



State of Oregon  
Department of  
Environmental  
Quality

# JOHN DAY PARTICULATE STUDY

**1997 - 2000**

Conducted By

The Oregon Department Of Environmental Quality

Laboratories And Applied Research Division

Air Quality Monitoring Section

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## **1. PURPOSE:**

In the early 1990s the Oregon Department of Environmental Quality (ODEQ) Air Quality Technical Services Section developed a system to evaluate areas in Oregon regarding their potential to exhibit air quality problems. This evaluation system used information such as pollution sources, population, average temperatures, elevation, topography, and wind flow to determine whether a location was likely to develop air quality problems. Based on this system a PM<sub>10</sub> survey was proposed for the John Day and Canyon City area of central Oregon. Of the 97 cities considered in the original evaluation matrix, John Day ranked fifth for its potential to exceed National Ambient Air Quality Standard (NAAQS) for PM<sub>10</sub>.

Additionally, in 1997 the US EPA promulgated a new fine particulate standard based on particles 2.5 microns or smaller (PM<sub>2.5</sub>). With this new standard in mind, a PM<sub>2.5</sub> sampler was included in the study. Another fine particulate monitor, a nephelometer, was also part of the study. At the time the only air quality data available for the John Day area was that which had been generated by a nephelometer operated in the springtime as part of the Forest Health Network, a joint DEQ-US Forest Service project. No other air quality studies have been conducted in this area.

## **2. HOW ACCOMPLISHED:**

Funding for this project was from DEQ AQ resources allotted for the investigation of areas in the state determined to have the potential for air quality problems. The most recent study of this type had been conducted in Prineville.

### **Multi-site PM<sub>10</sub>/PM<sub>2.5</sub> Survey**

Preliminary work began in late 1997 with a search of the area for potential sampling locations. This search led to four sampling locations, 2 in John Day and 2 in Canyon City. The sites in John Day consisted of a primary site at the centrally located Blue Mountain Junior High School, and a survey site located on the west side of town near a mill. In Canyon City, approximately two miles south of John Day, two survey sites were located; one on the north end of town and one to the south. In selecting the survey sites local citizen input was considered concerning where the highest impacts might occur, as well as the local terrain and our own expertise garnered from similar studies. A complete description of the site search and the four sampling sites can be found in Appendix A.

All sites were equipped with a single low volume (LV) PM<sub>10</sub> survey sampler. A single stage impactor inlet is used to allow only particles 10 microns or smaller in size to reach the filter media. Particulate is collected on a 47-mm quartz filter.

The primary site at the Blue Mountain Junior High School had a LV PM<sub>2.5</sub> sampler as well as the standard LV PM<sub>10</sub> sampler. The LV PM<sub>2.5</sub> sampler uses a 2 stage impactor inlet to collect particles 2.5 microns or smaller in size on a 47 mm teflon filter. A nephelometer was also installed at this site. A nephelometer is a continuous fine

particulate monitor using light scattering to detect very small suspended particulate. It is particularly sensitive to smoke. Continuous data from the nephelometer is useful for determining the hour by hour changes in the fine particulate levels and also allows for the estimation of PM levels on days between scheduled filter sampling events.

All the particulate samplers operated on the regular EPA 1 in 6 day schedule, running from 0000 Hrs. to 2400 Hrs (midnight to midnight). The nephelometer was running continuously.

All of the PM sampling equipment used during the survey is classified as “non-reference method”. The US EPA designates samplers and monitors as “reference or equivalent” methods based on results of an extensive testing regime. Only reference or equivalent samplers can be used to make measurements for comparison against the national ambient air quality standards (NAAQS). These more capable, expensive, and complicated reference method samplers were not used during this study, as the purpose of this survey was to locate a representative fine particulate site and to provide informational data only on the area’s *potential* to exceed NAAQS for PM<sub>10</sub>.

Figure 1 below illustrates the chronology of events over the length of the study. The first samples were collected on 12 December 1997. This report includes data up to the end of July 2000

BM = Blue Mt. JHS                      AFS = State of Oregon Adult and Family Services  
 NCC = North Canyon City          SCC = South Canyon City

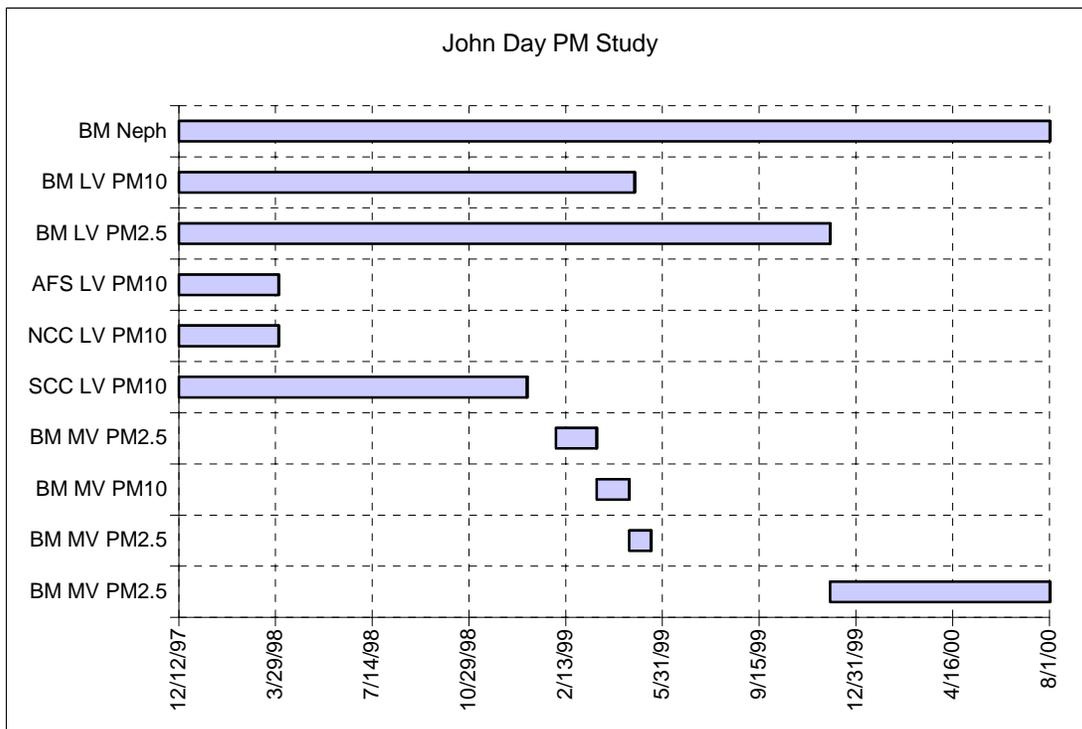


Figure 1

## Long-term Monitoring and Sampling

At the conclusion of the multi-site survey (January 1999) a single representative site was selected. The site selected was the Blue Mountain Junior High School. The project then turned to the long-term collection of particulate data from this representative site. The nephelometer had been operating at this location since the beginning of the survey project. During the next 1½ years it continued to collect data from this location. We now have 2½ years of continuous fine particulate data from John Day. In addition, we continued to collect PM<sub>10</sub> & PM<sub>2.5</sub> data from the site using the LV and MV samplers.

Beginning in February 1999 a more capable sampler, the ODEQ Medium Volume (MV) sampler, was installed very near the Blue Mt. Site. Because of space and noise constraints the original location at the school was not suitable for the MV sampler. The new location was only 75 feet from the original spot. The PM<sub>10</sub> and PM<sub>2.5</sub> LV samplers were moved to the same location as the MV sampler. The MV sampler was installed to verify the performance of the LV survey samplers that had been used at the school and at the other survey sites.

As mentioned above the LV PM<sub>10</sub> survey samplers are not reference method devices and their performance only approximates that of a reference sampler. The ODEQ MV sampler is an EPA approved Reference Method sampler for PM<sub>10</sub>. For the measurement of PM<sub>2.5</sub> it is equipped with a special PM<sub>2.5</sub> inlet (URG cyclone). This inlet does not make the MV sampler a reference method for PM<sub>2.5</sub>, but testing at a number of locations has shown that this sample/inlet combination generates results that are in good agreement with a federal reference method (FRM) PM<sub>2.5</sub> sampler.

In December 1999 the LV samplers were permanently replaced with a PM<sub>2.5</sub> MV sampler at the Blue Mt. site. That sampler has been collecting a PM sample every 6<sup>th</sup> day since then.

### 3. FORECASTING:

It is common practice during PM surveys to attempt to forecast stagnant conditions, in an attempt to focus the sampling onto days when pollution levels are expected to be elevated. For this survey some additional samples were collected, beyond the scheduled number, when weather conditions indicated the potential for pollution buildup, but generally the standard 1 in 6 schedule was followed.

### 4. LOCATION OF SAMPLING SITES:

<u>Site</u>	<u>Equipment</u>
Blue Mountain Junior High School 116 NW Bridge St. John Day, OR 97845 Site #12-13-004	Nephelometer, LV PM <sub>10</sub> /PM <sub>2.5</sub> (Dual inlet)

Oregon Adult and Family Services Div.      LV PM<sub>10</sub> sampler only  
725 W. Main St.  
John Day, Oregon 97845  
Site #97-12-001 (Survey site number)

North Canyon City residence                      LV PM<sub>10</sub> sampler only  
341 N Humbolt St.  
Canyon City, Oregon 97845  
Site #97-12-002

South Canyon City residence                      LV PM<sub>10</sub> sampler only  
146 W. Izee St.  
Canyon City, Oregon 97845  
Site #97-12-003

A complete description of the sampling sites, including photos, can be found in Appendix A.

## **5. QUALITY ASSURANCE & QUALITY CONTROL:**

### **Precision**

No duplicate LV PM<sub>10</sub> or LV PM<sub>2.5</sub> samplers were operated during this study for the purpose of collecting precision data. These types of samplers and inlets have been used in a number of recent studies and their performance is believed to be well known.

In December of 1998, before the start of the John Day study, a test of 5 lpm and 15 lpm PM<sub>2.5</sub> survey inlets was conducted at the DEQ laboratory in Portland to determine the performance of those inlets. The purpose of this testing was to determine the precision of this group of inlets and also to compare the accuracy of the survey method against a Federal Reference Method (FRM) PM<sub>2.5</sub> sampler, the R & P Model 2025. This FRM PM<sub>2.5</sub> sampler is currently in use throughout the state. Results of that test can be found in Appendix B.

Overall, the testing showed that the survey inlets consistently collect slightly more particulate than the FRM PM<sub>2.5</sub>. The precision comparison showed a standard deviation to be acceptable at about 2 ug/m<sup>3</sup> across the group. To be able to compare particulate levels at different sites with these survey samplers it is important that they all perform similarly.

### **Accuracy**

In addition to the comparison testing against the PM<sub>2.5</sub> FRM mentioned above, in February, 1999 a MV PM<sub>2.5</sub> sampler was added to the benchmark site at the Blue Mountain Jr. H.S. to further verify the accuracy of the LV PM<sub>2.5</sub> sampler running there.

Other QA/QC activities included the monthly review of the operation of the John Day network by staff from the DEQ Lab. Sampler airflow was audited monthly with calibrated, NIST traceable flow orifices. All PM filters were handled using standard laboratory methods for processing and reporting.

## 6. Results:

All of the data collected during this study can be found in Appendix C of this report.

### Quality Control

All of the precision data collected during the testing of the survey inlets at the DEQ Lab can be found in Appendix B. No duplicate sampling was done in John Day for the purpose of developing precision statistics for this study.

The accuracy of the PM<sub>2.5</sub> survey sampler at the Blue Mountain site is shown in the graph below (figure 2). This is the comparison between the LV PM<sub>2.5</sub> survey sampler and the co-located MV PM<sub>2.5</sub> sampler. This is excellent agreement between the two methods. In general, we have found that the survey samplers collect more particulate than the MV PM<sub>2.5</sub> sampler, however in this case in John Day the survey samplers collected slightly less.

