3.5 hour run on Annatto (Bixa orellana) seed, to determine availability to extract orange red condiment/food coloring. The extract is used typically in food industry for coloring, and has a nutty, sweet, peppery flavor terpenes. The color from Annatto is derived from carotenoid pigments (bixin and norbixin) from reddish waxy coating on the seeds. Typical acquisition of this condiment/coloring is from grinding, or extraction using hot water, oil, or fat (lard), which is then added to the food. This extraction can be done by supercritical CO2, and by the spinning disc reactor (for large industrial continuous extraction). Annatto is considered to be exempt of certification by the United States Food and Drug Administration because it is considered a natural food dye (also consider spirulina as green/blue coloring).

### Hardware System Setup Description

Infinity Supercritical 10L Vertical Extraction, 40:1 Gearbox, TriboTube Down Tubes (for electrostatic precipitation), Flow Bar, Small Heat Exchanger, 4 ft Botanicals Basket, Insulated Chiller Lines, Chiller set to 30 F, PID's, Stock Valves, Check Valve, PID Controlling Pressure in Reservoir (set to 715 psi).

### Test Summary

Quick rise in pressure. Chiller running higher than usual (about 52 F), but settled down to normal after 30 min. EV heat took 35 minutes to reach 89 F (normally takes 20 minutes). Overall machine stabilized and ran very well with no stalls. The resulting liquid can be sold as an extract, or dehydrated for powder, or further refined with Fast Filter to remove wax, and sold as concentrated extract, or further post processed with a distillation system for isolate (medicinal or vapes).
Annatto Seed 3.5 Hour Run

Annatto (Bixin) Seed
Annatto Seed 3.5 Hour Run

Annatto (Bixin) Seed