

# Presentation for The Pesticide Stewardship Alliance Conference

Presented by: Fred Gabriel

Clean Harbors Environmental Services



#### **Waste Mix**

RCRA Regulated

Non-RCRA Regulated

Pesticides

Liquids

Solids

Gases

Metal-bearing wastes

Oxidizers

**Fertilizers** 

Bases

Acids

Flammables



## Why Incineration?

- Destruction of organic molecules
- Save land fill space through volume reduction
- Air discharges can be controlled
- Can destroy even the most hazardous of materials effectively
- Waste reduction is immediate



### **Incineration Process Is:**

#### **Retention Time**

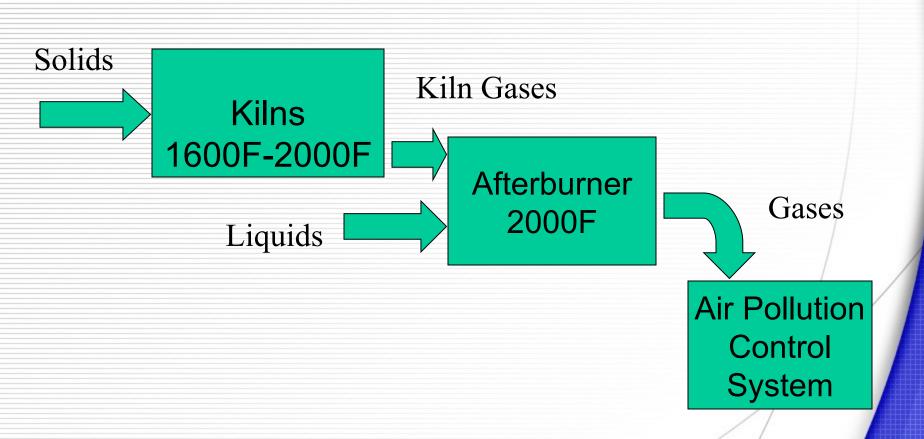
Flame



**Turbulence** 



#### **Incineration Process**























Step #3 – Bar code labels are scanned to bring up manifest information previously entered in our Waste Information Network (WIN). This identifies necessary PPE for sampling the material inside each drum, as well as additional handling concerns.



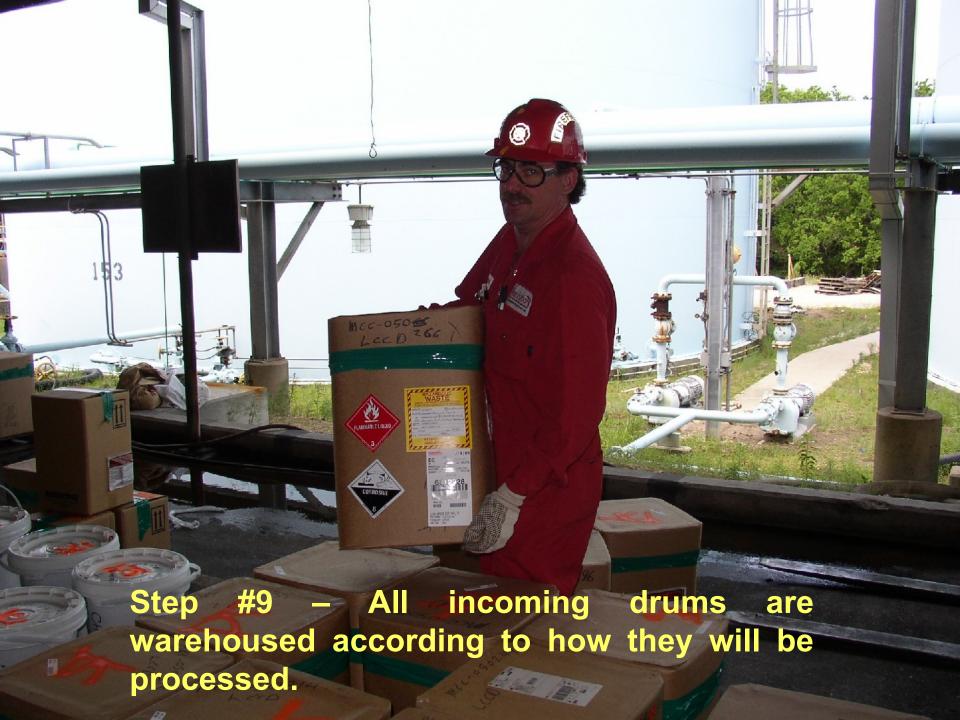






Step #7 – Analytical results are entered real-time into a tablet PC in constant communication with our Waste Information Network.