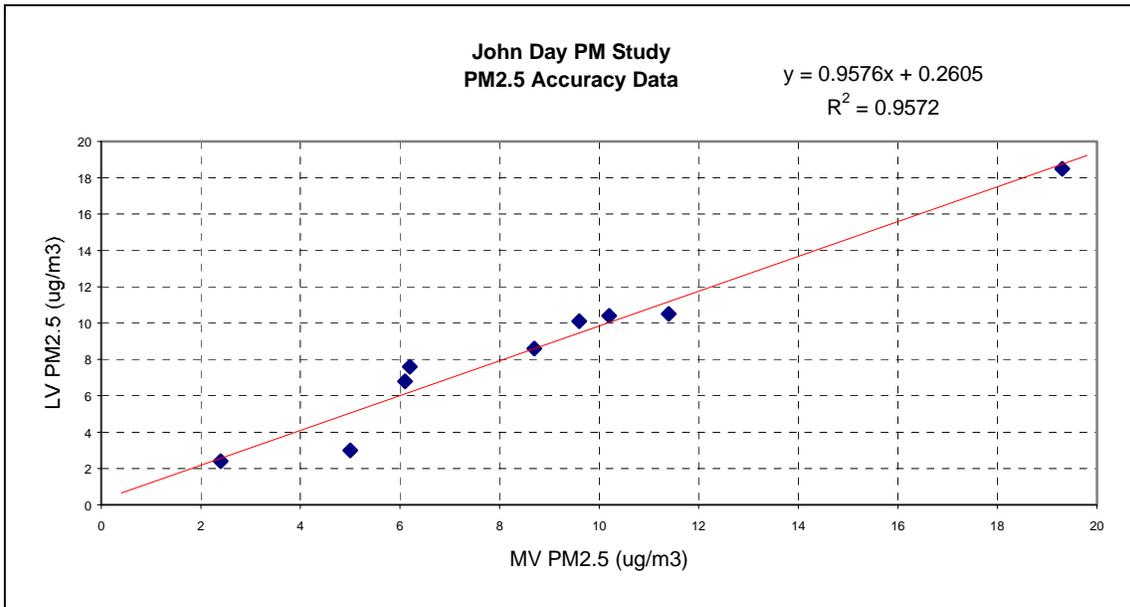


Figure 2

An attempt was made to compare the performance of the LV PM<sub>10</sub> sampler with that of the MV PM<sub>10</sub> reference method sampler, however due to equipment and operator problems only a few questionable data points were collected. The LV PM<sub>10</sub> survey data for this project remains invalidated.

## Multi-site PM<sub>10</sub> Survey Results

The four survey sites collected data from 12/12/97 until 3/25/98. Figure 3 below is a plot of those sampling results. A complete listing of the survey data can be found in Appendix C of this report.

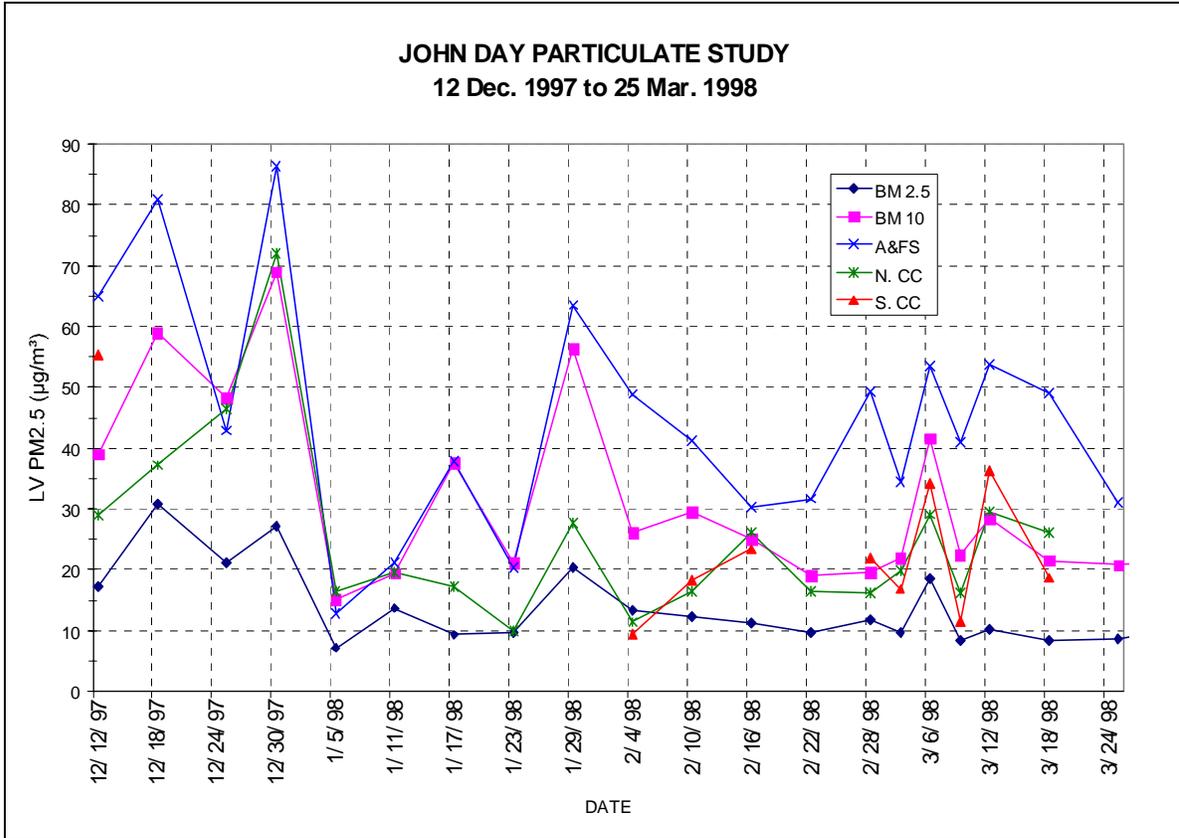


Figure 3

For much of the study the site at the Adult and Family Services office generated the highest PM<sub>10</sub> values. Consistently in second place was the site at the Blue Mt. JHS. The north Canyon City site consistently had the lowest values.

At the end of the 4-month multi-site survey the results were reviewed and it was decided to continue the survey at only 2 sites, Blue Mt. JHS and south Canyon City. The survey site at the Adult & Family Services was believed to have been directly impacted by an adjacent gravel road and parking area. Even though its measured PM<sub>10</sub> levels were the highest it was not thought to be representative of the area. The south Canyon City site was retained as it was close to the population center of the town and consistently higher than the NCC site.

For the next 8 months LV PM<sub>10</sub> samples were collected at the 2 remaining sites. The results of that sampling are shown in Figures 4 and 5.

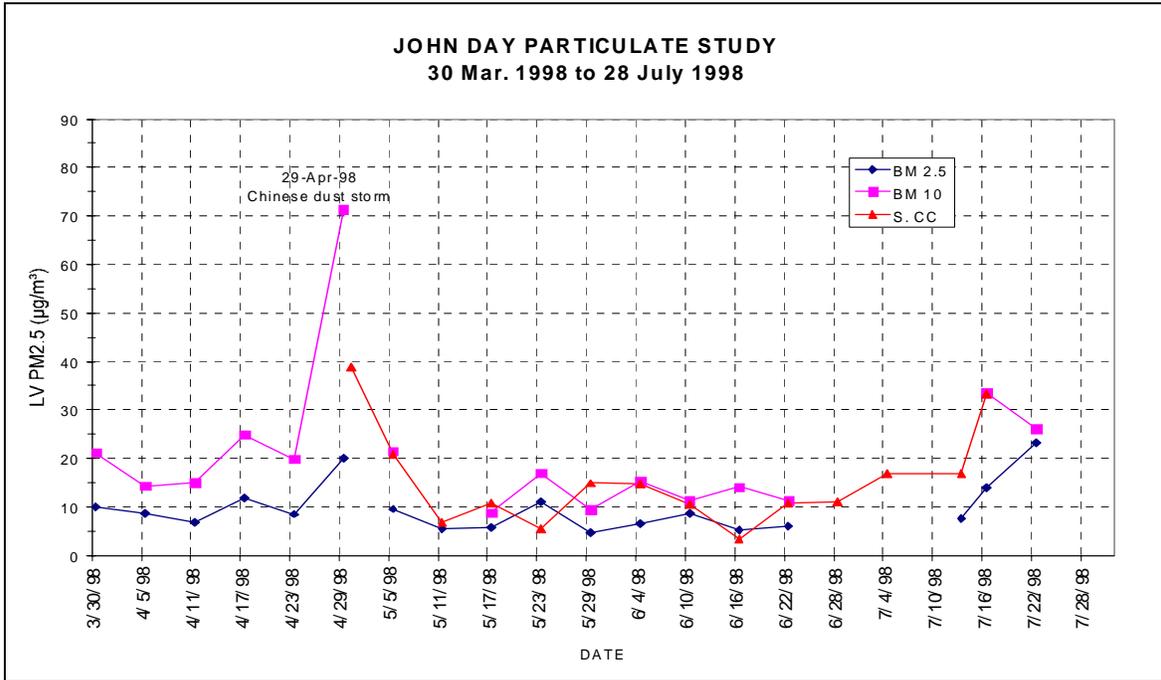


Figure 4

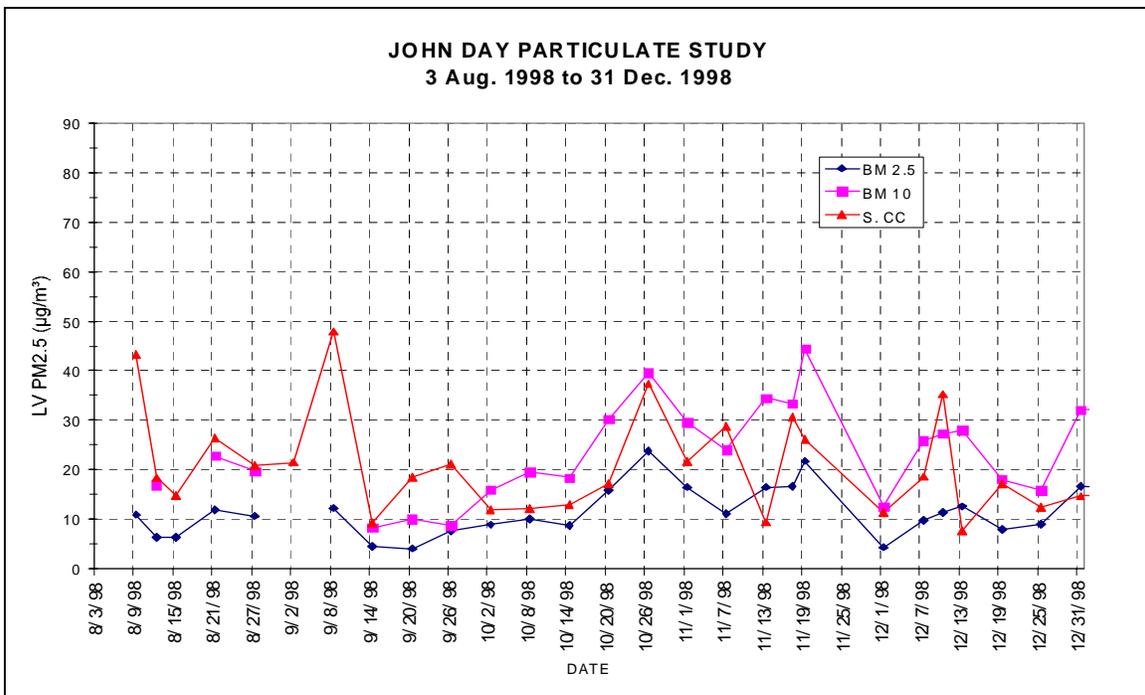


Figure 5

With the exception of the unusual intrusion of particulate from a dust storm in northern China, the PM<sub>10</sub> concentrations during the spring and summer of 1998 in John Day were consistently low and unremarkable. Of the 2 locations, the primary site at the Blue Mt. JHS had the slightly higher values. In early January 1999 the site in Canyon City was discontinued.

### Long-term Monitoring and Sampling

All of the long-term monitoring and sampling was done at the Blue Mt. JHS site in John Day. There is continuous nephelometer data beginning on 12/12/1997. Also at this site there is data from both PM<sub>10</sub> and PM<sub>2.5</sub> samplers. The PM<sub>10</sub> sampling stopped on 4/30/99 and the PM<sub>2.5</sub> data record is divided between that collected with the LV survey sampler (12/12/97 to 12/2/99) and MV PM<sub>2.5</sub> data beginning in early 1999.

