

Wholesum Farms Arizona LLC,  
2986 W Frontage Rd  
Amado, Arizona, 85645

Wholesum is a third-generation family farm that has an 80 year tradition of growing safe, wholesome, healthy food. The family pioneer, Miguel Crisantes Gatzionis, migrated from Greece to Mexico in the 1920s. Don Miguel started farming in Sinaloa, Mexico in 1930. Since then, three generations of the Crisantes family have grown and imported some of the western hemisphere's finest fresh organic vegetables and fruit, including: tomatoes (cherry, grape, roma and on the vine); cucumbers; bell peppers; eggplant; squash and zucchini. The Wholesum fruit and vegetables are all certified organic according to the stringent standards of the USDA National Organic Program. In addition, the fruit and vegetable varieties grown by Wholesum all come from traditional plant breeding methods. Their evolution in this business has taken them from field grown product to growing crops under glass greenhouses using sophisticated state of the art technologies, discovering sustainable and responsible ways to grow a diversity of its healthy, organic fruits and vegetables.

"Wholesum Farms Arizona, LLC." is the site in Amado Arizona USA, located in the Santa Cruz County, and was established to expand the line of Organic Tomatoes that were sold to the fresh marketplace. Using the sophisticated state of the art facilities mentioned before. The project broke ground September 2011 and all infrastructures were completed by July 2012 with 12 acres of greenhouses. Tomato production and sales begun in November 2012. Wholesum Farms Arizona, LLC. operates under the SIC code 0182, food crops grown undercover. The facility has one site only of 24 acres, 12 from the original project back in 2012 and two expansions of 6 acres each, the first one in 2015 and the second on 2019.

## Boilers

Wholesum Farms Arizona, LLC. operates two Chrone very efficient natural gas-fired boilers, in a closed loop heating system. Boiler 1 and Boiler 2, both model BXL108 with a maximum capacity of 36.85 MMBTU. The main use of these boilers serves two purposes; regulate the temperature inside the greenhouses allowing year round production and the second is to enhance the photosynthesis of the plants maximizing fruit production. Boiler 1 was included in the original phase in 2012, and Boiler 2 was recently added in 2020 for the last expansion. The combustion in these units is very efficient in the sense that a lot of air is injected into the burner to avoid the production of CO (Carbon Monoxide) maximizing the CO<sub>2</sub> (Carbon Dioxide) in the emission instead. Then the exhaust gasses are captured and vented into the greenhouses

to enhance the photosynthesis process maximizing production. This process is only possible during day light when the plants are active. Heat is stored in the form of water in an insulated 30 ft water tank, the greenhouse withdraws those calories in the form of water whenever there is

heat demand from the greenhouse through two main systems; a radiator (heat exchanger) attached to a fan and through our grow pipe which provides radiant heat to our plants and growing media. Exhaust gasses will be vented directly to the exterior when there is no sun light. This is the reason why in our regular operation as a good practice we burn gas during day hours only, unless the heat demand is so big that the hours of sunlight aren't enough to satisfy the heat demand. Since 2012 this happened only after our last expansion for a few months because we had only one boiler in line. Once the second boiler was installed, this was corrected, now we have enough capacity to avoid this issue. If sunlight is present then the gases will be vented into the greenhouse in some cases the leftover gases, not consumed by the crop, will be vented out through the structural openings. Why in some cases, our facility is an Ultra Clima facility, the only one in Arizona, and is different from other facilities in the sense that it has less structural openings and it has the ability to completely close all vents to recirculate the air in the greenhouse.

### Electric Generators

Wholesum Farms Arizona, LLC. operates 3 emergency Cummins 500KW generators to provide electric power to the facilities during emergency situations whenever the utility company is not able to provide the service, normally during the monsoon season. Emissions are controlled by good operating practices, turning on for 15 minutes every week, a service visit is scheduled every quarter, four visits per year. Historically the generators had operate for less than 65 hours per year.

