POINT | DEFAULT | Cooling Tower 7 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT8 | POINT | DEFAULT | Cooling Tower 8 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT9 | POINT | DEFAULT | Cooling Tower 9 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT10 | POINT | DEFAULT | Cooling Tower 10 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT11 | POINT | DEFAULT | Cooling Tower 11 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT12 | POINT | DEFAULT | Cooling Tower 12 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT13 | POINT | DEFAULT | Cooling Tower 13 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| CT14 | POINT | DEFAULT | Cooling Tower 14 | 4.94E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.95E-02 | 1.95E-02 | 3.26E-02 | 3.26E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+02 |
| PTU_1 | POINT | DEFAULT | PTU with Warm-up AFT | 1.56E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.04E-02 |
| PTU_2 | POINT | DEFAULT | PTU with Warm-up AFT | 1.56E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.04E-02 |
| FPUMP | POINT | DEFAULT | Fire Water Pump | 0.00E+00 | 5.24E-02 | 6.55E-03 | 1.29E-03 | 1.29E-03 | 3.00E-04 | 4.12E-05 | 3.00E-04 | 4.12E-05 | 3.40E-07 | 1.14E-07 | 1.42E-08 | 1.94E-09 | 2.24E-01 | 3.78E-02 |
| G2_1 | POINT | DEFAULT | Generator 2 (3.49 MW) Stack 1 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G2_2 | POINT | DEFAULT | Generator 2 (3.49 MW) Stack 2 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G2_3 | POINT | DEFAULT | Generator 2 (3.49 MW) Stack 3 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G3_1 | POINT | DEFAULT | Generator 3 (3.49 MW) Stack 1 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G3_2 | POINT | DEFAULT | Generator 3 (3.49 MW) Stack 2 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G3_3 | POINT | DEFAULT | Generator 3 (3.49 MW) Stack 3 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G4_1 | POINT | DEFAULT | Generator 4 (3.49 MW) Stack 1 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G4_2 | POINT | DEFAULT | Generator 4 (3.49 MW) Stack 2 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G4_3 | POINT | DEFAULT | Generator 4 (3.49 MW) Stack 3 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G5_1 | POINT | DEFAULT | Generator 5 (3.49 MW) Stack 1 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G5_2 | POINT | DEFAULT | Generator 5 (3.49 MW) Stack 2 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G5_3 | POINT | DEFAULT | Generator 5 (3.49 MW) Stack 3 | 0.00E+00 | 1.13E+00 | 1.41E-01 | 1.24E-03 | 1.24E-03 | 8.08E-04 | 5.53E-05 | 8.08E-04 | 5.53E-05 | 5.92E-07 | 1.98E-07 | 4.94E-08 | 3.38E-09 | 2.17E-01 | 4.06E-02 |
| G1_1 | POINT | DEFAULT | Generator 1 (2.7 MW) Stack 1 | 0.00E+00 | 8.74E-01 | 1.09E-01 | 9.56E-04 | 9.56E-04 | 6.25E-04 | 4.28E-05 | 6.25E-04 | 4.28E-05 | 3.41E-06 | 1.14E-06 | 2.85E-07 | 1.95E-08 | 1.68E-01 | 3.16E-02 |
| G1_2 | POINT | DEFAULT | Generator 1 (2.7 MW) Stack 2 | 0.00E+00 | 8.74E-01 | 1.09E-01 | 9.56E-04 | 9.56E-04 | 6.25E-04 | 4.28E-05 | 6.25E-04 | 4.28E-05 | 3.41E-06 | 1.14E-06 | 2.85E-07 | 1.95E-08 | 1.68E-01 | 3.16E-02 |
| G1_3 | POINT | DEFAULT | Generator 1 (2.7 MW) Stack 3 | 0.00E+00 | 8.74E-01 | 1.09E-01 | 9.56E-04 | 9.56E-04 | 6.25E-04 | 4.28E-05 | 6.25E-04 | 4.28E-05 | 3.41E-06 | 1.14E-06 | 2.85E-07 | 1.95E-08 | 1.68E-01 | 3.16E-02 |
| RMP | POINT | DEFAULT | Rock Muffler | 1.92E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E+00 |

Notes:

Emission rates were derived from Appendix 5.1A, Operational Emissions Inventory, based on the following:

Short-term emissions from cooling tower operation exclude non-routine operations. Short-term emissions from all other emission sources assume the worst-case operating hour.

Annual emissions from all emission sources represent the maximum of a routine operation year with or without startups, shutdowns, and emission control downtime (i.e., excluding a commissioning year).

Cooling tower emission rates represent the sum of cooling tower and sparger emissions as both vent from the cooling tower.

24-hour emission rates from the diesel fire water pump and diesel-fired emergency generators assume 1 hour per day and 2 hours per day, respectively.

For the 1-hour $NO_2$ standard, the diesel-fired emergency generators and diesel fire water pump were modeled using an average annual hourly emission rate based on EPA's guidance for intermittent source operations.

$HNO_3$ emissions for nitrogen deposition assume all nitrogen emitted in the form of $NO_X$ and $NH_3$ converts to $HNO_3$ in the atmosphere.

Descriptions of pollutant IDs and their associated averaging periods are as follows:

H2S emission rates correspond to the 1-hour $H_2S$ averaging period.

CO emission rates correspond to the 1-hour CO averaging period.

CO8 emission rates correspond to the 8-hour CO averaging period.

NO2 emission rates correspond to the 1-hour $NO_2$ averaging period.

NO2A emission rates correspond to the Annual $NO_2$ averaging period.

PM25 emission rates correspond to the 24-hour $PM_{2.5}$ averaging period.

PM25A emission rates correspond to the Annual $PM_{2.5}$ averaging period.

PM10 emission rates correspond to the 24-hour $PM_{10}$ averaging period.

PM10A emission rates correspond to the Annual $PM_{10}$ averaging period.

SO2 emission rates correspond to the 1-hour $SO_2$ averaging period.

SO23 emission rates correspond to the 3-hour $SO_2$ averaging period.

SO24 emission rates correspond to the 24-hour $SO_2$ averaging period.

SO2A emission rates correspond to the Annual $SO_2$ averaging period.

NO2C emission rates correspond to the 1-Hour $NO_2$ averaging period for the CAAQS analysis.

HNO3 emission rates correspond to the Annual $HNO_3$ averaging period for nitrogen deposition.

g/s = gram(s) per second

## Elmore North Geothermal Project

**Elmore North Operational Air Quality Impacts Analysis**

**Building Data**

**April 2023**

**Elmore North Operational Modeled Building Data**

| Building Name | Number of Tiers | Tier Number | Note | Base Elevation (ft) | Tier Height (ft) | Number of Corners | Corner 1 East (X) (m) | Corner 1 North (Y) (m) | Corner 2 East (X) (m) | Corner 2 North (Y) (m) | Corner 3 East (X) (m) | Corner 3 North (Y) (m) | Corner 4 East (X) (m) | Corner 4 North (Y) (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLD1 | 1.00 | 1.00 | Cooling Tower Bldg | -225.00 | 37.60 | 4.00 | 630,389.07 | 3,672,170.47 | 630,402.10 | 3,672,183.79 | 630,479.91 | 3,672,108.84 | 630,466.98 | 3,672,095.62 |
| BLD2 | 1.00 | 1.00 | Maintenance Bldg | -225.00 | 30.00 | 4.00 | 630,408.93 | 3,672,061.45 | 630,454.65 | 3,672,061.45 | 630,454.65 | 3,672,030.97 | 630,408.93 | 3,672,030.97 |
| BLD3 | 1.00 | 1.00 | Control Bldg | -225.00 | 20.00 | 4.00 | 630,382.94 | 3,672,320.66 | 630,425.85 | 3,672,320.66 | 630,425.85 | 3,672,296.62 | 630,382.94 | 3,672,296.62 |
| BLD4 | 1.00 | 1.00 | Cooling Tower Bldg | -225.00 | 37.60 | 4.00 | 630,497.62 | 3,672,204.99 | 630,510.87 | 3,672,218.21 | 630,588.61 | 3,672,143.30 | 630,575.78 | 3,672,130.08 |
| G2_B | 1.00 | 1.00 | Gen 2 Enc | -225.00 | 14.10 | 4.00 | 630,345.10 | 3,672,065.53 | 630,345.10 | 3,672,069.29 | 630,361.40 | 3,672,069.29 | 630,361.40 | 3,672,065.53 |
| G3_B | 1.00 | 1.00 | Gen 3 Enc | -225.00 | 14.10 | 4.00 | 630,345.19 | 3,672,058.17 | 630,345.19 | 3,672,061.93 | 630,361.49 | 3,672,061.93 | 630,361.49 | 3,672,058.17 |
| G4_B | 1.00 | 1.00 | Gen 4 Enc | -225.00 | 14.10 | 4.00 | 630,345.18 | 3,672,051.23 | 630,345.18 | 3,672,054.99 | 630,361.48 | 3,672,054.99 | 630,361.48 | 3,672,051.23 |
| G5_B | 1.00 | 1.00 | Gen 5 Enc | -225.00 | 14.10 | 4.00 | 630,345.17 | 3,672,044.28 | 630,345.17 | 3,672,048.04 | 630,361.47 | 3,672,048.04 | 630,361.47 | 3,672,044.28 |
| G1_B | 1.00 | 1.00 | Gen 1 Enc | -225.00 | 14.10 | 4.00 | 630,519.49 | 3,672,287.71 | 630,519.49 | 3,672,291.47 | 630,535.79 | 3,672,291.47 | 630,535.79 | 3,672,287.71 |
| FPUMP_B | 1.00 | 1.00 | FP Enc | -225.00 | 10.00 | 4.00 | 630,585.68 | 3,672,251.58 | 630,585.68 | 3,672,252.70 | 630,590.58 | 3,672,252.70 | 630,590.58 | 3,672,251.58 |
| RM_B | 1.00 | 1.00 | RM Enc | -225.00 | 24.00 | 4.00 | 630,417.33 | 3,672,204.01 | 630,417.33 | 3,672,212.24 | 630,425.55 | 3,672,212.24 | 630,425.55 | 3,672,204.01 |

Note: Coordinates presented are UTM NAD83 Zone 11

ft = feet

m = meter(s)

## Elmore North Geothermal Project

**Elmore North Operational Air Quality Impacts Analysis**

**Tank Data**

**April 2023**

**Elmore North Operational Modeled Tank Data**

| Tank Name | Notes | Base Elevation (ft) | Center East (X) (m) | Center North (Y) (m) | Tank Height (ft) | Tank Diameter (ft) |
|---|---|---|---|---|---|---|
| Tank1 | TK-2801 THICKENER | -225.00 | 630,306.73 | 3,672,090.43 | 51.00 | 75.00 |
| Tank2 | TK-2601 SEC. CLARIFIER 150-0 DIA. | -225.00 | 630,329.26 | 3,672,152.23 | 51.00 | 150.00 |
| Tank3 | TK-2501 PRIM. CLARIFIER 160-0 DIA. | -225.00 | 630,329.52 | 3,672,211.67 | 53.00 | 160.00 |

Note: Coordinates presented are UTM NAD83 Zone 11

ft = feet

m = meter(s)

# Appendix 5.1C
# Air Dispersion Modeling Protocol

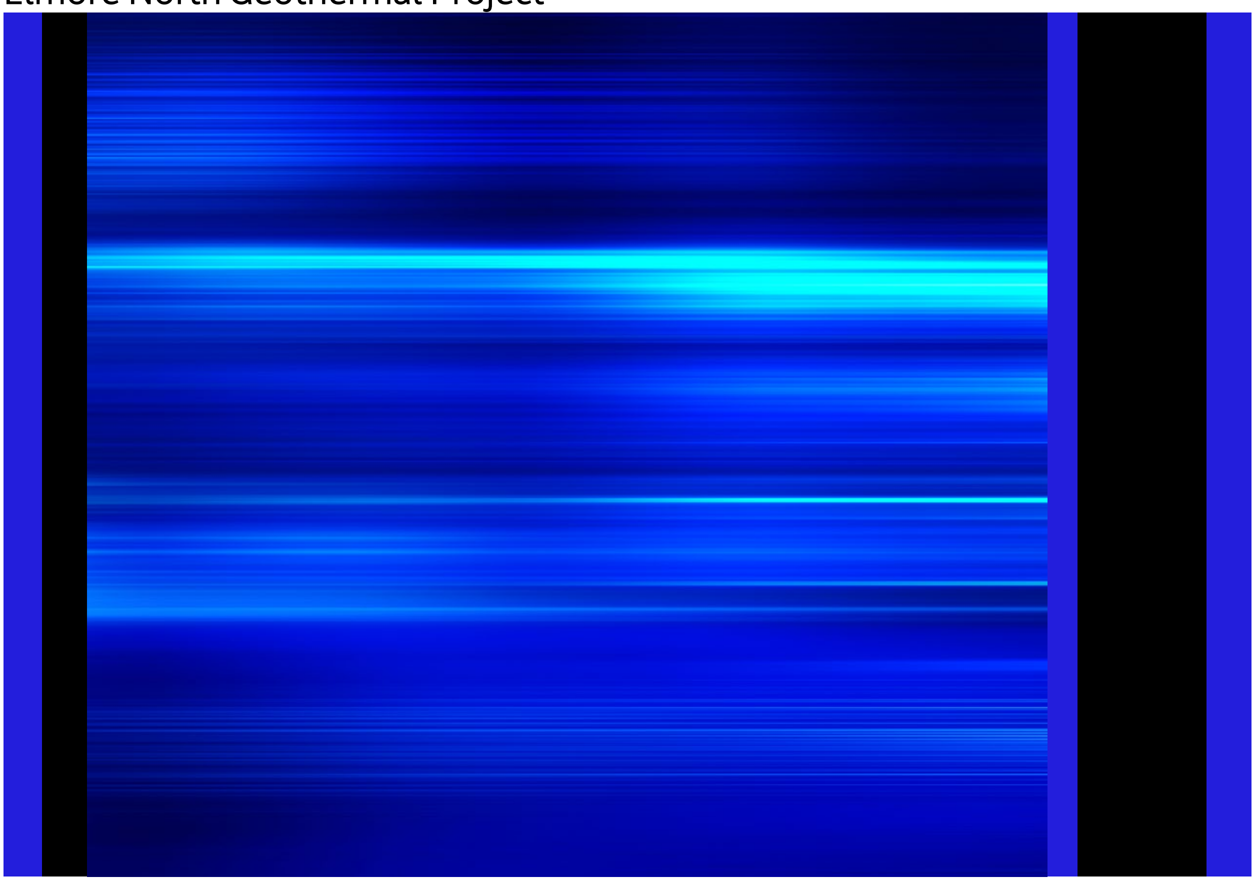
# Air Dispersion Modeling Protocol for Elmore North Geothermal Project

Document No: PPS1116221558SDO
Revision No: 0

BHE Renewables, LLC

Salton Sea Geothermal Project
Development

Elmore North Geothermal Project



# Contents

## Tables



## Figures

# Acronyms and Abbreviations

| | |
|---|---|
| $\mu g/m^3$ | microgram(s) per cubic meter |
| AERMOD | American Meteorological Society/Environmental Protection Agency Regulatory Model |
| BHER | Berkshire Hathaway Energy Renewables |
| CAAQS | California Ambient Air Quality Standards |
| CARB | California Air Resources Board |
| CFR | *Code of Federal Regulations* |
| CO | carbon monoxide |
| DPM | diesel particulate matter |
| EPA | U.S. Environmental Protection Agency |
| EN | Elmore North |
| GEP | good engineering practice |
| $H_2S$ | hydrogen sulfide |
| HAP | hazardous air pollutant |
| HARP | Hotspots Analysis and Reporting Program |
| HI | hazard index |
| $HNO_3$ | nitric acid |
| HRA | health risk assessment |
| ID | identification |
| MERP | Modeled Emission Rates for Precursor |
| MW | megawatt(s) |
| NAAQS | National Ambient Air Quality Standards |
| $NH_3$ | ammonia |
| NLCD | National Land Cover Database |
| $NO_2$ | nitrogen dioxide |
| $NO_X$ | oxides of nitrogen |
| OEHHA | California Office of Environmental Health Hazard Assessment |
| PM | particulate matter |
| $PM_{2.5}$ | particulate matter less than 2.5 micrometers in diameter |
| $PM_{10}$ | particulate matter less than 10 micrometers in diameter |

| | |
|---|---|
| ppm | part(s) per million |
| PRIME | plume rise model enhancement |
| REL | reference exposure level |
| SIL | significant impact level |
| $SO_2$ | sulfur dioxide |
| $SO_X$ | oxides of sulfur |
| VOC | volatile organic compound |

# 1. Project Overview

Berkshire Hathaway Energy Renewables (BHER) plans to develop and construct a new geothermal power plant called Elmore North (EN) in Imperial County, California. The proposed site is expected to have an output of 132.6 megawatts (MW). The new plant will be on a parcel currently owned by BHER southeast of the Salton Sea near BHER's existing geothermal power plants, specifically, adjacent to their Elmore facility. The EN power plant site will include production and reinjection well pads extending off the power plant site and the electrical interconnection (gen-tie) with a new Imperial Irrigation District switching station. An overview of the EN location is included on Figure 1-1.

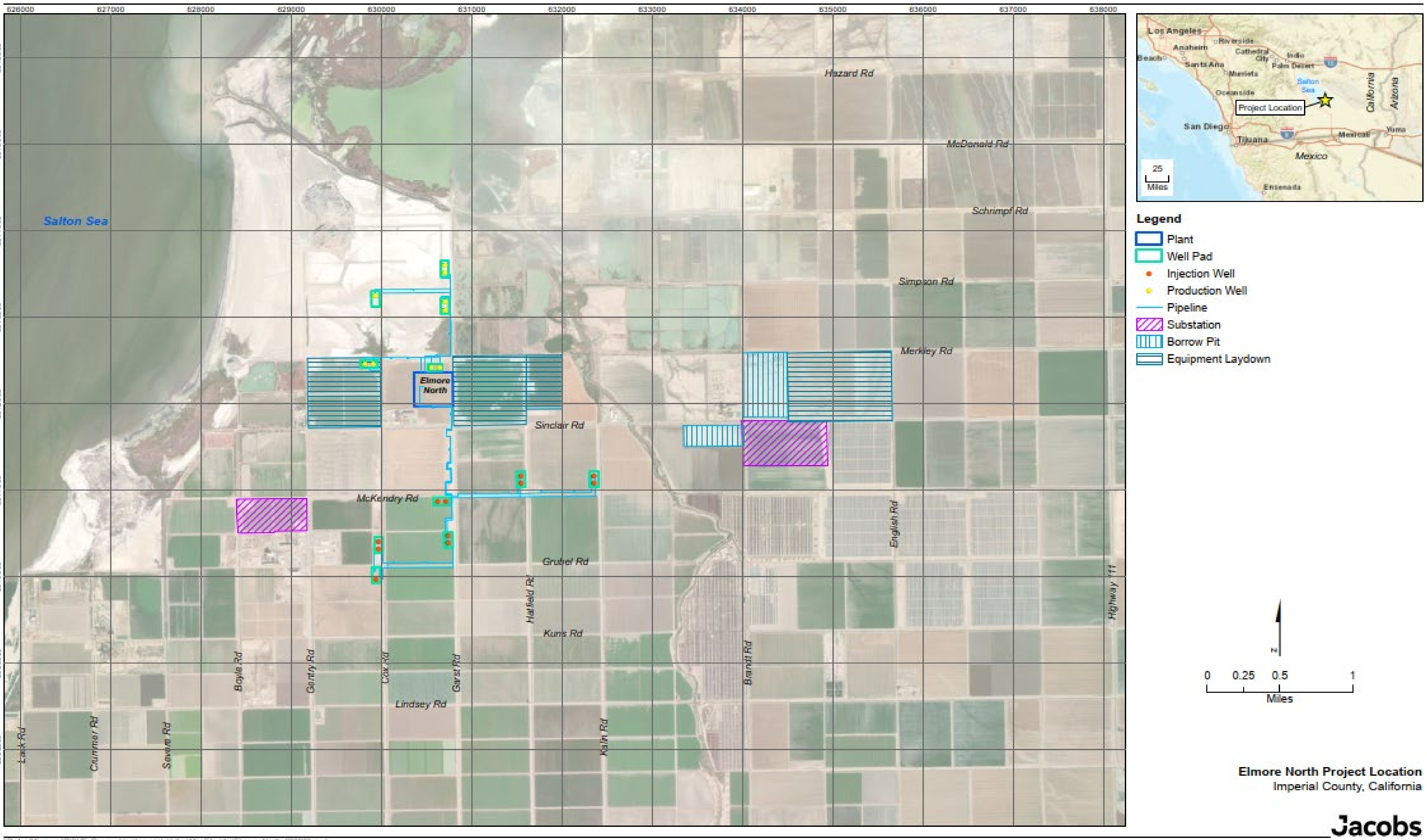



**Figure 1-1. Project Location**

# 2. Area and Facility Classification

The proposed EN plant will be situated to the southeast of the Salton Sea southwest from the town of Niland, located in Imperial County, California. Being located in California, the project would be subject to both the federal National Ambient Air Quality Standards (NAAQS) and the State of California Ambient Air Quality Standards (CAAQS).

Imperial County is designated as attainment for the carbon monoxide (CO), sulfur dioxide ($SO_2$), and nitrogen dioxide ($NO_2$) NAAQS. The county is in moderate nonattainment for particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), and marginal nonattainment for the 8-hour ozone NAAQS. Particulate matter less than 10 micrometers in diameter ($PM_{10}$) was redesignated to attainment in September 2020.

At the state level, Imperial County is designated as attainment or unclassified for the $PM_{2.5}$, CO, $NO_2$, $SO_2$, sulfates, lead, hydrogen sulfide ($H_2S$), and visibility reducing particulates CAAQS. The county is designated as nonattainment for the ozone and $PM_{10}$ CAAQS.

The primary North American Industrial Classification System for the facility is 221116. The EN plant is not expected to be a "major" source of air pollution. The facility would emit less than 100 tons per year of any regulated pollutant. The site would be a minor source for hazardous air pollutants (HAPs) with total potential aggregate HAP emissions of less than 25 tons per year and emissions of any single HAP of less than 10 tons per year. EN is not a listed facility in 40 *Code of Federal Regulations* (CFR) Part 52 (100 tons per year threshold) and is not otherwise subject to Part 52 Prevention of Significant Deterioration (PSD) requirements due to potential emissions less than 250 tons per year per criteria air pollutants for which the area is designated as attainment. EN emissions are expected to be below the applicable Nonattainment New Source Review threshold of 100 tons per year for moderate nonattainment $PM_{2.5}$ and 100 tons per year each for oxides of nitrogen ($NO_X$) and volatile organic compound (VOC) for the marginal nonattainment ozone designation as per 40 CFR Part 51.165.

# 3. Project Description

The proposed EN geothermal power plant would be located on the southern shore of the Salton Sea and is expected to have a net output of 132.6 MW. The new plant will be on a parcel currently owned by BHER east of the Salton Sea near BHER's existing geothermal power plants. The EN power plant site will include production and reinjection well pads extending off the power plant site.

## 3.1 Emissions Sources

Air emission sources associated with the EN plant will be characterized for inclusion in the dispersion modeling analysis and permit application, where appropriate. The proposed emission sources for the facility include the following source/process types:

- Process-related emissions including:
  a. Geothermal brine steam flashing activities and venting
  b. Geothermal brine steam condensation activities
  c. Drilling operations
- Emergency diesel engines (electrical generators and fire water pump)
- Cooling towers

The well extraction and injection activities would be part of a closed system and not represent a source of emissions; therefore, all emissions would result from within the power plant footprint. A process flow diagram for the facility process is included on Figure 3-1.

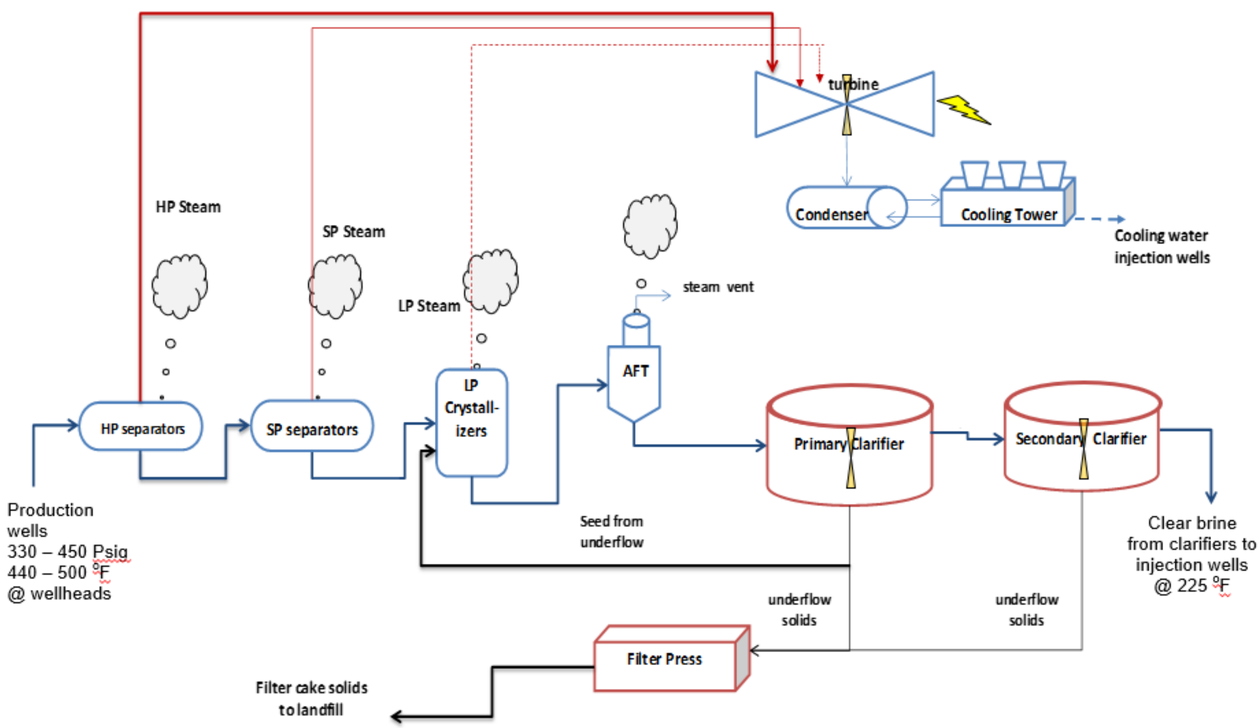



**Figure 3-1. Process Flow Diagram**

At the time this modeling protocol was submitted, design of the EN project was ongoing. Therefore, detailed information, including source and building locations, is subject to change. Associated emissions data, and other final design data are currently being evaluated and are not presented in this protocol. These data will be finalized and included in the final modeling report.

# 4. Dispersion Modeling Methodology

## 4.1 Dispersion Model

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) (Version 22112) will be used as recommended in the U.S. Environmental Protection Agency (EPA) Appendix W, Guideline on Air Quality Models (EPA 2017).

AERMOD is a steady-state Gaussian plume model that simulates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. This model is recommended for short-range (less than 50 kilometers) dispersion from the source. The model incorporates the plume rise model enhancement (PRIME) algorithm for modeling building downwash. AERMOD is designed to accept input data prepared by two specific preprocessor programs, AERMET and AERMAP. AERMOD will be run with the following options:

- Direction-specific building downwash
- Regulatory default options unless otherwise specified in this protocol
- Rural dispersion characteristics
- Actual receptor elevations and hill height scales obtained from AERMAP (Version 18081)

## 4.2 Operational Source Characterization

Operation of the proposed process and equipment systems would result in emissions to the atmosphere of both criteria and toxic air pollutants. Criteria pollutant emissions would consist primarily of $NO_X$, CO, VOCs, oxides of sulfur ($SO_X$), $PM_{10}$, and $PM_{2.5}$. Other regulated air pollutants of ammonia ($NH_3$), $H_2S$, and carbon dioxide equivalent will also be quantified. Toxic air pollutants will consist of a combination of non-condensable gases and toxic particulate matter (PM) species.

The EN project operational scenarios would consist of start-up and commissioning activities as well as normal operating conditions post-startup. Emissions for each of these scenarios will be presented in the final modeling report, with the worst-case emissions from both scenarios modeled as applicable to the respective standards.

### 4.2.1 Cooling Towers

Cooling tower stack diameter, height, flow rate, temperature, drift eliminator efficiency, and location will be based upon the latest design data. A particle size distribution may be applied to the total PM emissions as calculated using the total dissolved solids of the circulating water. The methodology to develop this particle size distribution will be obtained from the published work of Joel Reisman and Gordon Frisbie in *Calculating Realistic $PM_{10}$ Emissions from Cooling Towers* (Resiman and Frisbie 2012). A list of each of the specific cooling tower stack parameters used in the modeling analysis will be included in the final modeling report.

### 4.2.2 Emergency Diesel Engines

Emergency diesel engine stack diameter, height, flow rate, temperature, and location will be based on the design data provided by the vendors. A list of each of the specific emergency engine stack parameters used in the modeling analysis will be included in the final modeling report.

For purposes of the 1-hour $NO_2$ standard, emergency engines in this analysis would be classified as intermittent sources because they have less than 500 hours per year of operation according to EPA (EPA 2011). As a result, the annual average hourly emission rate for each engine will be used in the

1-hour averaging period $NO_2$ modeling analysis, consistent with EPA's Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour $NO_2$ NAAQS Memorandum (EPA 2011).

### 4.2.3 Geothermal Brine Steam Flashing Activities

Onsite operations may occur in the direct release of geothermal brine steam to the atmosphere. At this stage in design, this release would occur either through the use of an atmospheric flash tank or a rock muffler.

Source type characterizations for modeling these sources will be made as their designs are finalized. At the time of this modeling protocol, design is not yet finalized for these sources. All associated data used in the characterization of these sources as well as their release parameters for modeling will be included in the final modeling report.

## 4.3 Construction Source Characterization

Construction emissions would include emissions from mobile sources including diesel construction-type equipment. These equipment emissions will be evenly distributed over the construction area and modeled as a grid of point (POINT) sources with a horizontal stack release spaced approximately 25 meters apart over the entire construction area. The horizontal release type is an AERMOD option (which negates mechanical plume rise). This conservative approach was used because it is unknown whether all construction equipment will have vertically oriented exhaust stacks. Source parameters for these sources will be included in the final modeling report.

## 4.4 Building Downwash

Building influences on the air dispersion of emissions from point source stacks will be calculated by incorporating the EPA Building Profile Input Program for use with the PRIME algorithm (BPIP-PRIME). Stack heights, building locations, and building dimensions will be obtained from the most currently available architectural plans and onsite measurements. Stacks located on or adjacent to buildings will be given base elevations of said buildings. A list of the buildings and their coordinates will be included in the final modeling report submitted with the permit application.

As part of this analysis, a good engineering practice (GEP) stack height screening will be performed to determine which stack height will be used in the modeling. The GEP stack height is defined as the height in which the plume dispersion from the stack is not influenced by building downwash. This GEP stack height is calculated as the lesser of the following two criteria:

- 65 meters
- The sum of the maximum building height for which the stack is in the area of influence plus 1.5 times the lesser of the building height or projected building width

The stack heights used in the dispersion modeling will be the actual stack height or the GEP stack height, whichever is less.

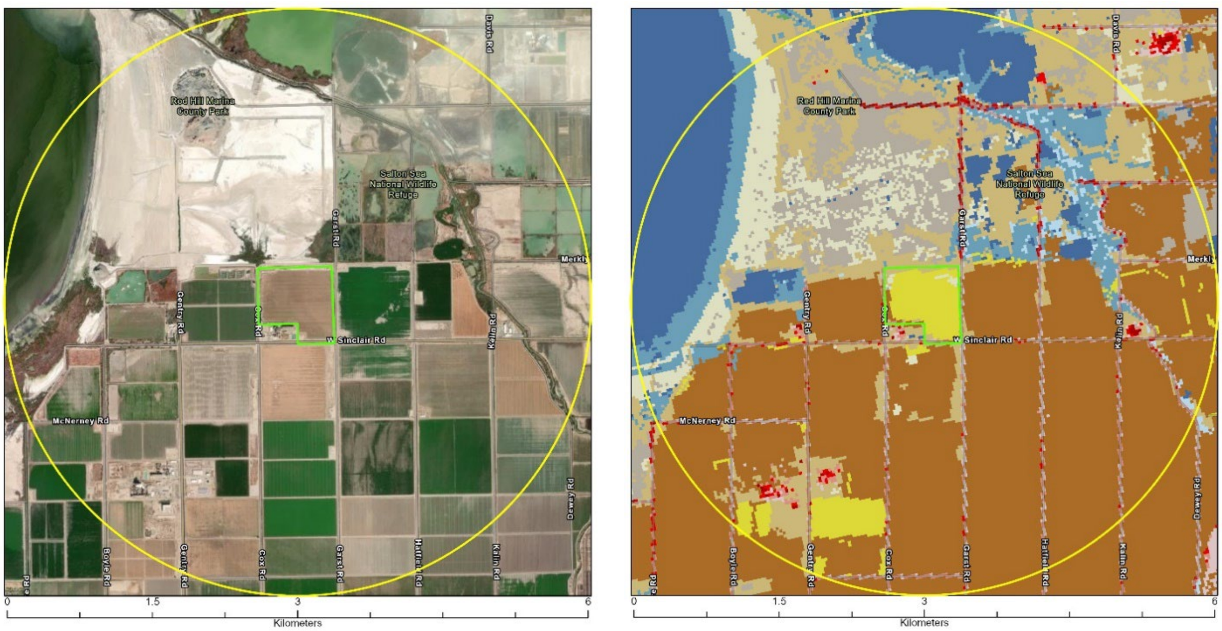
## 4.5 Ambient Air Boundary

The ambient air boundary is defined by the property line that surrounds the BHER-owned property within which non-authorized personnel access is precluded. A final ambient air boundary figure will be included in the final modeling report submitted with the permit application.

## 4.6 Rural versus Urban Option

The land use surrounding the facility has been evaluated for classification as either urban or rural. A land use analysis was performed following the Auer land use methodology (Auer 1978) using the most recent available land use data. Land use data within a 3-kilometer radius for the site was obtained from the U.S. Geological Survey's 2019 National Land Cover Database (NLCD), as shown on Figure 4-1. This data set classified land use for individual 30- by 30-meter cells into 15 primary land use categories for the EN site. Of the 15 land use categories in the 2019 NLCD data set, the following two categories are considered urban for dispersion modeling purposes:

- Developed, Medium Intensity (NLCD Code 23)—This classification includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50 to 79 percent of the total cover.
- Developed, High Intensity (NLCD Code 24)—This classification includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses, and commercial/industrial spaces. Impervious surfaces account for 80 to 100 percent of the total cover.




| Land use Color | Land Use Code ID No. | Land Use Description | Cell Count | % Land Category |
|---|---|---|---|---|
| | 11 | Open Water | 8,063 | 16.51% |
| | 21 | Developed, Open Space | 1,648 | 3.37% |
| | 22 | Developed, Low Intensity | 1,321 | 2.70% |
| | 23 | Developed, Medium Intensity | 396 | 0.81% |
| | 24 | Developed, High Intensity | 100 | 0.20% |
| | 31 | Barren Land | 3,381 | 6.92% |
| | 52 | Shrub/Scrub | 6,737 | 13.79% |
| | 71 | Herbaceous | 2,448 | 5.01% |
| | 81 | Hay/Pasture | 1,227 | 2.51% |
| | 82 | Cultivated Crops | 20,376 | 41.72% |
| | 90 | Woody Wetlands | 289 | 0.59% |
| | 95 | Emergent Herbaceous Wetlands | 2,855 | 5.85% |

**Figure 4-1. Land Use Classification for Elmore North Geothermal Plant**

If more than 50 percent of the area within 3 kilometers is classified as urban land use, the URBAN option may be used for AERMOD modeling of the facility. The analysis showed that approximately 1 percent of the land within a 3-kilometer radius of the facility may be classified as urban; therefore, the URBAN option in AERMOD will not be used in the dispersion modeling analysis.

## 4.7 Meteorological Data

Five years of AERMET-processed meteorological data were obtained from the California Air Resources Board (CARB) Hotspots Analysis and Reporting Program (HARP) AERMOD Meteorological Files webpage for Imperial County Airport (KIPL, WBAN ID: 03144). The 5 years of data were processed by CARB with AERMET Version 19191 for 2015 through 2018 and 2021. The years 2019 and 2020 were not included in the meteorological data set because they were likely determined to be incomplete by CARB. The data set was selected based on completeness, similar surrounding land use as the EN plant and proximity to the facility as shown on Figure 4-2. Wind speeds and directions for this data set are presented in the wind rose on Figure 4-3. The average wind speed for the 5-year period was 3.45 meters per second.

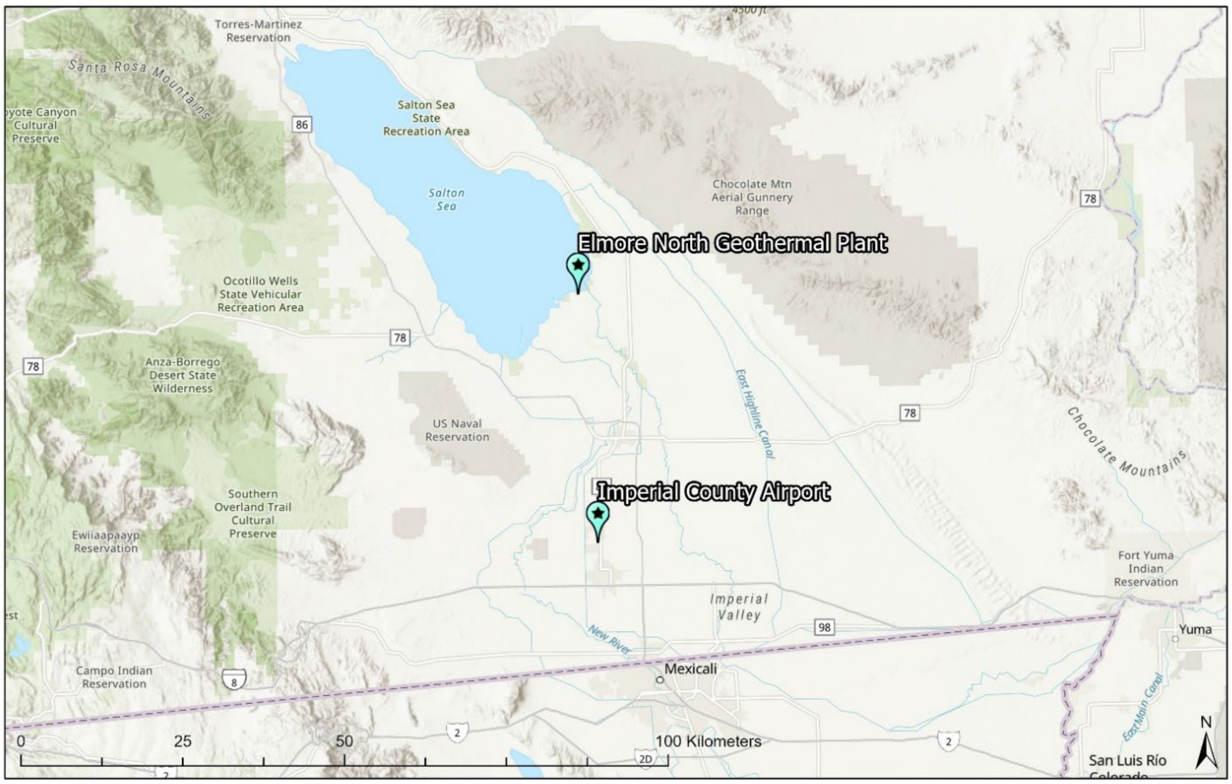



Figure 4-2. Topographical Map of Elmore North Geothermal Plant's Proximity to the Imperial County Airport

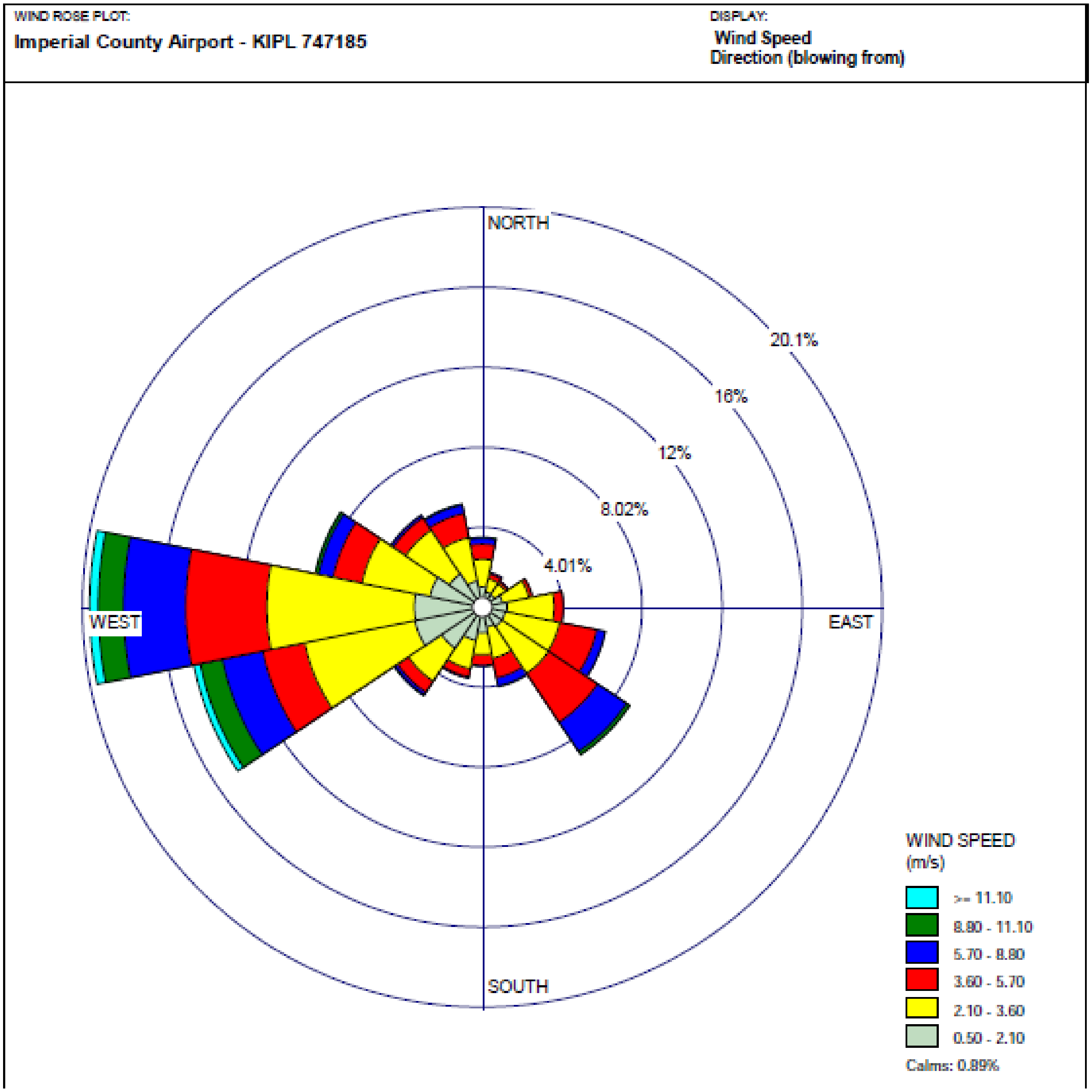



**Figure 4-3. Windrose for the 2015 to 2018 and 2021 Meteorological Data for the Imperial County Airport**

## 4.8 Receptors

The ambient air boundary will be defined by the fence line surrounding the facility. The selection of receptors in AERMOD will be as follows:

- Discrete receptors every 25 meters around the ambient air boundary (i.e., fence line)
- 25-meter spacing from the fence line to 500 meters from grid origin
- 100-meter spacing from beyond 500 meters to 1,000 meters from the fence line
- 250-meter spacing from beyond 1,000 meters to 5,000 meters from the fence line
- 500-meter spacing from beyond 5,000 meters to 10,000 meters from the fence line

All receptors and source locations will be expressed in the Universal Transverse Mercator North American Datum 1983, Zone 11 coordinate system. If modeling results show significant impacts at the outer edge of the initial grid, then the grid will be extended accordingly to ensure that the area of maximum modeled impacts is captured. U.S. Geological Survey National Elevation Dataset terrain data will be used in conjunction with the AERMAP preprocessor (Version 18081) to determine receptor elevations and terrain maxima.

## 4.9 Oxides of Nitrogen Modeling Methodology and Chemistry

The Guideline on Air Quality Models, Appendix W to 40 CFR Part 51 (EPA 2017), recommends a tiered screening approach to characterize the conversion of total $NO_X$ from the proposed source to $NO_2$. A Tier 1 approach assumes a 100 percent conversion of total $NO_X$ to $NO_2$ and is typically overly conservative. The Tier 2 approach allows for the use of the Ambient Ratio Method 2 (ARM2). The Tier 1 and Tier 2 options do not require agency approval.

For this analysis, the Tier 2 approach was selected using the ARM2 model with a default in-stack ratio of 0.5 and a default out-of-stack ratio of 0.9. The in-stack ratio may be revised based upon updated engineering data and will be reflected in the final modeling report.

Additionally, emergency diesel engines in this analysis can be classified as intermittent sources because of having less than 500 hours per year of operation according to EPA (EPA 2011). As a result, the annual average hourly emission rate for each engine will be used for the 1-hour averaging period $NO_2$ modeling analysis, consistent with EPA's *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-Hour $NO_2$ National Ambient Air Quality Standard Memorandum* (EPA 2011).

# 5. Criteria Pollutant Background Concentrations

When necessary, ambient background concentrations will be added to model results for comparison to the NAAQS and CAAQS. Background concentration values for all pollutant averaging times were obtained from EPA's AirData website for years 2019 to 2021. The following sites were used for the 2019-2021 period background concentrations:

- **Monitor Identification (ID):** Niland-English Road (AQS ID: 60254004) [7.6 miles from project]: 24-hour $PM_{10}$ concentrations (2019-2021)
- **Monitor ID:** Brawley-220 Main Street (AQS ID: 60250007) [13.8 miles from project]: 24-hour $PM_{2.5}$ concentrations (2019-2021), and annual $PM_{2.5}$ concentrations (2019-2020)
- **Monitor ID:** El Centro-9th Street (AQS ID: 60251003) [26.1 miles from project]: annual $PM_{2.5}$ concentrations (2021), 1-hour $NO_2$ concentrations (2019-2021), and annual $NO_2$ concentrations (2020-2021)
- **Monitor ID:** Calexico-Ethel Street (AQS ID: 60250005) [34.6 miles from project]: annual $NO_2$ concentrations (2019), 1-hour $SO_2$ concentrations (2019-2021), 3-hour $SO_2$ concentrations (2019-2021), 1-hour CO concentrations (2019-2021), and 8-hour CO concentrations (2019-2021).

Background concentration values for pollutants were pulled from the same monitoring site with the exception of 2021 annual $PM_{2.5}$ and 2019 annual $NO_2$, which were pulled from different stations due to data incompleteness issues. The locations of these monitors relative to the project location are shown in Figure 5-1.