Our strategy will be to use the nephelometer fine particulate continuous data to estimate the PM<sub>10</sub> and PM<sub>2.5</sub> values during the entire period of the study. Particulate samples were only collected every 6<sup>th</sup> day, with the exception of a brief period of every 3<sup>rd</sup> day sampling. The missing days will be filled in using the nephelometer based estimates.

To convert nephelometer 24-hour average values to PM<sub>10</sub> and PM<sub>2.5</sub> values the nephelometer must be co-located with the particulate samplers so that a correlation can be developed between the two measurement methods. Using filter data from the MV PM<sub>2.5</sub> and 24 hour average data from the nephelometer at Blue Mt. JHS the relationship shown in figure 6 was generated.

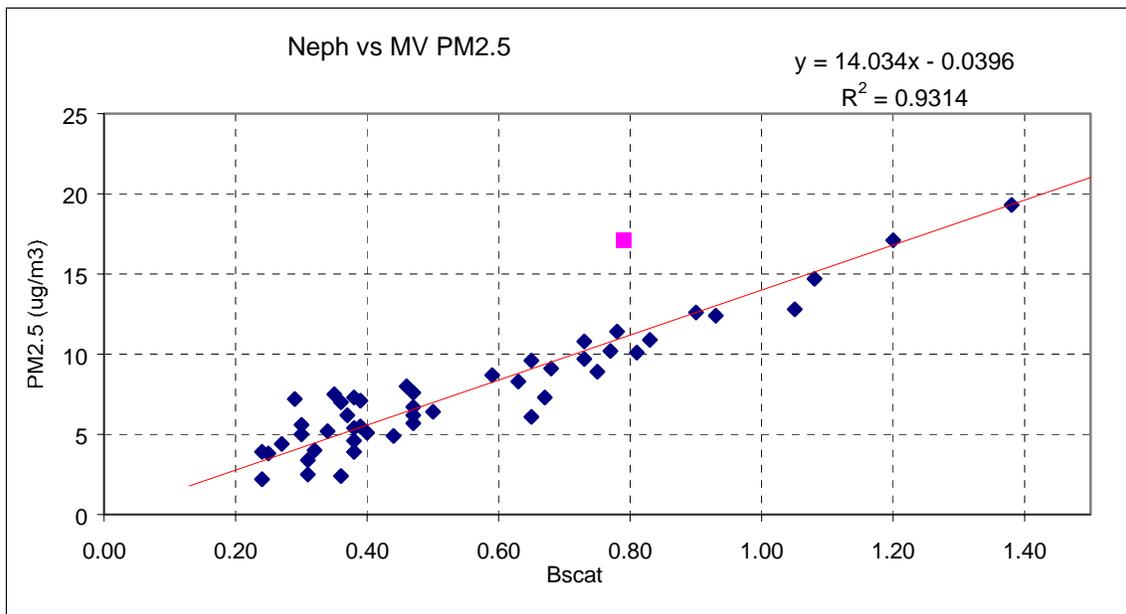
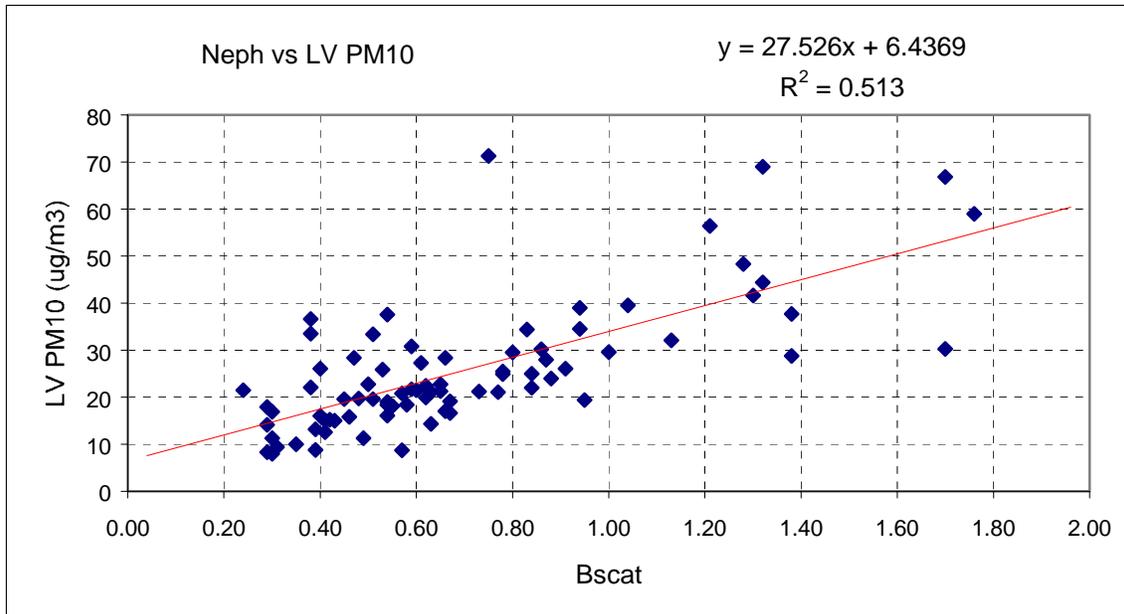


Figure 6

This is an excellent correlation between the two parameters. The obvious data outlier was not included in the calculations. The equation “ $y = 14.034x - 0.0396$ ” will be used

to estimate  $PM_{2.5}$  values from the nephelometer data for the entire 2½ year study period. This graph also illustrates the low frequency of particulate samples above 15  $\mu\text{g}/\text{m}^3$ , the annual standard for  $PM_{2.5}$ .

Using the same technique described above a correlation between the 24-hour nephelometer averages and the measured  $PM_{10}$  values was developed. In this case the only available and valid  $PM_{10}$  filter data was from the LV  $PM_{10}$  survey samplers. Very little valid MV  $PM_{10}$  data was collected in John Day during this study. The nephelometer versus  $PM_{10}$  relationship is shown in figure 7.



**Figure 7**

This relationship for  $PM_{10}$  is not as good as the one for  $PM_{2.5}$ . Two factors contributed to this result. First, the nephelometer is more sensitive to fine particulate than coarse;  $PM_{10}$  includes coarser particulate than does  $PM_{2.5}$ . And secondly, the  $PM_{10}$  data was collected with the LV survey sampler. The MV sampler and its inlet are simply a better PM sampling device. The relationship “ $y = 27.526x + 6.4369$ ” will be used to estimate the  $PM_{10}$  levels during the study period.

Figures 8 through 12 show LV  $PM_{2.5}$  and LV  $PM_{10}$  particulate data from the survey samplers, and estimates from the nephelometer correlation at Blue Mt. JHS throughout the survey. Also shown are the MV  $PM_{2.5}$  filter data concentrations from the days it was running.