### Air Burner

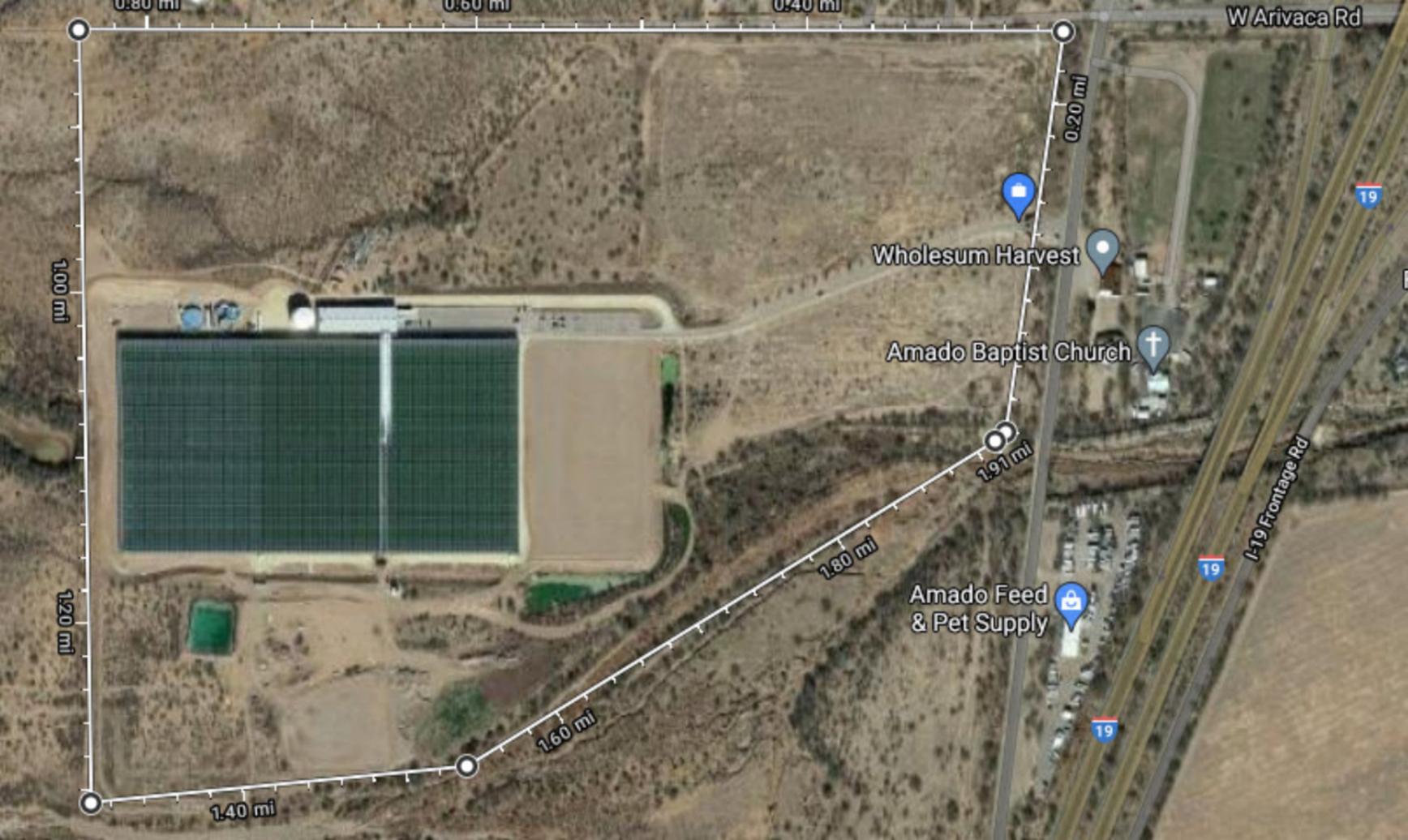
Burner 1 is an Air curtain incinerator designed primarily as a pollution control device. Wholesum uses this equipment to incinerate all the green waste from our crops, including all the weekly trimmings and fruits and the whole plants at the end of the crop cycles. Using a diesel engine driven fan, these machines generate a curtain of air with a very particular mass flow and velocity. This curtain of air acts as a trap over the top of an earthen trench or thermo-ceramic lined FireBox. Our green waste is dumped into the trench or FireBox with some wood normally from broken pallets and then ignited (usually with a small amount of diesel) just as you would light any other pile of wood you intended to burn. Once the fire has gained strength the air curtain is turned on. The air curtain traps most of the smoke particles and causes them to re-burn under the air curtain where the temperatures may exceed 1,800° F. These machines do not inject any fuels into the fire, the fire is sustained only by adding more wood and green waste. The air from the air curtain is not heated. The only fuel used in the continuous operation is that of the diesel engine driven fan.

### Information Needed for Dispersion Modeling

- Emission Rates: maximum 1-hour emission rates, 24-hr average emission rates and annual average emission rates for each emission source.
- Coordinates of Emission Sources: based on the Application, ADEQ determinates the locations of sources as shown the picture below (pins). Please confirm them.
- Heights of Structures: structures include greenhouse, buildings and tanks (see shaded blue structures in the picture)



- Property Boundary or Fenceline: provide a map showing the property boundary or fenceline. Are there any existing measures to preclude the public's access to the facility?
- Operating Scenarios:
  - Are the three generators used for emergency purposes? Typical annual operating hours?
  - Are boilers used for nighttime/winter season only? Are the exhaust gases from the boilers vented into the greenhouse to enhance the photosynthesis process? If yes, does it indicate that the exhaust gases from the boilers are emitted to atmosphere via the structural openings in the greenhouse rather than a stack? Please clarify.



8 ft

8 ft

30 ft

20 ft

22 ft