**Figure 5-1. Background Monitor Locations in Proximity to the Elmore North Geothermal Plant**

The average background concentrations from 2019 to 2021 were chosen for 1-hour $SO_2$, 24-hour and annual $PM_{2.5}$, and 1-hour $NO_2$. The maximum background concentrations from 2019 to 2021 were chosen for 1-hour and 8-hour CO, 3-hour $SO_2$, 24-hour $PM_{10}$, and annual $NO_2$. Background design values for each criteria pollutant for NAAQS comparison are shown in Table 5-1.

**Table 5-1. Criteria Pollutant Background Concentrations**

| Pollutant | Averaging Period | Value chosen | 2019 | 2020 | 2021 | Design Value | Units | Concentration (μg/m³)[e] |
|---|---|---|---|---|---|---|---|---|
| CO[a] | 1-hour | Second Max 1-hour | 4.30 | 4.60 | 3.80 | 4.60[c] | ppm | 5,270 |
| CO[a] | 8-hour | Second Max 8-hour | 3.10 | 2.70 | 2.90 | 3.10[e] | ppm | 3,551 |
| $SO_2$[a] | 1-hour | 99th Percentile | 5.00 | 7.00 | 6.00 | 6.00[f] | ppb | 15.71 |
| $SO_2$[a] | 3-hour | First Max 1-hour | 7.50 | 7.10 | 8.60 | 8.60[f] | ppb | 22.51 |
| $PM_{10}$[b] | 24-hour | First Max | 141.00 | 143.00 | 186.00 | 142.00[e] | μg/m³ | 142.00 |
| $PM_{10}$[b] | 24-hour | Second Max | 124.00 | 142.00 | 156.00 | N/A | μg/m³ | N/A |
| $PM_{2.5}$[c] | 24-hour | 98th Percentile | 21.00 | 21.00 | 21.00 | 21.00[f] | μg/m³ | 21.00 |
| $PM_{2.5}$[c] | Annual | Weighted Annual Mean | 8.30[d] | 9.40 | 8.30 | 8.67[f] | μg/m³ | 8.67 |
| $NO_2$[d] | 1-hour | 98th Percentile | 30.00 | 36.00 | 38.00 | 34.67[e] | ppb | 65.22 |
| $NO_2$[d] | Annual | Annual Mean | 9.26[a] | 7.93 | 6.73 | 9.26[e] | ppb | 17.42 |

Notes:

[a] Monitor Location: 1029 Ethel St, Calexico High School, Calexico, California (Site ID: 60250005)
[b] Monitor Location: 7711 English Road, Niland, California (Site ID: 60254004)
[c] Monitor Location: 220 Main St., Ste 204, Brawley, California (Site ID: 60250007)
[d] Monitor Location: 150 9th St., El Centro, California (Site ID: 60251003)
[e] Maximum fourth highest value observed over 3 years (2019-2021)
[f] Average 2019 to 2021 value chosen for design value
[e] For conversion of ppm and ppb to μg/m³, standard conditions assumed (25 degrees Celsius. and 760 millimeters of mercury)

μg/m³ = microgram(s) per cubic meter
N/A = not applicable
ppb = part(s) per billion
ppm = part(s) per million

# 6. Impacts Analysis

## 6.1 Criteria Pollutants

Modeled concentrations of criteria pollutants emitted by the proposed EN geothermal plant will be compared to the applicable significant impact level (SIL) shown in Table 6-1. If the predicted concentrations are not significant (that is, if they are less than the SIL), the modeling is complete for that pollutant and averaging period and compliance with the NAAQS is demonstrated by not causing or contributing to a violation. If impacts are above the SIL, a cumulative modeling analysis would be required. Imperial County would be contacted and a data request for neighboring facilities would be submitted.

Additionally, CAAQS shown in Table 6-1 will also be considered as part of the modeling analysis.

The results of the project and cumulative modeling impact analyses will be combined with respective background data, where appropriate, and compared to the NAAQS as shown in Table 6-1.

**Table 6-1. Summary of Criteria Pollutant Air Quality Standards**

| Pollutant | Averaging Period | SIL (µg/m$^3$) | NAAQS (µg/m$^3$) | CAAQS (µg/m$^3$) |
|---|---|---|---|---|
| CO | 1-hour | 2,000[a] | 40,000[c] | 22,900[c] |
| | 8-hour | 500[a] | 10,000[d] | 10,000[d] |
| $NO_2$ | 1-hour | 7.5[b] | 188[e] | 338.65[e] |
| | Annual | 1[a] | 100[f] | 56.44[f] |
| $PM_{2.5}$ | 24-hour | 1.2[b] | 35[g] | -- |
| | Annual | 0.2[b] | 12[h] | 12[h] |
| $PM_{10}$ | 24-hour | 5[a] | 150[i] | 50[i] |
| | Annual | -- | -- | 20[f] |
| $SO_2$ | 1-hour | 7.9[b] | 196[j] | -- |
| | 3-hour | 25[a] | 1,300[k] | -- |
| | 24-hour | -- | -- | 25 |
| $H_2S$ | 1-hour | -- | -- | 41.79 (0.03 ppm) [l] |

[a] Design value is the maximum modeled concentration over 5 years
[b] Design value is the maximum 5-year average concentration
[c] Highest of the second highest (H2H) 1-hour concentration
[d] Highest of the second highest (H2H) 8-hour concentration
[e] Highest of 5-year averages of the 98th percentile (H8H) of the annual distribution of maximum daily 1-hour concentrations
[f] Maximum annual average
[g] Annual 98th percentile daily maximum average; 5-year average of eighth high
[h] Highest of the 5-year average of annual concentrations
[i] Highest of the sixth highest (H6H) 24-hour modeled concentrations
[j] Highest of multi-year averages of the 99th percentile (H4H) of the annual distribution of maximum daily 1-hour concentrations
[k] Highest of the second highest (H2H) 3-hour concentration over the entire receptor network for each year modeled
[l] Highest modeled concentration over the entire receptor network

### 6.1.1 Hydrogen Sulfide Impacts Analysis

$H_2S$ in the ambient air near the Salton Sea is subject to episodic events that result in concentrations which temporarily exceed the CAAQS of 0.03 parts per million (ppm). These episodic events of $H_2S$ exceedances are well known and largely due to biogenic sources and activity (SCAQMD 2021). As a result, monitoring data in the region may not be representative for use in a CAAQS modeling analysis.

Specifically, the 1-hour $H_2S$ CAAQS was adopted in 1969 for purposes of odor control and not for protection of public and environmental health. People have experienced eye irritation at concentrations of 50-ppm which is much greater than the CAAQS of 0.03-ppm (CARB 2022a). Therefore, temporary exceedances of the $H_2S$ CAAQS would not result in elevated exposure of the public and environment to $H_2S$ health-related risks but would be characterized as a nuisance and an odor impact.

As a result of the project location and nature of the standard, $H_2S$ will be analyzed similarly to nuisance-related impacts caused by odorous compounds. Specifically, the 1-hour $H_2S$ analysis will follow the ICAPCD CEQA Air Quality Handbook methodology for assessing odor-related impacts, as presented in Section 4.6(b), which states that $H_2S$ emissions may result in impacts that would not be significant except as a nuisance. The Guidelines further provide the respective screening distances for odor impacts in Table 3, which is 1 mile for all facility types (ICAPCD 2017).

The nearest residences and sensitive receptors are located greater than 1 mile away from the project location. Given the location of these receptors and the ICAPCD CEQA Guidelines, the 1-hour $H_2S$ modeling analysis will not include any receptors within 1 mile from the project. Any impacts within this 1-mile radius would be considered to be nuisance-related and not expose any nearby residences or sensitive receptors to any potential nuisances.

### 6.1.2 Significant Impact Level for Ozone and Secondary $PM_{2.5}$

Although it is expected that the air quality impacts for VOC as an ozone precursor will be below the EPA regulatory limit, the additive precursor impact assessment for ozone may be performed. The lowest illustrative Modeled Emission Rates for Precursors (MERPs) values from Table 4-1 for the southwest of the final MERPs guidance (EPA 2019) will be used for the additive precursor assessment. The following calculation will be carried out to perform the VOC precursor impacts on 8-hour daily maximum ozone:

$$\frac{Total\ NOx\ Emissions\ from\ Project}{Lowest\ Illustrative\ MERPS\ value\ for\ NOx} + \frac{Total\ VOC\ Emissions\ from\ Project}{Lowest\ Illustrative\ MERPS\ value\ for\ VOC} = Impact\ (\%)$$

If the calculated impacts are below 100 percent, then the ozone SIL will not be exceeded.

Air quality impacts from secondary $PM_{2.5}$ may be carried out for SIL analysis. To estimate the impacts of precursors to the $PM_{2.5}$ SIL, primary 24-hour and annual $PM_{2.5}$ will be modeled with AERMOD. The impact from AERMOD will be compared against the SIL and the percentual contribution to the SIL will be calculated for both averaging periods (24-hour and annual). The secondary impacts will be calculated based on the representative lowest MERPs values from Table 4-1 for the southwest of the final MERPs guidance with the following equation:

$$\frac{Total\ NOx\ Emissions\ from\ Project}{Lowest\ Illustrative\ NOx\ annual\ or\ 24hr\ PM2.5\ MERPs\ value}$$

$$+\frac{Total\ SO2\ Emissions\ from\ Project}{Lowest\ Illustrative\ SO2\ annual\ or\ 24hr\ PM2.5\ MERPs\ value} = Impact\ (\%)$$

The total impact from secondary $PM_{2.5}$ will be added to the contribution from primary $PM_{2.5}$. If the total contribution from the primary plus secondary $PM_{2.5}$ is greater than 100 percent, then a cumulative analysis and a comparison to the NAAQS will be required.

## 6.2 Operational Toxic Air Pollutants

The most recent version of HARP2 (Version 22118 [CARB 2022b]), with the revised unit risk and cancer potency values, updated October 2022, will be used for the toxic air pollutants analysis. The updated sensitivity factors will be applied in accordance with the *Risk Management Guidance for Stationary Sources of Air Toxics* (CARB 2015).

The deposition rate modeled in HARP2 will be conservatively set to 0.05 meter per second for uncontrolled sources for preliminary analysis. This assumption may be refined to 0.02 meter per second if refined source information becomes available.

### 6.2.1 Risk Evaluation

Risk characterization from toxics emitted by the facility will be carried out according to the procedures specified by California Office of Environmental Health Hazard Assessment (OEHHA) guidance for both carcinogenic and noncarcinogenic risks (OEHHA 2015).

As recommended by the 2015 OEHHA and CARB Guidance, a Tier 1 assessment will be performed. The Tier 1 assessment is the most conservative of the four tier assessment methodologies identified in the OEHHA guidance and uses a standard point-estimate approach with standard OEHHA assumptions.

Risk will be evaluated for each of the three receptor types:

- Maximally exposed individual resident (MEIR)
- Maximally exposed individual worker (MEIW)
- Maximally exposed sensitive receptor (MESR)

### 6.2.2 Carcinogenic Risk

Residential and sensitive cancer risks will be evaluated using the 30-year continuous exposure duration scenario and worker cancer risk will be evaluated using the 25-year exposure duration (8 hours per day starting at age 16 years old) as recommended in the OEHHA guidelines (OEHHA 2015). Based on the OEHHA guidelines, the derived (adjusted) method in HARP2 will be used for the cancer risk evaluation, which uses the 95th percentile breathing rate from the third trimester to 2 years and the 80th percentile inhalation rate from 2 years to 70 years for residential cancer risk assessments (CARB 2015). The 30-year and 25-year exposure durations for residential and commercial/industrial receptors, respectively, are obtained from the OEHHA guidelines (OEHHA 2015).

Cancer risks will be evaluated based on the annual toxic air contaminant (TAC) emission rates from the emission inventory, ground-level concentrations as obtained from the dispersion modeling analysis, inhalation cancer potency, oral slope factor, frequency and duration of exposure at the receptor, age-specific sensitivity factors, and breathing rates of the exposed persons. Cancer risk results will be expressed on an incremental increase of risk above baseline as a number per million basis.

### 6.2.3 Noncarcinogenic Chronic Exposure

Chronic toxicity is defined as adverse health effects from prolonged chemical exposure caused by chemicals accumulating in the body. To assess chronic noncancer exposures, annual TAC ground-level concentrations are compared with the reference exposure levels (RELs) developed by OEHHA to obtain a chronic hazard index (HI). The REL is a concentration in ambient air at, or below which, no adverse health effects are anticipated. Noncancer chronic health risks are calculated as a hazard quotient, which is the calculated exposure of each contaminant divided by its REL. Hazard quotients for pollutants affecting the same target organ are summed with the resulting totals expressed as HIs for each organ system.

### 6.2.4 Noncarcinogenic Acute Exposure

Acute toxicity is defined as adverse health effects caused by a brief chemical exposure of no more than 24 hours. To assess acute noncancer exposures, 1 hour TAC ground-level concentrations are compared with the acute REL to obtain an acute HI. Similar to assessing chronic noncancer health risks, acute noncancer health risks are calculated as a hazard quotient, which is the calculated exposure of each contaminant divided by its REL. Hazard quotients for pollutants affecting the same target organ are summed with the resulting totals expressed as HIs for each organ system.

## 6.3 Exposure Pathways

For this risk analysis, exposure pathways will be included for each risk scenario as specified in Table 6.2.

**Table 6-2. Summary of HARP2 Exposure Pathways**

| Risk Analysis | Model Exposure Pathways | Intake Rate Percentile |
|---|---|---|
| Acute | Inhalation | N/A |
| Noncancer Chronic | Inhalation<br>Soil Ingestion<br>Dermal Absorption<br>Mother's Milk<br>Homegrown Produce<br>Beef/Dairy (Farming)<br>Pig/Chicken/Egg (Farming) | N/A |
| Cancer | Inhalation<br>Soil Ingestion<br>Dermal Absorption<br>Mother's Milk<br>Homegrown Produce<br>Beef/Dairy (Farming)<br>Pig/Chicken/Egg (Farming) | RMP Using the Derived Method |

## 6.4 Construction Air Toxic Emissions

To determine impacts from TACs from construction activities, a screening-level health risk assessment (HRA) will be performed for the project's construction emissions. Diesel particulate matter (DPM) would be the only TAC evaluated in the HRA for construction equipment and vehicle emissions, which would be based upon construction equipment combustion $PM_{10}$ emissions as a surrogate.

A screening HRA will be conducted following the OEHHA's Air Toxics Hot Spots Program *Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015).

Cancer and noncancer chronic health risks at each receptor will be calculated by using equations from the Air Toxics Hot Spots Program *Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015) to convert the modeled ground-level DPM concentrations to health risk values. Cancer risk will be expressed as a numerical excess lifetime cancer risk per 1 million exposed individuals. The noncancer health effects associated with chronic exposures are expressed as chronic HI, which is the ratio of expected exposure levels to acceptable chronic RELs. RELs are concentrations of a chemical at or below which adverse noncancer health effects are not anticipated to occur for a specified exposure duration.

Noncancer acute health risks due to 1-hour exposure to TACs will not be estimated, because currently no acute RELs were developed for DPM (OEHHA 2015; OEHHA & CARB 2022).

## 6.5 Class I Area Analyses

As described above, the project is not expected to result in emission increases that would exceed PSD thresholds. Additionally, there are no federally designated Class I areas located within 50 kilometers of the proposed project. Therefore, no visibility or Class I air quality-related values screening analyses would be required.

## 6.6 Fumigation Analysis

The proposed project is located within 3,000 meters of the Salton Sea shoreline; therefore, a fumigation screening analysis will be performed as part of this analysis. This analysis will use the EPA developed SCREEN3 model to calculate the air quality impacts during a shoreline fumigation scenario.

## 6.7 Nitrogen Deposition Analysis

The proposed project may result in emissions of nitrogenous compounds such as $NO_X$ and $NH_3$. Nitrogen oxide gases (NO and $NO_2$) convert to nitrate particulates in a form that is suitable for uptake by most plants and could promote plant growth and primary productivity. Coastal salt marshes are a common natural habitat in the vicinity of the project where nitrogen deposition may occur. If required, a deposition analysis would be performed using AERMOD with the options and inputs as described in this modeling protocol. In addition, the following data would be used/assumed for this analysis:

- AERMOD wet and dry deposition options. Depositional rates and parameters would be based upon nitric acid ($HNO_3$) which, of all the depositing species, has the highest affinity for impacts to soils and vegetation and tendency to stick to what it is deposited on.
- Dry deposition land use characteristics would be developed using satellite aerial imagery for each 10-degree increment within a 3-kilometer radius surrounding the project.
- Dry deposition seasonal categories would be assigned based upon historical meteorological trends for the region.
- $NO_X$ and $NH_3$ would be 100 percent converted into atmospherically-derived nitrogen at the release point, where applicable, rather than allowing for the conversion of $NO_X$ and $NH_3$ to occur over distance and time within the atmosphere, which would be more realistic.
- Maximum settling velocities would be selected to produce conservative deposition rates.

# 7. References

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# Appendix 5.1D

## Construction Emissions Inventory and Air Quality Impacts Analysis

# Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Emissions Modeling Summary**

**April 2023**

**Elmore North Onsite Construction Emissions for Modeling**

| Onsite Construction [a] | Criteria Pollutant Emissions | | | | | | |
|---|---|---|---|---|---|---|---|
| | CO | $NO_X$ | $SO_X$ | $PM_{10}$ - Combustion | $PM_{2.5}$ - Combustion | Fugitive $PM_{10}$ | Fugitive $PM_{2.5}$ |
| Maximum Daily Emissions (lb/day) | 275 | 127 | 0.64 | 3.57 | 3.34 | 5.87 | 0.66 |
| Average Annual Emissions (tpy) [b] | 19.2 | 7.55 | 0.04 | 0.20 | 0.19 | 0.50 | 0.05 |

Notes:

[a] For purposes of determining air quality impacts associated with construction activities, only emissions from onsite construction activities were evaluated. This includes emissions resulting from operation of onsite construction equipment and vehicles, as well as onsite fugitive dust emissions. It was also assumed that construction activities would occur for up to 20 hours per day.

[b] Maximum project emissions were conservatively averaged over the months in which heavy construction activity is expected to determine a 12-month total for modeling.

# Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Emissions Summary and Threshold Comparison**

**April 2023**

**Elmore North Construction Emissions**

| Construction | Criteria Pollutant Emissions | | | | | |
|---|---|---|---|---|---|---|
| | CO | VOC | $NO_X$ | $SO_X$ | $PM_{10}$ [a] | $PM_{2.5}$ [a] |
| Average Daily Emissions (lb/day) [b] | 481 | 46.1 | 120 | 1.16 | 23.6 | 17.3 |
| Maximum Project Emissions (tons) | 160 | 15.4 | 39.9 | 0.39 | 7.88 | 5.77 |
| ICAPCD Thresholds of Significance (lb/day) [c] | 550 | 75 | 100 | N/A | 150 | N/A |
| Exceeds Threshold (Y/N)? | N | N | Y | N/A | N | N/A |

| Construction | GHG Emissions | | | |
|---|---|---|---|---|
| | $CO_2$ | $N_2O$ | $CH_4$ | $CO_2e$ [d] |
| Average Daily Emissions (metric tons/day) [b] | 45.1 | 3.58E-04 | 1.80E-03 | 45.2 |
| Maximum Project Emissions (metric tons) | 30,078 | 2.39E-01 | 1.20E+00 | 30,179 |
| Average Yearly Construction Emissions (metric tons/year) | 12,446 | 9.87E-02 | 4.97E-01 | 12,488 |
| Thresholds of Significance (metric tons/year) [e] | N/A | N/A | N/A | 10,000 |
| Exceeds Threshold (Y/N)? | N/A | N/A | N/A | Y |

Notes:

N/A = Not applicable (i.e., no construction significance threshold exists for this pollutant)

[a] These estimates include both fugitive dust emissions and exhaust emissions.

[b] The results reported here are the total project emissions conservatively averaged over the months in which heavy construction activity is expected. Peak daily emissions may be higher than what is presented.

[c] ICAPCD Thresholds of Significance taken from Table 4 of the *2017 CEQA Air Quality Handbook* (ICAPCD 2017).

[d] The following global warming potentials were used to estimate $CO_2$ equivalent emissions, per 40 CFR Part 98, Table A-1:

$CH_4$ = 25

$N_2O$ = 298

[e] ICAPCD does not have thresholds of significance for GHGs, so the SCAQMD threshold was used for $CO_2e$ (http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf).

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**CO Emissions**

| Emission Source | CO Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 1,928.16 | 2,403.64 | 2,890.25 | 3,133.61 | 2,001.66 | 2,173.79 | 2,839.15 | 4,242.26 | 4,242.26 | 4,972.53 | 4,972.53 | 6,317.85 | 5,279.11 | 4,972.53 | 5,046.37 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 83.83 | 104.51 | 125.66 | 136.24 | 87.03 | 94.51 | 123.44 | 184.45 | 184.45 | 216.20 | 216.20 | 274.69 | 229.53 | 216.20 | 219.41 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10,829.38 | 10,985.10 | 10,985.10 | 10,985.10 | 10,985.10 | 10,985.10 | 10,985.10 | 10,985.10 | 11,485.98 | 11,485.98 | 11,140.81 | 11,140.81 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 470.84 | 477.61 | 477.61 | 477.61 | 477.61 | 477.61 | 477.61 | 477.61 | 499.39 | 499.39 | 484.38 | 484.38 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 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 | 0.08 | 0.08 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.04 | 0.06 | 0.13 | 0.20 | 0.34 | 0.34 | 0.38 | 0.52 | 0.62 | 0.62 | 0.78 | 0.95 | 1.16 | 1.30 | 1.29 | 1.23 | 1.14 | 0.92 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.05 | 0.05 | 0.04 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.02 | 0.04 | 0.08 | 33.85 | 55.02 | 168.83 | 253.17 | 274.33 | 354.49 | 497.81 | 561.15 | 649.83 | 877.64 | 890.54 | 810.42 | 801.87 | 827.04 | 986.99 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 1.47 | 2.39 | 7.34 | 11.01 | 11.93 | 15.41 | 21.64 | 24.40 | 28.25 | 38.16 | 38.72 | 35.24 | 34.86 | 35.96 | 42.91 |
| **Total Project CO Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **0.04** | **0.06** | **0.13** | **1,930.14** | **2,405.75** | **2,892.37** | **3,135.76** | **2,003.95** | **2,176.18** | **2,841.53** | **4,244.81** | **4,244.98** | **4,975.46** | **4,975.61** | **6,320.92** | **5,282.11** | **4,975.44** | **5,049.06** |
| **Total Onsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.01** | **83.92** | **104.60** | **125.76** | **136.34** | **87.13** | **94.62** | **123.54** | **184.56** | **184.56** | **216.32** | **216.33** | **274.82** | **229.66** | **216.32** | **219.52** |
| **Total Offsite Monthly Emissions (lb/month)** | **0.02** | **0.04** | **0.08** | **33.85** | **55.02** | **168.83** | **11,082.55** | **11,259.43** | **11,339.58** | **11,482.91** | **11,546.24** | **11,634.92** | **11,862.74** | **11,875.63** | **12,296.41** | **12,287.85** | **11,967.86** | **12,127.81** |
| **Total Offsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **1.47** | **2.39** | **7.34** | **481.85** | **489.54** | **493.03** | **499.26** | **502.01** | **505.87** | **515.77** | **516.33** | **534.63** | **534.25** | **520.34** | **527.30** |
| **Total Monthly Emissions (lb/month)** | **0.06** | **0.10** | **0.21** | **1,963.99** | **2,460.77** | **3,061.20** | **14,218.31** | **13,263.38** | **13,515.76** | **14,324.44** | **15,791.05** | **15,879.90** | **16,838.21** | **16,851.24** | **18,617.32** | **17,569.96** | **16,943.30** | **17,176.87** |
| **Total Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.01** | **85.39** | **106.99** | **133.10** | **618.19** | **576.67** | **587.64** | **622.80** | **686.57** | **690.43** | **732.10** | **732.66** | **809.45** | **763.91** | **736.67** | **746.82** |
| **Rolling 12 Month Total (Tons)** | | | | | | | | | | | | **47.24** | **55.66** | **64.08** | **73.39** | **81.20** | **88.44** | **95.49** |
| **Total Project Emissions (tons)** | **160.41** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | **480.99** | | | | | | | | | | | | | | | | | |

**VOC Emissions**

| Emission Source | VOC Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 125.22 | 180.12 | 189.78 | 238.03 | 106.05 | 109.83 | 127.98 | 154.96 | 154.96 | 185.16 | 185.16 | 349.44 | 189.98 | 185.16 | 186.78 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 5.44 | 7.83 | 8.25 | 10.35 | 4.61 | 4.78 | 5.56 | 6.74 | 6.74 | 8.05 | 8.05 | 15.19 | 8.26 | 8.05 | 8.12 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,379.26 | 1,381.37 | 1,381.37 | 1,381.37 | 1,381.37 | 1,381.37 | 1,381.37 | 1,381.37 | 1,388.90 | 1,388.90 | 1,383.47 | 1,383.47 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 59.97 | 60.06 | 60.06 | 60.06 | 60.06 | 60.06 | 60.06 | 60.06 | 60.39 | 60.39 | 60.15 | 60.15 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.08 | 0.08 | 0.07 | 0.06 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Paving** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.03 | 17.03 | 0.00 | 0.00 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.74 | 0.74 | 0.00 | 0.00 |
| **Offsite Paving** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.17 | 19.17 | 0.00 | 0.00 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.83 | 0.83 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.01 | 0.01 | 0.53 | 0.86 | 2.58 | 3.86 | 4.19 | 5.41 | 7.57 | 8.54 | 9.90 | 13.36 | 13.58 | 12.36 | 12.23 | 12.59 | 14.99 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.11 | 0.17 | 0.18 | 0.24 | 0.33 | 0.37 | 0.43 | 0.58 | 0.59 | 0.54 | 0.53 | 0.55 | 0.65 |
| **Total Project VOC Emissions (Construction Equipment, Paving, and V** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **0.00** | **0.00** | **0.01** | **125.29** | **180.20** | **189.85** | **238.10** | **106.14** | **109.92** | **128.07** | **155.06** | **155.07** | **185.28** | **185.29** | **366.61** | **207.14** | **185.28** | **186.89** |
| **Total Onsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **5.45** | **7.83** | **8.25** | **10.35** | **4.61** | **4.78** | **5.57** | **6.74** | **6.74** | **8.06** | **8.06** | **15.94** | **9.01** | **8.06** | **8.13** |
| **Total Offsite Monthly Emissions (lb/month)** | **0.00** | **0.01** | **0.01** | **0.53** | **0.86** | **2.58** | **1,383.12** | **1,385.56** | **1,386.77** | **1,388.94** | **1,389.91** | **1,391.27** | **1,394.73** | **1,394.94** | **1,420.44** | **1,420.30** | **1,396.07** | **1,398.46** |
| **Total Offsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.02** | **0.04** | **0.11** | **60.14** | **60.24** | **60.29** | **60.39** | **60.43** | **60.49** | **60.64** | **60.65** | **61.76** | **61.75** | **60.70** | **60.80** |
| **Total Monthly Emissions (lb/month)** | **0.01** | **0.01** | **0.02** | **125.82** | **181.06** | **192.43** | **1,621.22** | **1,491.69** | **1,496.70** | **1,517.01** | **1,544.97** | **1,546.34** | **1,580.01** | **1,580.24** | **1,787.04** | **1,627.44** | **1,581.35** | **1,585.35** |
| **Total Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **5.47** | **7.87** | **8.37** | **70.49** | **64.86** | **65.07** | **65.96** | **67.17** | **67.23** | **68.70** | **68.71** | **77.70** | **70.76** | **68.75** | **68.93** |
| **Rolling 12 Month Total (Tons)** | | | | | | | | | | | | **4.86** | **5.65** | **6.44** | **7.33** | **8.08** | **8.78** | **9.48** |
| **Total Project Emissions (tons)** | **15.38** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | **46.12** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**CO Emissions**

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Emission Source** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 5,326.99 | 5,607.62 | 5,290.68 | 5,290.68 | 5,216.83 | 5,216.83 | 855.16 | 855.16 | 695.25 | 518.38 | 346.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 231.61 | 243.81 | 230.03 | 230.03 | 226.82 | 226.82 | 37.18 | 37.18 | 30.23 | 22.54 | 15.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 11,140.81 | 11,140.81 | 11,140.81 | 10,985.10 | 10,985.10 | 10,985.10 | 10,829.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 484.38 | 484.38 | 484.38 | 477.61 | 477.61 | 477.61 | 470.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 1.77 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.82 | 0.82 | 0.78 | 0.78 | 0.35 | 0.26 | 0.26 | 0.26 | 0.26 | 0.07 | 0.07 | 0.07 | 0.47 | 0.47 | 0.44 | 0.44 | 0.35 | 0.35 |
| Total (lb/day) [a] | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 1,079.67 | 1,269.36 | 1,277.77 | 1,341.00 | 1,311.22 | 1,188.91 | 1,045.59 | 670.42 | 295.24 | 134.94 | 97.00 | 80.14 | 55.10 | 42.45 | 0.28 | 0.28 | 0.22 | 0.22 |
| Total (lb/day) [a] | 46.94 | 55.19 | 55.56 | 58.30 | 57.01 | 51.69 | 45.46 | 29.15 | 12.84 | 5.87 | 4.22 | 3.48 | 2.40 | 1.85 | 0.01 | 0.01 | 0.01 | 0.01 |
| **Total Project CO Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **5,329.59** | **5,610.21** | **5,293.22** | **5,293.22** | **5,218.96** | **5,218.86** | **857.19** | **857.19** | **697.28** | **520.23** | **348.09** | **0.07** | **0.47** | **0.47** | **0.44** | **0.44** | **0.35** | **0.35** |
| **Total Onsite Daily Emissions (lb/day)** | **231.72** | **243.92** | **230.14** | **230.14** | **226.91** | **226.91** | **37.27** | **37.27** | **30.32** | **22.62** | **15.13** | **0.00** | **0.02** | **0.02** | **0.02** | **0.02** | **0.02** | **0.02** |
| **Total Offsite Monthly Emissions (lb/month)** | **12,220.49** | **12,410.18** | **12,418.58** | **12,326.09** | **12,296.32** | **12,174.01** | **11,874.97** | **670.42** | **295.24** | **134.94** | **97.00** | **80.14** | **55.10** | **42.45** | **0.28** | **0.28** | **0.22** | **0.22** |
| **Total Offsite Daily Emissions (lb/day)** | **531.33** | **539.57** | **539.94** | **535.92** | **534.62** | **529.30** | **516.30** | **29.15** | **12.84** | **5.87** | **4.22** | **3.48** | **2.40** | **1.85** | **0.01** | **0.01** | **0.01** | **0.01** |
| **Total Monthly Emissions (lb/month)** | **17,550.07** | **18,020.39** | **17,711.80** | **17,619.32** | **17,515.28** | **17,392.88** | **12,732.16** | **1,527.61** | **992.52** | **655.17** | **445.09** | **80.21** | **55.57** | **42.93** | **0.73** | **0.73** | **0.57** | **0.57** |
| **Total Daily Emissions (lb/day)** | **763.05** | **783.50** | **770.08** | **766.06** | **761.53** | **756.21** | **553.57** | **66.42** | **43.15** | **28.49** | **19.35** | **3.49** | **2.42** | **1.87** | **0.03** | **0.03** | **0.02** | **0.02** |
| **Rolling 12 Month Total (Tons)** | **97.16** | **99.54** | **101.64** | **103.28** | **104.15** | **104.90** | **102.85** | **95.19** | **86.38** | **77.92** | **69.67** | **61.12** | **52.37** | **43.39** | **34.53** | **25.72** | **16.96** | **8.27** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**VOC Emissions**

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Emission Source** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 192.17 | 197.57 | 186.45 | 186.45 | 184.83 | 184.83 | 79.53 | 79.53 | 76.02 | 56.93 | 53.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 8.36 | 8.59 | 8.11 | 8.11 | 8.04 | 8.04 | 3.46 | 3.46 | 3.31 | 2.48 | 2.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 1,383.47 | 1,383.47 | 1,383.47 | 1,381.37 | 1,381.37 | 1,381.37 | 1,379.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 60.15 | 60.15 | 60.15 | 60.06 | 60.06 | 60.06 | 59.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.05 | 0.05 | 0.05 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Paving** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Paving** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 16.38 | 19.24 | 19.37 | 20.32 | 19.83 | 17.98 | 15.81 | 10.15 | 4.48 | 2.04 | 1.47 | 1.22 | 0.87 | 0.68 | 0.04 | 0.04 | 0.03 | 0.03 |
| Total (lb/day) [a] | 0.71 | 0.84 | 0.84 | 0.88 | 0.86 | 0.78 | 0.69 | 0.44 | 0.19 | 0.09 | 0.06 | 0.05 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Project VOC Emissions (Construction Equipment, Paving, and ** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **192.28** | **197.68** | **186.55** | **186.55** | **184.91** | **184.90** | **79.60** | **79.60** | **76.09** | **56.99** | **53.21** | **0.00** | **0.03** | **0.03** | **0.03** | **0.03** | **0.02** | **0.02** |
| **Total Onsite Daily Emissions (lb/day)** | **8.36** | **8.59** | **8.11** | **8.11** | **8.04** | **8.04** | **3.46** | **3.46** | **3.31** | **2.48** | **2.31** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Offsite Monthly Emissions (lb/month)** | **1,399.85** | **1,402.71** | **1,402.84** | **1,401.69** | **1,401.20** | **1,399.35** | **1,395.08** | **10.15** | **4.48** | **2.04** | **1.47** | **1.22** | **0.87** | **0.68** | **0.04** | **0.04** | **0.03** | **0.03** |
| **Total Offsite Daily Emissions (lb/day)** | **60.86** | **60.99** | **60.99** | **60.94** | **60.92** | **60.84** | **60.66** | **0.44** | **0.19** | **0.09** | **0.06** | **0.05** | **0.04** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Emissions (lb/month)** | **1,592.13** | **1,600.39** | **1,589.39** | **1,588.24** | **1,586.11** | **1,584.25** | **1,474.68** | **89.75** | **80.57** | **59.04** | **54.68** | **1.22** | **0.90** | **0.71** | **0.07** | **0.07** | **0.06** | **0.06** |
| **Total Daily Emissions (lb/day)** | **69.22** | **69.58** | **69.10** | **69.05** | **68.96** | **68.88** | **64.12** | **3.90** | **3.50** | **2.57** | **2.38** | **0.05** | **0.04** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Rolling 12 Month Total (Tons)** | **9.47** | **9.52** | **9.57** | **9.60** | **9.62** | **9.64** | **9.59** | **8.84** | **7.99** | **7.21** | **6.44** | **5.65** | **4.85** | **4.05** | **3.26** | **2.47** | **1.67** | **0.88** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$SO_x$ Emissions**

| Emission Source | $SO_x$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 4.68 | 6.26 | 7.15 | 8.12 | 4.56 | 4.86 | 6.13 | 8.76 | 8.76 | 10.10 | 10.10 | 14.74 | 10.50 | 10.10 | 10.23 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.20 | 0.27 | 0.31 | 0.35 | 0.20 | 0.21 | 0.27 | 0.38 | 0.38 | 0.44 | 0.44 | 0.64 | 0.46 | 0.44 | 0.44 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 28.37 | 28.57 | 28.57 | 28.57 | 28.57 | 28.57 | 28.57 | 28.57 | 29.23 | 29.23 | 28.77 | 28.77 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.23 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.27 | 1.27 | 1.25 | 1.25 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.01 | 0.07 | 0.11 | 0.27 | 0.40 | 0.44 | 0.56 | 0.77 | 0.87 | 1.02 | 1.38 | 1.43 | 1.31 | 1.28 | 1.30 | 1.50 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 |
| **Total Project $SO_x$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **4.68** | **6.26** | **7.15** | **8.12** | **4.56** | **4.87** | **6.14** | **8.77** | **8.77** | **10.10** | **10.10** | **14.75** | **10.51** | **10.10** | **10.24** |
| **Total Onsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.20** | **0.27** | **0.31** | **0.35** | **0.20** | **0.21** | **0.27** | **0.38** | **0.38** | **0.44** | **0.44** | **0.64** | **0.46** | **0.44** | **0.45** |
| **Total Offsite Monthly Emissions (lb/month)** | **0.00** | **0.00** | **0.01** | **0.07** | **0.11** | **0.27** | **28.76** | **29.01** | **29.13** | **29.34** | **29.44** | **29.59** | **29.95** | **30.00** | **30.54** | **30.51** | **30.07** | **30.27** |
| **Total Offsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **1.25** | **1.26** | **1.27** | **1.28** | **1.28** | **1.29** | **1.30** | **1.30** | **1.33** | **1.33** | **1.31** | **1.32** |
| **Total Monthly Emissions (lb/month)** | **0.00** | **0.01** | **0.01** | **4.75** | **6.37** | **7.42** | **36.89** | **33.57** | **34.00** | **35.47** | **38.21** | **38.36** | **40.05** | **40.10** | **45.29** | **41.02** | **40.18** | **40.51** |
| **Total Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.21** | **0.28** | **0.32** | **1.60** | **1.46** | **1.48** | **1.54** | **1.66** | **1.67** | **1.74** | **1.74** | **1.97** | **1.78** | **1.75** | **1.76** |
| **Rolling 12 Month Total (Tons)** | | | | | | | | | | | | **0.12** | **0.14** | **0.16** | **0.18** | **0.20** | **0.22** | **0.23** |
| **Total Project Emissions (tons)** | **0.39** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | **1.16** | | | | | | | | | | | | | | | | | |

**$NO_x$ Emissions**

| Emission Source | $NO_x$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 814.56 | 1,181.75 | 1,263.62 | 1,585.71 | 886.78 | 1,002.24 | 1,153.84 | 1,294.15 | 1,294.15 | 1,786.99 | 1,786.99 | 2,931.06 | 1,856.73 | 1,786.99 | 1,836.52 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 35.42 | 51.38 | 54.94 | 68.94 | 38.56 | 43.58 | 50.17 | 56.27 | 56.27 | 77.70 | 77.70 | 127.44 | 80.73 | 77.70 | 79.85 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2,191.23 | 2,202.18 | 2,202.18 | 2,202.18 | 2,202.18 | 2,202.18 | 2,202.18 | 2,202.18 | 2,291.64 | 2,291.64 | 2,213.12 | 2,213.12 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 95.27 | 95.75 | 95.75 | 95.75 | 95.75 | 95.75 | 95.75 | 95.75 | 99.64 | 99.64 | 96.22 | 96.22 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 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 | 0.11 | 0.11 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.04 | 0.07 | 0.14 | 0.22 | 0.38 | 0.38 | 0.42 | 0.57 | 0.68 | 0.68 | 0.86 | 1.02 | 1.24 | 1.32 | 1.31 | 1.28 | 1.21 | 1.01 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.06 | 0.06 | 0.05 | 0.04 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.31 | 0.48 | 1.06 | 3.69 | 6.12 | 13.02 | 18.42 | 20.86 | 26.49 | 35.18 | 40.36 | 47.76 | 63.97 | 67.99 | 62.88 | 60.69 | 60.71 | 67.29 |
| Total (lb/day) [a] | 0.01 | 0.02 | 0.05 | 0.16 | 0.27 | 0.57 | 0.80 | 0.91 | 1.15 | 1.53 | 1.75 | 2.08 | 2.78 | 2.96 | 2.73 | 2.64 | 2.64 | 2.93 |
| **Total Project $NO_x$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **0.04** | **0.07** | **0.14** | **814.88** | **1,182.23** | **1,264.10** | **1,586.23** | **887.46** | **1,003.02** | **1,154.62** | **1,295.11** | **1,295.28** | **1,788.34** | **1,788.42** | **2,932.48** | **1,858.12** | **1,788.31** | **1,837.64** |
| **Total Onsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.01** | **35.43** | **51.40** | **54.96** | **68.97** | **38.59** | **43.61** | **50.20** | **56.31** | **56.32** | **77.75** | **77.76** | **127.50** | **80.79** | **77.75** | **79.90** |
| **Total Offsite Monthly Emissions (lb/month)** | **0.31** | **0.48** | **1.06** | **3.69** | **6.12** | **13.02** | **2,209.66** | **2,223.04** | **2,228.67** | **2,237.35** | **2,242.54** | **2,249.94** | **2,266.15** | **2,270.16** | **2,354.52** | **2,352.33** | **2,273.83** | **2,280.41** |
| **Total Offsite Daily Emissions (lb/day)** | **0.01** | **0.02** | **0.05** | **0.16** | **0.27** | **0.57** | **96.07** | **96.65** | **96.90** | **97.28** | **97.50** | **97.82** | **98.53** | **98.70** | **102.37** | **102.28** | **98.86** | **99.15** |
| **Total Monthly Emissions (lb/month)** | **0.35** | **0.55** | **1.21** | **818.57** | **1,188.36** | **1,277.12** | **3,795.89** | **3,110.50** | **3,231.69** | **3,391.98** | **3,537.65** | **3,545.21** | **4,054.49** | **4,058.59** | **5,287.00** | **4,210.45** | **4,062.15** | **4,118.05** |
| **Total Daily Emissions (lb/day)** | **0.02** | **0.02** | **0.05** | **35.59** | **51.67** | **55.53** | **165.04** | **135.24** | **140.51** | **147.48** | **153.81** | **154.14** | **176.28** | **176.46** | **229.87** | **183.06** | **176.62** | **179.05** |
| **Rolling 12 Month Total (Tons)** | | | | | | | | | | | | **11.95** | **13.98** | **16.01** | **18.65** | **20.34** | **21.78** | **23.20** |
| **Total Project Emissions (tons)** | **39.90** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | **119.63** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$SO_x$ Emissions**

| Emission Source | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 10.76 | 11.28 | 10.66 | 10.66 | 10.53 | 10.53 | 2.41 | 2.41 | 2.13 | 1.72 | 1.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 0.47 | 0.49 | 0.46 | 0.46 | 0.46 | 0.46 | 0.10 | 0.10 | 0.09 | 0.07 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 28.77 | 28.77 | 28.77 | 28.57 | 28.57 | 28.57 | 28.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 1.25 | 1.25 | 1.25 | 1.24 | 1.24 | 1.24 | 1.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 1.62 | 1.90 | 1.91 | 2.00 | 1.92 | 1.74 | 1.53 | 0.99 | 0.45 | 0.20 | 0.15 | 0.12 | 0.12 | 0.10 | 0.04 | 0.04 | 0.03 | 0.03 |
| Total (lb/day) [a] | 0.07 | 0.08 | 0.08 | 0.09 | 0.08 | 0.08 | 0.07 | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Project $SO_x$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **10.76** | **11.29** | **10.67** | **10.67** | **10.54** | **10.54** | **2.42** | **2.42** | **2.13** | **1.72** | **1.42** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Daily Emissions (lb/day)** | **0.47** | **0.49** | **0.46** | **0.46** | **0.46** | **0.46** | **0.11** | **0.11** | **0.09** | **0.07** | **0.06** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Offsite Monthly Emissions (lb/month)** | **30.40** | **30.67** | **30.68** | **30.57** | **30.49** | **30.30** | **29.90** | **0.99** | **0.45** | **0.20** | **0.15** | **0.12** | **0.12** | **0.10** | **0.04** | **0.04** | **0.03** | **0.03** |
| **Total Offsite Daily Emissions (lb/day)** | **1.32** | **1.33** | **1.33** | **1.33** | **1.33** | **1.32** | **1.30** | **0.04** | **0.02** | **0.01** | **0.01** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Emissions (lb/month)** | **41.16** | **41.96** | **41.35** | **41.24** | **41.02** | **40.84** | **32.31** | **3.40** | **2.58** | **1.92** | **1.56** | **0.12** | **0.12** | **0.10** | **0.04** | **0.04** | **0.03** | **0.03** |
| **Total Daily Emissions (lb/day)** | **1.79** | **1.82** | **1.80** | **1.79** | **1.78** | **1.78** | **1.40** | **0.15** | **0.11** | **0.08** | **0.07** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Rolling 12 Month Total (Tons)** | **0.23** | **0.24** | **0.24** | **0.24** | **0.25** | **0.25** | **0.24** | **0.23** | **0.20** | **0.18** | **0.16** | **0.14** | **0.12** | **0.10** | **0.08** | **0.06** | **0.04** | **0.02** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**$NO_x$ Emissions**

| Emission Source | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 1,864.58 | 1,892.65 | 1,821.22 | 1,821.22 | 1,771.69 | 1,771.69 | 776.38 | 776.38 | 669.12 | 473.57 | 358.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 81.07 | 82.29 | 79.18 | 79.18 | 77.03 | 77.03 | 33.76 | 33.76 | 29.09 | 20.59 | 15.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 2,213.12 | 2,213.12 | 2,213.12 | 2,202.18 | 2,202.18 | 2,202.18 | 2,191.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 96.22 | 96.22 | 96.22 | 95.75 | 95.75 | 95.75 | 95.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.91 | 0.91 | 0.85 | 0.85 | 0.39 | 0.29 | 0.29 | 0.29 | 0.29 | 0.08 | 0.08 | 0.08 | 0.52 | 0.52 | 0.49 | 0.49 | 0.39 | 0.39 |
| Total (lb/day) [a] | 0.04 | 0.04 | 0.04 | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 72.14 | 83.64 | 83.77 | 87.60 | 82.37 | 74.19 | 65.50 | 42.76 | 20.01 | 8.76 | 6.46 | 5.43 | 7.19 | 6.42 | 3.63 | 3.63 | 2.86 | 2.86 |
| Total (lb/day) [a] | 3.14 | 3.64 | 3.64 | 3.81 | 3.58 | 3.23 | 2.85 | 1.86 | 0.87 | 0.38 | 0.28 | 0.24 | 0.31 | 0.28 | 0.16 | 0.16 | 0.12 | 0.12 |
| **Total Project $NO_x$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **1,865.60** | **1,893.66** | **1,822.18** | **1,822.18** | **1,772.19** | **1,772.09** | **776.77** | **776.77** | **669.52** | **473.75** | **358.29** | **0.08** | **0.52** | **0.52** | **0.49** | **0.49** | **0.39** | **0.39** |
| **Total Onsite Daily Emissions (lb/day)** | **81.11** | **82.33** | **79.23** | **79.23** | **77.05** | **77.05** | **33.77** | **33.77** | **29.11** | **20.60** | **15.58** | **0.00** | **0.02** | **0.02** | **0.02** | **0.02** | **0.02** | **0.02** |
| **Total Offsite Monthly Emissions (lb/month)** | **2,285.26** | **2,296.76** | **2,296.88** | **2,289.77** | **2,284.55** | **2,276.36** | **2,256.73** | **42.76** | **20.01** | **8.76** | **6.46** | **5.43** | **7.19** | **6.42** | **3.63** | **3.63** | **2.86** | **2.86** |
| **Total Offsite Daily Emissions (lb/day)** | **99.36** | **99.86** | **99.86** | **99.56** | **99.33** | **98.97** | **98.12** | **1.86** | **0.87** | **0.38** | **0.28** | **0.24** | **0.31** | **0.28** | **0.16** | **0.16** | **0.12** | **0.12** |
| **Total Monthly Emissions (lb/month)** | **4,150.86** | **4,190.42** | **4,119.07** | **4,111.96** | **4,056.74** | **4,048.45** | **3,033.50** | **819.53** | **689.53** | **482.51** | **364.75** | **5.51** | **7.71** | **6.94** | **4.12** | **4.12** | **3.25** | **3.25** |
| **Total Daily Emissions (lb/day)** | **180.47** | **182.19** | **179.09** | **178.78** | **176.38** | **176.02** | **131.89** | **35.63** | **29.98** | **20.98** | **15.86** | **0.24** | **0.34** | **0.30** | **0.18** | **0.18** | **0.14** | **0.14** |
| **Rolling 12 Month Total (Tons)** | **23.38** | **23.92** | **24.36** | **24.72** | **24.98** | **25.23** | **24.72** | **23.10** | **20.81** | **18.94** | **17.09** | **15.04** | **12.96** | **10.87** | **8.82** | **6.76** | **4.73** | **2.71** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$PM_{10}$ Emissions**

| Emission Source | $PM_{10}$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 29.46 | 42.65 | 44.47 | 58.11 | 25.53 | 25.95 | 30.18 | 35.57 | 35.57 | 42.84 | 42.84 | 82.16 | 43.65 | 42.84 | 43.02 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 1.28 | 1.85 | 1.93 | 2.53 | 1.11 | 1.13 | 1.31 | 1.55 | 1.55 | 1.86 | 1.86 | 3.57 | 1.90 | 1.86 | 1.87 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 509.44 | 509.86 | 509.86 | 509.86 | 509.86 | 509.86 | 509.86 | 509.86 | 511.19 | 511.19 | 510.28 | 510.28 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 22.15 | 22.17 | 22.17 | 22.17 | 22.17 | 22.17 | 22.17 | 22.17 | 22.23 | 22.23 | 22.19 | 22.19 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 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 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Fugitive Dust** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 135.06 | 135.06 | 118.40 | 118.40 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 5.87 | 5.87 | 5.15 | 5.15 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.10 | 0.16 | 0.36 | 5.50 | 8.99 | 25.70 | 38.17 | 41.65 | 53.67 | 74.71 | 84.45 | 98.12 | 132.33 | 135.24 | 123.40 | 121.62 | 124.84 | 147.33 |
| Total (lb/day) [a] | 0.00 | 0.01 | 0.02 | 0.24 | 0.39 | 1.12 | 1.66 | 1.81 | 2.33 | 3.25 | 3.67 | 4.27 | 5.75 | 5.88 | 5.37 | 5.29 | 5.43 | 6.41 |
| **Total Project $PM_{10}$ Emissions (Construction Equipment, Fugitive Dust** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **164.53** | **177.71** | **162.88** | **176.53** | **112.39** | **112.81** | **117.04** | **122.44** | **122.44** | **129.71** | **129.70** | **169.03** | **130.51** | **129.71** | **129.88** |
| **Total Onsite Monthly Emissions Without Fugitive Dust (lb/month)** | **0.00** | **0.00** | **0.00** | **29.47** | **42.66** | **44.48** | **58.12** | **25.54** | **25.96** | **30.19** | **35.58** | **35.59** | **42.85** | **42.85** | **82.17** | **43.66** | **42.85** | **43.03** |
| **Total Onsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **7.15** | **7.73** | **7.08** | **7.68** | **4.89** | **4.90** | **5.09** | **5.32** | **5.32** | **5.64** | **5.64** | **7.35** | **5.67** | **5.64** | **5.65** |
| **Total Onsite Daily Emissions (lb/day) Without Fugitive Dust** | **0.00** | **0.00** | **0.00** | **1.28** | **1.85** | **1.93** | **2.53** | **1.11** | **1.13** | **1.31** | **1.55** | **1.55** | **1.86** | **1.86** | **3.57** | **1.90** | **1.86** | **1.87** |
| **Total Offsite Monthly Emissions (lb/month)** | **0.10** | **0.16** | **0.36** | **5.50** | **8.99** | **25.70** | **547.61** | **551.51** | **563.53** | **584.57** | **594.31** | **607.97** | **642.19** | **645.10** | **634.59** | **632.81** | **635.12** | **657.61** |
| **Total Offsite Daily Emissions (lb/day)** | **0.00** | **0.01** | **0.02** | **0.24** | **0.39** | **1.12** | **23.81** | **23.98** | **24.50** | **25.42** | **25.84** | **26.43** | **27.92** | **28.05** | **27.59** | **27.51** | **27.61** | **28.59** |
| **Total Monthly Emissions (lb/month)** | **0.10** | **0.16** | **0.36** | **170.03** | **186.70** | **188.57** | **724.13** | **663.90** | **676.34** | **701.61** | **716.75** | **730.41** | **771.89** | **774.80** | **803.62** | **763.32** | **764.82** | **787.49** |
| **Total Daily Emissions (lb/day)** | **0.00** | **0.01** | **0.02** | **7.39** | **8.12** | **8.20** | **31.48** | **28.87** | **29.41** | **30.50** | **31.16** | **31.76** | **33.56** | **33.69** | **34.94** | **33.19** | **33.25** | **34.24** |
| **Rolling 12 Month Total (Tons)** | | | | | | | | | | | | **2.38** | **2.77** | **3.15** | **3.55** | **3.85** | **4.14** | **4.44** |
| **Total Project Emissions (tons)** | **7.88** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | **23.64** | | | | | | | | | | | | | | | | | |