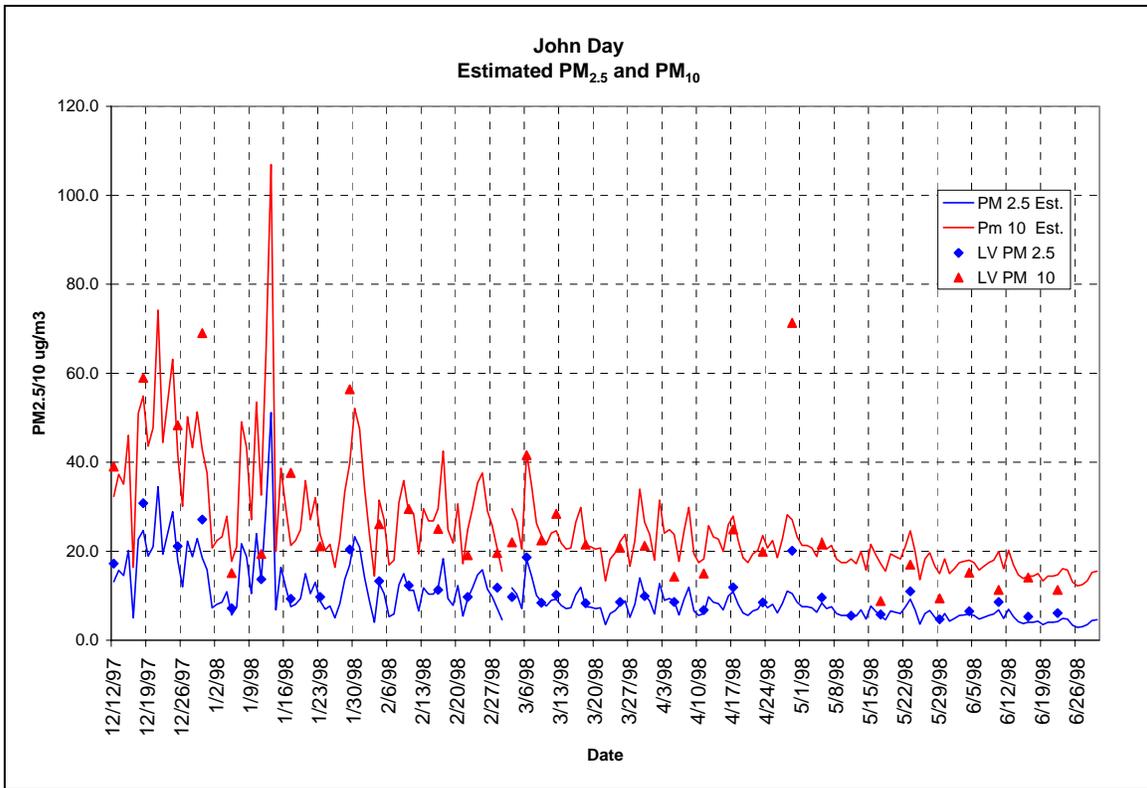


Figure 8

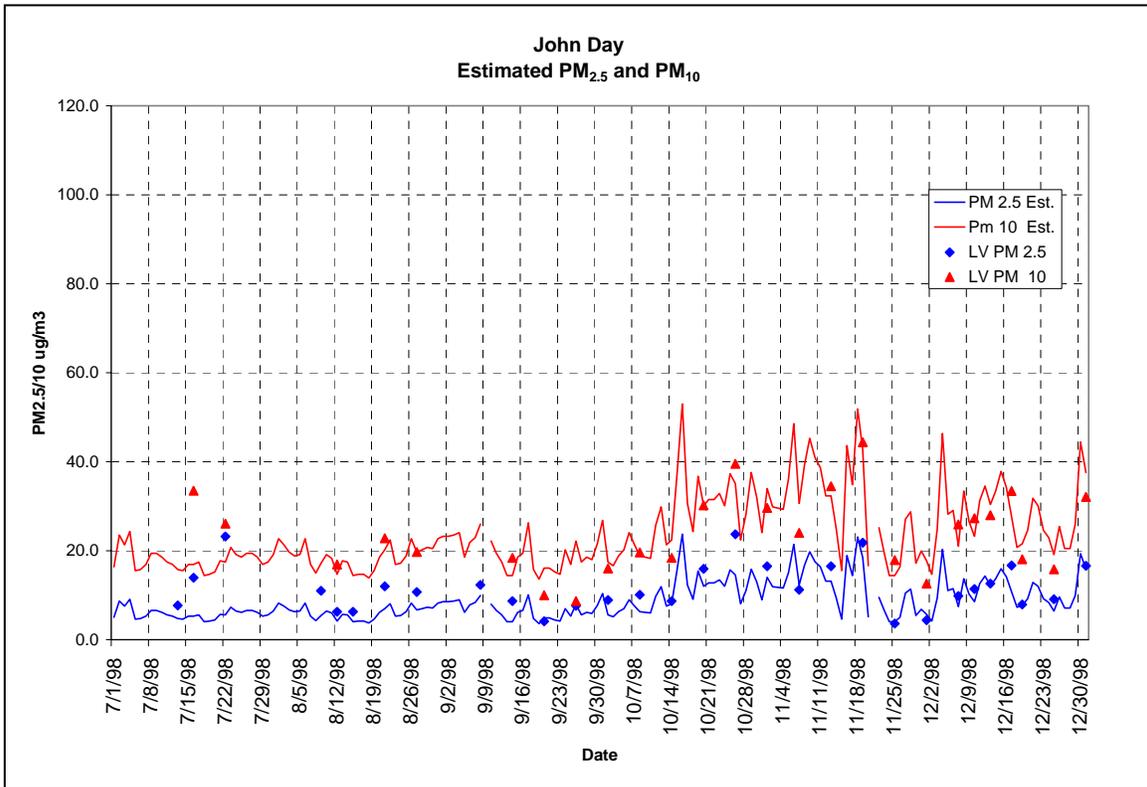


Figure 9

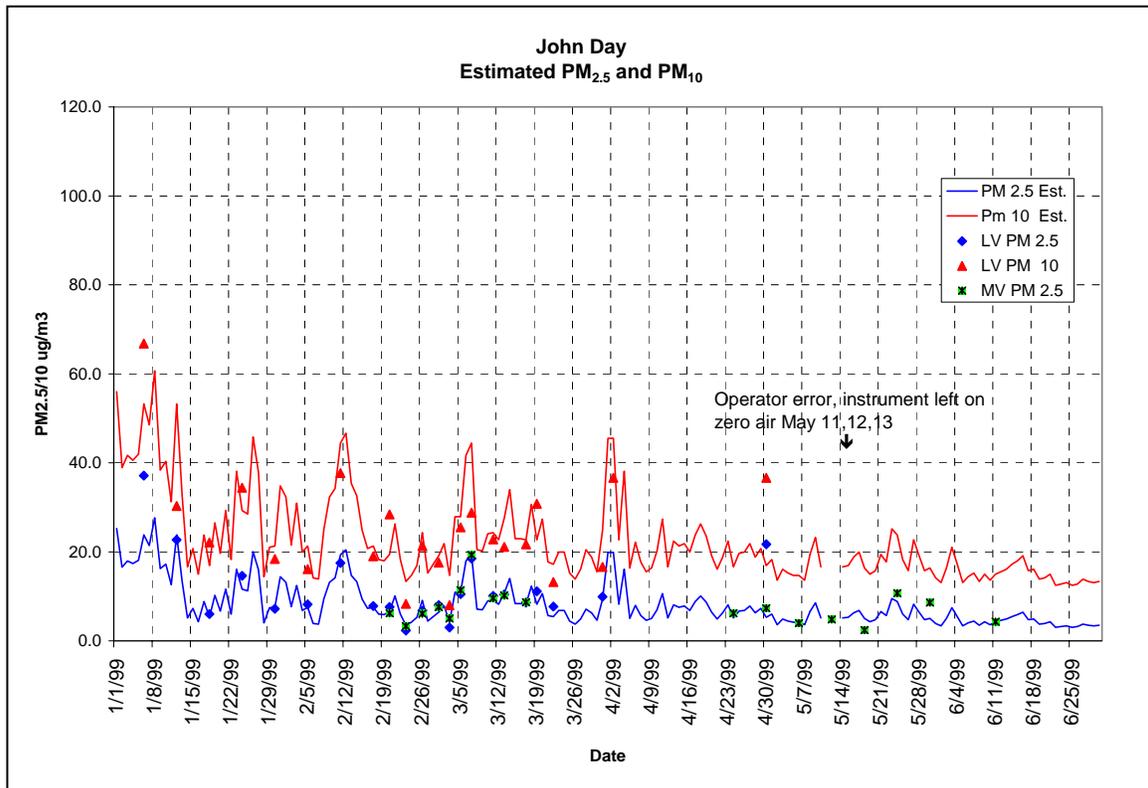


Figure 10

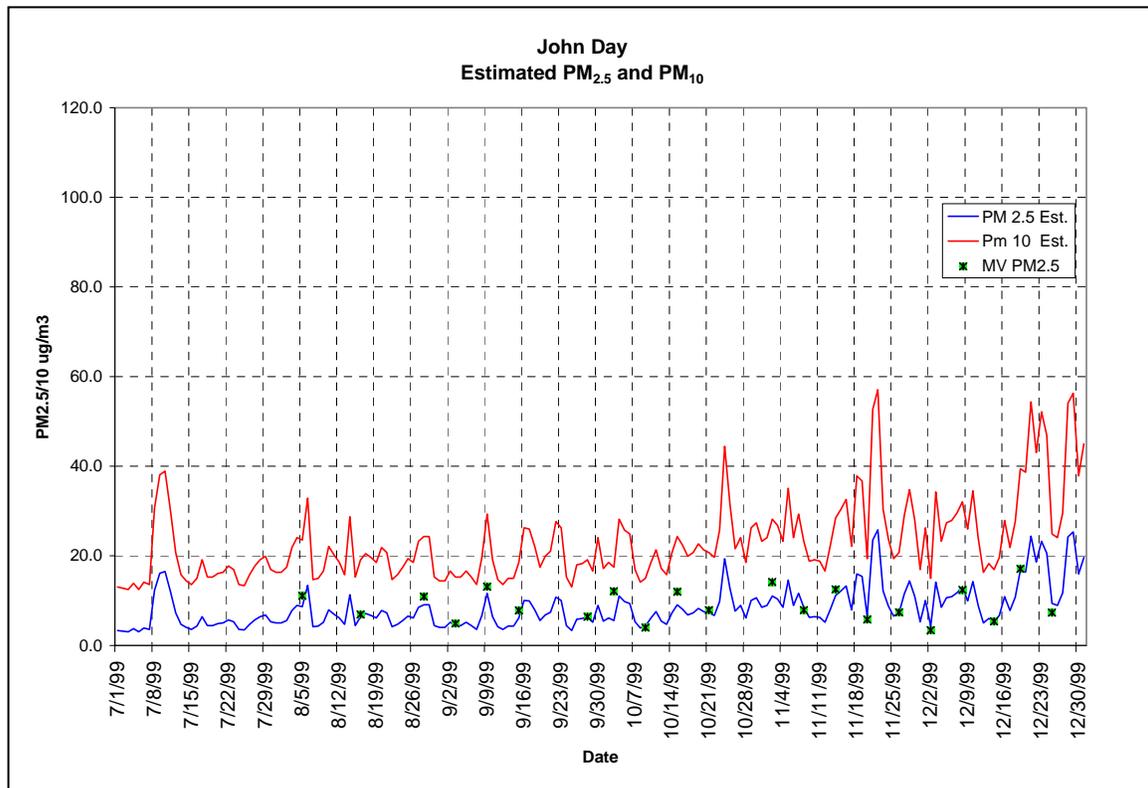


Figure 11

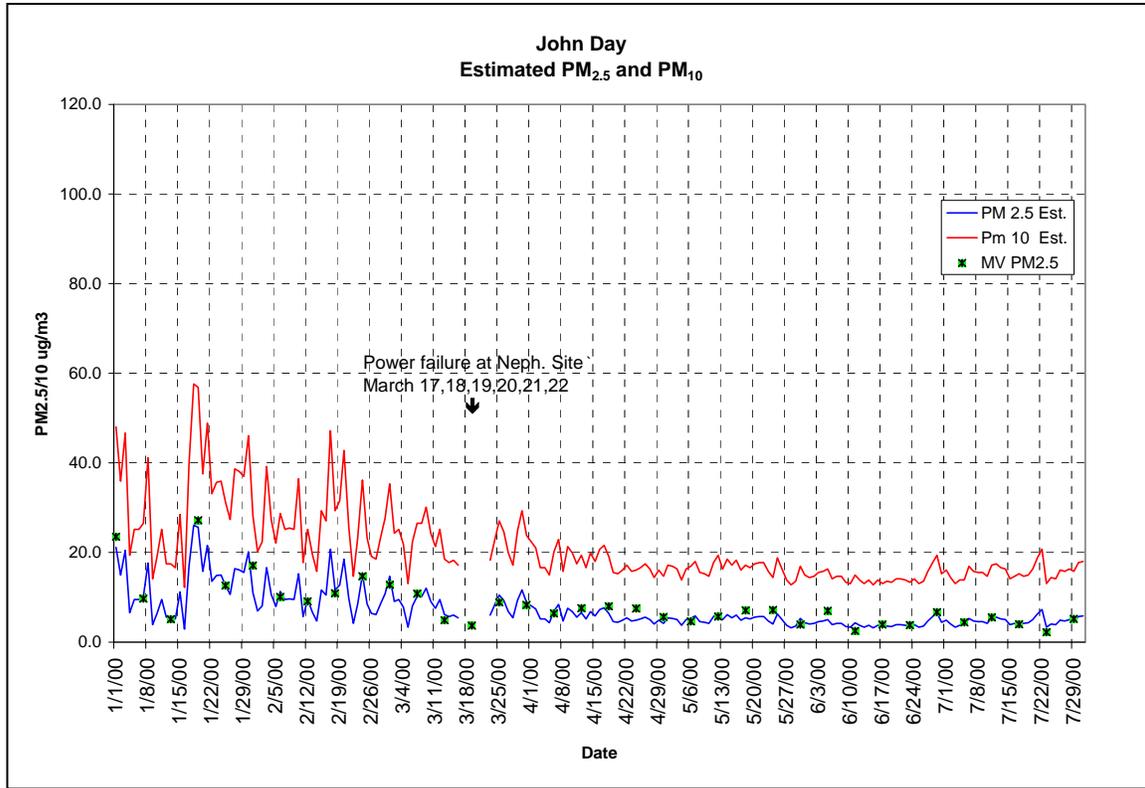


Figure 12

### Estimated PM<sub>10</sub> and PM<sub>2.5</sub> Concentrations

Based on correlations between the nephelometer data and filter results, the 3 highest estimated PM<sub>10</sub>, PM<sub>2.5</sub>, as well as actual filter values are listed below in Table 1. The Chinese dust episode accounted for the 71.3  $\mu\text{m}^3$  filter weight on April 29, 1998. The PM<sub>10</sub> standards are 150  $\mu\text{g}/\text{m}^3$  for a 24-hour average and 50  $\mu\text{g}/\text{m}^3$  for an annual average. For PM<sub>2.5</sub> the values are respectively 65  $\mu\text{g}/\text{m}^3$  and 15  $\mu\text{g}/\text{m}^3$ .

DATE	PM <sub>2.5</sub> Est.	PM <sub>10</sub> Est.	LV PM <sub>2.5</sub>	LV PM <sub>10</sub>	MV PM <sub>2.5</sub>
12/18/97			23.5 $\mu\text{m}^3$		
12/21/97	34.5 $\mu\text{m}^3$	74.2 $\mu\text{m}^3$			
12/30/97			27.1 $\mu\text{m}^3$	69.0 $\mu\text{m}^3$	
1/12/98	29.6 $\mu\text{m}^3$	64.5 $\mu\text{m}^3$			
1/13/98	51.2 $\mu\text{m}^3$	106.9 $\mu\text{m}^3$			
4/29/98				71.3 $\mu\text{m}^3$	
1/6/99			37.1 $\mu\text{m}^3$	66.8 $\mu\text{m}^3$	
3/7/99					19.3 $\mu\text{m}^3$
1/1/00					23.5 $\mu\text{m}^3$
1/19/00					27.2 $\mu\text{m}^3$

Table 1

Table 2 shows the annual averages for PM<sub>10</sub> and PM<sub>2.5</sub> during the 2½ years of the project.

Year	Average PM <sub>10</sub> (ug/m3)	Average PM <sub>2.5</sub> (ug/m3)
1998	23.5	8.7
1999	22.9	8.3
2000*	20.9	7.3

**Table 2** \*based on Jan-June

## 7. CONCLUSIONS AND RECOMMENDATIONS:

After a one year 4 site (reduced after 4 months to 2 sites) PM<sub>10</sub> survey, a site at the Blue Mt. JHS was chosen as a representative particulate site for the John Day area. A competing site at the Adult and Family Services office, also in John Day, was eliminated based on impacts from a nearby gravel road and packing area.

The 24 hour average nephelometer data from the Blue Mt. JHS correlates very well with the Medium Volume PM<sub>2.5</sub> sampler, with an R<sup>2</sup> of 0.93. The correlation with the LV PM<sub>10</sub> survey samples was much poorer, with an R<sup>2</sup> of 0.51.

Using these correlation estimates of the PM<sub>10</sub> and PM<sub>2.5</sub> ambient concentrations were calculated for the 2½-year study period. No potential violations of either PM standard were measured.

The highest particulate levels are observed to occur in John Day beginning in early October and continuing through March in each year. This is a normal pattern for an area of high wood-stove usage during the cold weather winter months.

Based on the results of this study, the PM<sub>10</sub> and PM<sub>2.5</sub> concentrations in John Day are well below the NAAQS for these parameters. We recommend that particulate monitoring and sampling be concluded in this community.