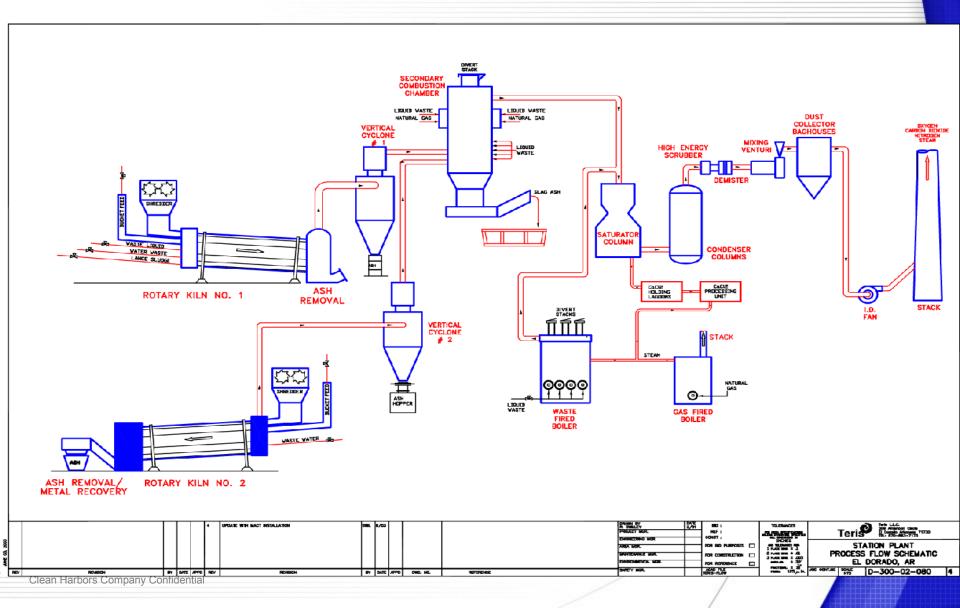












#### CLEAN HARBORS DEER PARK, L.P. TRAIN I & II INCINERATION SYSTEMS VOLUMETRIC FLOW RATE: 57,250 ACFM (MAX) COOL WET GAS **4** FEED RATE: 13,611 LBS/HR \* KILN TEMP (TYP): 1900'F HEAT RATE: 80MM BTU/HR (MAX) + + > > > PEED PIT **VENTURI** CROSS-OVER DUCT SCRUBBER B SATURATOR WESP WESP TRAIN\_I AFTERBURNER CONDENS CONDENS DENOX UNI ELEVATOR LODDBY 3.6 KILN DROP-OU HOT WET GAS FEED RATE: 12,599.5 LBS/HR \* OPERATING TEMP (TYP): 2200°F HEAT RATE: 100M/M BTU/HR (MAX) TRAIN I I. D. FAN ASH BIN TRAIN I RCRA / TSCA PERMITTED ASPIRATION DRUMS AND TZIOH GAS CYLINDERS GLOVE BOX NO.1 GLOVE BOX NO.2 GLOVE BOX NO.3 STATION A & B SHREDDER FEED RATE: 10,778 LBS/HR + KILN TEMP (TYP): 1400°F HEAT RATE: 33.5MM BTU/HR (MAX) NOTE: DENOTES PERMITTED WASTE FEED RATES (MAX) HOT DUCT DROP-OUT CHAMBER FEED RATE: 12,681 LBS/HR + OPERATING TEMP (TYP): 2200°F HEAT RATE: 60MM BTU/HR (MAX) MIX BUILDING ASH BIN VOLUMETRIC FLOW RATE: 60,000 ACFM (MAX) <u>TZIDH</u> HOT DUCT SKIP HOIST COOL WET GAS ∃ ∃ SHREDDER CONVEYOR SOUTH BURNER VENTURI SCRUBBER WESP WESP SATURATOR MIX PIT NORTH CONDENS CONDENS BURNER DENOX UNIT ELEVATOR 4.4 KILN TRAIN II AFTERBURNER AND DROP-OUT CHAMBER ELEVATOR FEED RATE: 17,807 LBS/HR • KILN TEMP (TYP): 1900°F HEAT RATE: 120MM BTU/HR (MAX) STACK TRAIN II I. D. FAN ASH BIN TRAIN II

RCRA PERMITTED