**$PM_{2.5}$ Emissions**

| Emission Source | $PM_{2.5}$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 27.40 | 39.56 | 41.39 | 53.93 | 23.91 | 24.33 | 28.41 | 33.81 | 33.81 | 40.62 | 40.62 | 76.86 | 41.42 | 40.62 | 40.80 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 1.19 | 1.72 | 1.80 | 2.34 | 1.04 | 1.06 | 1.24 | 1.47 | 1.47 | 1.77 | 1.77 | 3.34 | 1.80 | 1.77 | 1.77 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 509.44 | 509.86 | 509.86 | 509.86 | 509.86 | 509.86 | 509.86 | 509.86 | 511.19 | 511.19 | 510.28 | 510.28 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 22.15 | 22.17 | 22.17 | 22.17 | 22.17 | 22.17 | 22.17 | 22.17 | 22.23 | 22.23 | 22.19 | 22.19 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 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 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Fugitive Dust** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 15.23 | 15.23 | 13.43 | 13.43 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 |
| Total (lb/day) | 0.00 | 0.00 | 0.00 | 0.66 | 0.66 | 0.58 | 0.58 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.03 | 0.05 | 0.10 | 1.44 | 2.35 | 6.66 | 9.88 | 10.79 | 13.90 | 19.32 | 21.85 | 25.40 | 34.25 | 35.04 | 31.98 | 31.50 | 32.31 | 38.08 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.06 | 0.10 | 0.29 | 0.43 | 0.47 | 0.60 | 0.84 | 0.95 | 1.10 | 1.49 | 1.52 | 1.39 | 1.37 | 1.40 | 1.66 |
| **Total Project $PM_{2.5}$ Emissions (Construction Equipment, Fugitive Dus** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **42.64** | **54.80** | **54.82** | **67.36** | **32.57** | **32.99** | **37.07** | **42.46** | **42.46** | **49.28** | **49.28** | **85.52** | **50.08** | **49.28** | **49.46** |
| **Total Onsite Monthly Emissions Without Fugitive Dust (lb/month)** | **0.00** | **0.00** | **0.00** | **27.41** | **39.57** | **41.39** | **53.94** | **23.92** | **24.34** | **28.42** | **33.81** | **33.81** | **40.62** | **40.62** | **76.86** | **41.43** | **40.62** | **40.80** |
| **Total Onsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **1.85** | **2.38** | **2.38** | **2.93** | **1.42** | **1.43** | **1.61** | **1.85** | **1.85** | **2.14** | **2.14** | **3.72** | **2.18** | **2.14** | **2.15** |
| **Total Onsite Daily Emissions Without Fugitive Dust (lb/day)** | **0.00** | **0.00** | **0.00** | **1.19** | **1.72** | **1.80** | **2.35** | **1.04** | **1.06** | **1.24** | **1.47** | **1.47** | **1.77** | **1.77** | **3.34** | **1.80** | **1.77** | **1.77** |
| **Total Offsite Monthly Emissions (lb/month)** | **0.03** | **0.05** | **0.10** | **1.44** | **2.35** | **6.66** | **519.31** | **520.64** | **523.75** | **529.18** | **531.71** | **535.25** | **544.11** | **544.89** | **543.16** | **542.69** | **542.59** | **548.36** |
| **Total Offsite Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.06** | **0.10** | **0.29** | **22.58** | **22.64** | **22.77** | **23.01** | **23.12** | **23.27** | **23.66** | **23.69** | **23.62** | **23.60** | **23.59** | **23.84** |
| **Total Monthly Emissions (lb/month)** | **0.03** | **0.05** | **0.10** | **44.07** | **57.14** | **61.48** | **586.68** | **553.21** | **556.74** | **566.25** | **574.17** | **577.72** | **593.38** | **594.17** | **628.68** | **592.77** | **591.87** | **597.82** |
| **Total Daily Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **1.92** | **2.48** | **2.67** | **25.51** | **24.05** | **24.21** | **24.62** | **24.96** | **25.12** | **25.80** | **25.83** | **27.33** | **25.77** | **25.73** | **25.99** |
| **Rolling 12 Month Total (Tons)** | | | | | | | | | | | | **1.79** | **2.09** | **2.38** | **2.70** | **2.97** | **3.24** | **3.51** |
| **Total Project Emissions (tons)** | **5.77** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | **17.31** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$PM_{10}$ Emissions**

| Emission Source | July | August | September | October | November | December | 2026 January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 44.10 | 45.18 | 42.40 | 42.40 | 42.22 | 42.22 | 19.53 | 19.53 | 19.14 | 13.26 | 12.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 1.92 | 1.96 | 1.84 | 1.84 | 1.84 | 1.84 | 0.85 | 0.85 | 0.83 | 0.58 | 0.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 510.28 | 510.28 | 510.28 | 509.86 | 509.86 | 509.86 | 509.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 22.19 | 22.19 | 22.19 | 22.17 | 22.17 | 22.17 | 22.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Fugitive Dust** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 160.68 | 188.53 | 189.64 | 198.92 | 193.44 | 175.23 | 154.19 | 99.11 | 44.03 | 20.00 | 14.43 | 11.95 | 9.34 | 7.49 | 1.22 | 1.22 | 0.96 | 0.96 |
| Total (lb/day) [a] | 6.99 | 8.20 | 8.25 | 8.65 | 8.41 | 7.62 | 6.70 | 4.31 | 1.91 | 0.87 | 0.63 | 0.52 | 0.41 | 0.33 | 0.05 | 0.05 | 0.04 | 0.04 |
| **Total Project $PM_{10}$ Emissions (Construction Equipment, Fugitive Dust** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **130.96** | **132.04** | **129.27** | **129.27** | **129.09** | **129.09** | **106.40** | **106.40** | **106.01** | **100.12** | **99.70** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Monthly Emissions Without Fugitive Dust (lb/month)** | **44.11** | **45.19** | **42.41** | **42.41** | **42.23** | **42.23** | **19.54** | **19.54** | **19.15** | **13.27** | **12.85** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Daily Emissions (lb/day)** | **5.69** | **5.74** | **5.62** | **5.62** | **5.61** | **5.61** | **4.63** | **4.63** | **4.61** | **4.35** | **4.33** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Daily Emissions (lb/day) Without Fugitive Dust** | **1.92** | **1.96** | **1.84** | **1.84** | **1.84** | **1.84** | **0.85** | **0.85** | **0.83** | **0.58** | **0.56** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Offsite Monthly Emissions (lb/month)** | **670.96** | **698.81** | **699.92** | **708.78** | **703.29** | **685.09** | **663.62** | **99.11** | **44.03** | **20.00** | **14.43** | **11.95** | **9.34** | **7.49** | **1.22** | **1.22** | **0.96** | **0.96** |
| **Total Offsite Daily Emissions (lb/day)** | **29.17** | **30.38** | **30.43** | **30.82** | **30.58** | **29.79** | **28.85** | **4.31** | **1.91** | **0.87** | **0.63** | **0.52** | **0.41** | **0.33** | **0.05** | **0.05** | **0.04** | **0.04** |
| **Total Monthly Emissions (lb/month)** | **801.93** | **830.85** | **829.19** | **838.05** | **832.38** | **814.18** | **770.02** | **205.51** | **150.04** | **120.12** | **114.13** | **11.95** | **9.34** | **7.49** | **1.22** | **1.22** | **0.96** | **0.96** |
| **Total Daily Emissions (lb/day)** | **34.87** | **36.12** | **36.05** | **36.44** | **36.19** | **35.40** | **33.48** | **8.94** | **6.52** | **5.22** | **4.96** | **0.52** | **0.41** | **0.33** | **0.05** | **0.05** | **0.04** | **0.04** |
| **Rolling 12 Month Total (Tons)** | **4.48** | **4.56** | **4.64** | **4.71** | **4.76** | **4.81** | **4.81** | **4.52** | **4.19** | **3.87** | **3.55** | **3.16** | **2.76** | **2.35** | **1.94** | **1.52** | **1.10** | **0.70** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**$PM_{2.5}$ Emissions**

| Emission Source | July | August | September | October | November | December | 2026 January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 41.88 | 42.96 | 40.32 | 40.32 | 40.14 | 40.14 | 18.05 | 18.05 | 17.66 | 12.23 | 11.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 1.82 | 1.87 | 1.75 | 1.75 | 1.75 | 1.75 | 0.78 | 0.78 | 0.77 | 0.53 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 510.28 | 510.28 | 510.28 | 509.86 | 509.86 | 509.86 | 509.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 22.19 | 22.19 | 22.19 | 22.17 | 22.17 | 22.17 | 22.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Fugitive Dust** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (lb/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (lb/month) | 41.52 | 48.71 | 48.99 | 51.38 | 49.93 | 45.23 | 39.80 | 25.59 | 11.38 | 5.16 | 3.73 | 3.09 | 2.45 | 1.97 | 0.35 | 0.35 | 0.28 | 0.28 |
| Total (lb/day) [a] | 1.81 | 2.12 | 2.13 | 2.23 | 2.17 | 1.97 | 1.73 | 1.11 | 0.49 | 0.22 | 0.16 | 0.13 | 0.11 | 0.09 | 0.02 | 0.02 | 0.01 | 0.01 |
| **Total Project $PM_{2.5}$ Emissions (Construction Equipment, Fugitive Dus** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (lb/month)** | **50.53** | **51.61** | **48.98** | **48.98** | **48.80** | **48.79** | **26.71** | **26.71** | **26.32** | **20.89** | **20.47** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Monthly Emissions Without Fugitive Dust (lb/month)** | **41.88** | **42.96** | **40.32** | **40.32** | **40.14** | **40.14** | **18.06** | **18.06** | **17.67** | **12.24** | **11.82** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Daily Emissions (lb/day)** | **2.20** | **2.24** | **2.13** | **2.13** | **2.12** | **2.12** | **1.16** | **1.16** | **1.14** | **0.91** | **0.89** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Daily Emissions Without Fugitive Dust (lb/day)** | **1.82** | **1.87** | **1.75** | **1.75** | **1.75** | **1.75** | **0.79** | **0.79** | **0.77** | **0.53** | **0.51** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Offsite Monthly Emissions (lb/month)** | **551.80** | **558.98** | **559.26** | **561.24** | **559.79** | **555.09** | **549.24** | **25.59** | **11.38** | **5.16** | **3.73** | **3.09** | **2.45** | **1.97** | **0.35** | **0.35** | **0.28** | **0.28** |
| **Total Offsite Daily Emissions (lb/day)** | **23.99** | **24.30** | **24.32** | **24.40** | **24.34** | **24.13** | **23.88** | **1.11** | **0.49** | **0.22** | **0.16** | **0.13** | **0.11** | **0.09** | **0.02** | **0.02** | **0.01** | **0.01** |
| **Total Monthly Emissions (lb/month)** | **602.33** | **610.60** | **608.24** | **610.21** | **608.59** | **603.88** | **575.94** | **52.30** | **37.70** | **26.05** | **24.20** | **3.09** | **2.45** | **1.97** | **0.35** | **0.35** | **0.28** | **0.28** |
| **Total Daily Emissions (lb/day)** | **26.19** | **26.55** | **26.45** | **26.53** | **26.46** | **26.26** | **25.04** | **2.27** | **1.64** | **1.13** | **1.05** | **0.13** | **0.11** | **0.09** | **0.02** | **0.02** | **0.01** | **0.01** |
| **Rolling 12 Month Total (Tons)** | **3.51** | **3.54** | **3.57** | **3.59** | **3.61** | **3.62** | **3.61** | **3.34** | **3.05** | **2.76** | **2.48** | **2.18** | **1.88** | **1.58** | **1.27** | **0.97** | **0.66** | **0.36** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (lb/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$CO_2$ Emissions**

| Emission Source | $CO_2$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00 | 0.00 | 0.00 | 229.75 | 307.50 | 351.01 | 392.83 | 209.13 | 219.95 | 278.95 | 408.09 | 408.09 | 456.63 | 456.63 | 684.63 | 476.51 | 456.63 | 461.28 |
| Total (metric tons/day) | 0.00 | 0.00 | 0.00 | 9.99 | 13.37 | 15.26 | 17.08 | 9.09 | 9.56 | 12.13 | 17.74 | 17.74 | 19.85 | 19.85 | 29.77 | 20.72 | 19.85 | 20.06 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,019.33 | 1,029.29 | 1,029.29 | 1,029.29 | 1,029.29 | 1,029.29 | 1,029.29 | 1,029.29 | 1,061.62 | 1,061.62 | 1,039.24 | 1,039.24 |
| Total (metric tons/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 44.32 | 44.75 | 44.75 | 44.75 | 44.75 | 44.75 | 44.75 | 44.75 | 46.16 | 46.16 | 45.18 | 45.18 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00 | 0.00 | 0.00 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| Total (metric tons/day) [a] | 0.00 | 0.00 | 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 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 0.03 | 0.03 | 0.05 | 0.05 | 0.05 | 0.07 | 0.08 | 0.10 | 0.11 | 0.11 | 0.10 | 0.10 | 0.08 |
| Total (metric tons/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.15 | 0.23 | 0.51 | 2.98 | 4.91 | 12.29 | 17.89 | 19.82 | 25.39 | 34.68 | 39.43 | 46.20 | 62.18 | 64.74 | 59.41 | 57.96 | 58.81 | 67.57 |
| Total (metric tons/day) [a] | 0.01 | 0.01 | 0.02 | 0.13 | 0.21 | 0.53 | 0.78 | 0.86 | 1.10 | 1.51 | 1.71 | 2.01 | 2.70 | 2.81 | 2.58 | 2.52 | 2.56 | 2.94 |
| **Total Project $CO_2$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (metric tons/month)** | **0.00** | **0.01** | **0.01** | **229.90** | **307.66** | **351.17** | **392.99** | **209.30** | **220.13** | **279.14** | **408.29** | **408.30** | **456.86** | **456.87** | **684.87** | **476.74** | **456.86** | **461.49** |
| **Total Onsite Daily Emissions (metric tons/day)** | **0.00** | **0.00** | **0.00** | **10.00** | **13.38** | **15.27** | **17.09** | **9.10** | **9.57** | **12.14** | **17.75** | **17.75** | **19.86** | **19.86** | **29.78** | **20.73** | **19.86** | **20.06** |
| **Total Offsite Monthly Emissions (metric tons/month)** | **0.15** | **0.23** | **0.51** | **2.98** | **4.91** | **12.29** | **1,037.23** | **1,049.11** | **1,054.67** | **1,063.96** | **1,068.72** | **1,075.49** | **1,091.47** | **1,094.02** | **1,121.03** | **1,119.58** | **1,098.05** | **1,106.81** |
| **Total Offsite Daily Emissions (metric tons/day)** | **0.01** | **0.01** | **0.02** | **0.13** | **0.21** | **0.53** | **45.10** | **45.61** | **45.86** | **46.26** | **46.47** | **46.76** | **47.46** | **47.57** | **48.74** | **48.68** | **47.74** | **48.12** |
| **Total Monthly Emissions (metric tons/month)** | **0.15** | **0.24** | **0.53** | **232.88** | **312.57** | **363.46** | **1,430.22** | **1,258.41** | **1,274.81** | **1,343.10** | **1,477.00** | **1,483.79** | **1,548.33** | **1,550.89** | **1,805.90** | **1,596.32** | **1,554.91** | **1,568.30** |
| **Total Daily Emissions (metric tons/day)** | **0.01** | **0.01** | **0.02** | **10.13** | **13.59** | **15.80** | **62.18** | **54.71** | **55.43** | **58.40** | **64.22** | **64.51** | **67.32** | **67.43** | **78.52** | **69.41** | **67.60** | **68.19** |
| **Rolling 12 Month Total (Metric Tons)** | | | | | | | | | | | | **9,177.17** | **10,725.34** | **12,276.00** | **14,081.37** | **15,444.80** | **16,687.14** | **17,891.98** |
| **Total Project Emissions (metric tons)** | **30,077.87** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (metric tons/day) [b, c]** | **45.09** | | | | | | | | | | | | | | | | | |

**$N_2O$ Emissions**

| Emission Source | $N_2O$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.86E-03 | 2.49E-03 | 2.85E-03 | 3.19E-03 | 1.70E-03 | 1.78E-03 | 2.26E-03 | 3.31E-03 | 3.31E-03 | 3.70E-03 | 3.70E-03 | 5.55E-03 | 3.87E-03 | 3.70E-03 | 3.74E-03 |
| Total (metric tons/day) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.10E-05 | 1.08E-04 | 1.24E-04 | 1.39E-04 | 7.38E-05 | 7.76E-05 | 9.84E-05 | 1.44E-04 | 1.44E-04 | 1.61E-04 | 1.61E-04 | 2.41E-04 | 1.68E-04 | 1.61E-04 | 1.63E-04 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Total (metric tons/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 |
| Total (metric tons/day) [a] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 6.73E-09 | 1.05E-08 | 2.32E-08 | 3.58E-08 | 6.10E-08 | 6.10E-08 | 6.73E-08 | 9.26E-08 | 1.09E-07 | 1.09E-07 | 1.39E-07 | 1.72E-07 | 2.14E-07 | 2.49E-07 | 2.46E-07 | 2.29E-07 | 2.09E-07 | 1.63E-07 |
| Total (metric tons/day) [a] | 2.93E-10 | 4.58E-10 | 1.01E-09 | 1.56E-09 | 2.65E-09 | 2.65E-09 | 2.93E-09 | 4.03E-09 | 4.76E-09 | 4.76E-09 | 6.04E-09 | 7.48E-09 | 9.28E-09 | 1.08E-08 | 1.07E-08 | 9.95E-09 | 9.10E-09 | 7.10E-09 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 2.34E-07 | 3.65E-07 | 8.03E-07 | 9.94E-06 | 1.62E-05 | 4.56E-05 | 6.75E-05 | 7.39E-05 | 9.51E-05 | 1.32E-04 | 1.49E-04 | 1.74E-04 | 2.35E-04 | 2.43E-04 | 2.22E-04 | 2.17E-04 | 2.22E-04 | 2.60E-04 |
| Total (metric tons/day) [a] | 1.02E-08 | 1.59E-08 | 3.49E-08 | 4.32E-07 | 7.06E-07 | 1.98E-06 | 2.94E-06 | 3.21E-06 | 4.13E-06 | 5.74E-06 | 6.49E-06 | 7.57E-06 | 1.02E-05 | 1.05E-05 | 9.63E-06 | 9.45E-06 | 9.65E-06 | 1.13E-05 |
| **Total Project $N_2O$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (metric tons/month)** | **6.73E-09** | **1.05E-08** | **2.32E-08** | **1.86E-03** | **2.50E-03** | **2.85E-03** | **3.19E-03** | **1.70E-03** | **1.78E-03** | **2.26E-03** | **3.31E-03** | **3.31E-03** | **3.71E-03** | **3.71E-03** | **5.55E-03** | **3.87E-03** | **3.71E-03** | **3.74E-03** |
| **Total Onsite Daily Emissions (metric tons/day)** | **2.93E-10** | **4.58E-10** | **1.01E-09** | **8.11E-05** | **1.08E-04** | **1.24E-04** | **1.39E-04** | **7.38E-05** | **7.76E-05** | **9.84E-05** | **1.44E-04** | **1.44E-04** | **1.61E-04** | **1.61E-04** | **2.42E-04** | **1.68E-04** | **1.61E-04** | **1.63E-04** |
| **Total Offsite Monthly Emissions (metric tons/month)** | **2.34E-07** | **3.65E-07** | **8.03E-07** | **9.94E-06** | **1.62E-05** | **4.56E-05** | **8.34E-03** | **8.42E-03** | **8.45E-03** | **8.48E-03** | **8.50E-03** | **8.52E-03** | **8.59E-03** | **8.59E-03** | **8.83E-03** | **8.83E-03** | **8.65E-03** | **8.69E-03** |
| **Total Offsite Daily Emissions (metric tons/day)** | **1.02E-08** | **1.59E-08** | **3.49E-08** | **4.32E-07** | **7.06E-07** | **1.98E-06** | **3.62E-04** | **3.66E-04** | **3.67E-04** | **3.69E-04** | **3.70E-04** | **3.71E-04** | **3.73E-04** | **3.74E-04** | **3.84E-04** | **3.84E-04** | **3.76E-04** | **3.78E-04** |
| **Total Monthly Emissions (metric tons/month)** | **2.40E-07** | **3.76E-07** | **8.26E-07** | **1.87E-03** | **2.51E-03** | **2.89E-03** | **1.15E-02** | **1.01E-02** | **1.02E-02** | **1.07E-02** | **1.18E-02** | **1.18E-02** | **1.23E-02** | **1.23E-02** | **1.44E-02** | **1.27E-02** | **1.24E-02** | **1.24E-02** |
| **Total Daily Emissions (metric tons/day)** | **1.05E-08** | **1.63E-08** | **3.59E-08** | **8.15E-05** | **1.09E-04** | **1.26E-04** | **5.01E-04** | **4.40E-04** | **4.45E-04** | **4.67E-04** | **5.14E-04** | **5.15E-04** | **5.34E-04** | **5.35E-04** | **6.26E-04** | **5.52E-04** | **5.37E-04** | **5.41E-04** |
| **Rolling 12 Month Total (Metric Tons)** | | | | | | | | | | | | **0.07** | **0.09** | **0.10** | **0.11** | **0.12** | **0.13** | **0.14** |
| **Total Project Emissions (metric tons)** | **2.39E-01** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (metric tons/day) [b, c]** | **3.58E-04** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$CO_2$ Emissions**

| Emission Source | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 487.10 | 512.93 | 484.40 | 484.40 | 479.76 | 479.76 | 103.79 | 103.79 | 93.73 | 80.20 | 69.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (metric tons/day) | 21.18 | 22.30 | 21.06 | 21.06 | 20.86 | 20.86 | 4.51 | 4.51 | 4.08 | 3.49 | 3.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 1,039.24 | 1,039.24 | 1,039.24 | 1,029.29 | 1,029.29 | 1,029.29 | 1,019.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (metric tons/day) | 45.18 | 45.18 | 45.18 | 44.75 | 44.75 | 44.75 | 44.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (metric tons/day) [a] | 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.07 | 0.07 | 0.07 | 0.07 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| Total (metric tons/day) [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 73.21 | 85.50 | 85.86 | 89.96 | 86.38 | 78.09 | 68.79 | 44.48 | 20.16 | 9.02 | 6.57 | 5.47 | 5.42 | 4.60 | 1.76 | 1.76 | 1.38 | 1.38 |
| Total (metric tons/day) [a] | 3.18 | 3.72 | 3.73 | 3.91 | 3.76 | 3.40 | 2.99 | 1.93 | 0.88 | 0.39 | 0.29 | 0.24 | 0.24 | 0.20 | 0.08 | 0.08 | 0.06 | 0.06 |
| **Total Project $CO_2$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (metric tons/month)** | **487.30** | **513.13** | **484.60** | **484.60** | **479.92** | **479.91** | **103.94** | **103.94** | **93.89** | **80.33** | **69.51** | **0.01** | **0.04** | **0.04** | **0.04** | **0.04** | **0.03** | **0.03** |
| **Total Onsite Daily Emissions (metric tons/day)** | **21.19** | **22.31** | **21.07** | **21.07** | **20.87** | **20.87** | **4.52** | **4.52** | **4.08** | **3.49** | **3.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Offsite Monthly Emissions (metric tons/month)** | **1,112.45** | **1,124.75** | **1,125.11** | **1,119.25** | **1,115.67** | **1,107.37** | **1,088.13** | **44.48** | **20.16** | **9.02** | **6.57** | **5.47** | **5.42** | **4.60** | **1.76** | **1.76** | **1.38** | **1.38** |
| **Total Offsite Daily Emissions (metric tons/day)** | **48.37** | **48.90** | **48.92** | **48.66** | **48.51** | **48.15** | **47.31** | **1.93** | **0.88** | **0.39** | **0.29** | **0.24** | **0.24** | **0.20** | **0.08** | **0.08** | **0.06** | **0.06** |
| **Total Monthly Emissions (metric tons/month)** | **1,599.76** | **1,637.88** | **1,609.71** | **1,603.85** | **1,595.60** | **1,587.29** | **1,192.07** | **148.42** | **114.04** | **89.36** | **76.08** | **5.48** | **5.46** | **4.64** | **1.80** | **1.80** | **1.42** | **1.42** |
| **Total Daily Emissions (metric tons/day)** | **69.55** | **71.21** | **69.99** | **69.73** | **69.37** | **69.01** | **51.83** | **6.45** | **4.96** | **3.89** | **3.31** | **0.24** | **0.24** | **0.20** | **0.08** | **0.08** | **0.06** | **0.06** |
| **Rolling 12 Month Total (Metric Tons)** | **18,061.52** | **18,440.98** | **18,775.89** | **19,036.64** | **19,155.23** | **19,258.72** | **18,902.47** | **17,499.99** | **15,808.14** | **14,301.18** | **12,822.34** | **11,259.52** | **9,665.23** | **8,032.00** | **6,424.09** | **4,822.03** | **3,227.85** | **1,641.98** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (metric tons/day) [b, c]** | | | | | | | | | | | | | | | | | | |

**$N_2O$ Emissions**

| Emission Source | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 3.95E-03 | 4.16E-03 | 3.93E-03 | 3.93E-03 | 3.89E-03 | 3.89E-03 | 8.42E-04 | 8.42E-04 | 7.60E-04 | 6.51E-04 | 5.63E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Total (metric tons/day) | 1.72E-04 | 1.81E-04 | 1.71E-04 | 1.71E-04 | 1.69E-04 | 1.69E-04 | 3.66E-05 | 3.66E-05 | 3.31E-05 | 2.83E-05 | 2.45E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (metric tons/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 2.45E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Total (metric tons/day) [a] | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 1.07E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 1.46E-07 | 1.46E-07 | 1.38E-07 | 1.38E-07 | 6.31E-08 | 4.63E-08 | 4.63E-08 | 4.63E-08 | 4.63E-08 | 1.26E-08 | 1.26E-08 | 1.26E-08 | 8.42E-08 | 8.42E-08 | 7.91E-08 | 7.91E-08 | 6.23E-08 | 6.23E-08 |
| Total (metric tons/day) [a] | 6.37E-09 | 6.37E-09 | 6.00E-09 | 6.00E-09 | 2.75E-09 | 2.01E-09 | 2.01E-09 | 2.01E-09 | 2.01E-09 | 5.49E-10 | 5.49E-10 | 5.49E-10 | 3.66E-09 | 3.66E-09 | 3.44E-09 | 3.44E-09 | 2.71E-09 | 2.71E-09 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 2.83E-04 | 3.32E-04 | 3.34E-04 | 3.50E-04 | 3.40E-04 | 3.08E-04 | 2.71E-04 | 1.74E-04 | 7.77E-05 | 3.52E-05 | 2.54E-05 | 2.11E-05 | 1.70E-05 | 1.38E-05 | 2.75E-06 | 2.75E-06 | 2.16E-06 | 2.16E-06 |
| Total (metric tons/day) [a] | 1.23E-05 | 1.44E-05 | 1.45E-05 | 1.52E-05 | 1.48E-05 | 1.34E-05 | 1.18E-05 | 7.58E-06 | 3.38E-06 | 1.53E-06 | 1.11E-06 | 9.17E-07 | 7.41E-07 | 5.99E-07 | 1.19E-07 | 1.19E-07 | 9.40E-08 | 9.40E-08 |
| **Total Project $N_2O$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (metric tons/month)** | **3.95E-03** | **4.16E-03** | **3.93E-03** | **3.93E-03** | **3.89E-03** | **3.89E-03** | **8.42E-04** | **8.42E-04** | **7.61E-04** | **6.51E-04** | **5.63E-04** | **1.26E-08** | **8.42E-08** | **8.42E-08** | **7.91E-08** | **7.91E-08** | **6.23E-08** | **6.23E-08** |
| **Total Onsite Daily Emissions (metric tons/day)** | **1.72E-04** | **1.81E-04** | **1.71E-04** | **1.71E-04** | **1.69E-04** | **1.69E-04** | **3.66E-05** | **3.66E-05** | **3.31E-05** | **2.83E-05** | **2.45E-05** | **5.49E-10** | **3.66E-09** | **3.66E-09** | **3.44E-09** | **3.44E-09** | **2.71E-09** | **2.71E-09** |
| **Total Offsite Monthly Emissions (metric tons/month)** | **8.71E-03** | **8.76E-03** | **8.77E-03** | **8.70E-03** | **8.69E-03** | **8.66E-03** | **8.54E-03** | **1.74E-04** | **7.77E-05** | **3.52E-05** | **2.54E-05** | **2.11E-05** | **1.70E-05** | **1.38E-05** | **2.75E-06** | **2.75E-06** | **2.16E-06** | **2.16E-06** |
| **Total Offsite Daily Emissions (metric tons/day)** | **3.79E-04** | **3.81E-04** | **3.81E-04** | **3.78E-04** | **3.78E-04** | **3.76E-04** | **3.71E-04** | **7.58E-06** | **3.38E-06** | **1.53E-06** | **1.11E-06** | **9.17E-07** | **7.41E-07** | **5.99E-07** | **1.19E-07** | **1.19E-07** | **9.40E-08** | **9.40E-08** |
| **Total Monthly Emissions (metric tons/month)** | **1.27E-02** | **1.29E-02** | **1.27E-02** | **1.26E-02** | **1.26E-02** | **1.26E-02** | **9.38E-03** | **1.02E-03** | **8.38E-04** | **6.86E-04** | **5.89E-04** | **2.11E-05** | **1.71E-05** | **1.39E-05** | **2.82E-06** | **2.82E-06** | **2.22E-06** | **2.22E-06** |
| **Total Daily Emissions (metric tons/day)** | **5.51E-04** | **5.62E-04** | **5.52E-04** | **5.49E-04** | **5.47E-04** | **5.46E-04** | **4.08E-04** | **4.42E-05** | **3.65E-05** | **2.98E-05** | **2.56E-05** | **9.17E-07** | **7.45E-07** | **6.03E-07** | **1.23E-07** | **1.23E-07** | **9.67E-08** | **9.67E-08** |
| **Rolling 12 Month Total (Metric Tons)** | **0.14** | **0.15** | **0.15** | **0.15** | **0.15** | **0.15** | **0.15** | **0.14** | **0.12** | **0.11** | **0.10** | **0.09** | **0.08** | **0.06** | **0.05** | **0.04** | **0.03** | **0.01** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (metric tons/day) [b, c]** | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$CH_4$ Emissions**

| Emission Source | $CH_4$ Emissions by Month | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.32E-03 | 1.25E-02 | 1.42E-02 | 1.59E-02 | 8.48E-03 | 8.92E-03 | 1.13E-02 | 1.66E-02 | 1.66E-02 | 1.85E-02 | 1.85E-02 | 2.78E-02 | 1.93E-02 | 1.85E-02 | 1.87E-02 |
| Total (metric tons/day) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.05E-04 | 5.42E-04 | 6.19E-04 | 6.93E-04 | 3.69E-04 | 3.88E-04 | 4.92E-04 | 7.20E-04 | 7.20E-04 | 8.05E-04 | 8.05E-04 | 1.21E-03 | 8.40E-04 | 8.05E-04 | 8.14E-04 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Total (metric tons/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 |
| Total (metric tons/day) [a] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 4.88E-08 | 7.62E-08 | 1.68E-07 | 2.59E-07 | 4.42E-07 | 4.42E-07 | 4.88E-07 | 6.70E-07 | 7.92E-07 | 7.92E-07 | 1.01E-06 | 1.23E-06 | 1.52E-06 | 1.74E-06 | 1.72E-06 | 1.62E-06 | 1.49E-06 | 1.18E-06 |
| Total (metric tons/day) [a] | 2.12E-09 | 3.31E-09 | 7.29E-09 | 1.13E-08 | 1.92E-08 | 1.92E-08 | 2.12E-08 | 2.92E-08 | 3.45E-08 | 3.45E-08 | 4.37E-08 | 5.36E-08 | 6.61E-08 | 7.55E-08 | 7.46E-08 | 7.03E-08 | 6.48E-08 | 5.14E-08 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 7.67E-08 | 1.20E-07 | 2.64E-07 | 5.99E-05 | 9.73E-05 | 2.98E-04 | 4.47E-04 | 4.84E-04 | 6.26E-04 | 8.78E-04 | 9.90E-04 | 1.15E-03 | 1.55E-03 | 1.57E-03 | 1.43E-03 | 1.41E-03 | 1.46E-03 | 1.74E-03 |
| Total (metric tons/day) [a] | 3.34E-09 | 5.21E-09 | 1.15E-08 | 2.60E-06 | 4.23E-06 | 1.30E-05 | 1.94E-05 | 2.10E-05 | 2.72E-05 | 3.82E-05 | 4.30E-05 | 4.99E-05 | 6.73E-05 | 6.83E-05 | 6.22E-05 | 6.15E-05 | 6.34E-05 | 7.57E-05 |
| **Total Project $CH_4$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (metric tons/month)** | **4.88E-08** | **7.62E-08** | **1.68E-07** | **9.33E-03** | **1.25E-02** | **1.42E-02** | **1.59E-02** | **8.49E-03** | **8.93E-03** | **1.13E-02** | **1.66E-02** | **1.66E-02** | **1.85E-02** | **1.85E-02** | **2.78E-02** | **1.93E-02** | **1.85E-02** | **1.87E-02** |
| **Total Onsite Daily Emissions (metric tons/day)** | **2.12E-09** | **3.31E-09** | **7.29E-09** | **4.05E-04** | **5.43E-04** | **6.19E-04** | **6.93E-04** | **3.69E-04** | **3.88E-04** | **4.92E-04** | **7.20E-04** | **7.20E-04** | **8.06E-04** | **8.06E-04** | **1.21E-03** | **8.41E-04** | **8.06E-04** | **8.14E-04** |
| **Total Offsite Monthly Emissions (metric tons/month)** | **7.67E-08** | **1.20E-07** | **2.64E-07** | **5.99E-05** | **9.73E-05** | **2.98E-04** | **4.18E-02** | **4.22E-02** | **4.24E-02** | **4.26E-02** | **4.27E-02** | **4.29E-02** | **4.33E-02** | **4.33E-02** | **4.45E-02** | **4.45E-02** | **4.36E-02** | **4.39E-02** |
| **Total Offsite Daily Emissions (metric tons/day)** | **3.34E-09** | **5.21E-09** | **1.15E-08** | **2.60E-06** | **4.23E-06** | **1.30E-05** | **1.82E-03** | **1.84E-03** | **1.84E-03** | **1.85E-03** | **1.86E-03** | **1.87E-03** | **1.88E-03** | **1.88E-03** | **1.93E-03** | **1.93E-03** | **1.90E-03** | **1.91E-03** |
| **Total Monthly Emissions (metric tons/month)** | **1.26E-07** | **1.96E-07** | **4.31E-07** | **9.39E-03** | **1.26E-02** | **1.45E-02** | **5.77E-02** | **5.07E-02** | **5.13E-02** | **5.40E-02** | **5.93E-02** | **5.95E-02** | **6.18E-02** | **6.19E-02** | **7.23E-02** | **6.38E-02** | **6.21E-02** | **6.26E-02** |
| **Total Daily Emissions (metric tons/day)** | **5.46E-09** | **8.53E-09** | **1.88E-08** | **4.08E-04** | **5.47E-04** | **6.32E-04** | **2.51E-03** | **2.21E-03** | **2.23E-03** | **2.35E-03** | **2.58E-03** | **2.59E-03** | **2.69E-03** | **2.69E-03** | **3.14E-03** | **2.77E-03** | **2.70E-03** | **2.72E-03** |
| **Rolling 12 Month Total (Metric Tons)** | | | | | | | | | | | | **0.37** | **0.43** | **0.49** | **0.56** | **0.62** | **0.67** | **0.72** |
| **Total Project Emissions (metric tons)** | **1.20E+00** | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (metric tons/day) [b, c]** | **1.80E-03** | | | | | | | | | | | | | | | | | |

Notes:

[a] Daily transportation emissions are presented as average daily emissions.

[b] Per information provided by the Applicant's engineering contractor, work days per month are as follows: 23

[c] Average daily emissions conservatively estimated based on the months in which heavy construction activity is expected, as follows: 29

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Emissions Summary by Source Category**

**April 2023**

**$CH_4$ Emissions**

| Emission Source | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| **Onsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 1.98E-02 | 2.08E-02 | 1.96E-02 | 1.96E-02 | 1.95E-02 | 1.95E-02 | 4.21E-03 | 4.21E-03 | 3.80E-03 | 3.25E-03 | 2.81E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Total (metric tons/day) | 8.59E-04 | 9.05E-04 | 8.54E-04 | 8.54E-04 | 8.46E-04 | 8.46E-04 | 1.83E-04 | 1.83E-04 | 1.65E-04 | 1.41E-04 | 1.22E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Offsite Construction Equipment** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total (metric tons/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Onsite Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 5.52E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Total (metric tons/day) [a] | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 2.40E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Onsite Construction Vehicle Idle Emissions** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 1.06E-06 | 1.06E-06 | 1.00E-06 | 1.00E-06 | 4.57E-07 | 3.35E-07 | 3.35E-07 | 3.35E-07 | 3.35E-07 | 9.14E-08 | 9.14E-08 | 9.14E-08 | 6.10E-07 | 6.10E-07 | 5.73E-07 | 5.73E-07 | 4.51E-07 | 4.51E-07 |
| Total (metric tons/day) [a] | 4.61E-08 | 4.61E-08 | 4.35E-08 | 4.35E-08 | 1.99E-08 | 1.46E-08 | 1.46E-08 | 1.46E-08 | 1.46E-08 | 3.98E-09 | 3.98E-09 | 3.98E-09 | 2.65E-08 | 2.65E-08 | 2.49E-08 | 2.49E-08 | 1.96E-08 | 1.96E-08 |
| **Onroad Construction Vehicle** | | | | | | | | | | | | | | | | | | |
| Total (metric tons/month) | 1.90E-03 | 2.24E-03 | 2.25E-03 | 2.37E-03 | 2.31E-03 | 2.10E-03 | 1.84E-03 | 1.18E-03 | 5.21E-04 | 2.38E-04 | 1.71E-04 | 1.41E-04 | 9.76E-05 | 7.53E-05 | 9.02E-07 | 9.02E-07 | 7.10E-07 | 7.10E-07 |
| Total (metric tons/day) [a] | 8.28E-05 | 9.73E-05 | 9.80E-05 | 1.03E-04 | 1.01E-04 | 9.11E-05 | 8.02E-05 | 5.14E-05 | 2.26E-05 | 1.03E-05 | 7.44E-06 | 6.15E-06 | 4.24E-06 | 3.27E-06 | 3.92E-08 | 3.92E-08 | 3.09E-08 | 3.09E-08 |
| **Total Project $CH_4$ Emissions (Construction Equipment and Vehicles)** | | | | | | | | | | | | | | | | | | |
| **Total Onsite Monthly Emissions (metric tons/month)** | **1.98E-02** | **2.08E-02** | **1.97E-02** | **1.97E-02** | **1.95E-02** | **1.95E-02** | **4.22E-03** | **4.22E-03** | **3.81E-03** | **3.26E-03** | **2.82E-03** | **9.14E-08** | **6.10E-07** | **6.10E-07** | **5.73E-07** | **5.73E-07** | **4.51E-07** | **4.51E-07** |
| **Total Onsite Daily Emissions (metric tons/day)** | **8.59E-04** | **9.05E-04** | **8.55E-04** | **8.55E-04** | **8.46E-04** | **8.46E-04** | **1.83E-04** | **1.83E-04** | **1.66E-04** | **1.42E-04** | **1.23E-04** | **3.98E-09** | **2.65E-08** | **2.65E-08** | **2.49E-08** | **2.49E-08** | **1.96E-08** | **1.96E-08** |
| **Total Offsite Monthly Emissions (metric tons/month)** | **4.41E-02** | **4.44E-02** | **4.44E-02** | **4.41E-02** | **4.41E-02** | **4.38E-02** | **4.32E-02** | **1.18E-03** | **5.21E-04** | **2.38E-04** | **1.71E-04** | **1.41E-04** | **9.76E-05** | **7.53E-05** | **9.02E-07** | **9.02E-07** | **7.10E-07** | **7.10E-07** |
| **Total Offsite Daily Emissions (metric tons/day)** | **1.92E-03** | **1.93E-03** | **1.93E-03** | **1.92E-03** | **1.92E-03** | **1.91E-03** | **1.88E-03** | **5.14E-05** | **2.26E-05** | **1.03E-05** | **7.44E-06** | **6.15E-06** | **4.24E-06** | **3.27E-06** | **3.92E-08** | **3.92E-08** | **3.09E-08** | **3.09E-08** |
| **Total Monthly Emissions (metric tons/month)** | **6.38E-02** | **6.52E-02** | **6.41E-02** | **6.38E-02** | **6.35E-02** | **6.33E-02** | **4.74E-02** | **5.40E-03** | **4.33E-03** | **3.50E-03** | **2.99E-03** | **1.41E-04** | **9.82E-05** | **7.59E-05** | **1.47E-06** | **1.47E-06** | **1.16E-06** | **1.16E-06** |
| **Total Daily Emissions (metric tons/day)** | **2.78E-03** | **2.84E-03** | **2.79E-03** | **2.77E-03** | **2.76E-03** | **2.75E-03** | **2.06E-03** | **2.35E-04** | **1.88E-04** | **1.52E-04** | **1.30E-04** | **6.15E-06** | **4.27E-06** | **3.30E-06** | **6.41E-08** | **6.41E-08** | **5.05E-08** | **5.05E-08** |
| **Rolling 12 Month Total (Metric Tons)** | **0.72** | **0.74** | **0.75** | **0.76** | **0.76** | **0.77** | **0.75** | **0.70** | **0.63** | **0.57** | **0.51** | **0.45** | **0.38** | **0.32** | **0.25** | **0.19** | **0.13** | **0.06** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |
| **Average Daily Emissions (metric tons/day) [b, c]** | | | | | | | | | | | | | | | | | | |

Notes:

[a] Daily transportation emissions are presented as average daily emissions.