The Blue Mt. JHS site is, however, part of the US Forest Service/BLM Forest Health smoke monitoring network. We anticipate that the USFS/BLM will continue to be interested in monitoring particulate levels in this area with their nephelometer. Currently the USFS/BLM is funding the operation of the nephelometer during the summer months. Additional resources from the Federal Land Managers will need to be identified to continue particulate monitoring data year-round.

# Appendix A

## Site Search John Day - Canyon City Particulate Survey Project Winter 1997-98

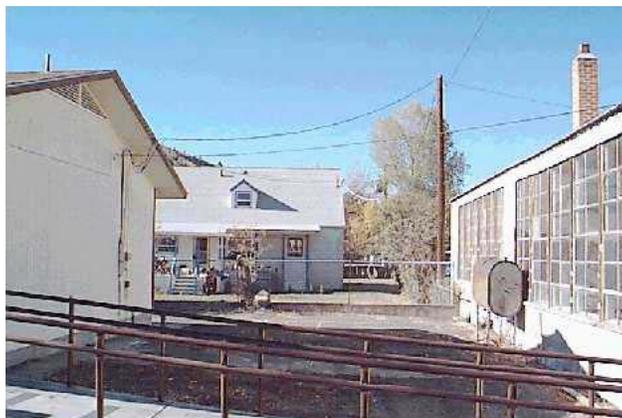
In early November, 1997 a trip was made to identify PM<sub>10</sub> sampling locations for a winter time particulate study in the John Day – Canyon City area. This project is part of the DEQ-AQM screening matrix selection. This project will be comprised of one benchmark site, with a nephelometer and collocated PM<sub>10</sub> & PM<sub>2.5</sub> survey samplers, and several satellite PM<sub>10</sub> locations. The purpose of the study will be to characterize the particulate concentrations in the local airshed.

### John Day

The benchmark site selected is at Blue Mt. Jr. HS, 116 NW Bridge St., in the center of John Day. See Figure 1. This site was chosen because it is centrally located and in a high population area. The overall project operator was a science teacher at Blue Mt. Jr. HS.

In addition to the nephelometer, PM<sub>10</sub> and PM<sub>2.5</sub> survey samplers were installed along a back fence line between two single-story school buildings (≈ 15' from each building and 110' N. of the Nephelometer). Figure one was taken during initial site selection and does not have the benchmark samplers in place. Figures two, three and four show LV survey samplers in place.

Figure 1 – Looking West



A second PM<sub>10</sub> site was located at the west end of town at the Adult and Family Service's state office building, 725 W. Main St., (Hwy. 26). This location is near an industrial/residential interface. The sampler is located at the NE corner of the landscape area surrounding the rear parking lot. See Figure 2.

**Figure 2 – Looking East**



### **Canyon City**

In Canyon City, two PM<sub>10</sub> survey sites were selected. One is near the north end of town, at a private residence (no wood stove), about ½ block north of Humbolt Elementary School. The front of the residence is on Humbolt St. with the sampler in the backyard area, next to a lightly used paved alley. This site is called North Canyon City (NCC). See Figure 3

**Figure 3 – Looking East**



The final site is near the south end of Canyon City at a private residence across from the Grant County Court House, at 116 W. Izee St. A wood stove is *occasionally* used, (chimney on the far right of this photo) but only during very cold weather. The sampler is at an angle from the predominate flows expected here so direct, on-site plume impacts, would be infrequent. This site was called South Canyon City (SCC). See Figure 4.

**Figure 4 - Northeast**



These four sites were put into operation in early December 1997. All samplers collected filters every 6<sup>th</sup> day. Some additional samples were collected on a 1 in 3 schedule during periods of cold and stagnant conditions.

# Appendix B

## Laboratory Test of 15 LPM PM<sub>2.5</sub> Survey Inlets

On December 15<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> 1998, 5-lpm and 15-lpm low volume survey sampler inlets were tested by the ODEQ laboratory in Portland. Both 5-LPM and 15-LPM inlets were set up on ODEQ reference method medium volume samplers. The MV samplers were placed at one of our sites in the NW industrial area of town, to assure adequate filter loading, and run for 24 hours on each of the three days. In conjunction with the MV samplers, a model 2025, FRM PM<sub>2.5</sub> sampler was run for comparison. Since the ODEQ MV sequential sampler has 12 ports available, 12 survey inlets were group tested on each of two MV samplers; twelve 5-LPM inlets on one sampler and twelve 15-LPM inlets on another. In view of the fact we used 15-LPM inlets exclusively in John Day, we will only report the results of that testing.

As can be seen from the following plots, we found good agreement between the FRM PM<sub>2.5</sub> sampler and the survey inlets, and also between the individual inlets, see figures 1, 2, and 3. It should be noted that the survey inlets over collected in all cases and were proportionately lower at the lower loadings. From this information we can conclude the survey samplers are useful tools when compared to other samplers at different locations, however they do not generate the same data as the FRM PM<sub>2.5</sub> sampler.

