F. East Helena

1. Background - In March of 1978, one area within East Helena, Montana was declared as non-attainment for TSP. An inventory of all sources of particulate within a one-mile radius of the Pacific Street monitor was undertaken by PEDCo Environmental using a micro-inventory for sources of pollution in and around the non-attainment area.

2. Emission Inventory - The table below summarizes the data from the PEDCo micro-inventory report (Appendix E-1). The emission inventory is based on 1977 data.

TABLE 5-19

EAST HELENA PARTICULATE EMISSION INVENTORY (1977)

Source Category	Particulate Emissions (tons/yr)	
Point Sources	170	170
Combustion		
Residential fuel	1.1	
Commercial Industry fuel	1.8	
Railroad/Aircraft	0.6	
Auto exhaust	3.8	7.3
Industrial Process	16.0	16.0
Fugitive Dust		
Railroad Yards	10.2	
Commercial Streets	96.2	
Unpaved Roads	132.7	
Cleared Areas	1.1	
Construction	153.8	
Unpaved parking lots	1.2	395.2
TOTAL		588.5

3. Air Quality Data - The hi-vol results for the site are summarized in Table 5-20 below.

TABLE 5-20

EAST HELENA TSP (ug/m^3)

212 E. Pacific Street	1977	1976
AGM	66.7	74.9
Maximum	192.0	187.
2nd Highest	156.	176

Correlation of the emission data with 1977 air quality data using the microinventory technique shows that the point sources are responsible for 2.4 percent of ambient concentration of 0.1 ug/m^3 (annual basis) whereas the area sources contribute 29.9 percent (26.4 ug/m^3). Background is 41.7 percent (27.6 ug/m^3).

3. Control Strategy Demonstration - The results of that inventory indicate that of the area source TSP contribution, 50.6 percent is contributed by construction activities which have since ceased. Industrial contributions to the area source concentration of 26 ug/m^3 is approximately 1.7 percent. Applying these percentage reductions for construction to the high TSP reading of 1977 (6617 ug/m^3) which is the most recent data, would result in a concentration of 66.7 - 13.4 = 53.3 ug/m^3 on an annual basis.

   The construction activities actually began in the early fall of 1976 and proceeded through 1977, with final construction completed in 1978.

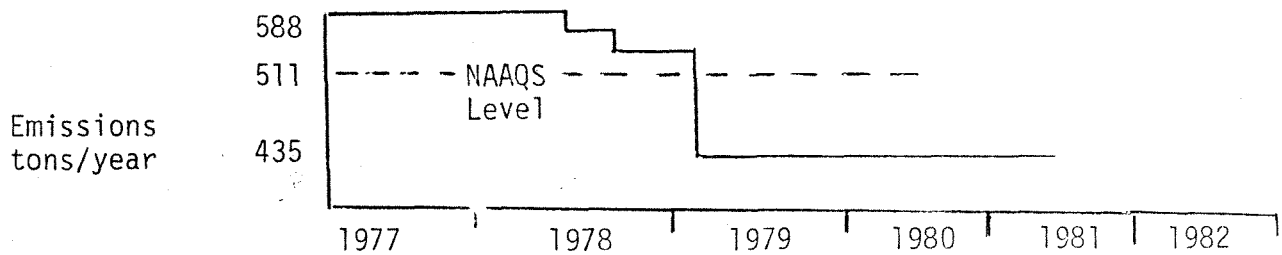
   This reduction alone will bring the non-attainment area into compliance with national ambient air quality standards (NAAQS) since it reduces the annual concentration below the 60 ug/m^3 guideline.

   However, to be certain that TSP standards are not exceeded, ASARCO shall proceed with their attainment plan, which is outlined below.

   ASARCO has agreed to take steps consistent with Montana airborne particulate rule, discussed at length previously, to reduce TSP emissions from slag piles at its East Helena smelter. ASARCO has agreed to "spray the piles with water or other coating material periodically as needed to minimize airborne particulate matter."

   The compliance schedule and application for SIP revision are included in Appendix E-7.

4. Reasonable Further Progress - The graph below shows the effects of the control strategy on emissions.



5. Alternatives - As the necessary actions to achieve the standards were underway, alternative considerations were limited to whether the in-progress activities were sufficient.