[b] Per information provided by the Applicant's engineering contractor, work c

[c] Average daily emissions conservatively estimated based on the months i

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Number of Equipment and Vehicles**

**April 2023**

**Number of Construction Equipment for Elmore North Construction**

| Construction Equipment | Location of Equipment Operation | Number per Day [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Backhoe | Onsite | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 Wheel Dump Truck | Onsite | 0 | 0 | 0 | 2 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dozer | Onsite | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Front End Loader | Onsite | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 Ton Hydraulic Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 Ton Hydraulic Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 35 Ton Hydraulic Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 4 | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Pile Driver | Onsite | 0 | 0 | 0 | 3 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fork Lift | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| Grader | Onsite | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drill Rigs | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| Drilling Diesel Generator (Kenai) | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Drilling Rental Generator | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Drilling Pump | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Drilling Forklift | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Drilling Manlift | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Drilling Backhoe | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Drilling Light Tower | Offsite [b] | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Pavers [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Paving Equipment [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Paving Rollers [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 |
| Paving Tractor/Loader/Backhoe [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| Electrical Generators | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 4 | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7 |
| Concrete Pump Trucks | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 |
| Diesel Welders | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 6 | 6 | 6 | 12 | 12 | 12 | 12 | 12 | 12 |
| Compactor | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Stake Truck | Onsite | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Water Truck (shared between 3 projects) | Onsite | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Air Compressor | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| Light Towers | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy lift Gantry Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:

[a] Equipment counts presented above were provided by the Applicant's engineering contractor.

[b] Drilling equipment will not be stationed at a single area longer than 2 months.

[c] Paving operations will occur both onsite and offsite. The same equipment will be used at all paving locations

[d] Paving equipment types, counts, and duration are from default data in CalEEMOD for paving.

**Number of Vehicles for BHER Elmore North Construction**

| Vehicle Type | Location of Vehicle Operation | Average Number per Day [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Truck | Offsite | 0.4 | 0.625 | 1.375 | 2.125 | 3.625 | 3.625 | 4 | 5.5 | 6.5 | 6.5 | 8.25 | 9.25 | 10.75 | 9.75 | 9.75 | 10.5 | 10.5 | 9.7 |
| Pickup Truck | Onsite | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Heavy Haul Truck | Offsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1 | 2.6 | 2.5 | 1.6 | 1 | 0 |
| Worker Commutes [b] | Offsite | 0 | 0 | 0 | 16 | 26 | 80 | 120 | 130 | 168 | 236 | 266 | 308 | 416 | 422 | 384 | 380 | 392 | 468 |

Notes:

[a] Vehicle counts presented above were provided by the Applicant's engineering contractor.

[b] Assumed 1 commute per 1 worker; number of workers traveling to both onsite and offsite locations provided by the Applicant's engineering contractor as Total Staffing each

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Number of Equipment and Vehicles**

**April 2023**

**Number of Construction Equipment for Elmore North Constru c**

| Construction Equipment | Location of Equipment Operation | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Backhoe | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 Wheel Dump Truck | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dozer | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Front End Loader | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 Ton Hydraulic Crane | Onsite | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 Ton Hydraulic Crane | Onsite | 4 | 4 | 4 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 Ton Hydraulic Crane | Onsite | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pile Driver | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fork Lift | Onsite | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grader | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drill Rigs | Offsite [b] | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Diesel Generator (Kenai) | Offsite [b] | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Rental Generator | Offsite [b] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Pump | Offsite [b] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Forklift | Offsite [b] | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Manlift | Offsite [b] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Backhoe | Offsite [b] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Drilling Light Tower | Offsite [b] | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pavers [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Paving Equipment [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Paving Rollers [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Paving Tractor/Loader/Backhoe [d] | Onsite and Offsite [c] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electrical Generators | Onsite | 7 | 7 | 7 | 7 | 7 | 7 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Concrete Pump Trucks | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diesel Welders | Onsite | 12 | 12 | 12 | 12 | 12 | 12 | 4 | 4 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Compactor | Onsite | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Stake Truck | Onsite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Truck (shared between 3 projects) | Onsite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Air Compressor | Onsite | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Light Towers | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy lift Gantry Crane | Onsite | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:

[a] Equipment counts presented above were provided by the Applicant's engineering contractor.

[b] Drilling equipment will not be stationed at a single area longer than 2 months.

[c] Paving operations will occur both onsite and offsite. The same equipment will be used at all paving locations

[d] Paving equipment types, counts, and duration are from default data in CalEEMOD for paving.

**Number of Vehicles for Elmore North Construction**

| Vehicle Type | Location of Vehicle Operation | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Truck | Offsite | 8.7 | 8.7 | 8.2 | 8.2 | 3.75 | 2.75 | 2.75 | 2.75 | 2.75 | 0.75 | 0.75 | 0.75 | 5 | 5 | 4.7 | 4.7 | 3.7 | 3.7 |
| Pickup Truck | Onsite | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy Haul Truck | Offsite | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Worker Commutes [b] | Offsite | 512 | 602 | 606 | 636 | 622 | 564 | 496 | 318 | 140 | 64 | 46 | 38 | 26 | 20 | 0 | 0 | 0 | 0 |

Notes:

[a] Vehicle counts presented above were provided by the Applicant's engineering contractor.

[b] Assumed 1 commute per 1 worker; number of workers traveling to both onsite and offsite locations provided by the Applicant's engineering contractor as Total Staffing each

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment CO Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | CO Emissions (lb/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 56.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 233.24 | 233.24 | 233.24 | 233.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 346.25 | 692.50 | 692.50 | 692.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 387.07 | 387.07 | 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 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 202.62 | 202.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 561.24 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 841.87 | 841.87 | 1,122.49 | 1,122.49 | 1,122.49 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 387.68 | 516.90 | 516.90 | 516.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 61.54 | 61.54 | 61.54 | 61.54 | 61.54 | 184.61 | 184.61 | 184.61 | 184.61 | 184.61 | 184.61 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 227.68 | 227.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 155.72 | 311.43 | 311.43 | 311.43 | 311.43 | 311.43 | 311.43 | 311.43 | 467.15 | 467.15 | 467.15 | 467.15 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 127.65 | 127.65 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 120.22 | 120.22 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 170.64 | 170.64 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 233.24 | 233.24 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 90.79 | 90.79 | 90.79 | 121.06 | 121.06 | 121.06 | 211.85 | 211.85 | 211.85 | 211.85 | 211.85 | 211.85 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 173.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,038.75 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 344.27 | 516.40 | 516.40 | 516.40 | 516.40 | 1,032.81 | 1,032.81 | 1,032.81 | 1,032.81 | 1,032.81 | 1,032.81 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 | 36.32 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 73.84 | 73.84 | 73.84 | 73.84 | 73.84 | 73.84 | 73.84 | 73.84 | 147.69 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **1,928.16** | **2,403.64** | **2,890.25** | **3,133.61** | **2,001.66** | **2,173.79** | **2,839.15** | **4,242.26** | **4,242.26** | **4,972.53** | **4,972.53** | **6,317.85** | **5,279.11** | **4,972.53** | **5,046.37** |
| **Total Monthly Offsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **10,829.38** | **10,985.10** | **10,985.10** | **10,985.10** | **10,985.10** | **10,985.10** | **10,985.10** | **10,985.10** | **11,485.98** | **11,485.98** | **11,140.81** | **11,140.81** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **83.83** | **104.51** | **125.66** | **136.24** | **87.03** | **94.51** | **123.44** | **184.45** | **184.45** | **216.20** | **216.20** | **274.69** | **229.53** | **216.20** | **219.41** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **470.84** | **477.61** | **477.61** | **477.61** | **477.61** | **477.61** | **477.61** | **477.61** | **499.39** | **499.39** | **484.38** | **484.38** |
| **Total Project Emissions (tons)** | | **151.41** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment CO Emissions from Elmore North Construc**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 280.62 | 280.62 | 280.62 | 280.62 | 280.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 1,122.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 1,964.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 184.61 | 184.61 | 184.61 | 184.61 | 184.61 | 184.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 467.15 | 467.15 | 467.15 | 311.43 | 311.43 | 311.43 | 155.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 8,707.77 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 615.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 207.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 720.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 59.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 116.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Light Tower | Offsite | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 247.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 211.85 | 211.85 | 211.85 | 211.85 | 211.85 | 211.85 | 90.79 | 90.79 | 90.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 1,032.81 | 1,032.81 | 1,032.81 | 1,032.81 | 1,032.81 | 1,032.81 | 344.27 | 344.27 | 258.20 | 172.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 36.32 | 36.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stake Truck | Onsite | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 173.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 147.69 | 147.69 | 147.69 | 147.69 | 73.84 | 73.84 | 73.84 | 73.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 280.62 | 280.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **5,326.99** | **5,607.62** | **5,290.68** | **5,290.68** | **5,216.83** | **5,216.83** | **855.16** | **855.16** | **695.25** | **518.38** | **346.25** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (lb/month)** | | **11,140.81** | **11,140.81** | **11,140.81** | **10,985.10** | **10,985.10** | **10,985.10** | **10,829.38** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **231.61** | **243.81** | **230.03** | **230.03** | **226.82** | **226.82** | **37.18** | **37.18** | **30.23** | **22.54** | **15.05** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **484.38** | **484.38** | **484.38** | **477.61** | **477.61** | **477.61** | **470.84** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment VOC Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | VOC Emissions (lb/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 3.15 | 3.15 | 3.15 | 3.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 53.15 | 106.31 | 106.31 | 106.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 7.44 | 7.44 | 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 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.74 | 2.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.79 | 21.59 | 21.59 | 21.59 | 21.59 | 21.59 | 21.59 | 21.59 | 21.59 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.19 | 16.19 | 21.59 | 21.59 | 21.59 | 37.78 | 37.78 | 37.78 | 37.78 | 37.78 | 37.78 | 37.78 | 37.78 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 5.24 | 6.99 | 6.99 | 6.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 2.49 | 2.49 | 2.49 | 2.49 | 2.49 | 2.49 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 3.08 | 3.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.10 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 6.31 | 6.31 | 6.31 | 6.31 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.73 | 1.73 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.62 | 1.62 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.75 | 3.75 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.15 | 3.15 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.20 | 17.20 | 17.20 | 22.93 | 22.93 | 22.93 | 40.13 | 40.13 | 40.13 | 40.13 | 40.13 | 40.13 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 159.46 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.56 | 11.34 | 11.34 | 11.34 | 11.34 | 22.67 | 22.67 | 22.67 | 22.67 | 22.67 | 22.67 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 | 5.72 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.62 | 1.62 | 1.62 | 1.62 | 1.62 | 1.62 | 1.62 | 1.62 | 3.24 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **125.22** | **180.12** | **189.78** | **238.03** | **106.05** | **109.83** | **127.98** | **154.96** | **154.96** | **185.16** | **185.16** | **349.44** | **189.98** | **185.16** | **186.78** |
| **Total Monthly Offsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1,379.26** | **1,381.37** | **1,381.37** | **1,381.37** | **1,381.37** | **1,381.37** | **1,381.37** | **1,381.37** | **1,388.90** | **1,388.90** | **1,383.47** | **1,383.47** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **5.44** | **7.83** | **8.25** | **10.35** | **4.61** | **4.78** | **5.56** | **6.74** | **6.74** | **8.05** | **8.05** | **15.19** | **8.26** | **8.05** | **8.12** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **59.97** | **60.06** | **60.06** | **60.06** | **60.06** | **60.06** | **60.06** | **60.06** | **60.39** | **60.39** | **60.15** | **60.15** |
| **Total Project Emissions (tons)** | | **15.21** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment VOC Emissions from Elmore North Constru**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 5.40 | 5.40 | 5.40 | 5.40 | 5.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 21.59 | 21.59 | 21.59 | 21.59 | 21.59 | 21.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 37.78 | 37.78 | 37.78 | 37.78 | 37.78 | 37.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 2.49 | 2.49 | 2.49 | 2.49 | 2.49 | 2.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 6.31 | 6.31 | 6.31 | 4.21 | 4.21 | 4.21 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 1,273.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 15.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 9.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Light Tower | Offsite | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 40.13 | 40.13 | 40.13 | 40.13 | 40.13 | 40.13 | 17.20 | 17.20 | 17.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 22.67 | 22.67 | 22.67 | 22.67 | 22.67 | 22.67 | 7.56 | 7.56 | 5.67 | 3.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 5.72 | 5.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stake Truck | Onsite | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 26.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 3.24 | 3.24 | 3.24 | 3.24 | 1.62 | 1.62 | 1.62 | 1.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 5.40 | 5.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **192.17** | **197.57** | **186.45** | **186.45** | **184.83** | **184.83** | **79.53** | **79.53** | **76.02** | **56.93** | **53.15** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (lb/month)** | | **1,383.47** | **1,383.47** | **1,383.47** | **1,381.37** | **1,381.37** | **1,381.37** | **1,379.26** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **8.36** | **8.59** | **8.11** | **8.11** | **8.04** | **8.04** | **3.46** | **3.46** | **3.31** | **2.48** | **2.31** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **60.15** | **60.15** | **60.15** | **60.06** | **60.06** | **60.06** | **59.97** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $NO_X$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $NO_X$ Emissions (lb/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 38.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 16.39 | 16.39 | 16.39 | 16.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 358.11 | 716.22 | 716.22 | 716.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 38.71 | 38.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14.24 | 14.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 56.12 | 112.25 | 112.25 | 112.25 | 112.25 | 112.25 | 112.25 | 112.25 | 112.25 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 84.19 | 84.19 | 112.25 | 112.25 | 112.25 | 196.44 | 196.44 | 196.44 | 196.44 | 196.44 | 196.44 | 196.44 | 196.44 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 27.24 | 36.32 | 36.32 | 36.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 12.97 | 12.97 | 12.97 | 12.97 | 12.97 | 12.97 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 16.00 | 16.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.94 | 21.88 | 21.88 | 21.88 | 21.88 | 21.88 | 21.88 | 21.88 | 32.83 | 32.83 | 32.83 | 32.83 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.97 | 8.97 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.45 | 8.45 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 114.45 | 114.45 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.39 | 16.39 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 137.83 | 137.83 | 137.83 | 183.77 | 183.77 | 183.77 | 321.60 | 321.60 | 321.60 | 321.60 | 321.60 | 321.60 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 179.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,074.33 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 230.91 | 346.37 | 346.37 | 346.37 | 346.37 | 692.74 | 692.74 | 692.74 | 692.74 | 692.74 | 692.74 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 | 43.36 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 49.53 | 49.53 | 49.53 | 49.53 | 49.53 | 49.53 | 49.53 | 49.53 | 99.06 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **814.56** | **1,181.75** | **1,263.62** | **1,585.71** | **886.78** | **1,002.24** | **1,153.84** | **1,294.15** | **1,294.15** | **1,786.99** | **1,786.99** | **2,931.06** | **1,856.73** | **1,786.99** | **1,836.52** |
| **Total Monthly Offsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **2,191.23** | **2,202.18** | **2,202.18** | **2,202.18** | **2,202.18** | **2,202.18** | **2,202.18** | **2,202.18** | **2,291.64** | **2,291.64** | **2,213.12** | **2,213.12** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **35.42** | **51.38** | **54.94** | **68.94** | **38.56** | **43.58** | **50.17** | **56.27** | **56.27** | **77.70** | **77.70** | **127.44** | **80.73** | **77.70** | **79.85** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **95.27** | **95.75** | **95.75** | **95.75** | **95.75** | **95.75** | **95.75** | **95.75** | **99.64** | **99.64** | **96.22** | **96.22** |
| **Total Project Emissions (tons)** | | **39.26** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $NO_X$ Emissions from Elmore North Constru c**

| | Equipment | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite Equipment** | **Location** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 28.06 | 28.06 | 28.06 | 28.06 | 28.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 112.25 | 112.25 | 112.25 | 112.25 | 112.25 | 112.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 196.44 | 196.44 | 196.44 | 196.44 | 196.44 | 196.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 12.97 | 12.97 | 12.97 | 12.97 | 12.97 | 12.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 32.83 | 32.83 | 32.83 | 21.88 | 21.88 | 21.88 | 10.94 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 1,666.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 70.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 50.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 39.77 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 8.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Light Tower | Offsite | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 165.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 321.60 | 321.60 | 321.60 | 321.60 | 321.60 | 321.60 | 137.83 | 137.83 | 137.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 692.74 | 692.74 | 692.74 | 692.74 | 692.74 | 692.74 | 230.91 | 230.91 | 173.18 | 115.46 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 43.36 | 43.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stake Truck | Onsite | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 179.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 99.06 | 99.06 | 99.06 | 99.06 | 49.53 | 49.53 | 49.53 | 49.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 28.06 | 28.06 | 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 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **1,864.58** | **1,892.65** | **1,821.22** | **1,821.22** | **1,771.69** | **1,771.69** | **776.38** | **776.38** | **669.12** | **473.57** | **358.11** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (lb/month)** | | **2,213.12** | **2,213.12** | **2,213.12** | **2,202.18** | **2,202.18** | **2,202.18** | **2,191.23** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **81.07** | **82.29** | **79.18** | **79.18** | **77.03** | **77.03** | **33.76** | **33.76** | **29.09** | **20.59** | **15.57** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **96.22** | **96.22** | **96.22** | **95.75** | **95.75** | **95.75** | **95.27** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $SO_X$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $SO_X$ Emissions (lb/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.31 | 0.31 | 0.31 | 0.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 1.41 | 2.83 | 2.83 | 2.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.73 | 0.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.27 | 0.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.05 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 | 1.58 | 2.10 | 2.10 | 2.10 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.51 | 0.68 | 0.68 | 0.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.61 | 0.61 | 0.61 | 0.61 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 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 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 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 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.23 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.31 | 0.31 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.25 | 0.25 | 0.33 | 0.33 | 0.33 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.24 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.62 | 0.93 | 0.93 | 0.93 | 0.93 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.26 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **4.68** | **6.26** | **7.15** | **8.12** | **4.56** | **4.86** | **6.13** | **8.76** | **8.76** | **10.10** | **10.10** | **14.74** | **10.50** | **10.10** | **10.23** |
| **Total Monthly Offsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **28.37** | **28.57** | **28.57** | **28.57** | **28.57** | **28.57** | **28.57** | **28.57** | **29.23** | **29.23** | **28.77** | **28.77** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.20** | **0.27** | **0.31** | **0.35** | **0.20** | **0.21** | **0.27** | **0.38** | **0.38** | **0.44** | **0.44** | **0.64** | **0.46** | **0.44** | **0.44** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.23** | **1.24** | **1.24** | **1.24** | **1.24** | **1.24** | **1.24** | **1.24** | **1.27** | **1.27** | **1.25** | **1.25** |
| **Total Project Emissions (tons)** | | **0.37** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $SO_X$ Emissions from Elmore North Constru c**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 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 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.61 | 0.61 | 0.61 | 0.41 | 0.41 | 0.41 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 24.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 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 |
| Drilling Light Tower | Offsite | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.25 | 0.25 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 0.62 | 0.62 | 0.46 | 0.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 0.09 | 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 | 0.00 | 0.00 |
| Stake Truck | Onsite | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 0.26 | 0.26 | 0.26 | 0.26 | 0.13 | 0.13 | 0.13 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.53 | 0.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **10.76** | **11.28** | **10.66** | **10.66** | **10.53** | **10.53** | **2.41** | **2.41** | **2.13** | **1.72** | **1.41** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (lb/month)** | | **28.77** | **28.77** | **28.77** | **28.57** | **28.57** | **28.57** | **28.37** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.47** | **0.49** | **0.46** | **0.46** | **0.46** | **0.46** | **0.10** | **0.10** | **0.09** | **0.07** | **0.06** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **1.25** | **1.25** | **1.25** | **1.24** | **1.24** | **1.24** | **1.23** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $PM_{10}$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $PM_{10}$ Emissions (lb/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.63 | 0.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 12.84 | 25.68 | 25.68 | 25.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.55 | 0.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.16 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.24 | 3.24 | 4.32 | 4.32 | 4.32 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 1.05 | 1.40 | 1.40 | 1.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.62 | 0.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.42 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 1.26 | 1.26 | 1.26 | 1.26 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.34 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 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 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.67 | 5.67 | 5.67 | 7.56 | 7.56 | 7.56 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 38.51 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.84 | 1.26 | 1.26 | 1.26 | 1.26 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.36 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **29.46** | **42.65** | **44.47** | **58.11** | **25.53** | **25.95** | **30.18** | **35.57** | **35.57** | **42.84** | **42.84** | **82.16** | **43.65** | **42.84** | **43.02** |
| **Total Monthly Offsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **509.44** | **509.86** | **509.86** | **509.86** | **509.86** | **509.86** | **509.86** | **509.86** | **511.19** | **511.19** | **510.28** | **510.28** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **1.28** | **1.85** | **1.93** | **2.53** | **1.11** | **1.13** | **1.31** | **1.55** | **1.55** | **1.86** | **1.86** | **3.57** | **1.90** | **1.86** | **1.87** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **22.15** | **22.17** | **22.17** | **22.17** | **22.17** | **22.17** | **22.17** | **22.17** | **22.23** | **22.23** | **22.19** | **22.19** |
| **Total Project Emissions (tons)** | | **5.33** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $PM_{10}$ Emissions from Elmore North Constru**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 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 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 1.26 | 1.26 | 1.26 | 0.84 | 0.84 | 0.84 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Light Tower | Offsite | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 5.67 | 5.67 | 5.67 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 0.84 | 0.84 | 0.63 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 1.69 | 1.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stake Truck | Onsite | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 6.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 0.36 | 0.36 | 0.36 | 0.36 | 0.18 | 0.18 | 0.18 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **44.10** | **45.18** | **42.40** | **42.40** | **42.22** | **42.22** | **19.53** | **19.53** | **19.14** | **13.26** | **12.84** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (lb/month)** | | **510.28** | **510.28** | **510.28** | **509.86** | **509.86** | **509.86** | **509.44** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **1.92** | **1.96** | **1.84** | **1.84** | **1.84** | **1.84** | **0.85** | **0.85** | **0.83** | **0.58** | **0.56** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **22.19** | **22.19** | **22.19** | **22.17** | **22.17** | **22.17** | **22.15** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $PM_{2.5}$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $PM_{2.5}$ Emissions (lb/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.63 | 0.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 11.81 | 23.62 | 23.62 | 23.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.55 | 0.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.16 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.24 | 3.24 | 4.32 | 4.32 | 4.32 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 1.05 | 1.40 | 1.40 | 1.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.62 | 0.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.42 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 1.26 | 1.26 | 1.26 | 1.26 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.34 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 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 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.22 | 5.22 | 5.22 | 6.96 | 6.96 | 6.96 | 12.18 | 12.18 | 12.18 | 12.18 | 12.18 | 12.18 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 35.43 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.84 | 1.26 | 1.26 | 1.26 | 1.26 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.36 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **27.40** | **39.56** | **41.39** | **53.93** | **23.91** | **24.33** | **28.41** | **33.81** | **33.81** | **40.62** | **40.62** | **76.86** | **41.42** | **40.62** | **40.80** |
| **Total Monthly Offsite Emissions (lb/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **509.44** | **509.86** | **509.86** | **509.86** | **509.86** | **509.86** | **509.86** | **509.86** | **511.19** | **511.19** | **510.28** | **510.28** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **1.19** | **1.72** | **1.80** | **2.34** | **1.04** | **1.06** | **1.24** | **1.47** | **1.47** | **1.77** | **1.77** | **3.34** | **1.80** | **1.77** | **1.77** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **22.15** | **22.17** | **22.17** | **22.17** | **22.17** | **22.17** | **22.17** | **22.17** | **22.23** | **22.23** | **22.19** | **22.19** |
| **Total Project Emissions (tons)** | | **5.30** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $PM_{2.5}$ Emissions from Elmore North Constr u**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 4.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 7.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 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 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 1.26 | 1.26 | 1.26 | 0.84 | 0.84 | 0.84 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 497.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 3.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Light Tower | Offsite | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 12.18 | 12.18 | 12.18 | 12.18 | 12.18 | 12.18 | 5.22 | 5.22 | 5.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 0.84 | 0.84 | 0.63 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 1.56 | 1.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stake Truck | Onsite | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 5.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 0.36 | 0.36 | 0.36 | 0.36 | 0.18 | 0.18 | 0.18 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | | **41.88** | **42.96** | **40.32** | **40.32** | **40.14** | **40.14** | **18.05** | **18.05** | **17.66** | **12.23** | **11.81** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (lb/month)** | | **510.28** | **510.28** | **510.28** | **509.86** | **509.86** | **509.86** | **509.44** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (lb/day) [b]** | | **1.82** | **1.87** | **1.75** | **1.75** | **1.75** | **1.75** | **0.78** | **0.78** | **0.77** | **0.53** | **0.51** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (lb/day) [b]** | | **22.19** | **22.19** | **22.19** | **22.17** | **22.17** | **22.17** | **22.15** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $CO_2$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $CO_2$ Emissions (metric tons/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 15.15 | 15.15 | 15.15 | 15.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 69.37 | 138.75 | 138.75 | 138.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 35.94 | 35.94 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.07 | 13.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 51.65 | 103.31 | 103.31 | 103.31 | 103.31 | 103.31 | 103.31 | 103.31 | 103.31 |
| 35 Ton Hydraulic Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 77.48 | 77.48 | 103.31 | 103.31 | 103.31 | 180.79 | 180.79 | 180.79 | 180.79 | 180.79 | 180.79 | 180.79 | 180.79 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 25.12 | 33.49 | 33.49 | 33.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.98 | 3.98 | 3.98 | 3.98 | 3.98 | 11.93 | 11.93 | 11.93 | 11.93 | 11.93 | 11.93 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 14.80 | 14.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.95 | 19.91 | 19.91 | 19.91 | 19.91 | 19.91 | 19.91 | 19.91 | 29.86 | 29.86 | 29.86 | 29.86 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 |
| Drilling Rental Generator | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 |
| Drilling Pump | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 |
| Drilling Forklift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 |
| Drilling Manlift | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 |
| Drilling Backhoe | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 |
| Drilling Light Tower | Offsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.24 | 8.24 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.78 | 7.78 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.08 | 11.08 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.15 | 15.15 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.13 | 8.13 | 8.13 | 10.83 | 10.83 | 10.83 | 18.96 | 18.96 | 18.96 | 18.96 | 18.96 | 18.96 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 208.12 | 0.00 | 0.00 | 0.00 |
| Diesel Welders | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 21.65 | 32.47 | 32.47 | 32.47 | 32.47 | 64.94 | 64.94 | 64.94 | 64.94 | 64.94 | 64.94 |
| Compactor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 |
| Stake Truck | Onsite | 0.00 | 0.00 | 0.00 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 |
| Water Truck (shared between 3 projects) | Onsite | 0.00 | 0.00 | 0.00 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 |
| Air Compressor | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.64 | 4.64 | 4.64 | 4.64 | 4.64 | 4.64 | 4.64 | 4.64 | 9.29 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **229.75** | **307.50** | **351.01** | **392.83** | **209.13** | **219.95** | **278.95** | **408.09** | **408.09** | **456.63** | **456.63** | **684.63** | **476.51** | **456.63** | **461.28** |
| **Total Monthly Offsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1,019.33** | **1,029.29** | **1,029.29** | **1,029.29** | **1,029.29** | **1,029.29** | **1,029.29** | **1,029.29** | **1,061.62** | **1,061.62** | **1,039.24** | **1,039.24** |
| **Total Daily Onsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **9.99** | **13.37** | **15.26** | **17.08** | **9.09** | **9.56** | **12.13** | **17.74** | **17.74** | **19.85** | **19.85** | **29.77** | **20.72** | **19.85** | **20.06** |
| **Total Daily Offsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **44.32** | **44.75** | **44.75** | **44.75** | **44.75** | **44.75** | **44.75** | **44.75** | **46.16** | **46.16** | **45.18** | **45.18** |
| **Total Project Emissions (metric tons)** | | **28,827.86** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $CO_2$ Emissions from Elmore North Constru c**

| | | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite Equipment** | **Equipment Location** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Excavator | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Backhoe | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 Wheel Dump Truck | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dozer | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Front End Loader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00 | 25.83 | 25.83 | 25.83 | 25.83 | 25.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 Ton Hydraulic Crane | Onsite | 103.31 | 103.31 | 103.31 | 103.31 | 103.31 | 103.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 Ton Hydraulic Crane | Onsite | 180.79 | 180.79 | 180.79 | 180.79 | 180.79 | 180.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pile Driver | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fork Lift | Onsite | 11.93 | 11.93 | 11.93 | 11.93 | 11.93 | 11.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grader | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drill Rigs | Offsite | 29.86 | 29.86 | 29.86 | 19.91 | 19.91 | 19.91 | 9.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Diesel Generator (Kenai) | Offsite | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 860.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Rental Generator | Offsite | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 60.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Pump | Offsite | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 14.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Forklift | Offsite | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 46.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Manlift | Offsite | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 3.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Backhoe | Offsite | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 7.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drilling Light Tower | Offsite | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 16.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pavers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electrical Generators | Onsite | 18.96 | 18.96 | 18.96 | 18.96 | 18.96 | 18.96 | 8.13 | 8.13 | 8.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Concrete Pump Trucks | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 Welders | Onsite | 64.94 | 64.94 | 64.94 | 64.94 | 64.94 | 64.94 | 21.65 | 21.65 | 16.23 | 10.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Compactor | Onsite | 2.70 | 2.70 | 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 | 0.00 | 0.00 | 0.00 |
| Stake Truck | Onsite | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Truck (shared between 3 projects) | Onsite | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 34.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Air Compressor | Onsite | 9.29 | 9.29 | 9.29 | 9.29 | 4.64 | 4.64 | 4.64 | 4.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Light Towers | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Heavy lift Gantry Crane | Onsite | 25.83 | 25.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | | **487.10** | **512.93** | **484.40** | **484.40** | **479.76** | **479.76** | **103.79** | **103.79** | **93.73** | **80.20** | **69.37** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (metric tons/month)** | | **1,039.24** | **1,039.24** | **1,039.24** | **1,029.29** | **1,029.29** | **1,029.29** | **1,019.33** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (metric tons/day) [b]** | | **21.18** | **22.30** | **21.06** | **21.06** | **20.86** | **20.86** | **4.51** | **4.51** | **4.08** | **3.49** | **3.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (metric tons/day) [b]** | | **45.18** | **45.18** | **45.18** | **44.75** | **44.75** | **44.75** | **44.32** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $N_2O$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $N_2O$ Emissions (metric tons/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.00E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Backhoe | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.23E-04 | 1.23E-04 | 1.23E-04 | 1.23E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 10 Wheel Dump Truck | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.63E-04 | 1.13E-03 | 1.13E-03 | 1.13E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Dozer | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.92E-04 | 2.92E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Front End Loader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.06E-04 | 1.06E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.19E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 |
| 35 Ton Hydraulic Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.29E-04 | 6.29E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 |
| Pile Driver | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.04E-04 | 2.72E-04 | 2.72E-04 | 2.72E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Fork Lift | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.23E-05 | 3.23E-05 | 3.23E-05 | 3.23E-05 | 3.23E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 |
| Grader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20E-04 | 1.20E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drill Rigs | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.08E-05 | 1.62E-04 | 1.62E-04 | 1.62E-04 | 1.62E-04 | 1.62E-04 | 1.62E-04 | 1.62E-04 | 2.42E-04 | 2.42E-04 | 2.42E-04 | 2.42E-04 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 |
| Drilling Rental Generator | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 |
| Drilling Pump | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 |
| Drilling Forklift | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 |
| Drilling Manlift | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 |
| Drilling Backhoe | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 |
| Drilling Light Tower | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 |
| Pavers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.68E-05 | 6.68E-05 | 0.00E+00 | 0.00E+00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.31E-05 | 6.31E-05 | 0.00E+00 | 0.00E+00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.99E-05 | 8.99E-05 | 0.00E+00 | 0.00E+00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.23E-04 | 1.23E-04 | 0.00E+00 | 0.00E+00 |
| Electrical Generators | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.59E-05 | 6.59E-05 | 6.59E-05 | 8.79E-05 | 8.79E-05 | 8.79E-05 | 1.54E-04 | 1.54E-04 | 1.54E-04 | 1.54E-04 | 1.54E-04 | 1.54E-04 |
| Concrete Pump Trucks | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.81E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.69E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Diesel Welders | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.76E-04 | 2.63E-04 | 2.63E-04 | 2.63E-04 | 2.63E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 |
| Compactor | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 |
| Stake Truck | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 |
| Water Truck (shared between 3 projects) | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 |
| Air Compressor | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 7.53E-05 |
| Light Towers | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy lift Gantry Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **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** |
| **Total Daily Onsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (metric tons)** | | **0.23** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $N_2O$ Emissions from Elmore North Constru c**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Backhoe | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 10 Wheel Dump Truck | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Dozer | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Front End Loader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00E+00 | 2.10E-04 | 2.10E-04 | 2.10E-04 | 2.10E-04 | 2.10E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 75 Ton Hydraulic Crane | Onsite | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 8.38E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 35 Ton Hydraulic Crane | Onsite | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 1.47E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pile Driver | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Fork Lift | Onsite | 9.68E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 | 9.68E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Grader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drill Rigs | Offsite | 2.42E-04 | 2.42E-04 | 2.42E-04 | 1.62E-04 | 1.62E-04 | 1.62E-04 | 8.08E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Diesel Generator (Kenai) | Offsite | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 6.98E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Rental Generator | Offsite | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 4.93E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Pump | Offsite | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 1.16E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Forklift | Offsite | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 3.79E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Manlift | Offsite | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Backhoe | Offsite | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 6.15E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Light Tower | Offsite | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 1.31E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pavers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Electrical Generators | Onsite | 1.54E-04 | 1.54E-04 | 1.54E-04 | 1.54E-04 | 1.54E-04 | 1.54E-04 | 6.59E-05 | 6.59E-05 | 6.59E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Concrete Pump Trucks | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Diesel Welders | Onsite | 5.27E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 | 5.27E-04 | 1.76E-04 | 1.76E-04 | 1.32E-04 | 8.78E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Compactor | Onsite | 2.19E-05 | 2.19E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Stake Truck | Onsite | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Water Truck (shared between 3 projects) | Onsite | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 2.81E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Air Compressor | Onsite | 7.53E-05 | 7.53E-05 | 7.53E-05 | 7.53E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 3.77E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Light Towers | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy lift Gantry Crane | Onsite | 2.10E-04 | 2.10E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Monthly Offsite Emissions (metric tons/month)** | | **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** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $CH_4$ Emissions from Elmore North Construction**

| Onsite Equipment | Equipment Location | $CH_4$ Emissions (metric tons/month) [a, b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Excavator | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.50E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Backhoe | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.15E-04 | 6.15E-04 | 6.15E-04 | 6.15E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 10 Wheel Dump Truck | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.81E-03 | 5.63E-03 | 5.63E-03 | 5.63E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Dozer | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.46E-03 | 1.46E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Front End Loader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.30E-04 | 5.30E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 75 Ton Hydraulic Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.10E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 |
| 35 Ton Hydraulic Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.14E-03 | 3.14E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 |
| Pile Driver | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.02E-03 | 1.36E-03 | 1.36E-03 | 1.36E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Fork Lift | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.61E-04 | 1.61E-04 | 1.61E-04 | 1.61E-04 | 1.61E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 |
| Grader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.00E-04 | 6.00E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drill Rigs | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.04E-04 | 8.08E-04 | 8.08E-04 | 8.08E-04 | 8.08E-04 | 8.08E-04 | 8.08E-04 | 8.08E-04 | 1.21E-03 | 1.21E-03 | 1.21E-03 | 1.21E-03 |
| Drilling Diesel Generator (Kenai) | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 |
| Drilling Rental Generator | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 |
| Drilling Pump | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 |
| Drilling Forklift | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 |
| Drilling Manlift | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 |
| Drilling Backhoe | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 |
| Drilling Light Tower | Offsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 |
| Pavers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.34E-04 | 3.34E-04 | 0.00E+00 | 0.00E+00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.16E-04 | 3.16E-04 | 0.00E+00 | 0.00E+00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.49E-04 | 4.49E-04 | 0.00E+00 | 0.00E+00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.15E-04 | 6.15E-04 | 0.00E+00 | 0.00E+00 |
| Electrical Generators | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.30E-04 | 3.30E-04 | 3.30E-04 | 4.39E-04 | 4.39E-04 | 4.39E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 |
| Concrete Pump Trucks | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.41E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.44E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Diesel Welders | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.78E-04 | 1.32E-03 | 1.32E-03 | 1.32E-03 | 1.32E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 |
| Compactor | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 | 1.09E-04 |
| Stake Truck | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 |
| Water Truck (shared between 3 projects) | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 |
| Air Compressor | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 3.77E-04 |
| Light Towers | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy lift Gantry Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **0.01** | **0.01** | **0.01** | **0.02** | **0.01** | **0.01** | **0.01** | **0.02** | **0.02** | **0.02** | **0.02** | **0.03** | **0.02** | **0.02** | **0.02** |
| **Total Monthly Offsite Emissions (metric tons/month)** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** |
| **Total Daily Onsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (metric tons)** | | **1.17** | | | | | | | | | | | | | | | | | |

Notes:

[a] Per information provided by the Applicant's engineering contractor, work hours per day are as follows: 20

[b] Per information provided by the Applicant's engineering contractor, work days per month are as follows: 23

[c] Paving emissions will occur both onsite and offsite. Daily and monthly emissions are apportioned based upon the amount of paved area onsite and offsite, respectively.

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Construction Equipment Emissions**

**April 2023**

**Construction Equipment $CH_4$ Emissions from Elmore North Constru c**

| Onsite Equipment | Equipment Location | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Excavator | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Backhoe | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 10 Wheel Dump Truck | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Dozer | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Front End Loader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 150 Ton Hydraulic Crane | Onsite | 0.00E+00 | 1.05E-03 | 1.05E-03 | 1.05E-03 | 1.05E-03 | 1.05E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 75 Ton Hydraulic Crane | Onsite | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 4.19E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 35 Ton Hydraulic Crane | Onsite | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 7.33E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pile Driver | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Fork Lift | Onsite | 4.84E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 | 4.84E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Grader | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drill Rigs | Offsite | 1.21E-03 | 1.21E-03 | 1.21E-03 | 8.08E-04 | 8.08E-04 | 8.08E-04 | 4.04E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Diesel Generator (Kenai) | Offsite | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 3.49E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Rental Generator | Offsite | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 2.46E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Pump | Offsite | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 5.81E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Forklift | Offsite | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 1.89E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Manlift | Offsite | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 1.56E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Backhoe | Offsite | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 3.07E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Drilling Light Tower | Offsite | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pavers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Paving Equipment | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Paving Rollers | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Paving Tractor/Loader/Backhoe | Onsite and Offsite [c] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Electrical Generators | Onsite | 7.69E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 | 7.69E-04 | 3.30E-04 | 3.30E-04 | 3.30E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Concrete Pump Trucks | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Diesel Welders | Onsite | 2.63E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 | 2.63E-03 | 8.78E-04 | 8.78E-04 | 6.59E-04 | 4.39E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Compactor | Onsite | 1.09E-04 | 1.09E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Stake Truck | Onsite | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Water Truck (shared between 3 projects) | Onsite | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 1.41E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Air Compressor | Onsite | 3.77E-04 | 3.77E-04 | 3.77E-04 | 3.77E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 1.88E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Light Towers | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Main Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy Lift Lattice boom Tail Crane | Onsite | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Heavy lift Gantry Crane | Onsite | 1.05E-03 | 1.05E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | | **0.02** | **0.02** | **0.02** | **0.02** | **0.02** | **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** |
| **Total Monthly Offsite Emissions (metric tons/month)** | | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.04** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Onsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Daily Offsite Emissions (metric tons/day) [b]** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | | |

Notes:

[a] Per information provided by the Applicant's engineering contractor, work hours per day are as follows: 20

[b] Per information provided by the Applicant's engineering contractor, work days per month are as follows: 23

[c] Paving emissions will occur both onsite and offsite. Daily and monthly emissions are apportioned based upon the amount of paved area onsite and offsite, respectively.

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Onsite, Offroad Vehicle Exhaust Emissions**

**April 2023**

**Onsite Vehicle Exhaust CO Emissions from Elmore North Construction**

| Vehicle Type | CO Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** |
| Vehicle Type | CO Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** |
| **Total Project Emissions (tons)** | **2.3E-02** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust VOC Emissions from Elmore North Construction**

| Vehicle Type | VOC Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** |
| Vehicle Type | VOC Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** |
| **Total Project Emissions (tons)** | **7.2E-04** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $SO_X$ Emissions from Elmore North Construction**

| Vehicle Type | $SO_X$ Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** |
| Vehicle Type | $SO_X$ Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** |
| **Total Project Emissions (tons)** | **3.8E-05** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $NO_X$ Emissions from Elmore North Construction**

| Vehicle Type | $NO_X$ Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** |
| Vehicle Type | $NO_X$ Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** |
| **Total Project Emissions (tons)** | **1.4E-03** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust and Vehicle Wear $PM_{10}$ Emissions from Elmore North Construction**

| Vehicle Type | $PM_{10}$ Emissions (lb/day) [a, d] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** |
| Vehicle Type | $PM_{10}$ Emissions (lb/month) [c, d] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** |
| **Total Project Emissions (tons)** | **1.2E-04** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust and Vehicle Wear $PM_{2.5}$ Emissions from Elmore North Construction**

| Vehicle Type | $PM_{2.5}$ Emissions (lb/day) [a, d] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** |
| Vehicle Type | $PM_{2.5}$ Emissions (lb/month) [c, d] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** |
| **Total Project Emissions (tons)** | **6.6E-05** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Onsite, Offroad Vehicle Exhaust Emissions**

**April 2023**

**Onsite Vehicle Exhaust CO Emissions from Elmore No**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 7.7E-02 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **7.7E-02** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 1.8E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **1.8E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust VOC Emissions from Elmore N**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **2.4E-03** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 5.5E-02 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **5.5E-02** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $SO_X$ Emissions from Elmore N o**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **2.9E-03** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $NO_X$ Emissions from Elmore N o**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.7E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **4.7E-03** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-01 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **1.1E-01** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust and Vehicle Wear $PM_{10}$ Emissions fr**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **4.1E-04** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 9.5E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **9.5E-03** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust and Vehicle Wear $PM_{2.5}$ Emissions fr**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (lb/day) [b]** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **2.2E-04** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (lb/month)** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **5.1E-03** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Onsite, Offroad Vehicle Exhaust Emissions**

**April 2023**

**Onsite Vehicle Exhaust $CO_2$ Emissions from Elmore North Construction**

| Vehicle Type | $CO_2$ Emissions (metric tons/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 |
| **Average Daily Onsite Emissions (metric tons/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** |
| Vehicle Type | $CO_2$ Emissions (metric tons/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 |
| **Total Monthly Onsite Emissions (metric tons/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** |
| **Total Project Emissions (metric tons)** | **3.4E+00** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $N_2O$ Emissions from Elmore North Construction**

| Vehicle Type | $N_2O$ Emissions (metric tons/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 |
| **Average Daily Onsite Emissions (metric tons/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** |
| Vehicle Type | $N_2O$ Emissions (metric tons/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 |
| **Total Monthly Onsite Emissions (metric tons/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** |
| **Total Project Emissions (metric tons)** | **6.4E-06** | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $CH_4$ Emissions from Elmore North Construction**

| Vehicle Type | $CH_4$ Emissions (metric tons/day) [a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 |
| **Average Daily Onsite Emissions (metric tons/day) [b]** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** |
| Vehicle Type | $CH_4$ Emissions (metric tons/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Pickup Truck | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 |
| **Total Monthly Onsite Emissions (metric tons/month)** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** |
| **Total Project Emissions (metric tons)** | **1.4E-04** | | | | | | | | | | | | | | | | | |

Notes:

[a] Based on the dimensions of the project site and anticipated activity, daily onsite trip lengths were assumed to be 5 miles

[b] Daily transportation emissions are presented as average daily emissions.

[c] Per information provided by the Applicant's engineering contractor, work days per month are as follows: 23

[d] $PM_{10}$ and $PM_{2.5}$ Emissions include emissions from exhaust and tire and brake wear.

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Onsite, Offroad Vehicle Exhaust Emissions**

**April 2023**

**Onsite Vehicle Exhaust $CO_2$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (metric tons/day) [b]** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **5.7E-03** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-01 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **1.3E-01** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $N_2O$ Emissions from Elmore No**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (metric tons/day) [b]** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **1.1E-08** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 2.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **2.5E-07** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

**Onsite Vehicle Exhaust $CH_4$ Emissions from Elmore No**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Average Daily Onsite Emissions (metric tons/day) [b]** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **2.4E-07** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 5.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite Emissions (metric tons/month)** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **5.5E-06** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** | **0.0E+00** |
| **Total Project Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

Notes:

[a] Based on the dimensions of the project site and anticipated acti

[b] Daily transportation emissions are presented as average daily e

[c] Per information provided by the Applicant's engineering contract

[d] $PM_{10}$ and $PM_{2.5}$ Emissions include emissions from exhaust and

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Emissions from Fugitive Dust and Other Offroad Activities**

**April 2023**

**Grading and Truck Dumping/Loading Activity Levels for Elmore North**

| Source | Monthly Activity Levels | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | Septembe | October | Novembe | December | January | February | March | April | May | June | July | August |
| Graded Area (acres) [a] | 0 | 0 | 0 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Imported/Exported (cubic yards) [b] | 0 | 0 | 0 | 158,685 | 158,685 | 158,685 | 158,685 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:

[a] Graded area provided by the Applicant's engineering contractor. This disturbance was distributed amongst the months in which graders are utilized and also based on the number of graders present each month.

[b] Soil Imported/Exported provided by the Applicant's engineering contractor. Assumed the imports/exports and associated loading/dumping activity are equally distributed amongst the months in which front end loaders, excavators, and backhoes are utilized either

**Soil activities during Demolition and Construction**

| | Area (acres) | Imported/Exported Soil (cubic yards) |
|---|---|---|
| **Demolition** | | |
| Total Disturbed Area for Grading | 34.37 | -- |
| Cut/Export Material | -- | 100 |
| Import/Fill Material | -- | 100 |
| **Construction** | | |
| Total Disturbed Area for Grading | 86.44 | -- |
| Cut/Export Material | -- | 528,163 |
| Import/Fill Material | -- | 106,376 |

**Onsite Vehicle Fugitive $PM_{10}$ Emissions from Unpaved Roads During Elmore North Construction**

| Vehicle Type | Fugitive $PM_{10}$ Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | Septembe | October | Novembe | December | January | February | March | April | May | June | July | August |
| Onsite Pickup Truck [b] | 0.00 | 0.00 | 0.00 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** |
| Vehicle Type | Fugitive $PM_{10}$ Emissions (lb/month) [a] | | | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | Septembe | October | Novembe | December | January | February | March | April | May | June | July | August |
| Onsite Pickup Truck [b, c] | 0.00 | 0.00 | 0.00 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** |
| **Total Onsite Project Emissions (tons)** | **1.13** | | | | | | | | | | | | | | | | | | | |

Notes:

[a] It is assumed that all onsite driving is on unpaved roads, to be conservative. Emissions based on the controlled unpaved road emission factor for $PM_{10}$.

| | | |
|---|---|---|
| [b] Based on the dimensions of the project site and anticipated activity, daily onsite trip lengths were assumed to be: | 5 | miles |
| [c] Per information provided by the Applicant's engineering contractor, work days per month are as follows: | 23 | days |

**Onsite Vehicle Fugitive $PM_{2.5}$ Emissions from Unpaved Roads During Elmore North Construction**

| Vehicle Type | Fugitive $PM_{2.5}$ Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | Septembe | October | Novembe | December | January | February | March | April | May | June | July | August |
| Onsite Pickup Truck [b] | 0.00 | 0.00 | 0.00 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** |
| Vehicle Type | Fugitive $PM_{2.5}$ Emissions (lb/month) [a] | | | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | Septembe | October | Novembe | December | January | February | March | April | May | June | July | August |
| Onsite Pickup Truck [b, c] | 0.00 | 0.00 | 0.00 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** |
| **Total Onsite Project Emissions (tons)** | **0.11** | | | | | | | | | | | | | | | | | | | |

Notes:

[a] It is assumed that all onsite driving is on unpaved roads, to be

| | | |
|---|---|---|
| [b] Based on the dimensions of the project site and anticipated activity, | 5 | miles |
| [c] Per information provided by the Applicant's engineering contractor, work days per month are as follows: | 23 | days |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Emissions from Fugitive Dust and Other Offroad Activities**

**April 2023**

**Grading and Truck Dumping/Loading Activity Levels for Elmore North**

| Source | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Graded Area (acres) [a] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Imported/Exported (cubic yards) [b] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:

[a] Graded area provided by the Applicant's engineering contractor. This disturbance was distributed amongst the months in which graders are utilized and also based on the number of graders present each month.