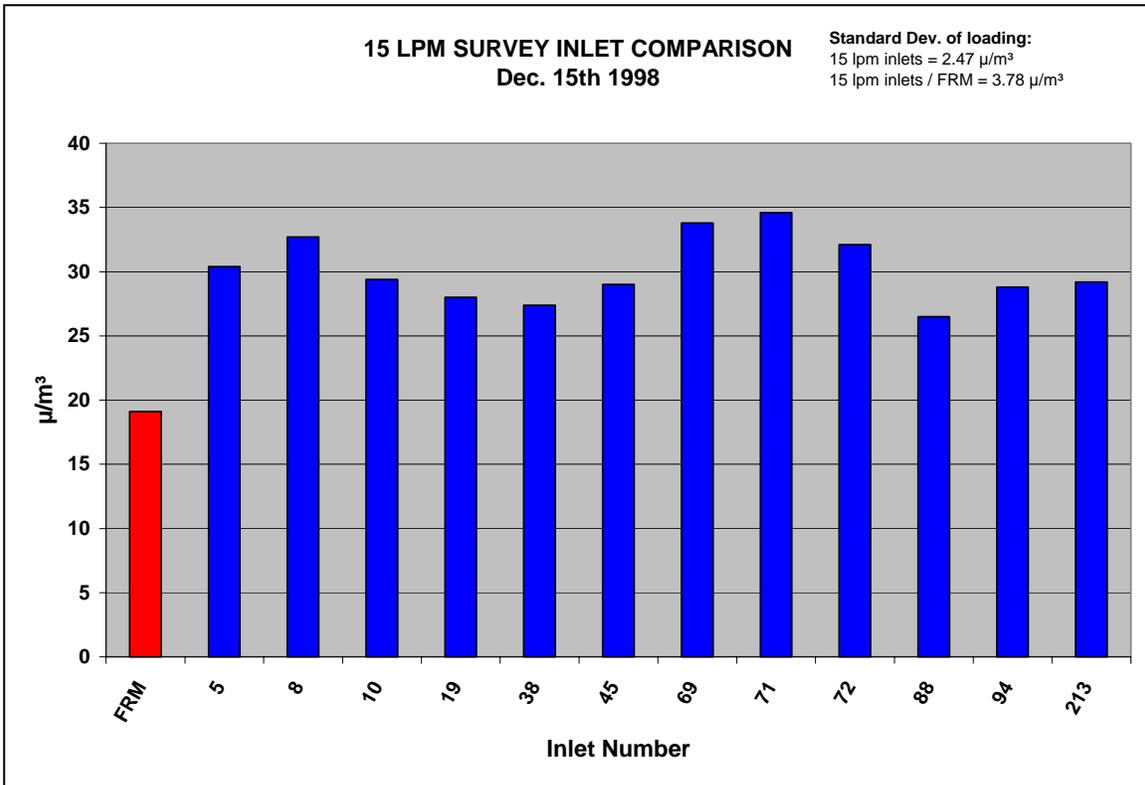


Figure 1

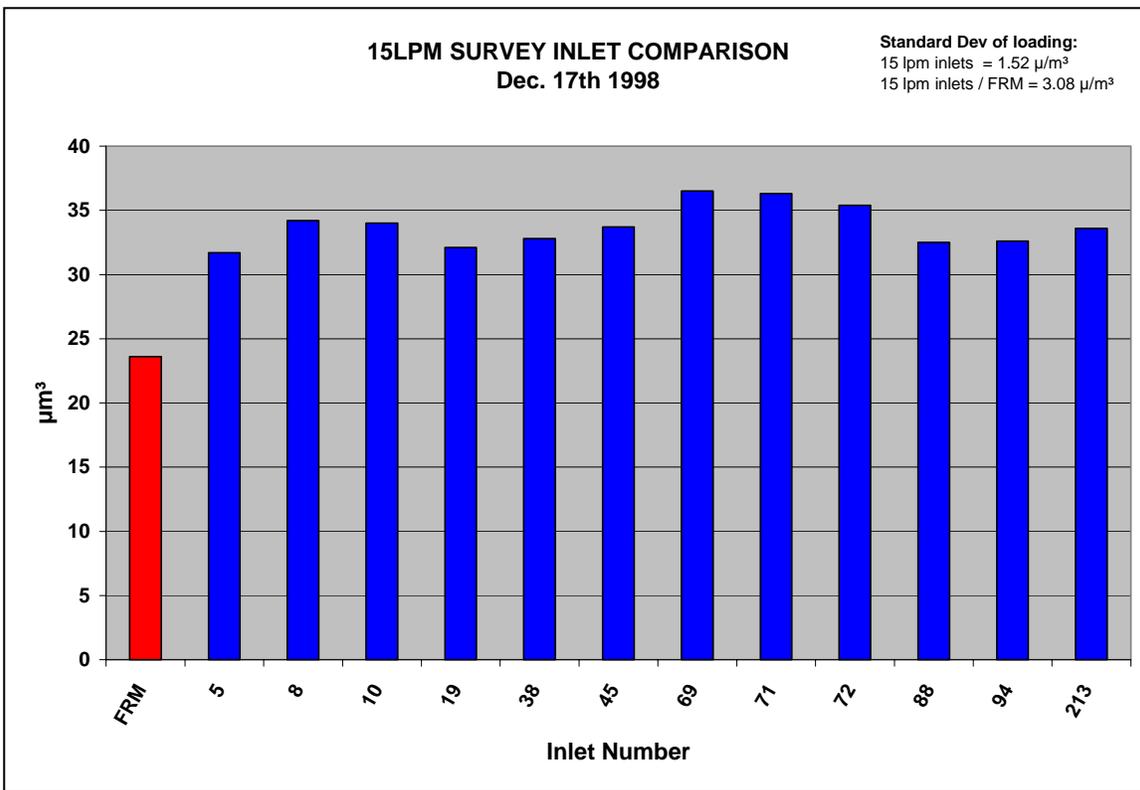


Figure 2

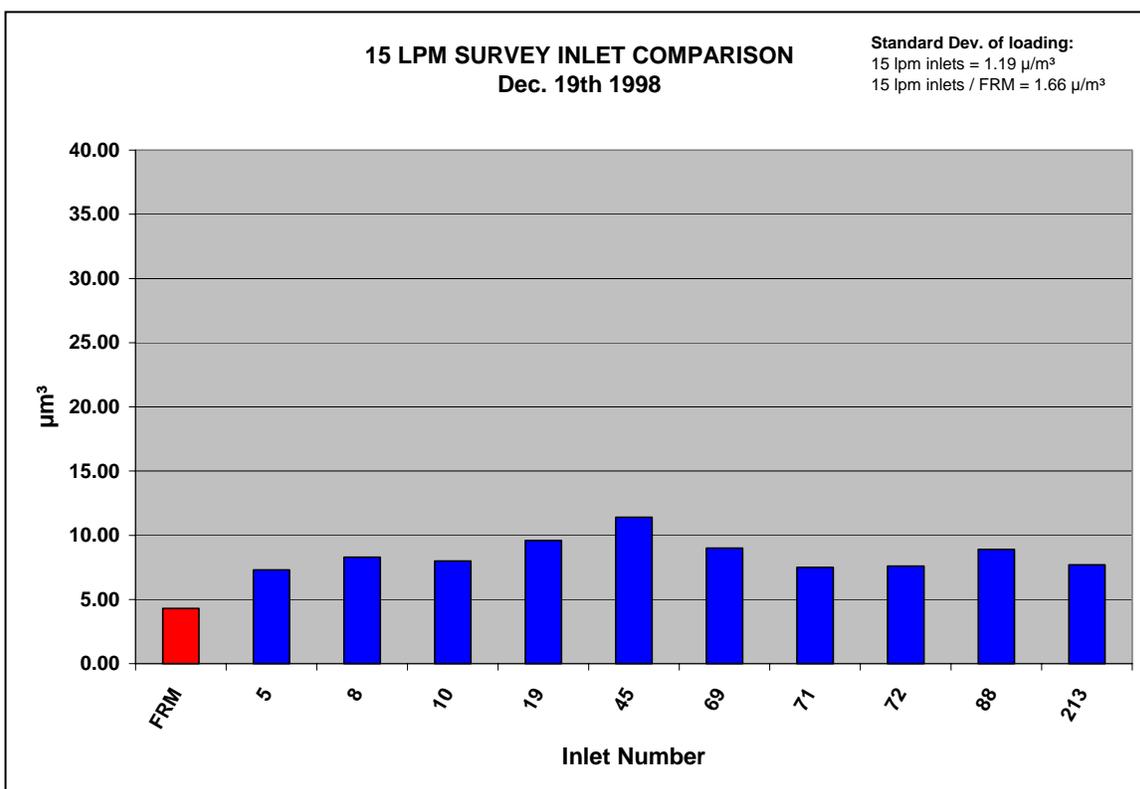


Figure 3

<b>SURVEY INLETS TEST DATA</b>						
<b>Date</b>	<b>Inlet Number</b>	<b>Loading μ/m<sup>3</sup></b>	<b>Flow lpm</b>	<b>Samp.Time Mins.</b>	<b>Volume m<sup>3</sup></b>	<b>Temp °C</b>
12/15/98	FRM	19.1	18.25	1439.0	26.26	
12/15/98	5	30.4	15.99	1554.4	25.60	5.39
12/15/98	8	32.7	15.33	1560.9	24.64	5.39
12/15/98	10	29.4	14.68	1560.9	23.59	5.39
12/15/98	19	28.0	15.80	1554.4	25.30	5.39
12/15/98	38	27.4	15.47	1554.4	24.76	5.39
12/15/98	45	29.0	15.03	1554.4	24.07	5.39
12/15/98	69	33.8	14.77	1560.9	23.74	5.39
12/15/98	71	34.6	15.30	1560.9	24.59	5.39
12/15/98	72	32.1	15.12	1560.9	24.31	5.39
12/15/98	88	26.5	15.43	1554.4	24.7	5.39
12/15/98	94	28.8	15.29	1554.4	24.48	5.39
12/15/98	213	29.2	14.59	1560.9	23.45	5.39

12/17/98	FRM	23.6	18.21	1440.0	26.22	
12/17/98	5	31.7	15.21	1558.0	24.43	4.85
12/17/98	8	34.2	15.72	1557.0	25.24	4.85
12/17/98	10	34.0	15.61	1557.0	25.05	4.85
12/17/98	19	32.1	15.42	1558.0	24.76	4.85
12/17/98	38	32.8	14.68	1558.0	23.57	4.85
12/17/98	45	33.7	16.50	1558.0	26.50	4.85
12/17/98	69	36.5	13.80	1557.0	22.15	4.85
12/17/98	71	36.3	15.82	1557.0	25.40	4.85
12/17/98	72	35.4	16.45	1557.0	26.40	4.85
12/17/98	88	32.5	15.00	1558.0	24.09	4.85
12/17/98	94	32.6	15.12	1558.0	24.29	4.85
12/17/98	213	33.6	16.14	1557.0	25.91	4.85

	FRM	4.30	18.60	1440.0	26.78	
12/19/98	5	7.3	15.30	1436.3	22.92	-1.54
12/19/98	8	8.3	15.30	1443.3	23.05	-1.54
12/19/98	10	8.0	15.64	1443.3	23.56	-1.54
12/19/98	19	9.6	15.05	1436.3	22.55	-1.54
12/19/98	45	11.4	15.76	1436.3	23.60	-1.54
12/19/98	69	9.0	15.44	1443.3	23.25	-1.54
12/19/98	71	7.5	14.86	1444.3	22.38	-1.54
12/19/98	72	7.6	14.68	1443.3	22.11	-1.54
12/19/98	88	8.9	14.77	1436.3	22.12	-1.54
12/19/98	213	7.7	15.47	1444.3	23.31	-1.54

# Appendix C

## John Day Particulate Survey Data

SCC = South Canyon City site

AFS = Adult and Family Services site

NCC = North Canyon City site

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
12/12/97	0.94	13.2	32.3	17.2	39			55.4	65.0	28.9
12/13/97	1.12	15.7	37.3							
12/14/97	1.04	14.6	35.1							
12/15/97	1.44	20.2	46.1							
12/16/97	0.36	5.0	16.3							
12/17/97	1.62	22.7	51.0							
12/18/97	1.76	24.7	54.9	30.8	59				80.8	37.2
12/19/97	1.35	18.9	43.6							
12/20/97	1.5	21.0	47.7							
12/21/97	2.46	34.5	74.2							
12/22/97	1.38	19.3	44.4							
12/23/97	1.73	24.2	54.1							
12/24/97	2.06	28.9	63.1							
12/25/97	1.28	17.9	41.7	21.1	48.3				42.9	46.4
12/26/97	0.86	12.0	30.1							
12/27/97	1.59	22.3	50.2							
12/28/97	1.34	18.8	43.3							
12/29/97	1.63	22.8	51.3							
12/30/97	1.32	18.5	42.8	27.1	69				86.3	72.1
12/31/97	1.13	15.8	37.5							
1/1/98	0.52	7.3	20.8							
1/2/98	0.58	8.1	22.4							
1/3/98	0.61	8.5	23.2							
1/4/98	0.78	10.9	27.9							
1/5/98	0.41	5.7	17.7	7.2	15.1				12.9	16.5
1/6/98	0.53	7.4	21.0							
1/7/98	1.55	21.7	49.1							
1/8/98	1.34	18.8	43.3							
1/9/98	0.75	10.5	27.1							
1/10/98	1.71	24.0	53.5							
1/11/98	0.95	13.3	32.6	13.7	19.4				21.1	19.5
1/12/98	2.11	29.6	64.5							
1/13/98	3.65	51.2	106.9							
1/14/98	0.49	6.8	19.9							
1/15/98	1.17	16.4	38.6							
1/16/98	0.85	11.9	29.8							
1/17/98	0.54	7.5	21.3	9.3	37.6				37.8	17.2
1/18/98	0.58	8.1	22.4							
1/19/98	0.67	9.4	24.9							
1/20/98	1.07	15.0	35.9							
1/21/98	0.75	10.5	27.1							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
1/22/98	0.93	13.0	32.0							
1/23/98	0.63	8.8	23.8	9.7	21.1				20.3	9.9
1/24/98	0.5	7.0	20.2							
1/25/98	0.55	7.7	21.6							
1/26/98	0.36	5.0	16.3							
1/27/98	0.59	8.2	22.7							
1/28/98	0.98	13.7	33.4							
1/29/98	1.21	16.9	39.7	20.4	56.4				63.5	27.6
1/30/98	1.66	23.3	52.1							
1/31/98	1.49	20.9	47.5							
2/1/98	1.01	14.1	34.2							
2/2/98	0.64	8.9	24.1							
2/3/98	0.29	4.0	14.4							
2/4/98	0.91	12.7	31.5	13.3	26.1			9.5	48.9	11.4
2/5/98	0.75	10.5	27.1							
2/6/98	0.38	5.3	16.9							
2/7/98	0.42	5.9	18.0							
2/8/98	0.89	12.5	30.9							
2/9/98	1.07	15.0	35.9							
2/10/98	0.8	11.2	28.5	12.3	29.5			18.3	41.3	16.4
2/11/98	0.8	11.2	28.5							
2/12/98	0.47	6.6	19.4							
2/13/98	0.84	11.7	29.6							
2/14/98	0.74	10.3	26.8							
2/15/98	0.74	10.3	26.8							
2/16/98	0.84	11.7	29.6	11.3	25			23.4	30.2	26.2
2/17/98	1.31	18.3	42.5							
2/18/98	0.67	9.4	24.9							
2/19/98	0.56	7.8	21.9							
2/20/98	0.88	12.3	30.7							
2/21/98	0.39	5.4	17.2							
2/22/98	0.67	9.4	24.9	9.7	19.1				31.7	16.4
2/23/98	0.84	11.7	29.6							
2/24/98	1.05	14.7	35.3							
2/25/98	1.13	15.8	37.5							
2/26/98	0.82	11.5	29.0							
2/27/98	0.7	9.8	25.7							
2/28/98	0.51	7.1	20.5	11.8	19.6			22	49.3	16.1
3/1/98	0.33	4.6	15.5							
3/2/98										
3/3/98	0.84	11.7	29.6	9.7	22			16.8	34.4	19.8
3/4/98	0.74	10.3	26.8							
3/5/98	0.51	7.1	20.5							
3/6/98	1.3	18.2	42.2	18.6	41.6			34.2	53.5	29.1

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
3/7/98	1.02	14.3	34.5							
3/8/98	0.72	10.1	26.3							
3/9/98	0.62	8.7	23.5	8.4	22.4			11.5	40.9	16.2
3/10/98	0.55	7.7	21.6							
3/11/98	0.64	8.9	24.1							
3/12/98	0.66	9.2	24.6	10.2	28.4			36.3	53.8	29.6
3/13/98	0.56	7.8	21.9							
3/14/98	0.51	7.1	20.5							
3/15/98	0.52	7.3	20.8							
3/16/98	0.73	10.2	26.5							
3/17/98	0.85	11.9	29.8							
3/18/98	0.54	7.5	21.3	8.3	21.5			18.7	49.0	26.1
3/19/98	0.53	7.4	21.0							
3/20/98	0.51	7.1	20.5							
3/21/98	0.52	7.3	20.8							
3/22/98	0.25	3.5	13.3							
3/23/98	0.43	6.0	18.3							
3/24/98	0.48	6.7	19.6							
3/25/98	0.57	8.0	22.1	8.6	20.8			13.4	31.1	
3/26/98	0.63	8.8	23.8							
3/27/98	0.37	5.2	16.6							
3/28/98	0.58	8.1	22.4							
3/29/98	1	14.0	34.0							
3/30/98	0.73	10.2	26.5	9.9	21.2					
3/31/98	0.63	8.8	23.8							
4/1/98	0.42	5.9	18.0							
4/2/98	0.91	12.7	31.5							
4/3/98	0.64	8.9	24.1							
4/4/98	0.67	9.4	24.9							
4/5/98	0.63	8.8	23.8	8.6	14.3					
4/6/98	0.41	5.7	17.7							
4/7/98	0.66	9.2	24.6							
4/8/98	0.85	11.9	29.8							
4/9/98	0.47	6.6	19.4							
4/10/98	0.4	5.6	17.4							
4/11/98	0.43	6.0	18.3	6.8	15					
4/12/98	0.7	9.8	25.7							
4/13/98	0.61	8.5	23.2							
4/14/98	0.59	8.2	22.7							
4/15/98	0.49	6.8	19.9							
4/16/98	0.71	9.9	26.0							
4/17/98	0.78	10.9	27.9	11.9	24.9					
4/18/98	0.58	8.1	22.4							
4/19/98	0.44	6.1	18.5							

## John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
4/20/98	0.4	5.6	17.4							
4/21/98	0.47	6.6	19.4							
4/22/98	0.5	7.0	20.2							
4/23/98	0.62	8.7	23.5	8.5	19.9					
4/24/98	0.52	7.3	20.8							
4/25/98	0.58	8.1	22.4							
4/26/98	0.44	6.1	18.5							
4/27/98	0.59	8.2	22.7							
4/28/98	0.79	11.0	28.2							
4/29/98	0.75	10.5	27.1	20.1	71.3			Chinese dust storm.		
4/30/98	0.61	8.5	23.2					38.8		
5/1/98	0.54	7.5	21.3							
5/2/98	0.54	7.5	21.3							
5/3/98	0.52	7.3	20.8							
5/4/98	0.45	6.3	18.8							
5/5/98	0.6	8.4	23.0	9.6	21.5			20.9		
5/6/98	0.51	7.1	20.5							
5/7/98	0.54	7.5	21.3							
5/8/98	0.43	6.0	18.3							
5/9/98	0.4	5.6	17.4							
5/10/98	0.4	5.6	17.4							
5/11/98	0.43	6.0	18.3	5.5				6.8		
5/12/98	0.39	5.4	17.2							
5/13/98	0.49	6.8	19.9							
5/14/98	0.34	4.7	15.8							
5/15/98	0.55	7.7	21.6							
5/16/98	0.46	6.4	19.1							
5/17/98	0.39	5.4	17.2	5.8	8.8			10.8		
5/18/98	0.33	4.6	15.5							
5/19/98	0.47	6.6	19.4							
5/20/98	0.45	6.3	18.8							
5/21/98	0.43	6.0	18.3							
5/22/98	0.53	7.4	21.0							
5/23/98	0.66	9.2	24.6	11	17			5.5		
5/24/98	0.49	6.8	19.9							
5/25/98	0.26	3.6	13.6							
5/26/98	0.43	6.0	18.3							
5/27/98	0.48	6.7	19.6							
5/28/98	0.37	5.2	16.6							
5/29/98	0.31	4.3	15.0	4.7	9.4			14.9		
5/30/98	0.43	6.0	18.3							
5/31/98	0.31	4.3	15.0							
6/1/98	0.35	4.9	16.1							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
6/2/98	0.4	5.6	17.4							
6/3/98	0.41	5.7	17.7							
6/4/98	0.42	5.9	18.0	6.5	15.2			14.7		
6/5/98	0.4	5.6	17.4							
6/6/98	0.34	4.7	15.8							
6/7/98	0.37	5.2	16.6							
6/8/98	0.4	5.6	17.4							
6/9/98	0.42	5.9	18.0							
6/10/98	0.49	6.8	19.9	8.6	11.3			10.5		
6/11/98	0.35	4.9	16.1							
6/12/98	0.5	7.0	20.2							
6/13/98	0.38	5.3	16.9							
6/14/98	0.3	4.2	14.7							
6/15/98	0.27	3.7	13.9							
6/16/98	0.29	4.0	14.4	5.3	14.1			3.4		
6/17/98	0.29	4.0	14.4							
6/18/98	0.31	4.3	15.0							
6/19/98	0.25	3.5	13.3							
6/20/98	0.29	4.0	14.4							
6/21/98	0.29	4.0	14.4							
6/22/98	0.3	4.2	14.7	6.1	11.3			10.7		
6/23/98	0.35	4.9	16.1							
6/24/98	0.34	4.7	15.8							
6/25/98	0.24	3.3	13.0							
6/26/98	0.21	2.9	12.2							
6/27/98	0.22	3.0	12.5							
6/28/98	0.25	3.5	13.3					11.0		
6/29/98	0.32	4.5	15.2							
6/30/98	0.33	4.6	15.5							
7/1/98	0.36	5.0	16.3							
7/2/98	0.62	8.7	23.5							
7/3/98	0.54	7.5	21.3							
7/4/98	0.65	9.1	24.3					16.8		
7/5/98	0.33	4.6	15.5							
7/6/98	0.34	4.7	15.8							
7/7/98	0.38	5.3	16.9							
7/8/98	0.47	6.6	19.4							
7/9/98	0.47	6.6	19.4							
7/10/98	0.44	6.1	18.5							
7/11/98	0.4	5.6	17.4							
7/12/98	0.38	5.3	16.9							
7/13/98	0.34	4.7	15.8	7.7				16.8		
7/14/98	0.33	4.6	15.5							
7/15/98	0.38	5.3	16.9							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
7/16/98	0.38	5.3	16.9	13.9	33.5			33.3		
7/17/98	0.4	5.6	17.4							
7/18/98	0.29	4.0	14.4							
7/19/98	0.3	4.2	14.7							
7/20/98	0.32	4.5	15.2							
7/21/98	0.41	5.7	17.7							
7/22/98	0.4	5.6	17.4	23.2	26.1					
7/23/98	0.52	7.3	20.8							
7/24/98	0.46	6.4	19.1							
7/25/98	0.44	6.1	18.5							
7/26/98	0.47	6.6	19.4							
7/27/98	0.47	6.6	19.4							
7/28/98	0.44	6.1	18.5							
7/29/98	0.38	5.3	16.9							
7/30/98	0.4	5.6	17.4							
7/31/98	0.46	6.4	19.1							
8/1/98	0.59	8.2	22.7							
8/2/98	0.54	7.5	21.3							
8/3/98	0.48	6.7	19.6							
8/4/98	0.45	6.3	18.8							
8/5/98	0.46	6.4	19.1							
8/6/98	0.59	8.2	22.7							
8/7/98	0.38	5.3	16.9							
8/8/98	0.31	4.3	15.0							
8/9/98	0.39	5.4	17.2	11				43.3		
8/10/98	0.46	6.4	19.1							
8/11/98	0.43	6.0	18.3							
8/12/98	0.3	4.2	14.7	6.3	16.9			18.4		
8/13/98	0.41	5.7	17.7							
8/14/98	0.4	5.6	17.4							
8/15/98	0.29	4.0	14.4	6.3				14.8		
8/16/98	0.3	4.2	14.7							
8/17/98	0.3	4.2	14.7							
8/18/98	0.27	3.7	13.9							
8/19/98	0.33	4.6	15.5							
8/20/98	0.44	6.1	18.5							
8/21/98	0.5	7.0	20.2	12	22.8			26.4		
8/22/98	0.58	8.1	22.4							
8/23/98	0.38	5.3	16.9							
8/24/98	0.39	5.4	17.2							
8/25/98	0.45	6.3	18.8							
8/26/98	0.59	8.2	22.7							
8/27/98	0.48	6.7	19.6	10.7	19.7			20.8		
8/28/98	0.5	7.0	20.2							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
8/29/98	0.52	7.3	20.8							
8/30/98	0.51	7.1	20.5							
8/31/98	0.59	8.2	22.7							
9/1/98	0.61	8.5	23.2							
9/2/98	0.61	8.5	23.2					21.5		
9/3/98	0.62	8.7	23.5							
9/4/98	0.64	8.9	24.1							
9/5/98	0.44	6.1	18.5							
9/6/98	0.56	7.8	21.9							
9/7/98	0.6	8.4	23.0							
9/8/98	0.71	9.9	26.0	12.3				47.9		
9/9/98										
9/10/98	0.57	8.0	22.1							
9/11/98	0.47	6.6	19.4							
9/12/98	0.4	5.6	17.4							
9/13/98	0.29	4.0	14.4							
9/14/98	0.29	4.0	14.4	8.7	18.4			9.2		
9/15/98	0.44	6.1	18.5							
9/16/98	0.47	6.6	19.4							
9/17/98	0.72	10.1	26.3							
9/18/98	0.34	4.7	15.8							
9/19/98	0.26	3.6	13.6							
9/20/98	0.35	4.9	16.1	4.1	10			18.5		
9/21/98	0.35	4.9	16.1							
9/22/98	0.32	4.5	15.2							
9/23/98	0.3	4.2	14.7							
9/24/98	0.5	7.0	20.2							
9/25/98	0.38	5.3	16.9							
9/26/98	0.57	8.0	22.1	7.6	8.7			21.1		
9/27/98	0.4	5.6	17.4							
9/28/98	0.44	6.1	18.5							
9/29/98	0.42	5.9	18.0							
9/30/98	0.55	7.7	21.6							
10/1/98	0.74	10.3	26.8							
10/2/98	0.4	5.6	17.4	8.9	16			11.9		
10/3/98	0.37	5.2	16.6							
10/4/98	0.45	6.3	18.8							
10/5/98	0.5	7.0	20.2							
10/6/98	0.64	8.9	24.1							
10/7/98	0.54	7.5	21.3							
10/8/98	0.45	6.3	18.8	10.1	19.6			12.2		
10/9/98	0.44	6.1	18.5							
10/10/98	0.43	6.0	18.3							
10/11/98	0.7	9.8	25.7							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
10/12/98	0.85	11.9	29.8							
10/13/98	0.54	7.5	21.3							
10/14/98	0.58	8.1	22.4	8.7	18.4			13.0		
10/15/98	1.12	15.7	37.3							
10/16/98	1.69	23.7	53.0							
10/17/98	0.88	12.3	30.7							
10/18/98	0.65	9.1	24.3							
10/19/98	1.1	15.4	36.7							
10/20/98	0.86	12.0	30.1	15.9	30.2			17.1		
10/21/98	0.91	12.7	31.5							
10/22/98	0.91	12.7	31.5							
10/23/98	0.96	13.4	32.9							
10/24/98	0.86	12.0	30.1							
10/25/98	1.12	15.7	37.3							
10/26/98	1.04	14.6	35.1	23.7	39.5			37.4		
10/27/98	0.58	8.1	22.4							
10/28/98	0.79	11.0	28.2							
10/29/98	1.13	15.8	37.5							
10/30/98	0.93	13.0	32.0							
10/31/98	0.64	8.9	24.1							
11/1/98	1	14.0	34.0	16.5	29.6			21.6		
11/2/98	0.85	11.9	29.8							
11/3/98	0.84	11.7	29.6							
11/4/98	0.83	11.6	29.3							
11/5/98	1.08	15.1	36.2							
11/6/98	1.53	21.4	48.6							
11/7/98	0.88	12.3	30.7	11.2	24			28.7		
11/8/98	1.19	16.7	39.2							
11/9/98	1.41	19.7	45.2							
11/10/98	1.25	17.5	40.8							
11/11/98	1.17	16.4	38.6							
11/12/98	0.94	13.2	32.3							
11/13/98	0.94	13.2	32.3	16.5	34.5			9.4		
11/14/98	0.67	9.4	24.9							
11/15/98	0.33	4.6	15.5							
11/16/98	1.35	18.9	43.6							
11/17/98	1.03	14.4	34.8							
11/18/98	1.65	23.1	51.9							
11/19/98	1.32	18.5	42.8	21.8	44.4			26.1		
11/20/98	0.37	5.2	16.6							
11/21/98										
11/22/98	0.68	9.5	25.2							
11/23/98	0.48	6.7	19.6							
11/24/98	0.29	4.0	14.4							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
11/25/98	0.29	4.0	14.4	3.6	17.9			11.2		
11/26/98	0.36	5.0	16.3							
11/27/98	0.75	10.5	27.1							
11/28/98	0.81	11.3	28.7							
11/29/98	0.39	5.4	17.2							
11/30/98	0.49	6.8	19.9							
12/1/98	0.41	5.7	17.7	4.4	12.6			11.3		
12/2/98	0.3	4.2	14.7							
12/3/98	0.67	9.4	24.9							
12/4/98	1.45	20.3	46.3							
12/5/98	0.79	11.0	28.2							
12/6/98	0.82	11.5	29.0							
12/7/98	0.53	7.4	21.0	9.8	25.9			18.6		
12/8/98	0.98	13.7	33.4							
12/9/98	0.73	10.2	26.5							
12/10/98	0.61	8.5	23.2	11.4	27.3			35.3		
12/11/98	0.9	12.6	31.2							
12/12/98	1.02	14.3	34.5							
12/13/98	0.87	12.2	30.4	12.6	28			7.7		
12/14/98	0.98	13.7	33.4							
12/15/98	1.14	16.0	37.8							
12/16/98	1.01	14.1	34.2							
12/17/98	0.77	10.8	27.6	16.7	33.4			30.7		
12/18/98	0.52	7.3	20.8							
12/19/98	0.55	7.7	21.6	7.9	18.1			17.1		
12/20/98	0.66	9.2	24.6							
12/21/98	0.92	12.9	31.8							
12/22/98	0.86	12.0	30.1							
12/23/98	0.66	9.2	24.6							
12/24/98	0.6	8.4	23.0							
12/25/98	0.46	6.4	19.1	9.1	15.8			12.4		
12/26/98	0.69	9.6	25.4							
12/27/98	0.51	7.1	20.5							
12/28/98	0.51	7.1	20.5							
12/29/98	0.71	9.9	26.0							
12/30/98	1.38	19.3	44.4							
12/31/98	1.13	15.8	37.5	16.6	32.1			14.7		
1/1/99	1.8	25.2	56.0							
1/2/99	1.18	16.5	38.9							
1/3/99	1.28	17.9	41.7							
1/4/99	1.24	17.4	40.6							
1/5/99	1.29	18.1	41.9							
1/6/99	1.7	23.8	53.2	37.1	66.8					