[b] Soil Imported/Exported provided by the Applicant's engineering contractor. Assumed the imports/exports and associated loading/dumping activity are equally distributed amongst the months in which front end loaders, excavators, and backhoes are utilized either

**Soil activities during Demolition and Construction**

| |
|---|
| **Demolition** |
| Total Disturbed Area for Grading |
| Cut/Export Material |
| Import/Fill Material |
| **Construction** |
| Total Disturbed Area for Grading |
| Cut/Export Material |
| Import/Fill Material |

**Onsite Vehicle Fugitive $PM_{10}$ Emissions from Unpaved Roads During**

| Vehicle Type | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck [b] | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **3.78** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Vehicle Type | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck [b, c] | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 86.86 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **86.86** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Project Emissions (tons)** | | | | | | | | | | | | | | | | |

Notes:

[a] It is assumed that all onsite driving is on unpaved roads, to be conservative. Emissions based on the controlled unpaved road emission factor for $PM_{10}$.

[b] Based on the dimensions of the project site and anticipated activity, daily onsite trip lengths were assumed to be:

[c] Per information provided by the Applicant's engineering contractor, work days per month are as follows:

**Onsite Vehicle Fugitive $PM_{2.5}$ Emissions from Unpaved Roads During**

| Vehicle Type | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck [b] | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.38** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Vehicle Type | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Pickup Truck [b, c] | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **8.65** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Onsite Project Emissions (tons)** | | | | | | | | | | | | | | | | |

Notes:

[a] It is assumed that all onsite driving is on unpaved roads, to be

[b] Based on the dimensions of the project site and anticipated activity,

[c] Per information provided by the Applicant's engineering contractor, work days per month are as follows:

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Emissions from Fugitive Dust and Other Offroad Activities**

**April 2023**

**Grading and Truck Dumping/Loading Fugitive $PM_{10}$ Emissions from Elmore North Construction**

| Construction Activity | Fugitive $PM_{10}$ Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August |
| Grading [b, c] | 0.00 | 0.00 | 0.00 | 0.72 | 0.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading [d, e] | 0.00 | 0.00 | 0.00 | 1.37 | 1.37 | 1.37 | 1.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **2.10** | **2.10** | **1.37** | **1.37** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Construction Activity | Fugitive $PM_{10}$ Emissions (lb/month) [a] | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August |
| Grading | 0.00 | 0.00 | 0.00 | 16.66 | 16.66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading | 0.00 | 0.00 | 0.00 | 31.55 | 31.55 | 31.55 | 31.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **48.20** | **48.20** | **31.55** | **31.55** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | **0.08** | | | | | | | | | | | | | | | | | | | |

Notes:

[a] Per information provided by the Applicant's engineering contractor, work days per month are as follows: 23 days

[b] Grading emissions based on the controlled emission factor for $PM_{10}$.

[c] Per Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following blade width was assumed for grading equipment: 12 ft

[d] Assume that soil is dumped from or loaded to the truck the same month it is imported or exported, respectively.

[e] Per Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following conversion factor was used: 1.26 tons/cubic yard

**Grading and Truck Dumping/Loading Fugitive $PM_{2.5}$ Emissions from Elmore North Construction**

| Construction Activity | Fugitive $PM_{2.5}$ Emissions (lb/day) [a] | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August |
| Grading [b, c] | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading [d, e] | 0.00 | 0.00 | 0.00 | 0.21 | 0.21 | 0.21 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.29** | **0.29** | **0.21** | **0.21** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Construction Activity | Fugitive $PM_{2.5}$ Emissions (lb/month) [a] | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August |
| Grading | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading | 0.00 | 0.00 | 0.00 | 4.78 | 4.78 | 4.78 | 4.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **6.58** | **6.58** | **4.78** | **4.78** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | **0.01** | | | | | | | | | | | | | | | | | | | |

Notes:

[a] Per information provided by the Applicant's engineering contractor, work days per month are as follows: 23 days

[b] Grading emissions based on the controlled emission factor for $PM_{2.5}$.

[c] Per Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following blade width was assumed for grading equipment: 12 ft

[d] Assume that soil is dumped from or loaded to the truck the same month it is imported or exported, respectively.

[e] Per Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following conversion factor was used: 1.26 tons/cubic yard

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Emissions from Fugitive Dust and Other Offroad Activities**

**April 2023**

**Grading and Truck Dumping/Loading Fugitive $PM_{10}$ Emissions from Elmore North**

| | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Construction Activity** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Grading [b, c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading [d, e] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Construction Activity** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Grading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | |

Notes:

[a] Per information provided by the Applicant's engineering contractor, work days per month are as follows:

[b] Grading emissions based on the controlled emission factor for $PM_{10}$.

[c] Per Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following blade width was assumed for grading equipment:

[d] Assume that soil is dumped from or loaded to the truck the same month it is imported or exported, respectively.

[e] Per Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following conversion factor was used:

**Grading and Truck Dumping/Loading Fugitive $PM_{2.5}$ Emissions from**

| | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Construction Activity** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Grading [b, c] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading [d, e] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Construction Activity** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Grading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Truck Dumping/Loading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | |

Notes:

[a] Per information provided by the Applicant's engineering contractor, work days per month are as follows:

[b] Grading emissions based on the controlled emission factor for $PM_{2.5}$.

[c] Per Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following blade width was assumed for grading equipment:

[d] Assume that soil is dumped from or loaded to the truck the same month it is imported or exported, respectively.

[e] Per Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022), the following conversion factor was used:

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Emissions from Fugitive Dust and Other Offroad Activities**

**April 2023**

**Fugitive Dust Emission Factors for Unpaved Roads**
**Vehicles on Unpaved Surfaces at Industrial Sites**

| Parameter | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|
| k - Particle Size Multiplier (lb/VMT) [a] | 1.80 | 0.18 |
| s - Silt Content (%) [a] | 8.5 | 8.5 |
| M - Surface Material Moisture Content (%) [a] | 0.5 | 0.5 |
| S - Mean Vehicle Speed (mph) [a] | 40 | 40 |
| C - Emission Factor for Exhaust, Brake Wear and Tire Wear (lb/VMT) [b] | 0.00047 | 0.00036 |
| P - Days per Year With at Least 0.01" of Precipitation [c] | 5 | 5 |
| **Emission Factor (Uncontrolled, lb/mile) [d]** | 1.4524 | 0.1447 |
| **Reduction from Watering Every 2.1 Hours [e]** | 74% | 74% |
| **Emission Factor (Controlled, lb/mile)** | 0.3776 | 0.038 |

Notes:

[a] k, s, M, and S are taken as the CalEEMod default values from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022). k was converted from g to lbs.

[b] C taken as the default values from Table 13.2.2-4 of *AP-42* (EPA 2006), per Section 5.1.4 of Appendix C of the *CalEEMod User's Guide*

[c] P taken as the CalEEMod default value for the Imperial County Airport from Table G-2 of Appendix G of the *CalEEMod User's Guide* (ICF

[d] Emission factor calculated per Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

$$EF_{unpaved}(lb/mile) = \left(\frac{k(s/12)^{1}(S/30)^{0.5}}{(M/0.5)^{0.2}} - C\right) \times \left(1 - \frac{P}{365}\right)$$

[e] Control efficiency of watering disturbed areas three times per 8-hour shift (every 2.1 hours) taken from Section 4.4.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022) and assumes the same control as indicated for grading, bulldozing, and truck loading.

**Fugitive Dust Emission Factors for Truck Dumping/Loading**
**Truck Dumping on a Pile or Loading to a Truck from a Pile**

| Parameter | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|
| k [a] | 0.35 | 0.053 |
| U [b] | 7.6 | 7.6 |
| M [a] | 12.0 | 12.0 |
| **Emission Factor (lb/ton) [c]** | 0.00016 | 0.000024 |

Notes:

[a] k and M taken from Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

[b] U taken as the average annual wind speed measured at the Imperial

[c] Emission factor calculated using the following equation from Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

Emission Factor (lb/ton) = k x 0.0032 x $[U (mph) / 5]^{1.3}$ / $[M (\%) / 2]^{1.4}$

**Fugitive Dust Emission Factors for Grading**
**Grading Equipment Passes**

| Parameter | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|
| S [a] | 7.1 | 7.1 |
| F [a] | 0.6 | 0.031 |
| **Emission Factor (lb/VMT) [b]** | 1.543 | 0.167 |
| **Reduction from Watering Every 2.1 Hours [c]** | 74% | 74% |
| **Emission Factor (Controlled, lb/VMT)** | 0.401 | 0.043 |

Notes:

[a] S and F taken from Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

[b] Emission factors calculated using the following equations from Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

$PM_{10}$ Emission Factor (lb/VMT) = 0.051 x $[S (mph)]^{2.0}$ x $F_{PM10}$

$PM_{2.5}$ Emission Factor (lb/VMT) = 0.04 x $[S (mph)]^{2.5}$ x $F_{PM2.5}$

[c] Control efficiency of watering disturbed areas three times per 8-hour shift (every 2.1 hours) taken from Section 4.4.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Emissions from Fugitive Dust and Other Offroad Activities**

**April 2023**

**Fugitive Dust Emission Factors for Unpaved Roads**
**Vehicles on Unpaved Surfaces at Industrial Sites**

| Parameter |
|---|
| k - Particle Size Multiplier (lb/VMT) [a] |
| s - Silt Content (%) [a] |
| M - Surface Material Moisture Content (%) [a] |
| S - Mean Vehicle Speed (mph) [a] |
| C - Emission Factor for Exhaust, Brake Wear and Tire Wear (lb/VMT) [b] |
| P - Days per Year With at Least 0.01" of Precipitation [c] |
| **Emission Factor (Uncontrolled, lb/mile) [d]** |
| **Reduction from Watering Every 2.1 Hours [e]** |
| **Emission Factor (Controlled, lb/mile)** |

Notes:

[a] k, s, M, and S are taken as the CalEEMod default values from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022). k was converted from g to lbs.

[b] C taken as the default values from Table 13.2.2-4 of *AP-42* (EPA 2006), per Section 5.1.4 of Appendix C of the *CalEEMod User's Guide*

[c] P taken as the CalEEMod default value for the Imperial County Airport from Table G-2 of Appendix G of the *CalEEMod User's Guide* (ICF

[d] Emission factor calculated per Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

$$EF_{unpaved}(lb/mile) = \left(\frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C\right) \times \left(1 - \frac{P}{365}\right)$$

[e] Control efficiency of watering disturbed areas three times per 8-hour shi

**Fugitive Dust Emission Factors for Truck Dumping/Loading**
**Truck Dumping on a Pile or Loading to a Truck from a Pile**

| Parameter |
|---|
| k [a] |
| U [b] |
| M [a] |
| **Emission Factor (lb/ton) [c]** |

Notes:

[a] k and M taken from Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

[b] U taken as the average annual wind speed measured at the Imperial

[c] Emission factor calculated using the following equation from Section 4.4.3 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

Emission Factor (lb/ton) = k x 0.0032 x $[U\ (mph)\ /\ 5]^{1.3}\ /\ [M\ (\%)\ /\ 2]^{1.4}$

**Fugitive Dust Emission Factors for Grading**
**Grading Equipment Passes**

| Parameter |
|---|
| S [a] |
| F [a] |
| **Emission Factor (lb/VMT) [b]** |
| **Reduction from Watering Every 2.1 Hours [c]** |
| **Emission Factor (Controlled, lb/VMT)** |

Notes:

[a] S and F taken from Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

[b] Emission factors calculated using the following equations from Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

$PM_{10}$ Emission Factor (lb/VMT) = 0.051 x $[S\ (mph)]^{2.0}$ x $F_{PM10}$

$PM_{2.5}$ Emission Factor (lb/VMT) = 0.04 x $[S\ (mph)]^{2.5}$ x $F_{PM2.5}$

[c] Control efficiency of watering disturbed areas three times per 8-hour shift (every 2.1 hours) taken from Section 4.4.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Paving Emissions**

**April 2023**

**Onsite Paving VOC Emissions from Elmore North Construction**

| Paving Area | VOC Emissions (lb/day) [a,b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.74 | 0.74 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.74** | **0.74** | **0.00** | **0.00** |

| Paving Area | VOC Emissions (lb/month) [a,b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.03 | 17.03 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **17.03** | **17.03** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | **0.02** | | | | | | | | | | | | | | | | | |

Notes:

[a] Assumed paving activities occur during only the months where a compactor was in use, for a total of: 2 months

[b] The total amount of paving was assumed to occur evenly during the months of paving operations.

**Offsite Paving VOC Emissions from Elmore North Construction**

| Paving Area | VOC Emissions (lb/day) [a,b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Offsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.83 | 0.83 | 0.00 | 0.00 |
| **Total Daily Offsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.83** | **0.83** | **0.00** | **0.00** |

| Paving Area | VOC Emissions (lb/month) [a,b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Offsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.17 | 19.17 | 0.00 | 0.00 |
| **Total Monthly Offsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **19.17** | **19.17** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | **0.02** | | | | | | | | | | | | | | | | | |

Notes:

[a] Assumed paving activities occur during only the months where a compactor was in use, for a total of: 2 months

[b] The total amount of paving was assumed to occur evenly during the months of paving operations.

**Paving Emission Variables**

| Parameter | Value | Percent of Total Area |
|---|---|---|
| Onsite Paved Area (acres) [a] | 13.0 | 47% |
| Offsite Paved Area (acres) [b] | 14.6 | 53% |
| Working Days per Month [c] | 23 | |
| Emission Factor (lb/acre) [d] | 2.62 | |

Notes:

[a] Onsite paved area estimated to include plant area and roads and was provided by the Applicant's engineering contractor.

[b] Offsite paved area estimated to include well pads and roads and was provided by the Applicant's engineering contractor. Paved road width was assumed to be 30

[c] Working days per month were provided by the Applicant's engineering contractor.

[d] Emission factor is per Section 4.9 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Paving Emissions**

**April 2023**

**Onsite Paving VOC Emissions from Elmore North**

| Paving Area | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Onsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Paving Area | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Onsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

Notes:

[a] Assumed paving activities occur during only the months where a compactor was in use, for a total of:

[b] The total amount of paving was assumed to occur evenly during the months of paving operations.

**Offsite Paving VOC Emissions from Elmore North**

| Paving Area | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Offsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Daily Offsite Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Paving Area | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Offsite Paved Areas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite Emissions (lb/month)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Total Project Emissions (tons)** | | | | | | | | | | | | | | | | | | |

Notes:

[a] Assumed paving activities occur during only the months where a compactor was in use, for a total of:

[b] The total amount of paving was assumed to occur evenly during the months of paving operations.

**Paving Emission Variables**

| Parameter |
|---|
| Onsite Paved Area (acres) [a] |
| Offsite Paved Area (acres) [b] |
| Working Days per Month [c] |
| Emission Factor (lb/acre) [d] |

Notes:

[a] Onsite paved area estimated to include plant area and roads and was provided by the Applicant's engineering contractor.

[b] Offsite paved area estimated to include well pads and roads and was provided by the Applicant's engineering contractor. Paved road width was assumed to be 30

[c] Working days per month were provided by the Applicant's engineering contractor.

[d] Emission factor is per Section 4.9 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Offsite, Onroad Vehicle Exhaust Emissions**

**April 2023**

**Offsite, Onroad Vehicle Exhaust CO Emissions from Elmore North Construction**

| Vehicle Type | CO Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 1.47 | 2.38 | 7.33 | 11.00 | 11.91 | 15.40 | 21.63 | 24.38 | 28.23 | 38.12 | 38.67 | 35.19 | 34.82 | 35.92 | 42.89 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **1.47** | **2.39** | **7.34** | **11.01** | **11.93** | **15.41** | **21.64** | **24.40** | **28.25** | **38.16** | **38.72** | **35.24** | **34.86** | **35.96** | **42.91** |
| Vehicle Type | CO Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.02 | 0.04 | 0.08 | 0.13 | 0.22 | 0.22 | 0.24 | 0.33 | 0.39 | 0.39 | 0.50 | 0.56 | 0.65 | 0.59 | 0.59 | 0.63 | 0.63 | 0.58 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.19 | 0.50 | 0.48 | 0.31 | 0.19 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 33.72 | 54.80 | 168.62 | 252.93 | 274.00 | 354.10 | 497.42 | 560.65 | 649.18 | 876.81 | 889.45 | 809.36 | 800.93 | 826.22 | 986.41 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **0.02** | **0.04** | **0.08** | **33.85** | **55.02** | **168.83** | **253.17** | **274.33** | **354.49** | **497.81** | **561.15** | **649.83** | **877.64** | **890.54** | **810.42** | **801.87** | **827.04** | **986.99** |
| **Total Project Offiste, Onroad Emissions (tons)** | **8.97** | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust VOC Emissions from Elmore North Construction**

| Vehicle Type | VOC Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.11 | 0.17 | 0.18 | 0.23 | 0.33 | 0.37 | 0.43 | 0.58 | 0.58 | 0.53 | 0.53 | 0.54 | 0.65 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.02** | **0.04** | **0.11** | **0.17** | **0.18** | **0.24** | **0.33** | **0.37** | **0.43** | **0.58** | **0.59** | **0.54** | **0.53** | **0.55** | **0.65** |
| Vehicle Type | VOC Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.08 | 0.08 | 0.10 | 0.09 | 0.09 | 0.10 | 0.10 | 0.09 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.05 | 0.05 | 0.03 | 0.02 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 0.51 | 0.83 | 2.55 | 3.82 | 4.14 | 5.35 | 7.51 | 8.47 | 9.80 | 13.24 | 13.43 | 12.22 | 12.10 | 12.48 | 14.90 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **0.00** | **0.01** | **0.01** | **0.53** | **0.86** | **2.58** | **3.86** | **4.19** | **5.41** | **7.57** | **8.54** | **9.90** | **13.36** | **13.58** | **12.36** | **12.23** | **12.59** | **14.99** |
| **Total Project Offiste, Onroad Emissions (tons)** | **0.14** | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust $SO_X$ Emissions from Elmore North Construction**

| Vehicle Type | $SO_X$ Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | 0.06 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.02** | **0.02** | **0.02** | **0.03** | **0.04** | **0.04** | **0.06** | **0.06** | **0.06** | **0.06** | **0.06** | **0.07** |
| Vehicle Type | $SO_X$ Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.00 | 0.00 | 0.01 | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.07 | 0.07 | 0.04 | 0.03 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 0.05 | 0.08 | 0.24 | 0.36 | 0.40 | 0.51 | 0.72 | 0.81 | 0.94 | 1.26 | 1.28 | 1.17 | 1.16 | 1.19 | 1.42 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **0.00** | **0.00** | **0.01** | **0.07** | **0.11** | **0.27** | **0.40** | **0.44** | **0.56** | **0.77** | **0.87** | **1.02** | **1.38** | **1.43** | **1.31** | **1.28** | **1.30** | **1.50** |
| **Total Project Offiste, Onroad Emissions (tons)** | **0.01** | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Offsite, Onroad Vehicle Exhaust Emissions**

**April 2023**

**Offsite, Onroad Vehicle Exhaust CO Emissions from Elmore North**

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Onroad Delivery Trucks [a] | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 46.92 | 55.17 | 55.53 | 58.28 | 57.00 | 51.68 | 45.45 | 29.14 | 12.83 | 5.86 | 4.22 | 3.48 | 2.38 | 1.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **46.94** | **55.19** | **55.56** | **58.30** | **57.01** | **51.69** | **45.46** | **29.15** | **12.84** | **5.87** | **4.22** | **3.48** | **2.40** | **1.85** | **0.01** | **0.01** | **0.01** | **0.01** |

| | | | | | | | | | | | | | 2026 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Onroad Delivery Trucks | 0.52 | 0.52 | 0.49 | 0.49 | 0.23 | 0.17 | 0.17 | 0.17 | 0.17 | 0.05 | 0.05 | 0.05 | 0.30 | 0.30 | 0.28 | 0.28 | 0.22 | 0.22 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 1,079.15 | 1,268.84 | 1,277.27 | 1,340.50 | 1,311.00 | 1,188.75 | 1,045.43 | 670.25 | 295.08 | 134.89 | 96.95 | 80.09 | 54.80 | 42.15 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **1,079.67** | **1,269.36** | **1,277.77** | **1,341.00** | **1,311.22** | **1,188.91** | **1,045.59** | **670.42** | **295.24** | **134.94** | **97.00** | **80.14** | **55.10** | **42.45** | **0.28** | **0.28** | **0.22** | **0.22** |
| **Total Project Offiste, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust VOC Emissions from Elmore No**

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Onroad Delivery Trucks [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 0.71 | 0.83 | 0.84 | 0.88 | 0.86 | 0.78 | 0.69 | 0.44 | 0.19 | 0.09 | 0.06 | 0.05 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.71** | **0.84** | **0.84** | **0.88** | **0.86** | **0.78** | **0.69** | **0.44** | **0.19** | **0.09** | **0.06** | **0.05** | **0.04** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** |

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Onroad Delivery Trucks | 0.08 | 0.08 | 0.07 | 0.07 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 16.30 | 19.16 | 19.29 | 20.25 | 19.80 | 17.95 | 15.79 | 10.12 | 4.46 | 2.04 | 1.46 | 1.21 | 0.83 | 0.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **16.38** | **19.24** | **19.37** | **20.32** | **19.83** | **17.98** | **15.81** | **10.15** | **4.48** | **2.04** | **1.47** | **1.22** | **0.87** | **0.68** | **0.04** | **0.04** | **0.03** | **0.03** |
| **Total Project Offiste, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust $SO_X$ Emissions from Elmore No**

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Onroad Delivery Trucks [a] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 | 0.07 | 0.07 | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.07** | **0.08** | **0.08** | **0.09** | **0.08** | **0.08** | **0.07** | **0.04** | **0.02** | **0.01** | **0.01** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **July** | **August** | **September** | **October** | **November** | **December** | **January** | **February** | **March** | **April** | **May** | **June** | **July** | **August** | **September** | **October** | **November** | **December** |
| Onroad Delivery Trucks | 0.07 | 0.07 | 0.06 | 0.06 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 1.56 | 1.83 | 1.84 | 1.93 | 1.89 | 1.71 | 1.51 | 0.97 | 0.43 | 0.19 | 0.14 | 0.12 | 0.08 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **1.62** | **1.90** | **1.91** | **2.00** | **1.92** | **1.74** | **1.53** | **0.99** | **0.45** | **0.20** | **0.15** | **0.12** | **0.12** | **0.10** | **0.04** | **0.04** | **0.03** | **0.03** |
| **Total Project Offiste, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Offsite, Onroad Vehicle Exhaust Emissions**

**April 2023**

**Offsite, Onroad Vehicle Exhaust $NO_X$ Emissions from Elmore North Construction**

| | $NO_X$ Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| Vehicle Type | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.01 | 0.02 | 0.05 | 0.07 | 0.12 | 0.12 | 0.13 | 0.18 | 0.22 | 0.22 | 0.28 | 0.31 | 0.36 | 0.33 | 0.33 | 0.35 | 0.35 | 0.33 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.11 | 0.28 | 0.27 | 0.17 | 0.11 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 0.09 | 0.14 | 0.44 | 0.67 | 0.72 | 0.93 | 1.31 | 1.48 | 1.71 | 2.31 | 2.34 | 2.13 | 2.11 | 2.18 | 2.60 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.01** | **0.02** | **0.05** | **0.16** | **0.27** | **0.57** | **0.80** | **0.91** | **1.15** | **1.53** | **1.75** | **2.08** | **2.78** | **2.96** | **2.73** | **2.64** | **2.64** | **2.93** |
| | $NO_X$ Emissions (lb/month) [c] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| Vehicle Type | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.31 | 0.48 | 1.06 | 1.64 | 2.80 | 2.80 | 3.09 | 4.25 | 5.03 | 5.03 | 6.38 | 7.15 | 8.31 | 7.54 | 7.54 | 8.12 | 8.12 | 7.50 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.26 | 2.51 | 6.53 | 6.28 | 4.02 | 2.51 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 2.04 | 3.32 | 10.22 | 15.33 | 16.61 | 21.46 | 30.15 | 33.99 | 39.35 | 53.15 | 53.92 | 49.06 | 48.55 | 50.08 | 59.79 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **0.31** | **0.48** | **1.06** | **3.69** | **6.12** | **13.02** | **18.42** | **20.86** | **26.49** | **35.18** | **40.36** | **47.76** | **63.97** | **67.99** | **62.88** | **60.69** | **60.71** | **67.29** |
| **Total Project Offiste, Onroad Emissions (tons)** | **0.63** | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust, Vehicle Wear, and Fugitive Dust $PM_{10}$ Emissions from Elmore North Construction**

| | $PM_{10}$ Emissions (lb/day) [d] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| Vehicle Type | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.00 | 0.01 | 0.02 | 0.02 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.07 | 0.09 | 0.10 | 0.12 | 0.11 | 0.11 | 0.12 | 0.12 | 0.11 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.09 | 0.09 | 0.06 | 0.04 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 0.22 | 0.35 | 1.08 | 1.61 | 1.75 | 2.26 | 3.17 | 3.58 | 4.14 | 5.60 | 5.68 | 5.17 | 5.11 | 5.27 | 6.30 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.00** | **0.01** | **0.02** | **0.24** | **0.39** | **1.12** | **1.66** | **1.81** | **2.33** | **3.25** | **3.67** | **4.27** | **5.75** | **5.88** | **5.37** | **5.29** | **5.43** | **6.41** |
| | $PM_{10}$ Emissions (lb/month) [c, d] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| Vehicle Type | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.10 | 0.16 | 0.36 | 0.55 | 0.94 | 0.94 | 1.04 | 1.43 | 1.69 | 1.69 | 2.14 | 2.40 | 2.79 | 2.53 | 2.53 | 2.73 | 2.73 | 2.52 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.41 | 0.82 | 2.13 | 2.05 | 1.31 | 0.82 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 4.95 | 8.05 | 24.75 | 37.13 | 40.23 | 51.98 | 73.02 | 82.31 | 95.30 | 128.72 | 130.58 | 118.82 | 117.58 | 121.29 | 144.81 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **0.10** | **0.16** | **0.36** | **5.50** | **8.99** | **25.70** | **38.17** | **41.65** | **53.67** | **74.71** | **84.45** | **98.12** | **132.33** | **135.24** | **123.40** | **121.62** | **124.84** | **147.33** |
| **Total Project Offiste, Onroad Emissions (tons)** | **1.34** | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust, Vehicle Wear, and Fugitive Dust $PM_{2.5}$ Emissions from Elmore North Construction**

| | $PM_{2.5}$ Emissions (lb/day) [d] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| Vehicle Type | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Material Hauling Trucks | 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 | 0.03 | 0.03 | 0.02 | 0.01 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 0.06 | 0.09 | 0.28 | 0.42 | 0.45 | 0.58 | 0.82 | 0.92 | 1.07 | 1.44 | 1.46 | 1.33 | 1.32 | 1.36 | 1.62 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **0.00** | **0.00** | **0.00** | **0.06** | **0.10** | **0.29** | **0.43** | **0.47** | **0.60** | **0.84** | **0.95** | **1.10** | **1.49** | **1.52** | **1.39** | **1.37** | **1.40** | **1.66** |
| | $PM_{2.5}$ Emissions (lb/month) [c, d] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| Vehicle Type | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.03 | 0.05 | 0.10 | 0.16 | 0.27 | 0.27 | 0.30 | 0.41 | 0.48 | 0.48 | 0.61 | 0.69 | 0.80 | 0.73 | 0.73 | 0.78 | 0.78 | 0.72 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.24 | 0.62 | 0.60 | 0.38 | 0.24 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 1.28 | 2.08 | 6.39 | 9.58 | 10.38 | 13.41 | 18.84 | 21.23 | 24.59 | 33.21 | 33.69 | 30.65 | 30.34 | 31.29 | 37.36 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **0.03** | **0.05** | **0.10** | **1.44** | **2.35** | **6.66** | **9.88** | **10.79** | **13.90** | **19.32** | **21.85** | **25.40** | **34.25** | **35.04** | **31.98** | **31.50** | **32.31** | **38.08** |
| **Total Project Offiste, Onroad Emissions (tons)** | **0.35** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**
**Offsite, Onroad Vehicle Exhaust Emissions**
**April 2023**

**Offsite, Onroad Vehicle Exhaust $NO_X$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks [a] | 0.29 | 0.29 | 0.28 | 0.28 | 0.13 | 0.09 | 0.09 | 0.09 | 0.09 | 0.03 | 0.03 | 0.03 | 0.17 | 0.17 | 0.16 | 0.16 | 0.12 | 0.12 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 2.84 | 3.34 | 3.37 | 3.53 | 3.46 | 3.13 | 2.76 | 1.77 | 0.78 | 0.36 | 0.26 | 0.21 | 0.14 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **3.14** | **3.64** | **3.64** | **3.81** | **3.58** | **3.23** | **2.85** | **1.86** | **0.87** | **0.38** | **0.28** | **0.24** | **0.31** | **0.28** | **0.16** | **0.16** | **0.12** | **0.12** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks | 6.73 | 6.73 | 6.34 | 6.34 | 2.90 | 2.13 | 2.13 | 2.13 | 2.13 | 0.58 | 0.58 | 0.58 | 3.87 | 3.87 | 3.63 | 3.63 | 2.86 | 2.86 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 65.42 | 76.91 | 77.42 | 81.26 | 79.47 | 72.06 | 63.37 | 40.63 | 17.89 | 8.18 | 5.88 | 4.86 | 3.32 | 2.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **72.14** | **83.64** | **83.77** | **87.60** | **82.37** | **74.19** | **65.50** | **42.76** | **20.01** | **8.76** | **6.46** | **5.43** | **7.19** | **6.42** | **3.63** | **3.63** | **2.86** | **2.86** |
| **Total Project Offiste, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust, Vehicle Wear, and Fugitive Dust PM**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks [a] | 0.10 | 0.10 | 0.09 | 0.09 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.06 | 0.06 | 0.05 | 0.05 | 0.04 | 0.04 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 6.89 | 8.10 | 8.15 | 8.56 | 8.37 | 7.59 | 6.67 | 4.28 | 1.88 | 0.86 | 0.62 | 0.51 | 0.35 | 0.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **6.99** | **8.20** | **8.25** | **8.65** | **8.41** | **7.62** | **6.70** | **4.31** | **1.91** | **0.87** | **0.63** | **0.52** | **0.41** | **0.33** | **0.05** | **0.05** | **0.04** | **0.04** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks | 2.26 | 2.26 | 2.13 | 2.13 | 0.97 | 0.71 | 0.71 | 0.71 | 0.71 | 0.19 | 0.19 | 0.19 | 1.30 | 1.30 | 1.22 | 1.22 | 0.96 | 0.96 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 158.43 | 186.27 | 187.51 | 196.79 | 192.46 | 174.52 | 153.47 | 98.40 | 43.32 | 19.80 | 14.23 | 11.76 | 8.05 | 6.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **160.68** | **188.53** | **189.64** | **198.92** | **193.44** | **175.23** | **154.19** | **99.11** | **44.03** | **20.00** | **14.43** | **11.95** | **9.34** | **7.49** | **1.22** | **1.22** | **0.96** | **0.96** |
| **Total Project Offiste, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust, Vehicle Wear, and Fugitive Dust PM**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks [a] | 0.03 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 1.78 | 2.09 | 2.10 | 2.21 | 2.16 | 1.96 | 1.72 | 1.10 | 0.49 | 0.22 | 0.16 | 0.13 | 0.09 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (lb/day)** | **1.81** | **2.12** | **2.13** | **2.23** | **2.17** | **1.97** | **1.73** | **1.11** | **0.49** | **0.22** | **0.16** | **0.13** | **0.11** | **0.09** | **0.02** | **0.02** | **0.01** | **0.01** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks | 0.65 | 0.65 | 0.61 | 0.61 | 0.28 | 0.20 | 0.20 | 0.20 | 0.20 | 0.06 | 0.06 | 0.06 | 0.37 | 0.37 | 0.35 | 0.35 | 0.28 | 0.28 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 40.87 | 48.06 | 48.38 | 50.77 | 49.65 | 45.02 | 39.60 | 25.39 | 11.18 | 5.11 | 3.67 | 3.03 | 2.08 | 1.60 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (lb/month)** | **41.52** | **48.71** | **48.99** | **51.38** | **49.93** | **45.23** | **39.80** | **25.59** | **11.38** | **5.16** | **3.73** | **3.09** | **2.45** | **1.97** | **0.35** | **0.35** | **0.28** | **0.28** |
| **Total Project Offiste, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Offsite, Onroad Vehicle Exhaust Emissions**

**April 2023**

**Offsite, Onroad Vehicle Exhaust $CO_2$ Emissions from Elmore North Construction**

| Vehicle Type | $CO_2$ Emissions (metric tons/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 0.01 | 0.01 | 0.02 | 0.03 | 0.06 | 0.06 | 0.07 | 0.09 | 0.11 | 0.11 | 0.13 | 0.15 | 0.17 | 0.16 | 0.16 | 0.17 | 0.17 | 0.16 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.06 | 0.15 | 0.14 | 0.09 | 0.06 | 0.00 |
| Construction Worker Commute [b] | 0.00 | 0.00 | 0.00 | 0.10 | 0.15 | 0.48 | 0.71 | 0.77 | 1.00 | 1.40 | 1.58 | 1.83 | 2.47 | 2.51 | 2.28 | 2.26 | 2.33 | 2.78 |
| **Average Daily Offsite, Onroad Emissions (metric tons/day)** | **0.01** | **0.01** | **0.02** | **0.13** | **0.21** | **0.53** | **0.78** | **0.86** | **1.10** | **1.51** | **1.71** | **2.01** | **2.70** | **2.81** | **2.58** | **2.52** | **2.56** | **2.94** |

| Vehicle Type | $CO_2$ Emissions (metric tons/month) [c] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 0.15 | 0.23 | 0.51 | 0.80 | 1.36 | 1.36 | 1.50 | 2.06 | 2.43 | 2.43 | 3.09 | 3.46 | 4.02 | 3.65 | 3.65 | 3.93 | 3.93 | 3.63 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.66 | 1.32 | 3.43 | 3.30 | 2.11 | 1.32 | 0.00 |
| Construction Worker Commute | 0.00 | 0.00 | 0.00 | 2.19 | 3.55 | 10.93 | 16.39 | 17.76 | 22.95 | 32.24 | 36.34 | 42.08 | 56.84 | 57.66 | 52.46 | 51.92 | 53.56 | 63.94 |
| **Total Monthly Offsite, Onroad Emissions (metric tons/month)** | **0.15** | **0.23** | **0.51** | **2.98** | **4.91** | **12.29** | **17.89** | **19.82** | **25.39** | **34.68** | **39.43** | **46.20** | **62.18** | **64.74** | **59.41** | **57.96** | **58.81** | **67.57** |
| **Total Project Offsite, Onroad Emissions (metric tons)** | **1,244.95** | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust $N_2O$ Emissions from Elmore North Construction**

| Vehicle Type | $N_2O$ Emissions (metric tons/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 1.02E-08 | 1.59E-08 | 3.49E-08 | 5.40E-08 | 9.21E-08 | 9.21E-08 | 1.02E-07 | 1.40E-07 | 1.65E-07 | 1.65E-07 | 2.10E-07 | 2.35E-07 | 2.73E-07 | 2.48E-07 | 2.48E-07 | 2.67E-07 | 2.67E-07 | 2.46E-07 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.28E-08 | 1.26E-07 | 3.26E-07 | 3.14E-07 | 2.01E-07 | 1.26E-07 | 0.00E+00 |
| Construction Worker Commute [b] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.78E-07 | 6.14E-07 | 1.89E-06 | 2.84E-06 | 3.07E-06 | 3.97E-06 | 5.58E-06 | 6.28E-06 | 7.28E-06 | 9.83E-06 | 9.97E-06 | 9.07E-06 | 8.98E-06 | 9.26E-06 | 1.11E-05 |
| **Average Daily Offsite, Onroad Emissions (metric tons/day)** | **1.02E-08** | **1.59E-08** | **3.49E-08** | **4.32E-07** | **7.06E-07** | **1.98E-06** | **2.94E-06** | **3.21E-06** | **4.13E-06** | **5.74E-06** | **6.49E-06** | **7.57E-06** | **1.02E-05** | **1.05E-05** | **9.63E-06** | **9.45E-06** | **9.65E-06** | **1.13E-05** |

| Vehicle Type | $N_2O$ Emissions (metric tons/month) [c] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 2.34E-07 | 3.65E-07 | 8.03E-07 | 1.24E-06 | 2.12E-06 | 2.12E-06 | 2.34E-06 | 3.21E-06 | 3.80E-06 | 3.80E-06 | 4.82E-06 | 5.40E-06 | 6.28E-06 | 5.69E-06 | 5.69E-06 | 6.13E-06 | 6.13E-06 | 5.67E-06 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.44E-06 | 2.89E-06 | 7.51E-06 | 7.22E-06 | 4.62E-06 | 2.89E-06 | 0.00E+00 |
| Construction Worker Commute | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.69E-06 | 1.41E-05 | 4.35E-05 | 6.52E-05 | 7.06E-05 | 9.13E-05 | 1.28E-04 | 1.45E-04 | 1.67E-04 | 2.26E-04 | 2.29E-04 | 2.09E-04 | 2.06E-04 | 2.13E-04 | 2.54E-04 |
| **Total Monthly Offsite, Onroad Emissions (metric tons/month)** | **2.34E-07** | **3.65E-07** | **8.03E-07** | **9.94E-06** | **1.62E-05** | **4.56E-05** | **6.75E-05** | **7.39E-05** | **9.51E-05** | **1.32E-04** | **1.49E-04** | **1.74E-04** | **2.35E-04** | **2.43E-04** | **2.22E-04** | **2.17E-04** | **2.22E-04** | **2.60E-04** |
| **Total Project Offsite, Onroad Emissions (metric tons)** | **4.76E-03** | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust $CH_4$ Emissions from Elmore North Construction**

| Vehicle Type | $CH_4$ Emissions (metric tons/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks [a] | 3.34E-09 | 5.21E-09 | 1.15E-08 | 1.77E-08 | 3.02E-08 | 3.02E-08 | 3.34E-08 | 4.59E-08 | 5.42E-08 | 5.42E-08 | 6.88E-08 | 7.72E-08 | 8.97E-08 | 8.13E-08 | 8.13E-08 | 8.76E-08 | 8.76E-08 | 8.09E-08 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.40E-09 | 1.88E-08 | 4.89E-08 | 4.70E-08 | 3.01E-08 | 1.88E-08 | 0.00E+00 |
| Construction Worker Commute [b] | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.59E-06 | 4.20E-06 | 1.29E-05 | 1.94E-05 | 2.10E-05 | 2.71E-05 | 3.81E-05 | 4.30E-05 | 4.98E-05 | 6.72E-05 | 6.82E-05 | 6.20E-05 | 6.14E-05 | 6.33E-05 | 7.56E-05 |
| **Average Daily Offsite, Onroad Emissions (metric tons/day)** | **3.34E-09** | **5.21E-09** | **1.15E-08** | **2.60E-06** | **4.23E-06** | **1.30E-05** | **1.94E-05** | **2.10E-05** | **2.72E-05** | **3.82E-05** | **4.30E-05** | **4.99E-05** | **6.73E-05** | **6.83E-05** | **6.22E-05** | **6.15E-05** | **6.34E-05** | **7.57E-05** |

| Vehicle Type | $CH_4$ Emissions (metric tons/month) [c] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Onroad Delivery Trucks | 7.67E-08 | 1.20E-07 | 2.64E-07 | 4.08E-07 | 6.95E-07 | 6.95E-07 | 7.67E-07 | 1.06E-06 | 1.25E-06 | 1.25E-06 | 1.58E-06 | 1.77E-06 | 2.06E-06 | 1.87E-06 | 1.87E-06 | 2.01E-06 | 2.01E-06 | 1.86E-06 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.16E-07 | 4.33E-07 | 1.12E-06 | 1.08E-06 | 6.92E-07 | 4.33E-07 | 0.00E+00 |
| Construction Worker Commute | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.95E-05 | 9.66E-05 | 2.97E-04 | 4.46E-04 | 4.83E-04 | 6.24E-04 | 8.77E-04 | 9.88E-04 | 1.14E-03 | 1.55E-03 | 1.57E-03 | 1.43E-03 | 1.41E-03 | 1.46E-03 | 1.74E-03 |
| **Total Monthly Offsite, Onroad Emissions (metric tons/month)** | **7.67E-08** | **1.20E-07** | **2.64E-07** | **5.99E-05** | **9.73E-05** | **2.98E-04** | **4.47E-04** | **4.84E-04** | **6.26E-04** | **8.78E-04** | **9.90E-04** | **1.15E-03** | **1.55E-03** | **1.57E-03** | **1.43E-03** | **1.41E-03** | **1.46E-03** | **1.74E-03** |
| **Total Project Offsite, Onroad Emissions (metric tons)** | **3.16E-02** | | | | | | | | | | | | | | | | | |

Notes:

[a] Onroad Delivery Trucks include information provided by the Applicant's engineering contractor, and exclude material haul trucks separately reported.

[b] Assumed 1 commute per 1 worker; number of workers traveling to both onsite and offsite locations provided by the Applicant's engineering contractor as Total Staffing each month.

[c] Working days per month were provided by the Applicant's engineering contractor.

[d] $PM_{10}$ and $PM_{2.5}$ Emissions include emissions from exhaust, paved roads, and tire and brake wear.

**Onroad Construction Vehicle Activity for BHER Elmore North Construction**

| Vehicle Type | Roundtrip Miles/Day | Working Days per Month [a] |
|---|---|---|
| Onroad Delivery Trucks [b] | 13.54 | 23 |
| Material Hauling Trucks [c] | 40 | 23 |
| Construction Worker Commute [d] | 19.36 | 23 |

Notes:

[a] Number of work days per month provided by the Applicant's engineering contractor.

[b] Delivery trucks assumed to be "Vendor Trucks" per Section 4.6.2 of Appendix C of the *CalEEMod User's Guide* . Therefore, roundtrip miles/day for Delivery Trucks are taken from Table G-15 for Imperial County Work-Other Trips of Appendix G of the *CalEEMod User's Guide* (ICF 2022).

[c] Roundtrip miles/day for Material Hauling Trucks taken from Section 4.6.2 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

[d] Roundtrip miles/day for Construction Worker Commute taken from Table G-15 for Imperial County Home-Work Trips of Appendix G of the *CalEEMod User's Guide* (ICF 2022).

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Offsite, Onroad Vehicle Exhaust Emissions**

**April 2023**

**Offsite, Onroad Vehicle Exhaust $CO_2$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks [a] | 0.14 | 0.14 | 0.13 | 0.13 | 0.06 | 0.04 | 0.04 | 0.04 | 0.04 | 0.01 | 0.01 | 0.01 | 0.08 | 0.08 | 0.08 | 0.08 | 0.06 | 0.06 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute [b] | 3.04 | 3.58 | 3.60 | 3.78 | 3.69 | 3.35 | 2.95 | 1.89 | 0.83 | 0.38 | 0.27 | 0.23 | 0.15 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Average Daily Offsite, Onroad Emissions (metric tons/day)** | **3.18** | **3.72** | **3.73** | **3.91** | **3.76** | **3.40** | **2.99** | **1.93** | **0.88** | **0.39** | **0.29** | **0.24** | **0.24** | **0.20** | **0.08** | **0.08** | **0.06** | **0.06** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks | 3.26 | 3.26 | 3.07 | 3.07 | 1.40 | 1.03 | 1.03 | 1.03 | 1.03 | 0.28 | 0.28 | 0.28 | 1.87 | 1.87 | 1.76 | 1.76 | 1.38 | 1.38 |
| Material Hauling Trucks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction Worker Commute | 69.95 | 82.25 | 82.79 | 86.89 | 84.98 | 77.06 | 67.77 | 43.45 | 19.13 | 8.74 | 6.28 | 5.19 | 3.55 | 2.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Monthly Offsite, Onroad Emissions (metric tons/month)** | **73.21** | **85.50** | **85.86** | **89.96** | **86.38** | **78.09** | **68.79** | **44.48** | **20.16** | **9.02** | **6.57** | **5.47** | **5.42** | **4.60** | **1.76** | **1.76** | **1.38** | **1.38** |
| **Total Project Offsite, Onroad Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust $N_2O$ Emissions from Elmore No**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks [a] | 2.21E-07 | 2.21E-07 | 2.08E-07 | 2.08E-07 | 9.52E-08 | 6.98E-08 | 6.98E-08 | 6.98E-08 | 6.98E-08 | 1.90E-08 | 1.90E-08 | 1.90E-08 | 1.27E-07 | 1.27E-07 | 1.19E-07 | 1.19E-07 | 9.40E-08 | 9.40E-08 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Construction Worker Commute [b] | 1.21E-05 | 1.42E-05 | 1.43E-05 | 1.50E-05 | 1.47E-05 | 1.33E-05 | 1.17E-05 | 7.51E-06 | 3.31E-06 | 1.51E-06 | 1.09E-06 | 8.98E-07 | 6.14E-07 | 4.73E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Average Daily Offsite, Onroad Emissions (metric tons/day)** | **1.23E-05** | **1.44E-05** | **1.45E-05** | **1.52E-05** | **1.48E-05** | **1.34E-05** | **1.18E-05** | **7.58E-06** | **3.38E-06** | **1.53E-06** | **1.11E-06** | **9.17E-07** | **7.41E-07** | **5.99E-07** | **1.19E-07** | **1.19E-07** | **9.40E-08** | **9.40E-08** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks | 5.08E-06 | 5.08E-06 | 4.79E-06 | 4.79E-06 | 2.19E-06 | 1.61E-06 | 1.61E-06 | 1.61E-06 | 1.61E-06 | 4.38E-07 | 4.38E-07 | 4.38E-07 | 2.92E-06 | 2.92E-06 | 2.75E-06 | 2.75E-06 | 2.16E-06 | 2.16E-06 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Construction Worker Commute | 2.78E-04 | 3.27E-04 | 3.29E-04 | 3.46E-04 | 3.38E-04 | 3.06E-04 | 2.70E-04 | 1.73E-04 | 7.61E-05 | 3.48E-05 | 2.50E-05 | 2.06E-05 | 1.41E-05 | 1.09E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Total Monthly Offsite, Onroad Emissions (metric tons/month)** | **2.83E-04** | **3.32E-04** | **3.34E-04** | **3.50E-04** | **3.40E-04** | **3.08E-04** | **2.71E-04** | **1.74E-04** | **7.77E-05** | **3.52E-05** | **2.54E-05** | **2.11E-05** | **1.70E-05** | **1.38E-05** | **2.75E-06** | **2.75E-06** | **2.16E-06** | **2.16E-06** |
| **Total Project Offsite, Onroad Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

**Offsite, Onroad Vehicle Exhaust $CH_4$ Emissions from Elmore No**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks [a] | 7.26E-08 | 7.26E-08 | 6.84E-08 | 6.84E-08 | 3.13E-08 | 2.29E-08 | 2.29E-08 | 2.29E-08 | 2.29E-08 | 6.26E-09 | 6.26E-09 | 6.26E-09 | 4.17E-08 | 4.17E-08 | 3.92E-08 | 3.92E-08 | 3.09E-08 | 3.09E-08 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Construction Worker Commute [b] | 8.27E-05 | 9.73E-05 | 9.79E-05 | 1.03E-04 | 1.00E-04 | 9.11E-05 | 8.01E-05 | 5.14E-05 | 2.26E-05 | 1.03E-05 | 7.43E-06 | 6.14E-06 | 4.20E-06 | 3.23E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Average Daily Offsite, Onroad Emissions (metric tons/day)** | **8.28E-05** | **9.73E-05** | **9.80E-05** | **1.03E-04** | **1.01E-04** | **9.11E-05** | **8.02E-05** | **5.14E-05** | **2.26E-05** | **1.03E-05** | **7.44E-06** | **6.15E-06** | **4.24E-06** | **3.27E-06** | **3.92E-08** | **3.92E-08** | **3.09E-08** | **3.09E-08** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Onroad Delivery Trucks | 1.67E-06 | 1.67E-06 | 1.57E-06 | 1.57E-06 | 7.19E-07 | 5.28E-07 | 5.28E-07 | 5.28E-07 | 5.28E-07 | 1.44E-07 | 1.44E-07 | 1.44E-07 | 9.59E-07 | 9.59E-07 | 9.02E-07 | 9.02E-07 | 7.10E-07 | 7.10E-07 |
| Material Hauling Trucks | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Construction Worker Commute | 1.90E-03 | 2.24E-03 | 2.25E-03 | 2.36E-03 | 2.31E-03 | 2.10E-03 | 1.84E-03 | 1.18E-03 | 5.20E-04 | 2.38E-04 | 1.71E-04 | 1.41E-04 | 9.66E-05 | 7.43E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| **Total Monthly Offsite, Onroad Emissions (metric tons/month)** | **1.90E-03** | **2.24E-03** | **2.25E-03** | **2.37E-03** | **2.31E-03** | **2.10E-03** | **1.84E-03** | **1.18E-03** | **5.21E-04** | **2.38E-04** | **1.71E-04** | **1.41E-04** | **9.76E-05** | **7.53E-05** | **9.02E-07** | **9.02E-07** | **7.10E-07** | **7.10E-07** |
| **Total Project Offsite, Onroad Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

Notes:

[a] Onroad Delivery Trucks include information provided by the Applicant's e

[b] Assumed 1 commute per 1 worker; number of workers traveling to both c

[c] Working days per month were provided by the Applicant's engineering co

[d] $PM_{10}$ and $PM_{2.5}$ Emissions include emissions from exhaust, paved roads

**Onroad Construction Vehicle Activity for BHER Elmore North Constr**

| Vehicle Type |
|---|
| Onroad Delivery Trucks [b] |
| Material Hauling Trucks [c] |
| Construction Worker Commute [d] |

Notes:

[a] Number of work days per month provided by the Applicant's engineering

[b] Delivery trucks assumed to be "Vendor Trucks" per Section 4.6.2 of App

[c] Roundtrip miles/day for Material Hauling Trucks taken from Section 4.6.2

[d] Roundtrip miles/day for Construction Worker Commute taken from Table

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Onsite, Onroad Vehicle Idling Emissions**

**April 2023**

**Onsite, Onroad Vehicle Idling CO Emissions from Elmore North Construction**

| Vehicle Type | CO Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 1.6E-03 | 2.6E-03 | 5.7E-03 | 8.7E-03 | 1.5E-02 | 1.5E-02 | 1.6E-02 | 2.3E-02 | 2.7E-02 | 2.7E-02 | 3.4E-02 | 3.8E-02 | 4.4E-02 | 4.0E-02 | 4.0E-02 | 4.3E-02 | 4.3E-02 | 4.0E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3.2E-03 | 6.4E-03 | 1.7E-02 | 1.6E-02 | 1.0E-02 | 6.4E-03 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **1.6E-03** | **2.6E-03** | **5.7E-03** | **8.7E-03** | **1.5E-02** | **1.5E-02** | **1.6E-02** | **2.3E-02** | **2.7E-02** | **2.7E-02** | **3.4E-02** | **4.1E-02** | **5.1E-02** | **5.7E-02** | **5.6E-02** | **5.3E-02** | **5.0E-02** | **4.0E-02** |
| Vehicle Type | CO Emissions (lb/month) [b] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 3.8E-02 | 5.9E-02 | 1.3E-01 | 2.0E-01 | 3.4E-01 | 3.4E-01 | 3.8E-01 | 5.2E-01 | 6.2E-01 | 6.2E-01 | 7.8E-01 | 8.8E-01 | 1.0E+00 | 9.2E-01 | 9.2E-01 | 9.9E-01 | 9.9E-01 | 9.2E-01 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 7.3E-02 | 1.5E-01 | 3.8E-01 | 3.7E-01 | 2.4E-01 | 1.5E-01 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **3.8E-02** | **5.9E-02** | **1.3E-01** | **2.0E-01** | **3.4E-01** | **3.4E-01** | **3.8E-01** | **5.2E-01** | **6.2E-01** | **6.2E-01** | **7.8E-01** | **9.5E-01** | **1.2E+00** | **1.3E+00** | **1.3E+00** | **1.2E+00** | **1.1E+00** | **9.2E-01** |
| **Total Project Onsite, Onroad Emissions (tons)** | **9.7E-03** | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling VOC Emissions from Elmore North Construction**

| Vehicle Type | VOC Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 1.0E-04 | 1.6E-04 | 3.5E-04 | 5.3E-04 | 9.1E-04 | 9.1E-04 | 1.0E-03 | 1.4E-03 | 1.6E-03 | 1.6E-03 | 2.1E-03 | 2.3E-03 | 2.7E-03 | 2.5E-03 | 2.5E-03 | 2.6E-03 | 2.6E-03 | 2.4E-03 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.2E-04 | 4.4E-04 | 1.1E-03 | 1.1E-03 | 7.0E-04 | 4.4E-04 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **1.0E-04** | **1.6E-04** | **3.5E-04** | **5.3E-04** | **9.1E-04** | **9.1E-04** | **1.0E-03** | **1.4E-03** | **1.6E-03** | **1.6E-03** | **2.1E-03** | **2.5E-03** | **3.1E-03** | **3.6E-03** | **3.5E-03** | **3.3E-03** | **3.1E-03** | **2.4E-03** |
| Vehicle Type | VOC Emissions (lb/month) [b] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 2.3E-03 | 3.6E-03 | 8.0E-03 | 1.2E-02 | 2.1E-02 | 2.1E-02 | 2.3E-02 | 3.2E-02 | 3.8E-02 | 3.8E-02 | 4.8E-02 | 5.4E-02 | 6.2E-02 | 5.6E-02 | 5.6E-02 | 6.1E-02 | 6.1E-02 | 5.6E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.0E-03 | 1.0E-02 | 2.6E-02 | 2.5E-02 | 1.6E-02 | 1.0E-02 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **2.3E-03** | **3.6E-03** | **8.0E-03** | **1.2E-02** | **2.1E-02** | **2.1E-02** | **2.3E-02** | **3.2E-02** | **3.8E-02** | **3.8E-02** | **4.8E-02** | **5.9E-02** | **7.2E-02** | **8.2E-02** | **8.1E-02** | **7.7E-02** | **7.1E-02** | **5.6E-02** |
| **Total Project Onsite, Onroad Emissions (tons)** | **6.0E-04** | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $SO_x$ Emissions from Elmore North Construction**

| Vehicle Type | $SO_x$ Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 3.0E-06 | 4.7E-06 | 1.0E-05 | 1.6E-05 | 2.7E-05 | 2.7E-05 | 3.0E-05 | 4.1E-05 | 4.9E-05 | 4.9E-05 | 6.2E-05 | 7.0E-05 | 8.1E-05 | 7.3E-05 | 7.3E-05 | 7.9E-05 | 7.9E-05 | 7.3E-05 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4.8E-06 | 9.5E-06 | 2.5E-05 | 2.4E-05 | 1.5E-05 | 9.5E-06 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **3.0E-06** | **4.7E-06** | **1.0E-05** | **1.6E-05** | **2.7E-05** | **2.7E-05** | **3.0E-05** | **4.1E-05** | **4.9E-05** | **4.9E-05** | **6.2E-05** | **7.4E-05** | **9.0E-05** | **9.8E-05** | **9.7E-05** | **9.4E-05** | **8.8E-05** | **7.3E-05** |
| Vehicle Type | $SO_x$ Emissions (lb/month) [b] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 6.9E-05 | 1.1E-04 | 2.4E-04 | 3.7E-04 | 6.3E-04 | 6.3E-04 | 6.9E-04 | 9.5E-04 | 1.1E-03 | 1.1E-03 | 1.4E-03 | 1.6E-03 | 1.9E-03 | 1.7E-03 | 1.7E-03 | 1.8E-03 | 1.8E-03 | 1.7E-03 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.1E-04 | 2.2E-04 | 5.7E-04 | 5.5E-04 | 3.5E-04 | 2.2E-04 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **6.9E-05** | **1.1E-04** | **2.4E-04** | **3.7E-04** | **6.3E-04** | **6.3E-04** | **6.9E-04** | **9.5E-04** | **1.1E-03** | **1.1E-03** | **1.4E-03** | **1.7E-03** | **2.1E-03** | **2.3E-03** | **2.2E-03** | **2.2E-03** | **2.0E-03** | **1.7E-03** |
| **Total Project Onsite, Onroad Emissions (tons)** | **1.7E-05** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Onsite, Onroad Vehicle Idling Emissions**

**April 2023**

**Onsite, Onroad Vehicle Idling CO Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 3.6E-02 | 3.6E-02 | 3.4E-02 | 3.4E-02 | 1.5E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 2.1E-02 | 2.1E-02 | 1.9E-02 | 1.9E-02 | 1.5E-02 | 1.5E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **3.6E-02** | **3.6E-02** | **3.4E-02** | **3.4E-02** | **1.5E-02** | **1.1E-02** | **1.1E-02** | **1.1E-02** | **1.1E-02** | **3.1E-03** | **3.1E-03** | **3.1E-03** | **2.1E-02** | **2.1E-02** | **1.9E-02** | **1.9E-02** | **1.5E-02** | **1.5E-02** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 8.2E-01 | 8.2E-01 | 7.8E-01 | 7.8E-01 | 3.5E-01 | 2.6E-01 | 2.6E-01 | 2.6E-01 | 2.6E-01 | 7.1E-02 | 7.1E-02 | 7.1E-02 | 4.7E-01 | 4.7E-01 | 4.4E-01 | 4.4E-01 | 3.5E-01 | 3.5E-01 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **8.2E-01** | **8.2E-01** | **7.8E-01** | **7.8E-01** | **3.5E-01** | **2.6E-01** | **2.6E-01** | **2.6E-01** | **2.6E-01** | **7.1E-02** | **7.1E-02** | **7.1E-02** | **4.7E-01** | **4.7E-01** | **4.4E-01** | **4.4E-01** | **3.5E-01** | **3.5E-01** |
| **Total Project Onsite, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling VOC Emissions from Elmore Nor**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 2.2E-03 | 2.2E-03 | 2.1E-03 | 2.1E-03 | 9.4E-04 | 6.9E-04 | 6.9E-04 | 6.9E-04 | 6.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.3E-03 | 1.3E-03 | 1.2E-03 | 1.2E-03 | 9.3E-04 | 9.3E-04 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **2.2E-03** | **2.2E-03** | **2.1E-03** | **2.1E-03** | **9.4E-04** | **6.9E-04** | **6.9E-04** | **6.9E-04** | **6.9E-04** | **1.9E-04** | **1.9E-04** | **1.9E-04** | **1.3E-03** | **1.3E-03** | **1.2E-03** | **1.2E-03** | **9.3E-04** | **9.3E-04** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 5.0E-02 | 5.0E-02 | 4.7E-02 | 4.7E-02 | 2.2E-02 | 1.6E-02 | 1.6E-02 | 1.6E-02 | 1.6E-02 | 4.3E-03 | 4.3E-03 | 4.3E-03 | 2.9E-02 | 2.9E-02 | 2.7E-02 | 2.7E-02 | 2.1E-02 | 2.1E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **5.0E-02** | **5.0E-02** | **4.7E-02** | **4.7E-02** | **2.2E-02** | **1.6E-02** | **1.6E-02** | **1.6E-02** | **1.6E-02** | **4.3E-03** | **4.3E-03** | **4.3E-03** | **2.9E-02** | **2.9E-02** | **2.7E-02** | **2.7E-02** | **2.1E-02** | **2.1E-02** |
| **Total Project Onsite, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $SO_x$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 6.5E-05 | 6.5E-05 | 6.2E-05 | 6.2E-05 | 2.8E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 5.6E-06 | 5.6E-06 | 5.6E-06 | 3.8E-05 | 3.8E-05 | 3.5E-05 | 3.5E-05 | 2.8E-05 | 2.8E-05 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **6.5E-05** | **6.5E-05** | **6.2E-05** | **6.2E-05** | **2.8E-05** | **2.1E-05** | **2.1E-05** | **2.1E-05** | **2.1E-05** | **5.6E-06** | **5.6E-06** | **5.6E-06** | **3.8E-05** | **3.8E-05** | **3.5E-05** | **3.5E-05** | **2.8E-05** | **2.8E-05** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 1.5E-03 | 1.5E-03 | 1.4E-03 | 1.4E-03 | 6.5E-04 | 4.8E-04 | 4.8E-04 | 4.8E-04 | 4.8E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 8.6E-04 | 8.6E-04 | 8.1E-04 | 8.1E-04 | 6.4E-04 | 6.4E-04 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **1.5E-03** | **1.5E-03** | **1.4E-03** | **1.4E-03** | **6.5E-04** | **4.8E-04** | **4.8E-04** | **4.8E-04** | **4.8E-04** | **1.3E-04** | **1.3E-04** | **1.3E-04** | **8.6E-04** | **8.6E-04** | **8.1E-04** | **8.1E-04** | **6.4E-04** | **6.4E-04** |
| **Total Project Onsite, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Onsite, Onroad Vehicle Idling Emissions**

**April 2023**

**Onsite, Onroad Vehicle Idling $NO_X$ Emissions from Elmore North Construction**

| Vehicle Type | $NO_X$ Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 1.8E-03 | 2.8E-03 | 6.2E-03 | 9.6E-03 | 1.6E-02 | 1.6E-02 | 1.8E-02 | 2.5E-02 | 2.9E-02 | 2.9E-02 | 3.7E-02 | 4.2E-02 | 4.9E-02 | 4.4E-02 | 4.4E-02 | 4.8E-02 | 4.8E-02 | 4.4E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.6E-03 | 5.2E-03 | 1.3E-02 | 1.3E-02 | 8.3E-03 | 5.2E-03 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **1.8E-03** | **2.8E-03** | **6.2E-03** | **9.6E-03** | **1.6E-02** | **1.6E-02** | **1.8E-02** | **2.5E-02** | **2.9E-02** | **2.9E-02** | **3.7E-02** | **4.4E-02** | **5.4E-02** | **5.8E-02** | **5.7E-02** | **5.6E-02** | **5.3E-02** | **4.4E-02** |

| Vehicle Type | $NO_X$ Emissions (lb/month) [b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 4.2E-02 | 6.5E-02 | 1.4E-01 | 2.2E-01 | 3.8E-01 | 3.8E-01 | 4.2E-01 | 5.7E-01 | 6.8E-01 | 6.8E-01 | 8.6E-01 | 9.6E-01 | 1.1E+00 | 1.0E+00 | 1.0E+00 | 1.1E+00 | 1.1E+00 | 1.0E+00 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.9E-02 | 1.2E-01 | 3.1E-01 | 3.0E-01 | 1.9E-01 | 1.2E-01 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **4.2E-02** | **6.5E-02** | **1.4E-01** | **2.2E-01** | **3.8E-01** | **3.8E-01** | **4.2E-01** | **5.7E-01** | **6.8E-01** | **6.8E-01** | **8.6E-01** | **1.0E+00** | **1.2E+00** | **1.3E+00** | **1.3E+00** | **1.3E+00** | **1.2E+00** | **1.0E+00** |
| **Total Project Onsite, Onroad Emissions (tons)** | **1.0E-02** | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $PM_{10}$ Emissions from Elmore North Construction**

| Vehicle Type | $PM_{10}$ Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 2.4E-06 | 3.8E-06 | 8.3E-06 | 1.3E-05 | 2.2E-05 | 2.2E-05 | 2.4E-05 | 3.3E-05 | 3.9E-05 | 3.9E-05 | 5.0E-05 | 5.6E-05 | 6.5E-05 | 5.9E-05 | 5.9E-05 | 6.4E-05 | 6.4E-05 | 5.9E-05 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.1E-06 | 2.2E-06 | 5.7E-06 | 5.5E-06 | 3.5E-06 | 2.2E-06 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **2.4E-06** | **3.8E-06** | **8.3E-06** | **1.3E-05** | **2.2E-05** | **2.2E-05** | **2.4E-05** | **3.3E-05** | **3.9E-05** | **3.9E-05** | **5.0E-05** | **5.7E-05** | **6.7E-05** | **6.5E-05** | **6.5E-05** | **6.7E-05** | **6.6E-05** | **5.9E-05** |

| Vehicle Type | $PM_{10}$ Emissions (lb/month) [b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 5.6E-05 | 8.7E-05 | 1.9E-04 | 3.0E-04 | 5.1E-04 | 5.1E-04 | 5.6E-04 | 7.7E-04 | 9.1E-04 | 9.1E-04 | 1.2E-03 | 1.3E-03 | 1.5E-03 | 1.4E-03 | 1.4E-03 | 1.5E-03 | 1.5E-03 | 1.4E-03 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.5E-05 | 5.0E-05 | 1.3E-04 | 1.3E-04 | 8.1E-05 | 5.0E-05 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **5.6E-05** | **8.7E-05** | **1.9E-04** | **3.0E-04** | **5.1E-04** | **5.1E-04** | **5.6E-04** | **7.7E-04** | **9.1E-04** | **9.1E-04** | **1.2E-03** | **1.3E-03** | **1.5E-03** | **1.5E-03** | **1.5E-03** | **1.5E-03** | **1.5E-03** | **1.4E-03** |
| **Total Project Onsite, Onroad Emissions (tons)** | **1.4E-05** | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $PM_{2.5}$ Emissions from Elmore North Construction**

| Vehicle Type | $PM_{2.5}$ Emissions (lb/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 2.3E-06 | 3.6E-06 | 8.0E-06 | 1.2E-05 | 2.1E-05 | 2.1E-05 | 2.3E-05 | 3.2E-05 | 3.8E-05 | 3.8E-05 | 4.8E-05 | 5.4E-05 | 6.2E-05 | 5.7E-05 | 5.7E-05 | 6.1E-05 | 6.1E-05 | 5.6E-05 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.0E-06 | 2.1E-06 | 5.5E-06 | 5.2E-06 | 3.4E-06 | 2.1E-06 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **2.3E-06** | **3.6E-06** | **8.0E-06** | **1.2E-05** | **2.1E-05** | **2.1E-05** | **2.3E-05** | **3.2E-05** | **3.8E-05** | **3.8E-05** | **4.8E-05** | **5.5E-05** | **6.4E-05** | **6.2E-05** | **6.2E-05** | **6.4E-05** | **6.3E-05** | **5.6E-05** |

| Vehicle Type | $PM_{2.5}$ Emissions (lb/month) [b] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 5.3E-05 | 8.3E-05 | 1.8E-04 | 2.8E-04 | 4.8E-04 | 4.8E-04 | 5.3E-04 | 7.3E-04 | 8.7E-04 | 8.7E-04 | 1.1E-03 | 1.2E-03 | 1.4E-03 | 1.3E-03 | 1.3E-03 | 1.4E-03 | 1.4E-03 | 1.3E-03 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.4E-05 | 4.8E-05 | 1.3E-04 | 1.2E-04 | 7.7E-05 | 4.8E-05 | 0.0E+00 |
| **Total Monthly Oniste, Onroad Emissions (lb/month)** | **5.3E-05** | **8.3E-05** | **1.8E-04** | **2.8E-04** | **4.8E-04** | **4.8E-04** | **5.3E-04** | **7.3E-04** | **8.7E-04** | **8.7E-04** | **1.1E-03** | **1.3E-03** | **1.5E-03** | **1.4E-03** | **1.4E-03** | **1.5E-03** | **1.4E-03** | **1.3E-03** |
| **Total Project Onsite, Onroad Emissions (tons)** | **1.3E-05** | | | | | | | | | | | | | | | | | |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Onsite, Onroad Vehicle Idling Emissions**

**April 2023**

**Onsite, Onroad Vehicle Idling $NO_X$ Emissions from Elmore Nor th**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 3.9E-02 | 3.9E-02 | 3.7E-02 | 3.7E-02 | 1.7E-02 | 1.2E-02 | 1.2E-02 | 1.2E-02 | 1.2E-02 | 3.4E-03 | 3.4E-03 | 3.4E-03 | 2.3E-02 | 2.3E-02 | 2.1E-02 | 2.1E-02 | 1.7E-02 | 1.7E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **3.9E-02** | **3.9E-02** | **3.7E-02** | **3.7E-02** | **1.7E-02** | **1.2E-02** | **1.2E-02** | **1.2E-02** | **1.2E-02** | **3.4E-03** | **3.4E-03** | **3.4E-03** | **2.3E-02** | **2.3E-02** | **2.1E-02** | **2.1E-02** | **1.7E-02** | **1.7E-02** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 9.1E-01 | 9.1E-01 | 8.5E-01 | 8.5E-01 | 3.9E-01 | 2.9E-01 | 2.9E-01 | 2.9E-01 | 2.9E-01 | 7.8E-02 | 7.8E-02 | 7.8E-02 | 5.2E-01 | 5.2E-01 | 4.9E-01 | 4.9E-01 | 3.9E-01 | 3.9E-01 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (lb/month)** | **9.1E-01** | **9.1E-01** | **8.5E-01** | **8.5E-01** | **3.9E-01** | **2.9E-01** | **2.9E-01** | **2.9E-01** | **2.9E-01** | **7.8E-02** | **7.8E-02** | **7.8E-02** | **5.2E-01** | **5.2E-01** | **4.9E-01** | **4.9E-01** | **3.9E-01** | **3.9E-01** |
| **Total Project Onsite, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $PM_{10}$ Emissions from Elmore Nor**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 5.3E-05 | 5.3E-05 | 5.0E-05 | 5.0E-05 | 2.3E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 3.0E-05 | 3.0E-05 | 2.8E-05 | 2.8E-05 | 2.2E-05 | 2.2E-05 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **5.3E-05** | **5.3E-05** | **5.0E-05** | **5.0E-05** | **2.3E-05** | **1.7E-05** | **1.7E-05** | **1.7E-05** | **1.7E-05** | **4.5E-06** | **4.5E-06** | **4.5E-06** | **3.0E-05** | **3.0E-05** | **2.8E-05** | **2.8E-05** | **2.2E-05** | **2.2E-05** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 1.2E-03 | 1.2E-03 | 1.1E-03 | 1.1E-03 | 5.2E-04 | 3.8E-04 | 3.8E-04 | 3.8E-04 | 3.8E-04 | 1.0E-04 | 1.0E-04 | 1.0E-04 | 7.0E-04 | 7.0E-04 | 6.6E-04 | 6.6E-04 | 5.2E-04 | 5.2E-04 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (lb/month)** | **1.2E-03** | **1.2E-03** | **1.1E-03** | **1.1E-03** | **5.2E-04** | **3.8E-04** | **3.8E-04** | **3.8E-04** | **3.8E-04** | **1.0E-04** | **1.0E-04** | **1.0E-04** | **7.0E-04** | **7.0E-04** | **6.6E-04** | **6.6E-04** | **5.2E-04** | **5.2E-04** |
| **Total Project Onsite, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $PM_{2.5}$ Emissions from Elmore No r**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 5.0E-05 | 5.0E-05 | 4.8E-05 | 4.8E-05 | 2.2E-05 | 1.6E-05 | 1.6E-05 | 1.6E-05 | 1.6E-05 | 4.4E-06 | 4.4E-06 | 4.4E-06 | 2.9E-05 | 2.9E-05 | 2.7E-05 | 2.7E-05 | 2.1E-05 | 2.1E-05 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (lb/day)** | **5.0E-05** | **5.0E-05** | **4.8E-05** | **4.8E-05** | **2.2E-05** | **1.6E-05** | **1.6E-05** | **1.6E-05** | **1.6E-05** | **4.4E-06** | **4.4E-06** | **4.4E-06** | **2.9E-05** | **2.9E-05** | **2.7E-05** | **2.7E-05** | **2.1E-05** | **2.1E-05** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 1.2E-03 | 1.2E-03 | 1.1E-03 | 1.1E-03 | 5.0E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 1.0E-04 | 1.0E-04 | 1.0E-04 | 6.7E-04 | 6.7E-04 | 6.3E-04 | 6.3E-04 | 4.9E-04 | 4.9E-04 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (lb/month)** | **1.2E-03** | **1.2E-03** | **1.1E-03** | **1.1E-03** | **5.0E-04** | **3.7E-04** | **3.7E-04** | **3.7E-04** | **3.7E-04** | **1.0E-04** | **1.0E-04** | **1.0E-04** | **6.7E-04** | **6.7E-04** | **6.3E-04** | **6.3E-04** | **4.9E-04** | **4.9E-04** |
| **Total Project Onsite, Onroad Emissions (tons)** | | | | | | | | | | | | | | | | | | |

**Elmore North Geothermal Project**

**Elmore North Construction Emissions**

**Onsite, Onroad Vehicle Idling Emissions**

**April 2023**

**Onsite, Onroad Vehicle Idling $CO_2$ Emissions from Elmore North Construction**

| Vehicle Type | $CO_2$ Emissions (metric tons/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 1.4E-04 | 2.2E-04 | 4.9E-04 | 7.6E-04 | 1.3E-03 | 1.3E-03 | 1.4E-03 | 2.0E-03 | 2.3E-03 | 2.3E-03 | 2.9E-03 | 3.3E-03 | 3.8E-03 | 3.5E-03 | 3.5E-03 | 3.8E-03 | 3.8E-03 | 3.5E-03 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.3E-04 | 4.5E-04 | 1.2E-03 | 1.1E-03 | 7.2E-04 | 4.5E-04 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (metric tons/day)** | **1.4E-04** | **2.2E-04** | **4.9E-04** | **7.6E-04** | **1.3E-03** | **1.3E-03** | **1.4E-03** | **2.0E-03** | **2.3E-03** | **2.3E-03** | **2.9E-03** | **3.5E-03** | **4.3E-03** | **4.7E-03** | **4.6E-03** | **4.5E-03** | **4.2E-03** | **3.5E-03** |
| Vehicle Type | $CO_2$ Emissions (metric tons/month) [b] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 3.3E-03 | 5.1E-03 | 1.1E-02 | 1.7E-02 | 3.0E-02 | 3.0E-02 | 3.3E-02 | 4.5E-02 | 5.3E-02 | 5.3E-02 | 6.8E-02 | 7.6E-02 | 8.8E-02 | 8.0E-02 | 8.0E-02 | 8.6E-02 | 8.6E-02 | 8.0E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.2E-03 | 1.0E-02 | 2.7E-02 | 2.6E-02 | 1.7E-02 | 1.0E-02 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (metric tons/month)** | **3.3E-03** | **5.1E-03** | **1.1E-02** | **1.7E-02** | **3.0E-02** | **3.0E-02** | **3.3E-02** | **4.5E-02** | **5.3E-02** | **5.3E-02** | **6.8E-02** | **8.1E-02** | **9.9E-02** | **1.1E-01** | **1.1E-01** | **1.0E-01** | **9.7E-02** | **8.0E-02** |
| **Total Project Oniste, Onroad Emissions (metric tons)** | **1.66** | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $CH_4$ Emissions from Elmore North Construction**

| Vehicle Type | $CH_4$ Emissions (metric tons/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 2.1E-09 | 3.3E-09 | 7.3E-09 | 1.1E-08 | 1.9E-08 | 1.9E-08 | 2.1E-08 | 2.9E-08 | 3.4E-08 | 3.4E-08 | 4.4E-08 | 4.9E-08 | 5.7E-08 | 5.2E-08 | 5.2E-08 | 5.6E-08 | 5.6E-08 | 5.1E-08 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4.6E-09 | 9.2E-09 | 2.4E-08 | 2.3E-08 | 1.5E-08 | 9.2E-09 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (metric tons/day)** | **2.1E-09** | **3.3E-09** | **7.3E-09** | **1.1E-08** | **1.9E-08** | **1.9E-08** | **2.1E-08** | **2.9E-08** | **3.4E-08** | **3.4E-08** | **4.4E-08** | **5.4E-08** | **6.6E-08** | **7.6E-08** | **7.5E-08** | **7.0E-08** | **6.5E-08** | **5.1E-08** |
| Vehicle Type | $CH_4$ Emissions (metric tons/month) [b] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 4.9E-08 | 7.6E-08 | 1.7E-07 | 2.6E-07 | 4.4E-07 | 4.4E-07 | 4.9E-07 | 6.7E-07 | 7.9E-07 | 7.9E-07 | 1.0E-06 | 1.1E-06 | 1.3E-06 | 1.2E-06 | 1.2E-06 | 1.3E-06 | 1.3E-06 | 1.2E-06 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.1E-07 | 2.1E-07 | 5.5E-07 | 5.3E-07 | 3.4E-07 | 2.1E-07 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (metric tons/month)** | **4.9E-08** | **7.6E-08** | **1.7E-07** | **2.6E-07** | **4.4E-07** | **4.4E-07** | **4.9E-07** | **6.7E-07** | **7.9E-07** | **7.9E-07** | **1.0E-06** | **1.2E-06** | **1.5E-06** | **1.7E-06** | **1.7E-06** | **1.6E-06** | **1.5E-06** | **1.2E-06** |
| **Total Project Oniste, Onroad Emissions (metric tons)** | **2.5E-05** | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $N_2O$ Emissions from Elmore North Construction**

| Vehicle Type | $N_2O$ Emissions (metric tons/day) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 2.9E-10 | 4.6E-10 | 1.0E-09 | 1.6E-09 | 2.7E-09 | 2.7E-09 | 2.9E-09 | 4.0E-09 | 4.8E-09 | 4.8E-09 | 6.0E-09 | 6.8E-09 | 7.9E-09 | 7.1E-09 | 7.1E-09 | 7.7E-09 | 7.7E-09 | 7.1E-09 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 7.1E-10 | 1.4E-09 | 3.7E-09 | 3.5E-09 | 2.3E-09 | 1.4E-09 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (metric tons/day)** | **2.9E-10** | **4.6E-10** | **1.0E-09** | **1.6E-09** | **2.7E-09** | **2.7E-09** | **2.9E-09** | **4.0E-09** | **4.8E-09** | **4.8E-09** | **6.0E-09** | **7.5E-09** | **9.3E-09** | **1.1E-08** | **1.1E-08** | **9.9E-09** | **9.1E-09** | **7.1E-09** |
| Vehicle Type | $N_2O$ Emissions (metric tons/month) [b] | | | | | | | | | | | | | | | | | |
| | 2024 | | | | | | | | | | | | 2025 | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June |
| Delivery Trucks [a] | 6.7E-09 | 1.1E-08 | 2.3E-08 | 3.6E-08 | 6.1E-08 | 6.1E-08 | 6.7E-08 | 9.3E-08 | 1.1E-07 | 1.1E-07 | 1.4E-07 | 1.6E-07 | 1.8E-07 | 1.6E-07 | 1.6E-07 | 1.8E-07 | 1.8E-07 | 1.6E-07 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.6E-08 | 3.3E-08 | 8.5E-08 | 8.1E-08 | 5.2E-08 | 3.3E-08 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (metric tons/month)** | **6.7E-09** | **1.1E-08** | **2.3E-08** | **3.6E-08** | **6.1E-08** | **6.1E-08** | **6.7E-08** | **9.3E-08** | **1.1E-07** | **1.1E-07** | **1.4E-07** | **1.7E-07** | **2.1E-07** | **2.5E-07** | **2.5E-07** | **2.3E-07** | **2.1E-07** | **1.6E-07** |
| **Total Project Oniste, Onroad Emissions (metric tons)** | **3.5E-06** | | | | | | | | | | | | | | | | | |

Notes:

[a] It is assumed that, upon traveling to the site, haul trucks and delivery trucks can idle up to 5 minutes for loading/unloading before leaving the site. This equates to: 0.083 idle-hrs/day.

[b] Per information provided by the Applicant's engineering contractor, it is assumed that there are 23 working days per month.

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Onsite, Onroad Vehicle Idling Emissions**

**April 2023**

**Onsite, Onroad Vehicle Idling $CO_2$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 3.1E-03 | 3.1E-03 | 2.9E-03 | 2.9E-03 | 1.3E-03 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 2.7E-04 | 2.7E-04 | 2.7E-04 | 1.8E-03 | 1.8E-03 | 1.7E-03 | 1.7E-03 | 1.3E-03 | 1.3E-03 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (metric tons/day)** | **3.1E-03** | **3.1E-03** | **2.9E-03** | **2.9E-03** | **1.3E-03** | **9.8E-04** | **9.8E-04** | **9.8E-04** | **9.8E-04** | **2.7E-04** | **2.7E-04** | **2.7E-04** | **1.8E-03** | **1.8E-03** | **1.7E-03** | **1.7E-03** | **1.3E-03** | **1.3E-03** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 7.2E-02 | 7.2E-02 | 6.7E-02 | 6.7E-02 | 3.1E-02 | 2.3E-02 | 2.3E-02 | 2.3E-02 | 2.3E-02 | 6.2E-03 | 6.2E-03 | 6.2E-03 | 4.1E-02 | 4.1E-02 | 3.9E-02 | 3.9E-02 | 3.0E-02 | 3.0E-02 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (metric tons/month)** | **7.2E-02** | **7.2E-02** | **6.7E-02** | **6.7E-02** | **3.1E-02** | **2.3E-02** | **2.3E-02** | **2.3E-02** | **2.3E-02** | **6.2E-03** | **6.2E-03** | **6.2E-03** | **4.1E-02** | **4.1E-02** | **3.9E-02** | **3.9E-02** | **3.0E-02** | **3.0E-02** |
| **Total Project Oniste, Onroad Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $CH_4$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 4.6E-08 | 4.6E-08 | 4.3E-08 | 4.3E-08 | 2.0E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 4.0E-09 | 4.0E-09 | 4.0E-09 | 2.7E-08 | 2.7E-08 | 2.5E-08 | 2.5E-08 | 2.0E-08 | 2.0E-08 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (metric tons/day)** | **4.6E-08** | **4.6E-08** | **4.3E-08** | **4.3E-08** | **2.0E-08** | **1.5E-08** | **1.5E-08** | **1.5E-08** | **1.5E-08** | **4.0E-09** | **4.0E-09** | **4.0E-09** | **2.7E-08** | **2.7E-08** | **2.5E-08** | **2.5E-08** | **2.0E-08** | **2.0E-08** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 1.1E-06 | 1.1E-06 | 1.0E-06 | 1.0E-06 | 4.6E-07 | 3.4E-07 | 3.4E-07 | 3.4E-07 | 3.4E-07 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 6.1E-07 | 6.1E-07 | 5.7E-07 | 5.7E-07 | 4.5E-07 | 4.5E-07 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (metric tons/month)** | **1.1E-06** | **1.1E-06** | **1.0E-06** | **1.0E-06** | **4.6E-07** | **3.4E-07** | **3.4E-07** | **3.4E-07** | **3.4E-07** | **9.1E-08** | **9.1E-08** | **9.1E-08** | **6.1E-07** | **6.1E-07** | **5.7E-07** | **5.7E-07** | **4.5E-07** | **4.5E-07** |
| **Total Project Oniste, Onroad Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

**Onsite, Onroad Vehicle Idling $N_2O$ Emissions from Elmore North**

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 6.4E-09 | 6.4E-09 | 6.0E-09 | 6.0E-09 | 2.7E-09 | 2.0E-09 | 2.0E-09 | 2.0E-09 | 2.0E-09 | 5.5E-10 | 5.5E-10 | 5.5E-10 | 3.7E-09 | 3.7E-09 | 3.4E-09 | 3.4E-09 | 2.7E-09 | 2.7E-09 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Daily Onsite, Onroad Emissions (metric tons/day)** | **6.4E-09** | **6.4E-09** | **6.0E-09** | **6.0E-09** | **2.7E-09** | **2.0E-09** | **2.0E-09** | **2.0E-09** | **2.0E-09** | **5.5E-10** | **5.5E-10** | **5.5E-10** | **3.7E-09** | **3.7E-09** | **3.4E-09** | **3.4E-09** | **2.7E-09** | **2.7E-09** |

| Vehicle Type | | | | | | | 2026 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December |
| Delivery Trucks [a] | 1.5E-07 | 1.5E-07 | 1.4E-07 | 1.4E-07 | 6.3E-08 | 4.6E-08 | 4.6E-08 | 4.6E-08 | 4.6E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 8.4E-08 | 8.4E-08 | 7.9E-08 | 7.9E-08 | 6.2E-08 | 6.2E-08 |
| Material Hauling Trucks [a] | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| **Total Monthly Onsite, Onroad Emissions (metric tons/month)** | **1.5E-07** | **1.5E-07** | **1.4E-07** | **1.4E-07** | **6.3E-08** | **4.6E-08** | **4.6E-08** | **4.6E-08** | **4.6E-08** | **1.3E-08** | **1.3E-08** | **1.3E-08** | **8.4E-08** | **8.4E-08** | **7.9E-08** | **7.9E-08** | **6.2E-08** | **6.2E-08** |
| **Total Project Oniste, Onroad Emissions (metric tons)** | | | | | | | | | | | | | | | | | | |

Notes:

[a] It is assumed that, upon traveling to the site, haul trucks and delivery truc

[b] Per information provided by the Applicant's engineering contractor, it is a

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Equations Used to Calculate Criteria Pollutant and GHG Emissions**

**April 2023**

**Equations Used to Calculate Emissions from Elmore North Construction**

| Emission Source | Pollutants | Equations | Variables |
|---|---|---|---|
| Construction Equipment Exhaust | CO, VOC, $NO_X$, $SO_X$, $PM_{10}$, and $PM_{2.5}$ | $E_m$ = EF x N x Hp x L x H / 453.6 | $E_m$ = Monthly Emissions (lb/month) |
| | | | EF = Emission factor (g/bhp-hr) |
| | | | N = Number of pieces of equipment |
| | | | Hp = Average horsepower |
| | | | L = Average load factor |
| | | | H = Hours per month |
| | | | 453.6 = Conversion from g to lb |
| | | $E_d = E_m / D$ | $E_d$ = Daily Emissions (lb/day) |
| | | | $E_m$ = Monthly Emissions (lb/month) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_t$ = Total Project Emissions (tons) |
| | | | Em = Monthly Emissions (lb/month) |
| | | | 2,000 = Conversion from lb to tons |
| | $CO_2$, $CH_4$ and $N_2O$ | = EF x N x Hp x L x H / 1000 x 0 | $E_m$ = Monthly Emissions (metric tons/month) |
| | | | EF = Emission factor (g/bhp-hr) |
| | | | N = Number of pieces of equipment |
| | | | Hp = Average horsepower |
| | | | L = Average load factor |
| | | | H = Hours per month |
| | | | 1,000 = Conversion from g to kg |
| | | | 0.001 = Conversion from kg to metric tons |
| | | $E_d = E_m / D$ | $E_d$ = Daily Emissions (metric tons/day) |
| | | | $E_m$ = Emissions (metric tons/month) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m$ | $E_m$ = Emissions (metric tons/month) |
| | | | $E_t$ = Total Project Emissions (metric tons) |
| Vehicle Exhaust and Paved/Unpaved Fugitive $PM_{10}$ and $PM_{2.5}$ | CO, VOC, $NO_X$, $SO_X$, $PM_{10}$, and $PM_{2.5}$ | $E_d$ = N x VMT x EF / 453.6 | $E_d$ = Daily Emissions (lb/day) |
| | | | N = Number of vehicles |
| | | | VMT = Vehicle miles traveled per day (miles/day) |
| | | | EF = EMFAC2021 emission factor (g/mile). Paved and unpaved road fugitive $PM_{10}$ and $PM_{2.5}$ emission factors calculated per Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022). |
| | | | 453.6 = Conversion from g to lb |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_d$ = Daily Emissions (lb/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_t$ = Total Project Emissions (tons) |
| | | | $E_m$ = Monthly Emissions (lb/month) |
| | | | 2,000 = Conversion from lb to tons |
| | $CO_2$, $CH_4$, and $N_2O$ | $_d$ = N x VMT x EF / 1000 x 0.00 | Ed = Daily Emissions (metric tons/day) |
| | | | N = Number of vehicles |
| | | | VMT = Vehicle miles traveled per day (miles/day) |
| | | | EF = EMFAC2021 emission factor (g/mile). |
| | | | 1,000 = Conversion from g to kg |
| | | | 0.001 = Conversion from kg to metric tons |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (metric tons/month) |
| | | | $E_d$ = Daily Emissions (metric tons/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_t$ = Total Project Emissions (metric tons) |
| | | | $E_m$ = Monthly Emissions (metric tons/month) |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Equations Used to Calculate Criteria Pollutant and GHG Emissions**

**April 2023**

**Equations Used to Calculate Emissions from Elmore North Construction**

| Emission Source | Pollutants | Equations | Variables |
|---|---|---|---|
| Vehicle Idling | $CO$, VOC, $NO_X$, $SO_X$, $PM_{10}$, and $PM_{2.5}$ | $E_d = N \times I \times EF / 453.6$ | $E_d$ = Daily Emissions (lb/day) |
| | | | N = Number of vehicles |
| | | | I = Idle time per vehicle per day (idle-hr/day) |
| | | | EF = EMFAC2021 emission factor (g/idle-hr) |
| | | | 453.6 = Conversion from g to lb |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_d$ = Daily Emissions (lb/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_t$ = Total Project Emissions (tons) |
| | | | $E_m$ = Monthly Emissions (lb/month) |
| | | | 2,000 = Conversion from lb to tons |
| | $N_2O$, $CO_2$ and $CH_4$ | $E_d = N \times I \times EF / 1{,}000 \times 0.001$ | $E_d$ = Daily Emissions (metric tons/day) |
| | | | N = Number of vehicles |
| | | | I = Idle time per vehicle per day (idle-hr/day) |
| | | | EF = EMFAC2021 emission factor (g/idle-hr) |
| | | | 1,000 = Conversion from g to kg |
| | | | 0.001 = Conversion from kg to metric tons |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (metric tons/month) |
| | | | $E_d$ = Daily Emissions (metric tons/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m$ | $E_t$ = Total Project Emissions (metric tons) |
| | | | $E_m$ = Monthly Emissions (metric tons/month) |
| Fugitive $PM_{10}$ and $PM_{2.5}$ from Truck Dumping/Loading | $PM_{10}$ and $PM_{2.5}$ | $E_d = V \times 1.2641662 \times EF / D$ | $E_d$ = Daily Emissions (lb/day) |
| | | | V= Volume of material dumped (cubic yards/month) |
| | | | 1.2641662 = Conversion from cubic yards to tons |
| | | | EF = Fugitive $PM_{10}$ and $PM_{2.5}$ emission factors (lb/ton), calculated per Section 4.4.2 of Appendix C of the *CalEEMod User's Guide* (ICF 2022). |
| | | | D = Number of construction days per month |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_d$ = Daily Emissions (lb/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_t$ = Total Project Emissions (tons) |
| | | | 2,000 = Conversion from lb to tons |
| Fugitive $PM_{10}$ and $PM_{2.5}$ from Grading | $PM_{10}$ and $PM_{2.5}$ | $E_d = EF \times A / W \times 43{,}560 / 5{,}280 / D$ | $E_d$ = Daily Emissions (lb/day) |
| | | | EF = Fugitive $PM_{10}$ and $PM_{2.5}$ emission factors (lb/mile), calculated per Section 4.4.1 of Appendix C of the *CalEEMod User's Guide* (ICF 2022). |
| | | | A = Graded area (acres/month) |
| | | | W = Grading equipment blade width (ft) |
| | | | 43,560 = Conversion factor from square feet to acres |
| | | | 5,280 = Conversion factor from feet to miles |
| | | | D = Number of construction days per month |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_d$ = Daily Emissions (lb/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_t$ = Total Project Emissions (tons) |
| | | | 2,000 = Conversion from lb to tons |
| Paving | VOC | $E_d = A / M / D \times EF$ | EF = VOC emission factor (lb/acre), calculated per Section 4.9 of Appendix C of the *CalEEMod User's Guide* (ICF 2022). |
| | | | A = Area of paved areas (acres) |
| | | | $E_d$ = Daily Emissions (lb/day) |
| | | | D = Number of construction days per month |
| | | | M = Number of paving construction months |
| | | $E_m = E_d \times D$ | $E_m$ = Monthly Emissions (lb/month) |
| | | | $E_d$ = Daily Emissions (lb/day) |
| | | | D = Number of construction days per month |
| | | $E_t = \Sigma E_m / 2{,}000$ | $E_t$ = Total Project Emissions (tons) |
| | | | $E_m$ = Monthly Emissions (lb/month) |
| | | | 2,000 = Conversion from lb to tons |

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Vehicle Criteria Pollutant Emission Factors**

**April 2023**

**Vehicle Exhaust Emission Factors for Elmore North Construction**

| Vehicle Type | Location of Vehicle Operation | Vehicle Class [a] | 2024 Exhaust Emission Factors (g/mile) [b, c, d] | | | | | | | | | Paved Road Emission Factors (g/mile) [e] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CO | ROG | $SO_X$ | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $PM_{10}$ | $PM_{2.5}$ |
| Delivery Truck | Onroad, Offsite | Heavy/Medium-duty Diesel | 0.087 | 0.013 | 0.011 | 1.126 | 0.078 | 0.033 | 1201.756 | 0.001 | 0.002 | 0.300 | 0.075 |
| Pickup Truck | Onsite, Offroad | Light-duty truck | 3.494 | 0.109 | 0.006 | 0.211 | 0.019 | 0.010 | 569.125 | 0.024 | 0.001 | N/A | N/A |
| Haul Trucks | Onroad, Offsite | Heavy-duty Diesel | 0.094 | 0.010 | 0.014 | 1.239 | 0.104 | 0.043 | 1434.237 | 0.000 | 0.003 | 0.300 | 0.075 |
| Construction Worker Commute | Onroad | Light-duty Auto/Truck | 2.147 | 0.032 | 0.003 | 0.130 | 0.015 | 0.006 | 306.828 | 0.008 | 0.001 | 0.300 | 0.075 |

**Vehicle Idling Emission Factors for BHER Elmore North Construction**

| Vehicle Type | Location of Vehicle Operation | Vehicle Class [a] | 2024 Idle Emission Factors (g/idle-hour) [b, c, d] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CO | ROG | $SO_X$ | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
| Delivery Truck | Onroad, Offsite | Heavy/Medium-duty Diesel | 22.402 | 1.369 | 0.041 | 24.638 | 0.033 | 0.032 | 4289.736 | 0.064 | 0.009 |
| Haul Truck | Onroad, Offsite | Heavy-duty Diesel | 34.770 | 2.368 | 0.052 | 28.143 | 0.012 | 0.011 | 5422.300 | 0.110 | 0.017 |

Notes:

[a] The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be 50% LDT1 Gas and 50% LDT2 Gas values, based on an understanding of the vehicle type.

Heavy-duty Diesel: Assumed to be 100% HHDT DSL values, per Section 4.6.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

Heavy/Medium-duty Diesel: Assumed to be 50% HHDT DSL and 50% MHDT DSL values, per Section 4.6.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

Light-duty Auto/Truck: Assumed to be 25% LDA Gas, 50% LDT1 Gas, and 25% LDT2 Gas values, per Section 4.6.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022) and assuming workers typically drive gasoline-fueled vehicles.

[b] Exhaust and idling emission factors from EMFAC2021 for Imperial County, calendar year 2024. A speed of 40 mph was assumed for all delivery trucks, haul trucks, and worker commutes. A speed of 15 mph was assumed for onsite pickup trucks. An average temperature of 78°F and humidity of 40% were used per Table B-1 of *CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions* (UC Davis 2007).

[c] Although construction will occur bewteen 2024 and 2026, 2024 emission factors were used, as appropriate, to provide a more conservative emissions estimate.

[d] ROG and VOC are assumed to be equivalent.

[e] Paved road emission factors calculated using CalEEMod methodology, as described below.

**Derivation of Paved Road Emission Factors**

**Vehicles on Paved Roads**

| Parameter | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|
| Average Weight [a] | 2.4 | 2.4 |
| k [a] | 1.0 | 0.25 |
| sL [a] | 0.1 | 0.1 |
| **Emission Factor (g/mile) [b]** | 0.300 | 0.075 |

Notes:

[a] Average Weight, sL, and k taken as the CalEEMod statewide defaults from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022).

[b] Emission factor calculated using the following equation from Section 5.1.4 of Appendix C of the *CalEEMod User's Guide* (ICF 2022):

Emission Factor (g/mile) = k (g/mile) x [sL (g/m$^2$)]$^{0.91}$ x [Average Weight (tons)]$^{1.02}$

Precipitation days were not accounted for in the calculations to be conservative.

## Elmore North Geothermal Project

**Elmore North Construction Emissions**

**Construction Equipment Criteria Pollutant Emission Factors**

**April 2023**

**Construction Equipment Emission Factors for Elmore North Construction**

| Equipment [a] | Equipment Type | Fuel | Year | Hours per Month [b] | Horsepower [c] | Load Factor [c] | 2024 Emission Factors (g/bhp-hr) [d, e] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | CO | VOC | $NO_X$ | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
| ***Onsite*** | | | | | | | | | | | | | | | |
| Excavator | Excavators | Diesel | 2024 | 460 | 36 | 0.38 | 4.100 | 0.090 | 2.750 | 0.005 | 0.010 | 0.010 | 587.317 | 0.024 | 0.005 |
| Backhoe | Tractors/Loaders/Backhoes | Diesel | 2024 | 460 | 84 | 0.37 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 529.933 | 0.021 | 0.004 |
| 10 Wheel Dump Truck [f] | Off-Highway Trucks | Diesel | 2024 | 460 | 376 | 0.38 | 1.195 | 0.183 | 1.236 | 0.005 | 0.044 | 0.041 | 527.763 | 0.021 | 0.004 |
| Dozer | Rubber Tired Dozers | Diesel | 2024 | 460 | 367 | 0.40 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 532.203 | 0.022 | 0.004 |
| Front End Loader | Rubber Tired Loaders | Diesel | 2024 | 460 | 150 | 0.36 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 526.332 | 0.021 | 0.004 |
| 150 Ton Hydraulic Crane | Cranes | Diesel | 2024 | 460 | 367 | 0.29 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.532 | 0.021 | 0.004 |
| 75 Ton Hydraulic Crane | Cranes | Diesel | 2024 | 460 | 367 | 0.29 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.532 | 0.021 | 0.004 |
| 35 Ton Hydraulic Crane | Cranes | Diesel | 2024 | 460 | 367 | 0.29 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.532 | 0.021 | 0.004 |
| Pile Driver | Other Construction Equipment | Diesel | 2024 | 460 | 82 | 0.42 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 528.454 | 0.021 | 0.004 |
| Fork Lift | Forklifts | Diesel | 2024 | 460 | 82 | 0.20 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.040 | 0.021 | 0.004 |
| Grader | Graders | Diesel | 2024 | 460 | 148 | 0.41 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 530.170 | 0.022 | 0.004 |
| Drill Rigs | Bore/Drill Rigs | Diesel | 2024 | 460 | 83 | 0.50 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 521.434 | 0.021 | 0.004 |
| Drilling Diesel Generator (Kenai) | Generator Sets | Diesel | 2024 | 230 | 1482 | 0.74 | 2.610 | 0.382 | 0.500 | 0.007 | 0.149 | 0.149 | 568.327 | 0.023 | 0.005 |
| Drilling Rental Generator | Generator Sets | Diesel | 2024 | 230 | 314 | 0.74 | 2.610 | 0.298 | 0.298 | 0.007 | 0.014 | 0.014 | 568.327 | 0.023 | 0.005 |
| Drilling Pump | Pumps | Diesel | 2024 | 230 | 74 | 0.74 | 3.729 | 0.280 | 3.224 | 0.007 | 0.095 | 0.095 | 568.309 | 0.023 | 0.005 |
| Drilling Forklift | Rough Terrain Forklifts | Diesel | 2024 | 230 | 96 | 0.40 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 528.511 | 0.021 | 0.004 |
| Drilling Manlift | Aerial Lifts | Diesel | 2024 | 230 | 46 | 0.31 | 4.100 | 0.090 | 2.750 | 0.005 | 0.010 | 0.010 | 586.903 | 0.024 | 0.005 |
| Drilling Backhoe | Tractors/Loaders/Backhoes | Diesel | 2024 | 230 | 84 | 0.37 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 529.933 | 0.021 | 0.004 |
| Drilling Light Tower | Other General Industrial Equipment | Diesel | 2024 | 230 | 35 | 0.34 | 4.100 | 0.090 | 2.750 | 0.005 | 0.010 | 0.010 | 588.151 | 0.024 | 0.005 |
| Pavers | Pavers | Diesel | 2024 | 230 | 81 | 0.42 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 526.332 | 0.021 | 0.004 |
| Paving Equipment | Paving Equipment | Diesel | 2024 | 230 | 89 | 0.36 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 528.115 | 0.021 | 0.004 |
| Paving Rollers | Rollers | Diesel | 2024 | 230 | 36 | 0.38 | 4.100 | 0.090 | 2.750 | 0.005 | 0.010 | 0.010 | 586.798 | 0.024 | 0.005 |
| Paving Tractor/Loader/Backhoe | Tractors/Loaders/Backhoes | Diesel | 2024 | 230 | 84 | 0.37 | 3.700 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 529.933 | 0.021 | 0.004 |
| Electrical Generators | Generator Sets | Diesel | 2024 | 460 | 14 | 0.74 | 2.881 | 0.546 | 4.373 | 0.008 | 0.180 | 0.166 | 568.315 | 0.023 | 0.005 |
| Concrete Pump Trucks [f] | Off-Highway Trucks | Diesel | 2024 | 460 | 376 | 0.38 | 1.195 | 0.183 | 1.236 | 0.005 | 0.044 | 0.041 | 527.763 | 0.021 | 0.004 |
| Diesel Welders | Welders | Diesel | 2024 | 460 | 46 | 0.45 | 4.100 | 0.090 | 2.750 | 0.007 | 0.010 | 0.010 | 568.290 | 0.023 | 0.005 |
| Compactor | Plate Compactors | Diesel | 2024 | 460 | 8 | 0.43 | 3.470 | 0.547 | 4.143 | 0.009 | 0.162 | 0.149 | 568.353 | 0.023 | 0.005 |
| Stake Truck [f] | Off-Highway Trucks | Diesel | 2024 | 460 | 376 | 0.38 | 1.195 | 0.183 | 1.236 | 0.005 | 0.044 | 0.041 | 527.763 | 0.021 | 0.004 |
| Water Truck (shared between 3 projects) [f] | Off-Highway Trucks | Diesel | 2024 | 460 | 376 | 0.38 | 1.195 | 0.183 | 1.236 | 0.005 | 0.044 | 0.041 | 527.763 | 0.021 | 0.004 |
| Air Compressor | Air Compressors | Diesel | 2024 | 460 | 37 | 0.48 | 4.100 | 0.090 | 2.750 | 0.007 | 0.010 | 0.010 | 568.361 | 0.023 | 0.005 |
| Light Towers | Other General Industrial Equipment | Diesel | 2024 | 460 | 35 | 0.34 | 4.100 | 0.090 | 2.750 | 0.005 | 0.010 | 0.010 | 588.151 | 0.024 | 0.005 |
| Heavy Lift Lattice boom Main Crane | Cranes | Diesel | 2024 | 460 | 367 | 0.29 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.532 | 0.021 | 0.004 |
| Heavy Lift Lattice boom Tail Crane | Cranes | Diesel | 2024 | 460 | 367 | 0.29 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.532 | 0.021 | 0.004 |
| Heavy lift Gantry Crane | Cranes | Diesel | 2024 | 460 | 367 | 0.29 | 2.600 | 0.050 | 0.260 | 0.005 | 0.010 | 0.010 | 527.532 | 0.021 | 0.004 |

Notes:

Default CalEEMOD value for highest available horsepower bin (Table G-11).

Data supplied by the Applicant's engineering contractor.

Equipment emissions factors assumed to be Tier 4 final (Table G-13).

[a] Assumed all equipment is fired with diesel fuel.

[b] Hours per month calculated based on the following schedule:

Work hours per day: 20

Work days per month: 23

[c] Unless color coded as being provided by the Applicant's engineering contractor, construction equipment horsepowers and load factors taken from Table G-12 of Appendix G of the *CalEEMod User's Guide* (ICF 2022).

[d] Unless color coded as being provided by the Applicant's engineering contractor or Tier 4-compliant, construction equipment emission factors taken from Table G-11 of Appendix G of the *CalEEMod User's Guide* (ICF 2022). Construction equipment emission factors for Tier 4-compliant equipment taken from Table G-13 of Appendix G of the *CalEEMod User's Guide* (ICF 2022).

[e] Although construction will occur bewteen 2024 and 2026, 2024 emission factors were used for all calculations to provide a more conservative emissions estimate.

[f] Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water, Stake, Dump, and Concrete Trucks.

**Elmore North Geothermal Project**

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_1 | POINT | HORIZONTAL | Construction Point Source 1 | 630,133.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_2 | POINT | HORIZONTAL | Construction Point Source 2 | 630,158.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_3 | POINT | HORIZONTAL | Construction Point Source 3 | 630,183.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_4 | POINT | HORIZONTAL | Construction Point Source 4 | 630,208.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_5 | POINT | HORIZONTAL | Construction Point Source 5 | 630,233.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_6 | POINT | HORIZONTAL | Construction Point Source 6 | 630,258.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_7 | POINT | HORIZONTAL | Construction Point Source 7 | 630,283.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_8 | POINT | HORIZONTAL | Construction Point Source 8 | 630,308.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_9 | POINT | HORIZONTAL | Construction Point Source 9 | 630,333.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_10 | POINT | HORIZONTAL | Construction Point Source 10 | 630,358.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_11 | POINT | HORIZONTAL | Construction Point Source 11 | 630,383.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_12 | POINT | HORIZONTAL | Construction Point Source 12 | 630,408.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_13 | POINT | HORIZONTAL | Construction Point Source 13 | 630,433.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_14 | POINT | HORIZONTAL | Construction Point Source 14 | 630,458.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_15 | POINT | HORIZONTAL | Construction Point Source 15 | 630,483.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_16 | POINT | HORIZONTAL | Construction Point Source 16 | 630,508.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_17 | POINT | HORIZONTAL | Construction Point Source 17 | 630,533.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_18 | POINT | HORIZONTAL | Construction Point Source 18 | 630,558.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_19 | POINT | HORIZONTAL | Construction Point Source 19 | 630,583.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_20 | POINT | HORIZONTAL | Construction Point Source 20 | 630,608.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_21 | POINT | HORIZONTAL | Construction Point Source 21 | 630,633.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_22 | POINT | HORIZONTAL | Construction Point Source 22 | 630,658.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_23 | POINT | HORIZONTAL | Construction Point Source 23 | 630,683.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_24 | POINT | HORIZONTAL | Construction Point Source 24 | 630,708.44 | 3,672,367.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_25 | POINT | HORIZONTAL | Construction Point Source 25 | 630,133.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_26 | POINT | HORIZONTAL | Construction Point Source 26 | 630,133.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_27 | POINT | HORIZONTAL | Construction Point Source 27 | 630,133.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_28 | POINT | HORIZONTAL | Construction Point Source 28 | 630,133.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_29 | POINT | HORIZONTAL | Construction Point Source 29 | 630,133.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_30 | POINT | HORIZONTAL | Construction Point Source 30 | 630,133.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_31 | POINT | HORIZONTAL | Construction Point Source 31 | 630,133.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_32 | POINT | HORIZONTAL | Construction Point Source 32 | 630,133.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_33 | POINT | HORIZONTAL | Construction Point Source 33 | 630,133.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_34 | POINT | HORIZONTAL | Construction Point Source 34 | 630,133.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_35 | POINT | HORIZONTAL | Construction Point Source 35 | 630,133.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_36 | POINT | HORIZONTAL | Construction Point Source 36 | 630,133.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_37 | POINT | HORIZONTAL | Construction Point Source 37 | 630,133.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_38 | POINT | HORIZONTAL | Construction Point Source 38 | 630,133.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_39 | POINT | HORIZONTAL | Construction Point Source 39 | 630,133.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_40 | POINT | HORIZONTAL | Construction Point Source 40 | 630,133.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

**Elmore North Geothermal Project**

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_41 | POINT | HORIZONTAL | Construction Point Source 41 | 630,158.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_42 | POINT | HORIZONTAL | Construction Point Source 42 | 630,158.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_43 | POINT | HORIZONTAL | Construction Point Source 43 | 630,158.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_44 | POINT | HORIZONTAL | Construction Point Source 44 | 630,158.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_45 | POINT | HORIZONTAL | Construction Point Source 45 | 630,158.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_46 | POINT | HORIZONTAL | Construction Point Source 46 | 630,158.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_47 | POINT | HORIZONTAL | Construction Point Source 47 | 630,158.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_48 | POINT | HORIZONTAL | Construction Point Source 48 | 630,158.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_49 | POINT | HORIZONTAL | Construction Point Source 49 | 630,158.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_50 | POINT | HORIZONTAL | Construction Point Source 50 | 630,158.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_51 | POINT | HORIZONTAL | Construction Point Source 51 | 630,158.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_52 | POINT | HORIZONTAL | Construction Point Source 52 | 630,158.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_53 | POINT | HORIZONTAL | Construction Point Source 53 | 630,158.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_54 | POINT | HORIZONTAL | Construction Point Source 54 | 630,158.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_55 | POINT | HORIZONTAL | Construction Point Source 55 | 630,158.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_56 | POINT | HORIZONTAL | Construction Point Source 56 | 630,158.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_57 | POINT | HORIZONTAL | Construction Point Source 57 | 630,183.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_58 | POINT | HORIZONTAL | Construction Point Source 58 | 630,183.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_59 | POINT | HORIZONTAL | Construction Point Source 59 | 630,183.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_60 | POINT | HORIZONTAL | Construction Point Source 60 | 630,183.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_61 | POINT | HORIZONTAL | Construction Point Source 61 | 630,183.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_62 | POINT | HORIZONTAL | Construction Point Source 62 | 630,183.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_63 | POINT | HORIZONTAL | Construction Point Source 63 | 630,183.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_64 | POINT | HORIZONTAL | Construction Point Source 64 | 630,183.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_65 | POINT | HORIZONTAL | Construction Point Source 65 | 630,183.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_66 | POINT | HORIZONTAL | Construction Point Source 66 | 630,183.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_67 | POINT | HORIZONTAL | Construction Point Source 67 | 630,183.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_68 | POINT | HORIZONTAL | Construction Point Source 68 | 630,183.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_69 | POINT | HORIZONTAL | Construction Point Source 69 | 630,183.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_70 | POINT | HORIZONTAL | Construction Point Source 70 | 630,183.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_71 | POINT | HORIZONTAL | Construction Point Source 71 | 630,183.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_72 | POINT | HORIZONTAL | Construction Point Source 72 | 630,183.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_73 | POINT | HORIZONTAL | Construction Point Source 73 | 630,208.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_74 | POINT | HORIZONTAL | Construction Point Source 74 | 630,208.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_75 | POINT | HORIZONTAL | Construction Point Source 75 | 630,208.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_76 | POINT | HORIZONTAL | Construction Point Source 76 | 630,208.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_77 | POINT | HORIZONTAL | Construction Point Source 77 | 630,208.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_78 | POINT | HORIZONTAL | Construction Point Source 78 | 630,208.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_79 | POINT | HORIZONTAL | Construction Point Source 79 | 630,208.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_80 | POINT | HORIZONTAL | Construction Point Source 80 | 630,208.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

**Elmore North Geothermal Project**

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_81 | POINT | HORIZONTAL | Construction Point Source 81 | 630,208.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_82 | POINT | HORIZONTAL | Construction Point Source 82 | 630,208.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_83 | POINT | HORIZONTAL | Construction Point Source 83 | 630,208.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_84 | POINT | HORIZONTAL | Construction Point Source 84 | 630,208.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_85 | POINT | HORIZONTAL | Construction Point Source 85 | 630,208.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_86 | POINT | HORIZONTAL | Construction Point Source 86 | 630,208.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_87 | POINT | HORIZONTAL | Construction Point Source 87 | 630,208.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_88 | POINT | HORIZONTAL | Construction Point Source 88 | 630,208.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_89 | POINT | HORIZONTAL | Construction Point Source 89 | 630,233.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_90 | POINT | HORIZONTAL | Construction Point Source 90 | 630,233.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_91 | POINT | HORIZONTAL | Construction Point Source 91 | 630,233.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_92 | POINT | HORIZONTAL | Construction Point Source 92 | 630,233.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_93 | POINT | HORIZONTAL | Construction Point Source 93 | 630,233.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_94 | POINT | HORIZONTAL | Construction Point Source 94 | 630,233.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_95 | POINT | HORIZONTAL | Construction Point Source 95 | 630,233.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_96 | POINT | HORIZONTAL | Construction Point Source 96 | 630,233.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_97 | POINT | HORIZONTAL | Construction Point Source 97 | 630,233.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_98 | POINT | HORIZONTAL | Construction Point Source 98 | 630,233.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_99 | POINT | HORIZONTAL | Construction Point Source 99 | 630,233.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_100 | POINT | HORIZONTAL | Construction Point Source 100 | 630,233.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_101 | POINT | HORIZONTAL | Construction Point Source 101 | 630,233.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_102 | POINT | HORIZONTAL | Construction Point Source 102 | 630,233.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_103 | POINT | HORIZONTAL | Construction Point Source 103 | 630,233.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_104 | POINT | HORIZONTAL | Construction Point Source 104 | 630,233.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_105 | POINT | HORIZONTAL | Construction Point Source 105 | 630,258.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_106 | POINT | HORIZONTAL | Construction Point Source 106 | 630,258.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_107 | POINT | HORIZONTAL | Construction Point Source 107 | 630,258.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_108 | POINT | HORIZONTAL | Construction Point Source 108 | 630,258.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_109 | POINT | HORIZONTAL | Construction Point Source 109 | 630,258.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_110 | POINT | HORIZONTAL | Construction Point Source 110 | 630,258.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_111 | POINT | HORIZONTAL | Construction Point Source 111 | 630,258.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_112 | POINT | HORIZONTAL | Construction Point Source 112 | 630,258.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_113 | POINT | HORIZONTAL | Construction Point Source 113 | 630,258.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_114 | POINT | HORIZONTAL | Construction Point Source 114 | 630,258.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_115 | POINT | HORIZONTAL | Construction Point Source 115 | 630,258.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_116 | POINT | HORIZONTAL | Construction Point Source 116 | 630,258.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_117 | POINT | HORIZONTAL | Construction Point Source 117 | 630,258.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_118 | POINT | HORIZONTAL | Construction Point Source 118 | 630,258.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_119 | POINT | HORIZONTAL | Construction Point Source 119 | 630,258.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_120 | POINT | HORIZONTAL | Construction Point Source 120 | 630,258.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

**Elmore North Geothermal Project**

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_121 | POINT | HORIZONTAL | Construction Point Source 121 | 630,283.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_122 | POINT | HORIZONTAL | Construction Point Source 122 | 630,283.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_123 | POINT | HORIZONTAL | Construction Point Source 123 | 630,283.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_124 | POINT | HORIZONTAL | Construction Point Source 124 | 630,283.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_125 | POINT | HORIZONTAL | Construction Point Source 125 | 630,283.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_126 | POINT | HORIZONTAL | Construction Point Source 126 | 630,283.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_127 | POINT | HORIZONTAL | Construction Point Source 127 | 630,283.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_128 | POINT | HORIZONTAL | Construction Point Source 128 | 630,283.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_129 | POINT | HORIZONTAL | Construction Point Source 129 | 630,283.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_130 | POINT | HORIZONTAL | Construction Point Source 130 | 630,283.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_131 | POINT | HORIZONTAL | Construction Point Source 131 | 630,283.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_132 | POINT | HORIZONTAL | Construction Point Source 132 | 630,283.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_133 | POINT | HORIZONTAL | Construction Point Source 133 | 630,283.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_134 | POINT | HORIZONTAL | Construction Point Source 134 | 630,283.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_135 | POINT | HORIZONTAL | Construction Point Source 135 | 630,283.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_136 | POINT | HORIZONTAL | Construction Point Source 136 | 630,283.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_137 | POINT | HORIZONTAL | Construction Point Source 137 | 630,308.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_138 | POINT | HORIZONTAL | Construction Point Source 138 | 630,308.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_139 | POINT | HORIZONTAL | Construction Point Source 139 | 630,308.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_140 | POINT | HORIZONTAL | Construction Point Source 140 | 630,308.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_141 | POINT | HORIZONTAL | Construction Point Source 141 | 630,308.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_142 | POINT | HORIZONTAL | Construction Point Source 142 | 630,308.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_143 | POINT | HORIZONTAL | Construction Point Source 143 | 630,308.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_144 | POINT | HORIZONTAL | Construction Point Source 144 | 630,308.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_145 | POINT | HORIZONTAL | Construction Point Source 145 | 630,308.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_146 | POINT | HORIZONTAL | Construction Point Source 146 | 630,308.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_147 | POINT | HORIZONTAL | Construction Point Source 147 | 630,308.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_148 | POINT | HORIZONTAL | Construction Point Source 148 | 630,308.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_149 | POINT | HORIZONTAL | Construction Point Source 149 | 630,308.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_150 | POINT | HORIZONTAL | Construction Point Source 150 | 630,308.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_151 | POINT | HORIZONTAL | Construction Point Source 151 | 630,308.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_152 | POINT | HORIZONTAL | Construction Point Source 152 | 630,308.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_153 | POINT | HORIZONTAL | Construction Point Source 153 | 630,333.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_154 | POINT | HORIZONTAL | Construction Point Source 154 | 630,333.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_155 | POINT | HORIZONTAL | Construction Point Source 155 | 630,333.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_156 | POINT | HORIZONTAL | Construction Point Source 156 | 630,333.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_157 | POINT | HORIZONTAL | Construction Point Source 157 | 630,333.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_158 | POINT | HORIZONTAL | Construction Point Source 158 | 630,333.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_159 | POINT | HORIZONTAL | Construction Point Source 159 | 630,333.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_160 | POINT | HORIZONTAL | Construction Point Source 160 | 630,333.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_161 | POINT | HORIZONTAL | Construction Point Source 161 | 630,333.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_162 | POINT | HORIZONTAL | Construction Point Source 162 | 630,333.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_163 | POINT | HORIZONTAL | Construction Point Source 163 | 630,333.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_164 | POINT | HORIZONTAL | Construction Point Source 164 | 630,333.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_165 | POINT | HORIZONTAL | Construction Point Source 165 | 630,333.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_166 | POINT | HORIZONTAL | Construction Point Source 166 | 630,333.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_167 | POINT | HORIZONTAL | Construction Point Source 167 | 630,333.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_168 | POINT | HORIZONTAL | Construction Point Source 168 | 630,333.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_169 | POINT | HORIZONTAL | Construction Point Source 169 | 630,358.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_170 | POINT | HORIZONTAL | Construction Point Source 170 | 630,358.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_171 | POINT | HORIZONTAL | Construction Point Source 171 | 630,358.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_172 | POINT | HORIZONTAL | Construction Point Source 172 | 630,358.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_173 | POINT | HORIZONTAL | Construction Point Source 173 | 630,358.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_174 | POINT | HORIZONTAL | Construction Point Source 174 | 630,358.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_175 | POINT | HORIZONTAL | Construction Point Source 175 | 630,358.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_176 | POINT | HORIZONTAL | Construction Point Source 176 | 630,358.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_177 | POINT | HORIZONTAL | Construction Point Source 177 | 630,358.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_178 | POINT | HORIZONTAL | Construction Point Source 178 | 630,358.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_179 | POINT | HORIZONTAL | Construction Point Source 179 | 630,358.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_180 | POINT | HORIZONTAL | Construction Point Source 180 | 630,358.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_181 | POINT | HORIZONTAL | Construction Point Source 181 | 630,358.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_182 | POINT | HORIZONTAL | Construction Point Source 182 | 630,358.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_183 | POINT | HORIZONTAL | Construction Point Source 183 | 630,358.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_184 | POINT | HORIZONTAL | Construction Point Source 184 | 630,358.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_185 | POINT | HORIZONTAL | Construction Point Source 185 | 630,383.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_186 | POINT | HORIZONTAL | Construction Point Source 186 | 630,383.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_187 | POINT | HORIZONTAL | Construction Point Source 187 | 630,383.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_188 | POINT | HORIZONTAL | Construction Point Source 188 | 630,383.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_189 | POINT | HORIZONTAL | Construction Point Source 189 | 630,383.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_190 | POINT | HORIZONTAL | Construction Point Source 190 | 630,383.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_191 | POINT | HORIZONTAL | Construction Point Source 191 | 630,383.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_192 | POINT | HORIZONTAL | Construction Point Source 192 | 630,383.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_193 | POINT | HORIZONTAL | Construction Point Source 193 | 630,383.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_194 | POINT | HORIZONTAL | Construction Point Source 194 | 630,383.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_195 | POINT | HORIZONTAL | Construction Point Source 195 | 630,383.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_196 | POINT | HORIZONTAL | Construction Point Source 196 | 630,383.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_197 | POINT | HORIZONTAL | Construction Point Source 197 | 630,383.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_198 | POINT | HORIZONTAL | Construction Point Source 198 | 630,383.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_199 | POINT | HORIZONTAL | Construction Point Source 199 | 630,383.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_200 | POINT | HORIZONTAL | Construction Point Source 200 | 630,383.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_201 | POINT | HORIZONTAL | Construction Point Source 201 | 630,408.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_202 | POINT | HORIZONTAL | Construction Point Source 202 | 630,408.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_203 | POINT | HORIZONTAL | Construction Point Source 203 | 630,408.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_204 | POINT | HORIZONTAL | Construction Point Source 204 | 630,408.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_205 | POINT | HORIZONTAL | Construction Point Source 205 | 630,408.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_206 | POINT | HORIZONTAL | Construction Point Source 206 | 630,408.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_207 | POINT | HORIZONTAL | Construction Point Source 207 | 630,408.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_208 | POINT | HORIZONTAL | Construction Point Source 208 | 630,408.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_209 | POINT | HORIZONTAL | Construction Point Source 209 | 630,408.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_210 | POINT | HORIZONTAL | Construction Point Source 210 | 630,408.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_211 | POINT | HORIZONTAL | Construction Point Source 211 | 630,408.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_212 | POINT | HORIZONTAL | Construction Point Source 212 | 630,408.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_213 | POINT | HORIZONTAL | Construction Point Source 213 | 630,408.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_214 | POINT | HORIZONTAL | Construction Point Source 214 | 630,408.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_215 | POINT | HORIZONTAL | Construction Point Source 215 | 630,408.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_216 | POINT | HORIZONTAL | Construction Point Source 216 | 630,408.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_217 | POINT | HORIZONTAL | Construction Point Source 217 | 630,433.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_218 | POINT | HORIZONTAL | Construction Point Source 218 | 630,433.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_219 | POINT | HORIZONTAL | Construction Point Source 219 | 630,433.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_220 | POINT | HORIZONTAL | Construction Point Source 220 | 630,433.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_221 | POINT | HORIZONTAL | Construction Point Source 221 | 630,433.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_222 | POINT | HORIZONTAL | Construction Point Source 222 | 630,433.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_223 | POINT | HORIZONTAL | Construction Point Source 223 | 630,433.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_224 | POINT | HORIZONTAL | Construction Point Source 224 | 630,433.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_225 | POINT | HORIZONTAL | Construction Point Source 225 | 630,433.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_226 | POINT | HORIZONTAL | Construction Point Source 226 | 630,433.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_227 | POINT | HORIZONTAL | Construction Point Source 227 | 630,433.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_228 | POINT | HORIZONTAL | Construction Point Source 228 | 630,433.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_229 | POINT | HORIZONTAL | Construction Point Source 229 | 630,433.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_230 | POINT | HORIZONTAL | Construction Point Source 230 | 630,433.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_231 | POINT | HORIZONTAL | Construction Point Source 231 | 630,433.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_232 | POINT | HORIZONTAL | Construction Point Source 232 | 630,433.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_233 | POINT | HORIZONTAL | Construction Point Source 233 | 630,458.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_234 | POINT | HORIZONTAL | Construction Point Source 234 | 630,458.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_235 | POINT | HORIZONTAL | Construction Point Source 235 | 630,458.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_236 | POINT | HORIZONTAL | Construction Point Source 236 | 630,458.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_237 | POINT | HORIZONTAL | Construction Point Source 237 | 630,458.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_238 | POINT | HORIZONTAL | Construction Point Source 238 | 630,458.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_239 | POINT | HORIZONTAL | Construction Point Source 239 | 630,458.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_240 | POINT | HORIZONTAL | Construction Point Source 240 | 630,458.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

**Elmore North Geothermal Project**

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_241 | POINT | HORIZONTAL | Construction Point Source 241 | 630,458.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_242 | POINT | HORIZONTAL | Construction Point Source 242 | 630,458.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_243 | POINT | HORIZONTAL | Construction Point Source 243 | 630,458.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_244 | POINT | HORIZONTAL | Construction Point Source 244 | 630,458.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_245 | POINT | HORIZONTAL | Construction Point Source 245 | 630,458.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_246 | POINT | HORIZONTAL | Construction Point Source 246 | 630,458.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_247 | POINT | HORIZONTAL | Construction Point Source 247 | 630,458.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_248 | POINT | HORIZONTAL | Construction Point Source 248 | 630,458.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_249 | POINT | HORIZONTAL | Construction Point Source 249 | 630,483.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_250 | POINT | HORIZONTAL | Construction Point Source 250 | 630,483.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_251 | POINT | HORIZONTAL | Construction Point Source 251 | 630,483.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_252 | POINT | HORIZONTAL | Construction Point Source 252 | 630,483.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_253 | POINT | HORIZONTAL | Construction Point Source 253 | 630,483.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_254 | POINT | HORIZONTAL | Construction Point Source 254 | 630,483.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_255 | POINT | HORIZONTAL | Construction Point Source 255 | 630,483.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_256 | POINT | HORIZONTAL | Construction Point Source 256 | 630,483.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_257 | POINT | HORIZONTAL | Construction Point Source 257 | 630,483.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_258 | POINT | HORIZONTAL | Construction Point Source 258 | 630,483.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_259 | POINT | HORIZONTAL | Construction Point Source 259 | 630,483.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_260 | POINT | HORIZONTAL | Construction Point Source 260 | 630,483.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_261 | POINT | HORIZONTAL | Construction Point Source 261 | 630,483.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_262 | POINT | HORIZONTAL | Construction Point Source 262 | 630,483.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_263 | POINT | HORIZONTAL | Construction Point Source 263 | 630,483.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_264 | POINT | HORIZONTAL | Construction Point Source 264 | 630,483.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_265 | POINT | HORIZONTAL | Construction Point Source 265 | 630,508.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_266 | POINT | HORIZONTAL | Construction Point Source 266 | 630,508.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_267 | POINT | HORIZONTAL | Construction Point Source 267 | 630,508.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_268 | POINT | HORIZONTAL | Construction Point Source 268 | 630,508.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_269 | POINT | HORIZONTAL | Construction Point Source 269 | 630,508.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_270 | POINT | HORIZONTAL | Construction Point Source 270 | 630,508.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_271 | POINT | HORIZONTAL | Construction Point Source 271 | 630,508.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_272 | POINT | HORIZONTAL | Construction Point Source 272 | 630,508.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_273 | POINT | HORIZONTAL | Construction Point Source 273 | 630,508.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_274 | POINT | HORIZONTAL | Construction Point Source 274 | 630,508.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_275 | POINT | HORIZONTAL | Construction Point Source 275 | 630,508.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_276 | POINT | HORIZONTAL | Construction Point Source 276 | 630,508.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_277 | POINT | HORIZONTAL | Construction Point Source 277 | 630,508.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_278 | POINT | HORIZONTAL | Construction Point Source 278 | 630,508.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_279 | POINT | HORIZONTAL | Construction Point Source 279 | 630,508.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_280 | POINT | HORIZONTAL | Construction Point Source 280 | 630,508.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

**Elmore North Geothermal Project**

**Elmore North Construction Air Quality Impacts Analysis Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_281 | POINT | HORIZONTAL | Construction Point Source 281 | 630,533.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_282 | POINT | HORIZONTAL | Construction Point Source 282 | 630,533.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_283 | POINT | HORIZONTAL | Construction Point Source 283 | 630,533.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_284 | POINT | HORIZONTAL | Construction Point Source 284 | 630,533.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_285 | POINT | HORIZONTAL | Construction Point Source 285 | 630,533.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_286 | POINT | HORIZONTAL | Construction Point Source 286 | 630,533.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_287 | POINT | HORIZONTAL | Construction Point Source 287 | 630,533.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_288 | POINT | HORIZONTAL | Construction Point Source 288 | 630,533.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_289 | POINT | HORIZONTAL | Construction Point Source 289 | 630,533.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_290 | POINT | HORIZONTAL | Construction Point Source 290 | 630,533.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_291 | POINT | HORIZONTAL | Construction Point Source 291 | 630,533.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_292 | POINT | HORIZONTAL | Construction Point Source 292 | 630,533.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_293 | POINT | HORIZONTAL | Construction Point Source 293 | 630,533.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_294 | POINT | HORIZONTAL | Construction Point Source 294 | 630,533.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_295 | POINT | HORIZONTAL | Construction Point Source 295 | 630,533.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_296 | POINT | HORIZONTAL | Construction Point Source 296 | 630,533.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_297 | POINT | HORIZONTAL | Construction Point Source 297 | 630,558.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_298 | POINT | HORIZONTAL | Construction Point Source 298 | 630,558.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_299 | POINT | HORIZONTAL | Construction Point Source 299 | 630,558.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_300 | POINT | HORIZONTAL | Construction Point Source 300 | 630,558.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_301 | POINT | HORIZONTAL | Construction Point Source 301 | 630,558.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_302 | POINT | HORIZONTAL | Construction Point Source 302 | 630,558.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_303 | POINT | HORIZONTAL | Construction Point Source 303 | 630,558.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_304 | POINT | HORIZONTAL | Construction Point Source 304 | 630,558.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_305 | POINT | HORIZONTAL | Construction Point Source 305 | 630,558.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_306 | POINT | HORIZONTAL | Construction Point Source 306 | 630,558.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_307 | POINT | HORIZONTAL | Construction Point Source 307 | 630,558.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_308 | POINT | HORIZONTAL | Construction Point Source 308 | 630,558.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_309 | POINT | HORIZONTAL | Construction Point Source 309 | 630,558.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_310 | POINT | HORIZONTAL | Construction Point Source 310 | 630,558.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_311 | POINT | HORIZONTAL | Construction Point Source 311 | 630,558.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_312 | POINT | HORIZONTAL | Construction Point Source 312 | 630,558.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_313 | POINT | HORIZONTAL | Construction Point Source 313 | 630,583.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_314 | POINT | HORIZONTAL | Construction Point Source 314 | 630,583.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_315 | POINT | HORIZONTAL | Construction Point Source 315 | 630,583.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_316 | POINT | HORIZONTAL | Construction Point Source 316 | 630,583.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_317 | POINT | HORIZONTAL | Construction Point Source 317 | 630,583.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_318 | POINT | HORIZONTAL | Construction Point Source 318 | 630,583.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_319 | POINT | HORIZONTAL | Construction Point Source 319 | 630,583.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_320 | POINT | HORIZONTAL | Construction Point Source 320 | 630,583.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_321 | POINT | HORIZONTAL | Construction Point Source 321 | 630,583.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_322 | POINT | HORIZONTAL | Construction Point Source 322 | 630,583.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_323 | POINT | HORIZONTAL | Construction Point Source 323 | 630,583.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_324 | POINT | HORIZONTAL | Construction Point Source 324 | 630,583.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_325 | POINT | HORIZONTAL | Construction Point Source 325 | 630,583.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_326 | POINT | HORIZONTAL | Construction Point Source 326 | 630,583.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_327 | POINT | HORIZONTAL | Construction Point Source 327 | 630,583.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_328 | POINT | HORIZONTAL | Construction Point Source 328 | 630,583.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_329 | POINT | HORIZONTAL | Construction Point Source 329 | 630,608.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_330 | POINT | HORIZONTAL | Construction Point Source 330 | 630,608.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_331 | POINT | HORIZONTAL | Construction Point Source 331 | 630,608.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_332 | POINT | HORIZONTAL | Construction Point Source 332 | 630,608.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_333 | POINT | HORIZONTAL | Construction Point Source 333 | 630,608.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_334 | POINT | HORIZONTAL | Construction Point Source 334 | 630,608.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_335 | POINT | HORIZONTAL | Construction Point Source 335 | 630,608.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_336 | POINT | HORIZONTAL | Construction Point Source 336 | 630,608.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_337 | POINT | HORIZONTAL | Construction Point Source 337 | 630,608.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_338 | POINT | HORIZONTAL | Construction Point Source 338 | 630,608.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_339 | POINT | HORIZONTAL | Construction Point Source 339 | 630,608.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_340 | POINT | HORIZONTAL | Construction Point Source 340 | 630,608.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_341 | POINT | HORIZONTAL | Construction Point Source 341 | 630,608.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_342 | POINT | HORIZONTAL | Construction Point Source 342 | 630,608.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_343 | POINT | HORIZONTAL | Construction Point Source 343 | 630,608.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_344 | POINT | HORIZONTAL | Construction Point Source 344 | 630,608.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_345 | POINT | HORIZONTAL | Construction Point Source 345 | 630,633.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_346 | POINT | HORIZONTAL | Construction Point Source 346 | 630,633.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_347 | POINT | HORIZONTAL | Construction Point Source 347 | 630,633.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_348 | POINT | HORIZONTAL | Construction Point Source 348 | 630,633.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_349 | POINT | HORIZONTAL | Construction Point Source 349 | 630,633.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_350 | POINT | HORIZONTAL | Construction Point Source 350 | 630,633.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_351 | POINT | HORIZONTAL | Construction Point Source 351 | 630,633.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_352 | POINT | HORIZONTAL | Construction Point Source 352 | 630,633.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_353 | POINT | HORIZONTAL | Construction Point Source 353 | 630,633.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_354 | POINT | HORIZONTAL | Construction Point Source 354 | 630,633.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_355 | POINT | HORIZONTAL | Construction Point Source 355 | 630,633.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_356 | POINT | HORIZONTAL | Construction Point Source 356 | 630,633.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_357 | POINT | HORIZONTAL | Construction Point Source 357 | 630,633.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_358 | POINT | HORIZONTAL | Construction Point Source 358 | 630,633.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_359 | POINT | HORIZONTAL | Construction Point Source 359 | 630,633.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_360 | POINT | HORIZONTAL | Construction Point Source 360 | 630,633.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_361 | POINT | HORIZONTAL | Construction Point Source 361 | 630,658.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_362 | POINT | HORIZONTAL | Construction Point Source 362 | 630,658.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_363 | POINT | HORIZONTAL | Construction Point Source 363 | 630,658.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_364 | POINT | HORIZONTAL | Construction Point Source 364 | 630,658.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_365 | POINT | HORIZONTAL | Construction Point Source 365 | 630,658.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_366 | POINT | HORIZONTAL | Construction Point Source 366 | 630,658.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_367 | POINT | HORIZONTAL | Construction Point Source 367 | 630,658.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_368 | POINT | HORIZONTAL | Construction Point Source 368 | 630,658.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_369 | POINT | HORIZONTAL | Construction Point Source 369 | 630,658.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_370 | POINT | HORIZONTAL | Construction Point Source 370 | 630,658.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_371 | POINT | HORIZONTAL | Construction Point Source 371 | 630,658.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_372 | POINT | HORIZONTAL | Construction Point Source 372 | 630,658.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_373 | POINT | HORIZONTAL | Construction Point Source 373 | 630,658.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_374 | POINT | HORIZONTAL | Construction Point Source 374 | 630,658.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_375 | POINT | HORIZONTAL | Construction Point Source 375 | 630,658.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_376 | POINT | HORIZONTAL | Construction Point Source 376 | 630,658.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_377 | POINT | HORIZONTAL | Construction Point Source 377 | 630,683.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_378 | POINT | HORIZONTAL | Construction Point Source 378 | 630,683.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_379 | POINT | HORIZONTAL | Construction Point Source 379 | 630,683.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_380 | POINT | HORIZONTAL | Construction Point Source 380 | 630,683.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_381 | POINT | HORIZONTAL | Construction Point Source 381 | 630,683.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_382 | POINT | HORIZONTAL | Construction Point Source 382 | 630,683.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_383 | POINT | HORIZONTAL | Construction Point Source 383 | 630,683.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_384 | POINT | HORIZONTAL | Construction Point Source 384 | 630,683.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_385 | POINT | HORIZONTAL | Construction Point Source 385 | 630,683.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_386 | POINT | HORIZONTAL | Construction Point Source 386 | 630,683.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_387 | POINT | HORIZONTAL | Construction Point Source 387 | 630,683.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_388 | POINT | HORIZONTAL | Construction Point Source 388 | 630,683.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_389 | POINT | HORIZONTAL | Construction Point Source 389 | 630,683.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_390 | POINT | HORIZONTAL | Construction Point Source 390 | 630,683.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_391 | POINT | HORIZONTAL | Construction Point Source 391 | 630,683.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_392 | POINT | HORIZONTAL | Construction Point Source 392 | 630,683.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_393 | POINT | HORIZONTAL | Construction Point Source 393 | 630,708.44 | 3,672,342.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_394 | POINT | HORIZONTAL | Construction Point Source 394 | 630,708.44 | 3,672,317.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_395 | POINT | HORIZONTAL | Construction Point Source 395 | 630,708.44 | 3,672,292.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_396 | POINT | HORIZONTAL | Construction Point Source 396 | 630,708.44 | 3,672,267.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_397 | POINT | HORIZONTAL | Construction Point Source 397 | 630,708.44 | 3,672,242.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_398 | POINT | HORIZONTAL | Construction Point Source 398 | 630,708.44 | 3,672,217.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_399 | POINT | HORIZONTAL | Construction Point Source 399 | 630,708.44 | 3,672,192.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_400 | POINT | HORIZONTAL | Construction Point Source 400 | 630,708.44 | 3,672,167.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Point Source Parameters**

**April 2023**

**Elmore North Construction Modeled Point Source Parameters**

| Source ID | Source Type | Stack Release Type | Source Description | Easting (X) (m) | Northing (Y) (m) | Base Elevation (m) | Stack Height (m) | Temperature (K) | Exit Velocity (m/s) | Stack Diameter (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| POINT_401 | POINT | HORIZONTAL | Construction Point Source 401 | 630,708.44 | 3,672,142.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_402 | POINT | HORIZONTAL | Construction Point Source 402 | 630,708.44 | 3,672,117.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_403 | POINT | HORIZONTAL | Construction Point Source 403 | 630,708.44 | 3,672,092.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_404 | POINT | HORIZONTAL | Construction Point Source 404 | 630,708.44 | 3,672,067.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_405 | POINT | HORIZONTAL | Construction Point Source 405 | 630,708.44 | 3,672,042.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_406 | POINT | HORIZONTAL | Construction Point Source 406 | 630,708.44 | 3,672,017.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_407 | POINT | HORIZONTAL | Construction Point Source 407 | 630,708.44 | 3,671,992.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |
| POINT_408 | POINT | HORIZONTAL | Construction Point Source 408 | 630,708.44 | 3,671,967.82 | -68.58 | 4.60 | 533.00 | 18.00 | 0.13 |

Note: Coordinates presented are UTM NAD83 Zone 11

m = meter(s)

K = Kelvin

m/s = meter(s) per second

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Area Source Parameters**

**April 2023**

**Elmore North Construction Modeled Area Source Parameters**

| Source ID | Source Description | Base Elevation (m) | Release Height (m) | Number of Vertices | Initial Vert. Dimension (m) | Easting (X1) (m) | Northing (Y1) (m) | Easting (X2) (m) | Northing (Y2) (m) | Easting (X3) (m) | Northing (Y3) (m) | Easting (X4) (m) | Northing (Y4) (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA_1 | Construction Fugitive Dust Source | -68.58 | 0.00 | 4 | 0.00 | 630,133.44 | 3,672,367.82 | 630,708.44 | 3,672,367.82 | 630,708.44 | 3,671,967.82 | 630,133.44 | 3,671,967.82 |

Note: Coordinates presented are UTM NAD83 Zone 11

m = meter(s)

## Elmore North Geothermal Project

**Elmore North Construction Air Quality Impacts Analysis**

**Source Emission Rates**

**April 2023**

**Elmore North Construction Modeled Source Emission Rates Per Source**

| Source ID | Source Type | Release Type | Source Description | CO (g/s) | NO2 (g/s) | NO2A (g/s) | SO2 (g/s) | SO2A (g/s) | PM10 (g/s) | PM10A (g/s) | PM25 (g/s) | PM25A (g/s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Point_1-Point_408 | POINT | DEFAULT | Construction Point Sources | 4.24E-03 | 1.97E-03 | 1.78E-03 | 9.90E-06 | 1.74E-05 | 4.60E-05 | 1.96E-05 | 4.30E-05 | 1.86E-05 |
| AREA_1 | AREAPOLY | DEFAULT | Construction Fugitive Dust Source | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-02 | 1.73E-02 | 3.48E-03 | 1.82E-03 |

Notes:

Emission rates developed based upon emissions presented in Section 5.1 and Appendix 5.1D, Construction Emissions Inventory.

Descriptions of pollutant IDs and their associated averaging periods are as follows:

- CO emission rates correspond to the 1-hour and 8-hour CO averaging period.
- NO2 emission rates correspond to the 1-hour $NO_2$ averaging period.
- NO2A emission rates correspond to the Annual $NO_2$ averaging period.
- PM25 emission rates correspond to the 24-hour $PM_{2.5}$ averaging period.
- PM25A emission rates correspond to the Annual $PM_{2.5}$ averaging period.
- PM10 emission rates correspond to the 24-hour $PM_{10}$ averaging period.
- PM10A emission rates correspond to the Annual $PM_{10}$ averaging period.
- SO2 emission rates correspond to the 1-hour, 3-hour, and 24-hour $SO_2$ averaging period.
- SO2A emission rates correspond to the Annual $SO_2$ averaging period.

g/s = gram(s) per second

# Appendix 5.1E
# Basis of BACT Determination

March 9, 2017

Mr. Jesus Ramirez
Mr. Thomas Brinkerhoff
Imperial County Air Pollution Control District
150 South Ninth Street
El Centro, California 92243
*(Via Email & Mail)*

Subject: Elmore Back-Pressure Turbine Installation, April 2017
Update to Air Permit Application

Dear Mr. Ramirez and Mr. Binkerhoff,

Enclosed please find an update to the air permit application for the installation of a new turbine at the Elmore facility. CalEnergy submitted the original application on January 3, 2017, and is supplementing the original application information with an analysis of the Best Available Control Technologies (a BACT analysis) for minimizing air emissions from the facility.

The submittal of this information is meant to provide all of the information required for the issuance of an authority- to-construct. Upon approval of the air abatement technologies recommended in the BACT analysis, by the Imperial County Air Pollution Control District, the final equipment design will proceed. It is CalEnergy's intention to submit final design/sizing of the equipment to the air district prior to the issuance of the permit-to-operate for the new turbine and air abatement equipment.

Please do not hesitate to me at 760-348-4275, or via e-mail at Anetha.lue@calenergy.com, with any questions regarding this submittal; and thank you in advance for your review of this application.

Sincerely,

D. Anetha Lue

Digitally signed by D. Anetha Lue
DN: cn=D. Anetha Lue, o, ou=CalEnergy, email=anetha.lue@calenergy.com, c=US
Date: 2017.03.09 18:02:47 -08'00'

Anetha Lue
Director IPP Environmental Services

Attachment

Cc: Lenie Sarion
Randy Keller
Ed Arceo
Jenny Wu
Jie Meng
Henry Veizades - Veizades & Associates, Inc.
Jill Haizlip - Geologica Geothermal Group Inc

# BACT Analysis for Air Abatement Systems at Elmore Facility

# Back-Pressure Turbine Installation

Prepared by

CalEnergy Operating Corporation

with

Geologica Geothermal Group, Inc.

And

Veizades & Associates, Inc.

**March 07, 2017**

# Table of Contents

**TABLES**

# 1 Introduction

This memorandum presents the Best Available Control Technology (BACT) analysis prepared as part of the permitting process for the proposed modification of the J.J. Elmore Geothermal Power Plant for submittal to the Imperial County Air Pollution Control District, in order to authorize the installation of a back-pressure turbine at the facility. The initial permit application was submitted on January 3, 2017, and following submittal of the application it was determined (during discussions with the air district) that since the turbine addition constituted a modification of the facility, a BACT analysis would be required to supplement the initial application. The purpose of this BACT analysis is to identify the technologically feasible and cost effective controls for limiting air emissions from the facility. This analysis briefly describes the modifications and impacts to air emissions, the potential to emit levels for air pollutants; several control technologies are described including efficiencies, cost effectiveness, and related results.

The information contained herein is based on CalEnergy's operating experience and data with air pollution controls, and on engineering estimates of the planned modification provided by Geologica Geothermal Group, Inc. (Geologica) and Veizades and Associates, Inc.

## 1.1 Plant Background, Modifications & BACT Thresholds

**Plant Background**

CalEnergy Operating Corporation (CalEnergy) owns and operates the J.J. Elmore Geothermal Power Plant (Elmore Plant), located at 786 West Sinclair Road, Calipatria, California. The Elmore Plant entered into commercial operation in 1989 with an air permit issued from the Imperial County Air Pollution Control District (ICAPCD) for 45MWe operation. The Elmore plant is currently operating under amended conditions and authority to construct with permit to operate #1890F-2 from the ICAPCD dated May 31, 2016. CalEnergy is proposing to install a back-pressure turbine at the Elmore Plant to optimize and increase the conversion of geothermal heat into electrical energy. The revised net output for the power plant will be 49.9 MWe.

The Elmore Plant currently uses high pressure steam, via a heat exchanger to augment the standard pressure steam by reheating clean condensate for re-entry into the existing condensing turbine. This system is called a heat recovery system and it generates additional steam without having the impurities in the high pressure steam encounter the turbine. At the time the Elmore facility was designed, the heat recovery system was the best available technology to make additional power without having to mitigate the impurities in high pressure steam.

**Modifications**

Enhancements in steam purification have been made since the Elmore facility entered commercial operation in 1989 and CalEnergy is proposing to use improved technology to remove the impurities from the high pressure (HP) steam. This improved steam purification technology will allow CalEnergy to use a more efficient high pressure steam turbine in addition to the existing turbine. Using a high pressure steam turbine in place of the heat recovery system will allow the Elmore plant to generate up to 49.9 MWe without increasing fluid flow from the geothermal resource.

In order to use a high pressure steam turbine in place of the heat recovery system, additional equipment will be installed within the existing boundary of the Elmore facility. The heat recovery system will remain in place as a back-up system. The following new equipment will be located within the power generation area of the Elmore plant and within the existing paved site containment:

1. Skid mounted back pressure Turbine and auxiliary equipment
2. Power Distribution Control (PDC) System
3. High Pressure Steam Scrubber
4. High Pressure Steam Demister
5. Standard Pressure Steam Scrubber
6. Non-condensable gas (NCG) removal system
7. High Pressure and Standard Pressure interconnecting piping

**BACT Thresholds**

Given that the air district has determined that the changes described herein will be determined a modification of the facility, the following requirements become effective:

- ICAPCD Rule 207 C.1.b states that "An applicant shall apply (BACT) on a pollutant by pollutant basis to any modified Emissions Unit with a Potential to Emit of 25 pounds per day or more of any Nonattainment Pollutant or its Precursors". Given that the Elmore facility is located in a non-attainment area for particulate matter and ozone, emissions of particulate matter, and ozone precursors (i.e. nitrogen oxides, volatile organic compounds and benzene) are initially considered in this review. **With potential emissions of particulate matter at 383.6 lbs/day, and potential emission of benzene at 54.7 lbs/day, based on the permit, these parameters were included in the BACT analysis**. However, given that nitrogen oxides, and VOCs (except for benzene), are submitted by combustion engines at the facility (which are not part of the modification), nitrogen oxides and (non-benzene) VOCs are not included in the BACT analysis.
- ICAPCD Rule 207.1.c requires a BACT for " any new or modified Emissions Unit with a Potential to Emit equal to or greater than" 55 lbs/day or hydrogen sulfide; which is emitted by the Elmore facility (and below certain thresholds for pollutants such as fluorides, which are not emitted by the source). **Given potential emission of 547.2 lbs/day of hydrogen sulfide from Elmore (based on the 22.8 lbs/hr permit limit for the source) hydrogen sulfide emissions were included in the BACT review**.

## 1.2 Unabated Air Pollutants & Historical Actual Emissions

Potential air pollutants, controls and monitoring were previously identified in air permit applications and permits (ATC-PTO #1890F-2) for the Elmore plant. These include hydrogen sulfide ($H_2S$), benzene ($C_6H_6$) and particulate matter ($PM_{10}$). In addition, since Imperial Valley is a non-attainment area for ozone, the effect (or lack thereof) of this project on nitrogen oxide and other volatile organic compound emissions was also verified. Currently, the Elmore plant maintains air emissions below permit levels with two abatement technologies: the Oxidizer Box (OxBox), which abates $H_2S$ in the condensate from the plant, and cooling tower drift eliminators which mitigate $PM_{10}$ emissions.

Although the proposed modifications will not change the total amount of geothermal fluid flowing through the plant, the unabated emissions for $H_2S$ could be affected by the change because $H_2S$ is emitted in both steam condensate (into which it dissolves) and in the non-condensable gas (NCG) flow which remains after the steam is condensed; and the modification is expected to redistribute the $H_2S$ concentrations in these streams. Because $H_2S$ control technologies for the condensate and NCG flow streams can be different and they have been treated differently at Elmore, the emissions and controls for each flow stream are evaluated separately in this analysis, while understanding that $H_2S$ emission limits apply to the combined emissions from each flow stream.

The range of partitioning of $H_2S$ between condensate and NCG is estimated based on field testing by CalEnergy Operations. Steam mass flows and $H_2S$ concentrations also vary depending on the relative contribution of wells supplying the plant. These variables produce a range of potential unabated $H_2S$ emissions from the condensate and NCG flow streams (Table 1.a).

Because there will be no modifications to the cooling tower, which is the only source of particulate emissions under normal operating conditions at Elmore, impacts to $PM_{10}$ emissions are not anticipated. Similarly, since the total flow of geothermal fluid through the plant is not changing, and benzene emissions occur in the NCG flow (partitioning into the condensate phase is minimal), there are no anticipated changes to benzene emissions as a result of the proposed modifications.

The average benzene emissions appear to be about 0.073 lb/hr, with a maximum of 0.103 lb/hr (based on APCD data from 2014-2016). Even at maximum benzene emission, emissions are below the permit (#1890F-2) threshold limit of 2.8 lb/day and significantly below the BACT threshold of 25 lb/day.

Average cooling tower $PM_{10}$ emissions were 2.29 lb/hr (54.96 lb/day) in July, 2014 (based for the July 2014 source test), and are not expected to change (apart for normal fluctuations) with the plant modifications.

At Elmore nitrogen oxides and volatile organic compounds (which the exception of benzene) are emitted in minor quantities from the emergency diesel generators, the emergency diesel fire pump, and portable diesel engines (all of which are permitted by the Imperial County Air Pollution Control District). Given that the installation of this project will have no effect on these sources, a BACT analysis was not conducted for these pollutants (with the exception of benzene emissions from the geothermal brine).

The potential unabated emissions of $H_2S$ without any abatement efforts is between 27.25-43.50 lb/hr based on plant data from 2016, and sampling of HP steam for $H_2S$ analysis on December 7$^{th}$, 2016 (Table *1*.a). The average hourly rate of $H_2S$ emissions (in NCG + condensate) based on the currently installed abatement systems is 7.28 lb/hr, which is below the current permit limit of 22.8 lb/hr (Table *1*.a). The of $PM_{10}$ and benzene emissions from source test data is included in Table 1.b.

Table 1.a – Unabated H2S Emissions

*1) Potential for total $H_2S$ emission with no abatement; 2) current average $H_2S$ emissions using existing abatement system; and 3) current permit limit for $H_2S$ emissions at Elmore.*

| | Total Unabated Emissions (lb/hr) | Unabated Condensate Emissions (lb/hr) | Unabated Gas Emissions (lb/hr) |
|---|---|---|---|
| | Potential to emit without any abatement | | |
| $H_2S$ minimum | 40.37 | 13.12 | 27.25 |
| $H_2S$ maximum | 64.44 | 20.94 | 43.50 |

$H_2S$ from proposed mass flows from P&ID from June 7, 2016 and proposed Elmore modification; $H_2S$ from plant sampling by CalEnergy on December 7, 2016.

Using an average partitioning ratio of 32.5% condensate and 67.5% gas for $H_2S$

Table 1.b – Benzene & PM10 Source Test Data Emissions

| | 2014 Source Test Emissions | Average Emissions (lb/hr)[A] | Current Permit Limit (lb/hr) |
|---|---|---|---|
| Benzene | 0.006 | 0.073 | 2.28 |
| $PM_{10}$ | 2.29 | - | 15.98 |

[A] From 2014-2016

Historical actual emissions (HAEs) from the facility are shown in Tables 2.

Table 2- Historical Actual Emissions – For the Brine Process

| | Quarterly Average Emissions | | | | | |
|---|---|---|---|---|---|---|
| | Hydrogen Sulfide Emissions, (lbs/hr) | | | Benzene Emissions, (lbs/hr) | | |
| | **2014** | **2015** | **2016** | **2014** | **2015** | **2016** |
| Quarter I | 6.17 | 3.65 | 13.04 | 0.02 | 0.04 | 0.04 |
| Quarter II | 7.29 | 3.68 | 5.65 | 0.02 | 0.01 | 0.01 |
| Quarter III | 6.87 | 8.36 | 10.81 | 0.01 | 0.01 | 0.03 |
| Quarter IV | 3.96 | 7.67 | 5.05 | 0.01 | 0.02 | 0.01 |

| | Annual Maximum of Hourly Averages | | | | | |
|---|---|---|---|---|---|---|
| | Hydrogen Sulfide Emissions, (lbs/hr) | | | Benzene Emissions, (lbs/hr) | | |
| | **2014** | **2015** | **2016** | **2014** | **2015** | **2016** |
| | 10.71 | 10.84 | 20.57 | 0.045 | 0.103 | 0.07 |
| Sampled during | Aug 2014 | Aug 2015 | Jan 2016 | Feb 2014 | Feb 2016 | Jan 2016 |

Notes:
Combined emissions from condensate and non-condensable gasses are shown above.

(1) Historical flows are based on weekly readings that can be taken when plant MW loads/output are low, historical actual emissions should be based on the annual maximum values.
(2) Facility-wide emissions are not shown above – These include emissions from an emergency generator and emissions from portable equipment permitted in 2015 and 2016. The emissions from the portable equipment are offset.

## 1.3 BACT Process and Options

BACT analysis includes consideration of several possible abatement technologies. The efficiency of the current OxBox, as well as chemical oxidation and iron chelate, were considered to determine which constitutes Best Available Control Technology (BACT) for the abatement of $H_2S$ in sour condensate liquid emissions at Elmore. For potential $H_2S$ emissions in the non-condensable gas (NCG) flow stream, the feasibility of the use of a regenerative thermal oxidizer (RTO), bioreactor, sparger, and BIOX were considered for Elmore. RTO was considered for benzene abatement in NCG.

Both control efficiencies and cost of the abatement processes are considered in this BACT. The BACT analysis includes five steps:

1. Identification of control technologies
2. Elimination of infeasible options
3. Rank of the remaining control technologies
4. Evaluation of the most effective control
5. Selection of BACT

# 2 Step 1: Identification of Control Technologies

## 2.1 Sour Condensate Liquid (H2S) Abatement Options

### 2.1.1 OxBox

After separation of the non-condensable gas and condensate, condensate is routed to the bio-oxidation box (OxBox) in the cooling tower, where the naturally occurring bacteria present in geothermal cooling tower water abates $H_2S$ in the condensate (see Air Permit Applicaion for Cal Energy Region 1, Unit 3 Cooling Tower Bio-oxidation Box Modification, CalEnergy Operations 2016). Average condensate abatement efficiency from the existing OxBox and average total $H_2S$ emissions were calculated using data reported to the APCD by CalEnergy over the last three years (from 2014-2016). The average condensate abatement efficiency of the OxBox over the last three years is 90.9%.

### **2.1.2** Chemical Oxidation (Iron Chelate)

The chemical oxidation process uses hydrogen peroxide ($H_2O_2$) to treat water in order to oxidize $H_2S$ into elemental sulfur (S) (if the solution is neutral or acidic) or sulfates (if the solution is basic) (Rodriguez, Harvey and Asbjornsson 2014). In acidic or neutral solutions, the $H_2O_2$ and $H_2S$ forms S and $H_2O$:

$$H_2O_2+H_2S \rightarrow S+2H_2O$$

In basic solutions, $H_2O_2$ and $S^{-2}$ react to form sulfate ($SO_4^{-2}$) and $H_2O$ (Stephens, Hill and Phelps, Jr. 1980):

$$H_2S \text{ (aqueous)} \rightarrow 2H^{+}+S^{-2}$$
$$S^{-2}+4H_2O_2 \rightarrow SO_4^{-2}+4H_2O$$

Iron chelate is sometimes added as a catalyst in this oxidation process. This system can generate sulfur solid build-up in the cooling tower, a maintenance issue.

#### 2.1.3 BIOX (liquid) System

The Biox® process consists of adding an oxidizing biocide into the condensate from condenser to convert dissolved hydrogen sulfide to water-soluble sulfates. Biocide-assisted oxidation prevents secondary emissions of hydrogen sulfide from cooling towers that utilize steam condensate for makeup water. The Biox® liquid abatement system is expected to remove at least 98 percent of the H2S in the portion of the condensate used as cooling tower makeup water.

### 2.2 Non-condensable Gas (H2S) Abatement Options

#### 2.2.1 Regenerative Thermal Oxidizer

A Regenerative Thermal Oxidizer Unit (RTO) allows for the direct oxidizing process for $H_2S$ in the NCG. The RTO is pre-heated with propane, and then a vacuum, created by the downstream vacuum blower, causes the steam and outside air to enter the oxidizing chamber (CE Obsidian Energy LLC 2010). The RTO oxidizes $H_2S$ and supplemental propane in the NCG through an exothermic process (Imperial County Planning & Development Services Department 2011). As a result, $H_2S$ is oxidized to sulfur dioxide ($SO_2$) and a small amount of sulfur trioxide ($SO_3$), while hydrogen (H) is oxidized to water vapor (CE Obsidian Energy LLC 2010). The gases then flow through a caustic scrubber and venturi scrubber to remove $PM_{10}$ before discharging in a stack. Small amounts of NOx, SOx, and $PM_{10}$ not present in the geothermal gas are discharged, being generated as a result of the process.

#### 2.2.2 Bioreactor

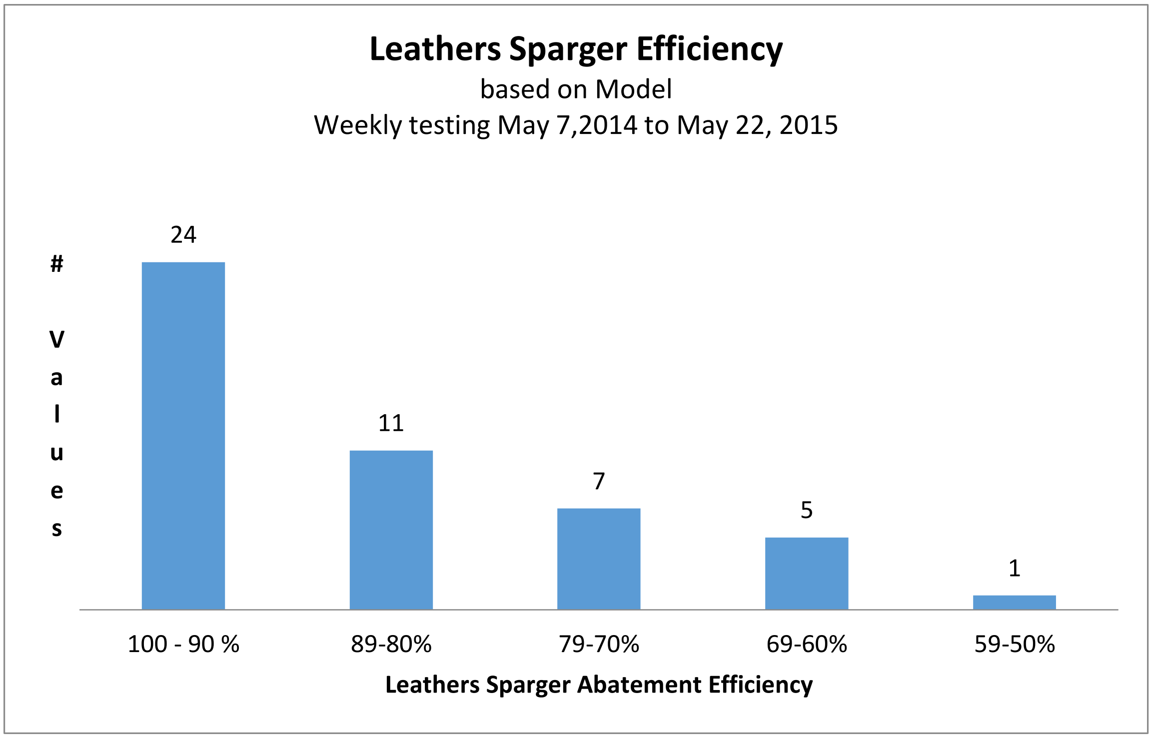
The bioreactor bubbles NCG through columns containing liquid and plastic spheres. The plastic spheres act as a surface to grow biologic agent ("microbes"). These "microbes" consume $H_2S$ and produce sulfuric acid and sulfate. Effluent gasses from the bioreactor are routed to the shrouds on the cooling tower after abatement in the bioreactor, while condensate is discharged to the cooling tower (Gregory Jacobs, personal communication). While published literature provides the average performance of the bioreactor as a control efficiency of 99%, CalEnergy's operating experience with this system finds that the efficiency can be reduced during times of extreme weather to approximately 50%. This is due to fact that overheating during the summer can damage the microbes and equipment; likewise excessive cold can cause the microbes to become less efficient in abating hydrogen sulfide. Heating and cooling systems are therefore used in order to attempt to achieve the optimal temperature for abatement to occur.

#### 2.2.3 Sparger with Biocide Abatement

The sparger system for BIOX process comprises distribution pipes with bubble diffusers/nozzles. The off-gas containing hydrogen sulfide from the condenser is transported and bubbled through the sparger system to the bottom of the cooling tower basin. The hydrogen sulfide contained in the off-gas is dissolved in the cooling tower water and converted to sulfate by reacting with the oxidizing biocides and the dissolved oxygen in the water. If an effective amount of an oxidizing biocide is maintained, the sparger system for BIOX process is expected to remove more than 90%

percent of the H2S in the non-condensable gases based on the sparger system utilized at CalEnergy's Leathers cooling tower (when emissions are measured from the shrouds). It should be noted that historical data from the Leathers sparger system has been evaluated by way of a conservative model, which has estimated an average abatement efficiency of 86% between May 7, 2014, to May 22, 2015. (However, as shown in the figure below, operational fluctuations can cause the removal efficiency to be a low as 50%, when measured by the model).

Figure 1 – Leathers Sparger Modeled Efficiency Results




## 2.3 Benzene Abatement Options

### 2.3.1 Regenerative Thermal Oxidizer

Similar to the use of RTO's for the abatement of $H_2S$ in NCG, the RTO oxidizes hydrocarbons (in the non-condensable gas) and supplemental propane (used to pre-heat the unit) to carbon dioxide and water vapor in an exothermic process to abate benzene from NCG (Imperial County Planning & Development Services Department 2011). The gases then flow through a caustic scrubber and venturi scrubber to remove $PM_{10}$ before discharging in a stack. The RTO is not feasible as small amounts of NOx, SOx, and $PM_{10}$, not present in the geothermal gas are discharged, being generated as a result of the process.

## 2.4 2.5 Particulate Matter Abatement Options

### 2.4.1 (Existing) Drift Eliminators

The only source of $PM_{10}$ at Elmore is from Total Dissolved Solids (TDS) in the cooling tower recirculating water. Steam condensate comes from the condenser and fills the cooling tower with steam condensate. The steam condensate carries TDS, including $PM_{10}$, into the cooling tower. Elmore currently uses drift eliminators to control $PM_{10}$ emissions. Drift eliminators are devices that remove water droplets, which contain dissolved solids, from the exhaust steam and return them to the circulating tower (Calpine Corporation 1998). For the retrofit project the TDS in the cooling tower will be unaffected by the installation of the back-pressure turbine; therefore, the current drift eliminators are deemed adequate for controlling emissions.

# 3 Step 2 and 3: Eliminate Technically Infeasible Options and Rank Remaining Control Technologies

**Eliminating Infeasible Options**

Table 3 includes a summary of control efficiencies and technologies. (CH2M Hill 2004). .As shown in the table, the regenerative thermal oxidizer (RTO) is not considered feasible for control of benzene emissions due to fact that more emissions will be created by the use of the technology than the emissions that are abated. That is, the uses propane to attain a combustion temperature of approximately 1500 degrees Fahrenheit, which results in combustion products of nitrogen oxides. Based on CalEnergy's RTO for Units 1 and 2 at Region 1 emission of nitrogen oxide can range from 14.5 lbs/hr (based on a source test on December 2010) which are in excess of the 0.103 lbs/hr of unabated benzene that are emitted from Elmore. **Given that RTO is considered technologically infeasible, no controls are being recommended for benzene emissions; and given that benzene is currently uncontrolled total emissions of benzene from the facility will be unchanged as a result of this project**.

The RTO could also be considered infeasible for hydrogen sulfide gaseous abatement as it produces additional emissions of particulate matter and sulfur dioxide in order to abate hydrogen sulfide. However the quantity of the emissions generated by the RTO unit cannot be definitely stated to exceed the emissions that are abated, therefore this option is not eliminated for hydrogen sulfide control based solely on technology performance.

**Ranking Remaining Options**

The rank of remaining control technologies (which have not been eliminated based on technology) based on average control efficiency is as follows:

For $H_2S$ condensate abatement,

1. BIOX (liquid, 98% efficient)
2. Bio-oxidation box (ox-box) (90.9% efficient)
3. Chemical Oxidation (the control efficiency for using only $H_2O_2$ has not been determined)

For NCG $H_2S$ abatement::

1. Bioreactor (99% efficient)
2. RTO (98% efficient)
3. Sparger system for (NCG, 90% efficient average)

Table 1. Control Technology Efficiencies & Feasibilities

| Parameter | Technology Alternative | Control Efficiency | Technology Feasible? |
|---|---|---|---|
| Sour Condensate Liquid ($H_2S$) | Ox-Box | 90.9% (3 year average)[1] | Feasible |
| | Chemical Oxidation | 40-70% (without iron chelate), 93-98% (iron catalyst + $H_2O_2$ combined system)[2] | Feasible |
| | BIOX (liquid) | 98% | Feasible |
| NCG ($H_2S$) | Regenerative Thermal Oxidizer (RTO)+caustic scrubber and venturi | ~98% but increases SOx, NOx and $PM_{10}$[4] | Not Feasible |
| | Bioreactor | 99% [5] | Feasible |
| | Sparger - system | 90% | Feasible |
| NCG (Benzene) | RTO | >98% but increases net emissions by increasing SOx, NOx and $PM_{10}$[4] | Not Feasible |
| | No Action | - | Feasible |
| Cooling Tower recirculating water (PM10) | Drift Eliminators (No Action) | >99%[8] | Feasible (& already installed) |

[1] Calculations based on data provided by CalEnergy

[2] Acurex 1980

[3] Nagl 1999

[4] Imperial County Planning & Development Services Department 2011

[5] Rodriguez 2013

[6] Based on Leathers data provided by Calenergy

[8] Salton Sea Unit 6 License California Energy Commission Amendment 1, 2004

# 4 Steps 4: Cost Evaluation of Most Effective Technologies

## 4.1 Cost Analysis

Table 4 contains summary of comparative cost analysis for $H_2S$ control technologies and the bases for these costs are included in Attachment A.

Table 4: Cost of Control Alternatives ($/ton)

| Parameter | Technology Alternative | Capital Cost | Annual Operating Cost | Abated Emission Rate (US ton/yrs) | Resulting Cost $/ton removal | Reasonable BACT cost from Agency |
|---|---|---|---|---|---|---|
| Sour Condensate Liquid ($H_2S$) | Ox-Box | $570,000 | $25,000 | 83.4 | **$2,247** | $14,230/ton |
| | Chemical Oxidation | $400,000 | $301,000 | 87.6 | $5,588 | $14,230/ton |
| | BIOX (liquid) | $600,000 | $250,000 | 89.9 | $5,145 | $14,230/ton |
| NCG ($H_2S$) | RTO | $3,350,000 | $639,185 | 186.7 | $7,495 | $14,230/ton |
| | Bioreactor | $2,000,000 | $131,702 | 188.6 | $2,968 | $14,230/ton |
| | Sparger | $200,000 | $150,000 | 171.48 | **$1,599** | $14,230/ton |

# 5 Step 5: Selection of BACT

**Selection of BACT**

For abatement of hydrogen sulfide in the condensate, the BACT cost analysis (in Table 4) found that while there was little difference in the abatement efficiencies of the technologies evaluated, the bio-oxidation box (ox-box) was the most cost effective for the control of hydrogen sulfide in condensate.

For the abatement of hydrogen sulfide emissions in the non-condensable gasses, the BACT cost analysis found that the sparger (with the oxidizing biocide) was the most cost effective for the abatement of hydrogen sulfide in the non-condensable gasses and this technology is recommended in favor of the bioreactor based on cost even though the bioreactor has slightly higher abatement efficiencies as the performance of both systems are subject to fluctuations based on operational conditions. Furthermore, the operational controls for the sparger (which is the addition of chemicals) results in a faster response in improving abatement than does the adjustment of temperature and other conditions needed to optimize the performance of the microbes in bioreactor. The sparger is therefore easier to operate in terms of controlling the abatement efficiency.

Attachment B provides examples of the sparger and bioreactor technologies already in use at CalEnergy, and it provides the conceptual arrangement of this equipment at Elmore). Final specifications for the equipment will be provided before issuance of the operating permit for the equipment.

**Estimating Post-retrofit Emissions**

Applying these technologies to the calculated post-retrofit control emissions (show in Table 1.a) results in average estimated post-retrofit emissions of 6 lbs/hr of hydrogen sulfide from the brine (as shown in

Table 5). Given that the expected emissions are calculated and the efficiency of the equipment will fluctuate, maximum emissions at any given time are expected to fluctuate but (as demonstrated herein) emissions will not exceed the current historical actual emission rates (shown in Table 2). Post-retrofit hydrogen sulfide emissions also comply with the permit requirement of 22.8 lbs/hr permit limit hydrogen sulfide.

Table 5 – Post-Retrofit Abated H2S Emissions

| Post-Retrofit Emissions | Condensate Abated with Bio-oxidation Box | NCG Abated with Biox (gas) system | Total expected emissions |
|---|---|---|---|
| Unabated Maximum $H_2S$ Emissions (lbs/hr) | 20.94 | 43.50 | |
| Average Abatement Efficiency (%) | 90.90% | 90% | |
| Expected Average Emissions ( lbs/hr) | 1.91 | 4.35 | **6.26** |
| Expected Average Emissions( tons/year) | | | **27.27** |

# 6 Conclusion

The conclusion of this analysis was that:

- **Hydrogen Sulfide Emissions Control**: Control technologies will be installed to maintain emissions within the range of historical actual emissions for hydrogen sulfide by installing a bio-oxidation box on the condensate and a sparger system for the non-condensable gas stream. Furthermore the technologies selected will allow emissions to be less than or equal to historical actual maximum emission and the historical actual average emissions. Emissions will also be less than the permit limit for the facility.
- **Benzene Emissions Control**: No technology was identified that was technologically practical for controlling benzene emissions; therefore no change/reduction in unabated emissions of benzene is recommended and no changes in emission rates are expected.
- **Nitrogen Oxide & (non-benzene) VOC Emissions**: Given that the modification does not affect nitrogen oxide & (non-benzene) VOC emissions (which result from diesel and gasoline engines at the facility) a BACT analysis was not performed for these emissions.
- **Particulate Matter Emissions**: Given that the modification does not affect particulate matter emissions from the cooling tower recirculating water, or from engines at the facility) a BACT analysis was not performed for these emissions.

In conclusion, additional abatement equipment is proposed herein for this project and emissions levels will not be increased by the project.

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ATTACHMENT A - BACT Cost Worksheets

## Attachment A – BACT Costs Summaries

| | Condensate H2S Abatement Technologies | | | Non-condensable Gas H2S Abatement Technologies | | |
|---|---|---|---|---|---|---|
| | Ox-Box | Chemical Oxidation | BIOX (liquid) | RTO | Bioreactor | Sparger |
| Capital Costs | $570,000 | $400,000 | $600,000 | $3,350,000 | $2,000,000 | $200,000 |
| Annual O&M cost (Note B) | $25,000 | $301,000 | $250,000 | $639,185 | $131,702 | $150,000 |
| Source testing | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 |
| Capital Recovery Cost (see Note A) | $81,155 | $56,951 | $85,427 | $476,965 | $284,755 | $28,476 |
| Annualized cost | $156,155 | $407,951 | $385,427 | $1,166,150 | $466,457 | $228,476 |
| **Total Annualized Cost with 20 % Contingency** | **$187,386** | **$489,541** | **$462,512** | **$1,399,380** | **$559,748** | **$274,171** |
| **Abated Emission** | | | | | | |
| pre-abatement, lbs/hr | 20.94 | 20.94 | 20.94 | 43.50 | 43.50 | 43.50 |
| post-abatement, lbs/hr | 1.91 | 0.94 | 0.42 | 0.87 | 0.44 | 4.35 |
| abated, lbs/hr | 19.04 | 20.00 | 20.53 | 42.63 | 43.07 | 39.15 |
| abated, tons/yr | 83.39 | 87.61 | 89.90 | 186.72 | 188.62 | 171.48 |
| **BACT, $/ton abated** | **$2,247** | **$5,588** | **$5,145** | **$7,495** | **$2,968** | **$1,599** |
| BACT Threshold, | $14,230 | $14,230 | $14,230 | $14,230 | $14,230 | $14,230 |

BACT Threshold is based on SCAQMD 2016 Update - using SOx Threshold for H2S Threshold - see Note B

**Note A - Capital Recovery Costs**

| | |
|---|---|
| Equipment life | 10 |
| Interest rate | 7% |
| **Capital recovery factor** | **0.1423775** |

The formula for the capital recovery factor is:

$$CRF = \frac{i * (1 + i)n}{(1 + i)n - 1}$$

where:

CRF = capital recovery factor

n = economic life of equipment

i = real interest rate

**Note B: Costs have not been broken down for maintenance.**

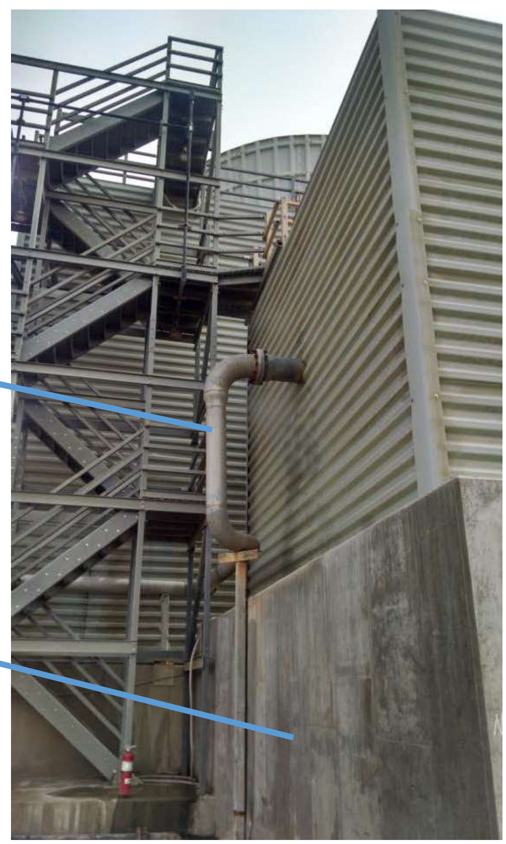
ATTACHMENT B – General Arrangement Selected Technologies

**Figure B.1- External Bio-Oxidation Box Proposed for Abating H2S from Condensate**

**(Southern side of) external bio-oxidation box** for Vulcan facility is located adjacent to the Vulcan cooling tower rather than inside the cooling tower. A similar external box will be built for Elmore.

**Figure B.2 –**

**Northern side of Vulcan external ox-box**



Condensate enters the box

Condensate falls into the ox-box basin, after abatement by microbes. The abated condensate is routed to the basin of the main tower.

**Figure B.3 - Bio-oxidation Box Plan View - (Design will be similar to Unit 3 & 4 shown below)**

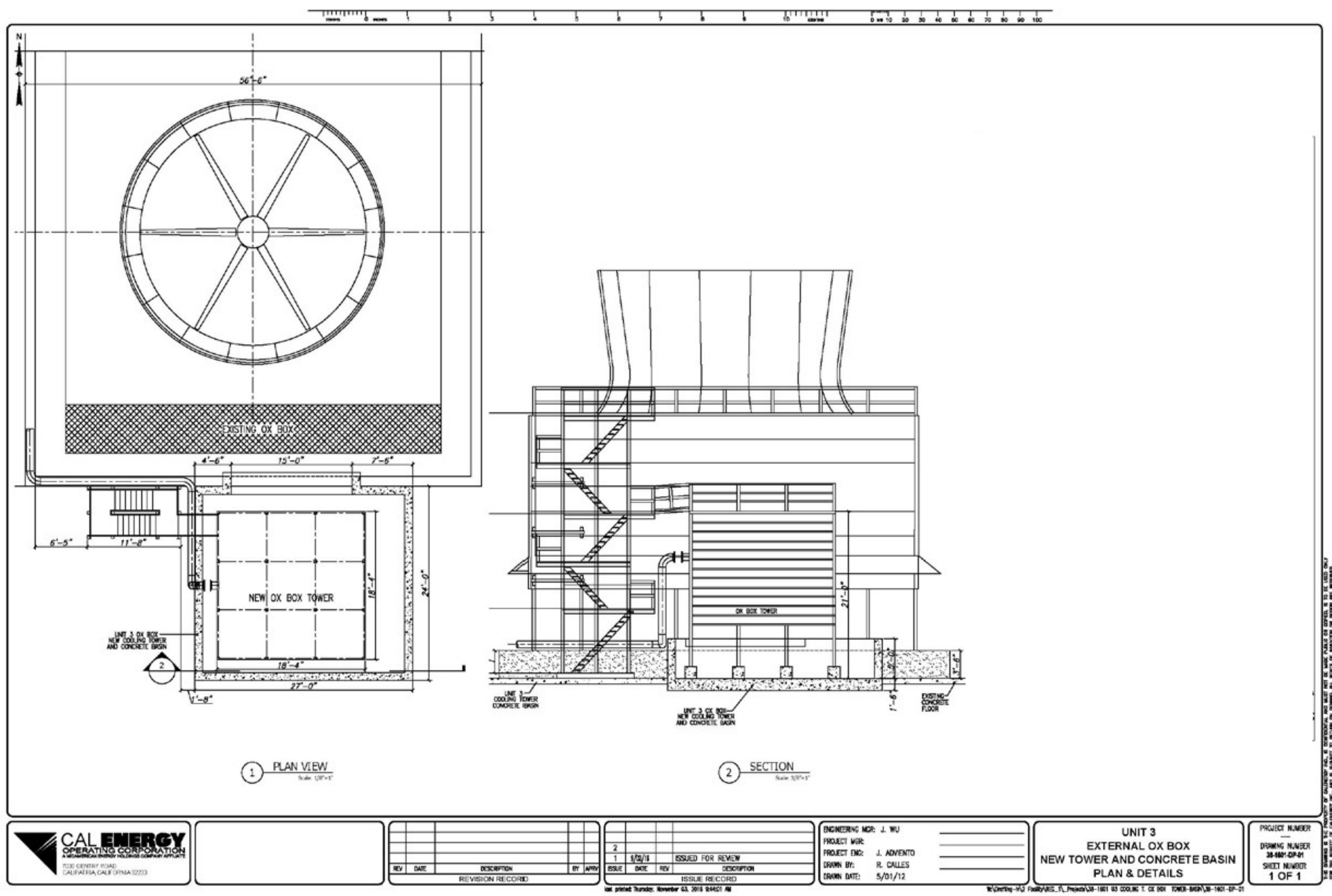


**Figure B-4 - Sparger System for Abating H2S Emission in the Non-condensable gasses**


Piping for Sparger system at Leathers facility. A similar system will be installed at Elmore.


Chemical feed tank for sparger system at Leathers. Chemicals will be used at Elmore but feed system may differ depending on chemical used.

**Figure B-5 - Plan view of Sparger Headers in Cooling Tower Basin**

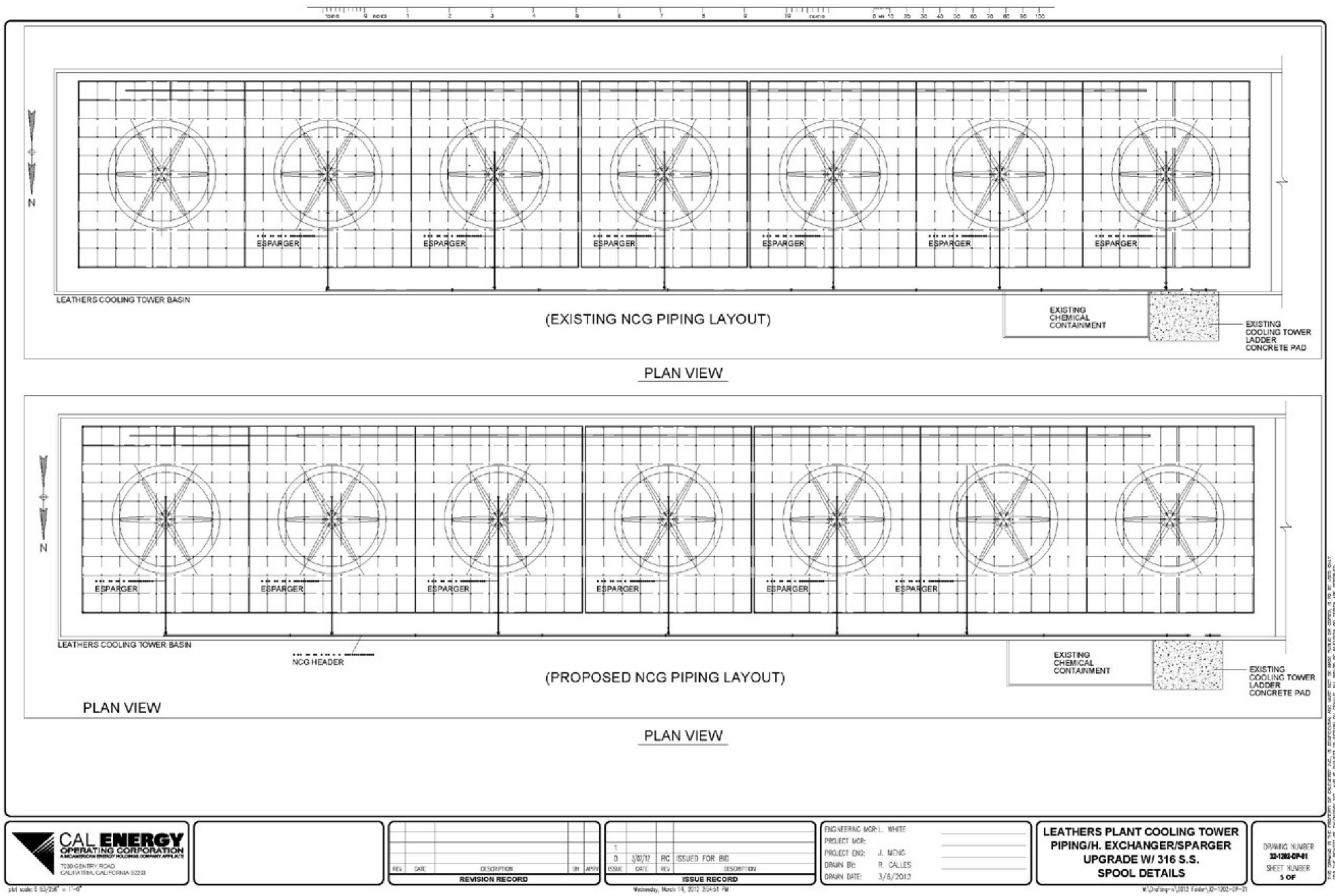
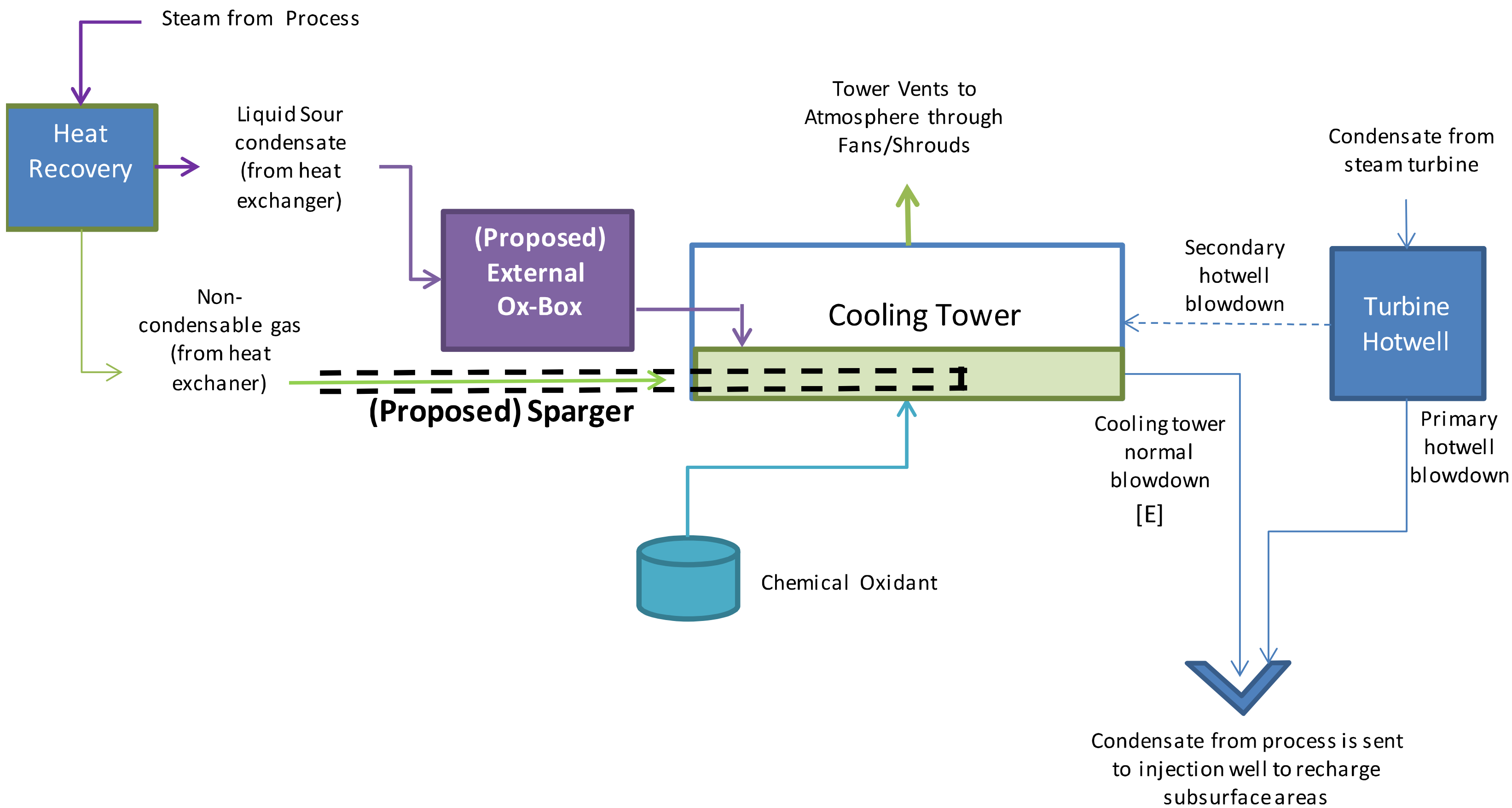


**Figure B.6 - Conceptual Arrangement of Proposed External Ox-Box and Sparger for H2S Abatement at Elmore**




Note that during short-duration maintenance of the Ox-box, condensate will be routed to the cooling tower basin for abatement, and additional chemicals will be used to control emissions (as described in the application letter dated 1/3/17).

The final design information will be provided prior to the issuance of a permit to operate.