**John Day Particulate Survey Data – Continued**

<b>Blue Mt. Junior High School</b>								<b>SCC</b>	<b>AFS</b>	<b>NCC</b>
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
1/7/99	1.53	21.4	48.6							
1/8/99	1.97	27.6	60.7							
1/9/99	1.16	16.2	38.4							
1/10/99	1.23	17.2	40.3							
1/11/99	0.9	12.6	31.2							
1/12/99	1.7	23.8	53.2	22.7	30.3					
1/13/99	0.96	13.4	32.9							
1/14/99	0.37	5.2	16.6							
1/15/99	0.52	7.3	20.8							
1/16/99	0.31	4.3	15.0							
1/17/99	0.63	8.8	23.8							
1/18/99	0.38	5.3	16.9	6	22.1					
1/19/99	0.73	10.2	26.5							
1/20/99	0.48	6.7	19.6							
1/21/99	0.83	11.6	29.3							
1/22/99	0.43	6.0	18.3							
1/23/99	1.15	16.1	38.1							
1/24/99	0.83	11.6	29.3	14.6	34.4					
1/25/99	0.8	11.2	28.5							
1/26/99	1.43	20.0	45.8							
1/27/99	1.14	16.0	37.8							
1/28/99	0.29	4.0	14.4							
1/29/99	0.53	7.4	21.0							
1/30/99	0.54	7.5	21.3	7.2	18.4					
1/31/99	1.03	14.4	34.8							
2/1/99	0.94	13.2	32.3							
2/2/99	0.55	7.7	21.6							
2/3/99	0.89	12.5	30.9							
2/4/99	0.49	6.8	19.9							
2/5/99	0.54	7.5	21.3	8.2	16.1					
2/6/99	0.28	3.9	14.1							
2/7/99	0.27	3.7	13.9							
2/8/99	0.68	9.5	25.2							
2/9/99	0.94	13.2	32.3							
2/10/99	1.01	14.1	34.2							
2/11/99	1.38	19.3	44.4	17.5	37.7					
2/12/99	1.46	20.5	46.6							
2/13/99	1.05	14.7	35.3							
2/14/99	0.95	13.3	32.6							
2/15/99	0.67	9.4	24.9							
2/16/99	0.52	7.3	20.8							
2/17/99	0.54	7.5	21.3	7.8	19					
2/18/99	0.43	6.0	18.3							
2/19/99	0.42	5.9	18.0							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
2/20/99	0.47	6.6	19.4	7.6	28.4	6.2				
2/21/99	0.72	10.1	26.3							
2/22/99	0.43	6.0	18.3							
2/23/99	0.25	3.5	13.3	2.3	8.3	3.3				
2/24/99	0.3	4.2	14.7							
2/25/99	0.38	5.3	16.9							
2/26/99	0.65	9.1	24.3	6.8	21.3	6.1				
2/27/99	0.32	4.5	15.2							
2/28/99	0.39	5.4	17.2							
3/1/99	0.46	6.4	19.1	8	17.6	7.6				
3/2/99	0.56	7.8	21.9							
3/3/99	0.3	4.2	14.7	3	8	5				
3/4/99	0.78	10.9	27.9							
3/5/99	0.78	10.9	27.9	10.5	25.5	11.4				
3/6/99	1.28	17.9	41.7							
3/7/99	1.38	19.3	44.4	18.5	28.8	19.3				
3/8/99	0.51	7.1	20.5							
3/9/99	0.5	7.0	20.2							
3/10/99	0.64	8.9	24.1							
3/11/99	0.65	9.1	24.3	10.1	22.8	9.6				
3/12/99	0.59	8.2	22.7							
3/13/99	0.77	10.8	27.6	10.4	21.1	10.2				
3/14/99	1	14.0	34.0							
3/15/99	0.6	8.4	23.0							
3/16/99	0.6	8.4	23.0							
3/17/99	0.59	8.2	22.7	8.6	21.7	8.7				
3/18/99	0.88	12.3	30.7							
3/19/99	0.59	8.2	22.7	11.1	30.8		20.6			
3/20/99	0.76	10.6	27.4							
3/21/99	0.41	5.7	17.7							
3/22/99	0.39	5.4	17.2	7.7	13.2		4.7			
3/23/99	0.49	6.8	19.9							
3/24/99	0.49	6.8	19.9							
3/25/99	0.32	4.5	15.2							
3/26/99	0.27	3.7	13.9							
3/27/99	0.35	4.9	16.1							
3/28/99	0.51	7.1	20.5							
3/29/99	0.45	6.3	18.8							
3/30/99	0.33	4.6	15.5							
3/31/99	0.67	9.4	24.9	9.9	16.6		13.3			
4/1/99	1.42	19.9	45.5							
4/2/99	1.42	19.9	45.5		36.6		26.2			
4/3/99	0.59	8.2	22.7							
4/4/99	1.15	16.1	38.1							

**John Day Particulate Survey Data – Continued**

<b>Blue Mt. Junior High School</b>								<b>SCC</b>	<b>AFS</b>	<b>NCC</b>
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
4/5/99	0.36	5.0	16.3							
4/6/99	0.57	8.0	22.1							
4/7/99	0.41	5.7	17.7							
4/8/99	0.33	4.6	15.5							
4/9/99	0.36	5.0	16.3							
4/10/99	0.5	7.0	20.2							
4/11/99	0.76	10.6	27.4							
4/12/99	0.37	5.2	16.6							
4/13/99	0.58	8.1	22.4							
4/14/99	0.54	7.5	21.3							
4/15/99	0.56	7.8	21.9							
4/16/99	0.49	6.8	19.9							
4/17/99	0.63	8.8	23.8							
4/18/99	0.72	10.1	26.3							
4/19/99	0.62	8.7	23.5							
4/20/99	0.46	6.4	19.1							
4/21/99	0.35	4.9	16.1							
4/22/99	0.45	6.3	18.8							
4/23/99	0.58	8.1	22.4							
4/24/99	0.37	5.2	16.6			6.2				
4/25/99	0.48	6.7	19.6							
4/26/99	0.49	6.8	19.9							
4/27/99	0.56	7.8	21.9							
4/28/99	0.45	6.3	18.8							
4/29/99	0.52	7.3	20.8							
4/30/99	0.38	5.3	16.9	21.7	36.6	7.3				
5/1/99	0.43	6.0	18.3							
5/2/99	0.26	3.6	13.6							
5/3/99	0.35	4.9	16.1							
5/4/99	0.32	4.5	15.2							
5/5/99	0.3	4.2	14.7							
5/6/99	0.3	4.2	14.7			4				
5/7/99	0.26	3.6	13.6							
5/8/99	0.47	6.6	19.4							
5/9/99	0.61	8.5	23.2							
5/10/99	0.37	5.2	16.6							
5/11/99										
5/12/99						4.8				
5/13/99										
5/14/99	0.37	5.2	16.6							
5/15/99	0.38	5.3	16.9							
5/16/99	0.45	6.3	18.8							
5/17/99	0.49	6.8	19.9							
5/18/99	0.36	5.0	16.3			2.4				

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
5/19/99	0.31	4.3	15.0							
5/20/99	0.34	4.7	15.8							
5/21/99	0.47	6.6	19.4							
5/22/99	0.41	5.7	17.7							
5/23/99	0.68	9.5	25.2							
5/24/99	0.63	8.8	23.8			10.7				
5/25/99	0.43	6.0	18.3							
5/26/99	0.34	4.7	15.8							
5/27/99	0.59	8.2	22.7							
5/28/99	0.46	6.4	19.1							
5/29/99	0.34	4.7	15.8							
5/30/99	0.36	5.0	16.3			8.6				
5/31/99	0.28	3.9	14.1							
6/1/99	0.24	3.3	13.0							
6/2/99	0.36	5.0	16.3							
6/3/99	0.53	7.4	21.0							
6/4/99	0.39	5.4	17.2							
6/5/99	0.24	3.3	13.0							
6/6/99	0.29	4.0	14.4							
6/7/99	0.32	4.5	15.2							
6/8/99	0.25	3.5	13.3							
6/9/99	0.31	4.3	15.0							
6/10/99	0.26	3.6	13.6							
6/11/99	0.31	4.3	15.0			4.3				
6/12/99	0.33	4.6	15.5							
6/13/99	0.35	4.9	16.1							
6/14/99	0.39	5.4	17.2							
6/15/99	0.42	5.9	18.0							
6/16/99	0.46	6.4	19.1							
6/17/99	0.34	4.7	15.8							
6/18/99	0.35	4.9	16.1							
6/19/99	0.27	3.7	13.9							
6/20/99	0.28	3.9	14.1							
6/21/99	0.31	4.3	15.0							
6/22/99	0.22	3.0	12.5							
6/23/99	0.23	3.2	12.8							
6/24/99	0.24	3.3	13.0							
6/25/99	0.22	3.0	12.5							
6/26/99	0.23	3.2	12.8							
6/27/99	0.27	3.7	13.9							
6/28/99	0.25	3.5	13.3							
6/29/99	0.24	3.3	13.0							
6/30/99	0.25	3.5	13.3							
7/1/99	0.24	3.3	13.0							

**John Day Particulate Survey Data – Continued**

<b>Blue Mt. Junior High School</b>								<b>SCC</b>	<b>AFS</b>	<b>NCC</b>
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
7/2/99	0.23	3.2	12.8							
7/3/99	0.22	3.0	12.5							
7/4/99	0.27	3.7	13.9							
7/5/99	0.22	3.0	12.5							
7/6/99	0.28	3.9	14.1							
7/7/99	0.26	3.6	13.6							
7/8/99	0.88	12.3	30.7							
7/9/99	1.15	16.1	38.1							
7/10/99	1.18	16.5	38.9							
7/11/99	0.87	12.2	30.4							
7/12/99	0.52	7.3	20.8							
7/13/99	0.34	4.7	15.8							
7/14/99	0.29	4.0	14.4							
7/15/99	0.26	3.6	13.6							
7/16/99	0.31	4.3	15.0							
7/17/99	0.46	6.4	19.1							
7/18/99	0.32	4.5	15.2							
7/19/99	0.32	4.5	15.2							
7/20/99	0.35	4.9	16.1							
7/21/99	0.36	5.0	16.3							
7/22/99	0.41	5.7	17.7							
7/23/99	0.38	5.3	16.9							
7/24/99	0.26	3.6	13.6							
7/25/99	0.25	3.5	13.3							
7/26/99	0.34	4.7	15.8							
7/27/99	0.41	5.7	17.7							
7/28/99	0.46	6.4	19.1							
7/29/99	0.49	6.8	19.9							
7/30/99	0.38	5.3	16.9							
7/31/99	0.36	5.0	16.3							
8/1/99	0.36	5.0	16.3							
8/2/99	0.4	5.6	17.4							
8/3/99	0.56	7.8	21.9							
8/4/99	0.64	8.9	24.1							
8/5/99	0.62	8.7	23.5			11.1				
8/6/99	0.96	13.4	32.9							
8/7/99	0.3	4.2	14.7							
8/8/99	0.31	4.3	15.0							
8/9/99	0.37	5.2	16.6							
8/10/99	0.57	8.0	22.1							
8/11/99	0.5	7.0	20.2							
8/12/99	0.44	6.1	18.5							
8/13/99	0.34	4.7	15.8							
8/14/99	0.81	11.3	28.7							

**John Day Particulate Survey Data – Continued**

<b>Blue Mt. Junior High School</b>								<b>SCC</b>	<b>AFS</b>	<b>NCC</b>
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
8/15/99	0.32	4.5	15.2							
8/16/99	0.46	6.4	19.1			6.9				
8/17/99	0.51	7.1	20.5							
8/18/99	0.48	6.7	19.6							
8/19/99	0.44	6.1	18.5							
8/20/99	0.56	7.8	21.9							
8/21/99	0.52	7.3	20.8							
8/22/99	0.3	4.2	14.7							
8/23/99	0.34	4.7	15.8							
8/24/99	0.4	5.6	17.4							
8/25/99	0.47	6.6	19.4							
8/26/99	0.44	6.1	18.5							
8/27/99	0.61	8.5	23.2							
8/28/99	0.65	9.1	24.3			10.9				
8/29/99	0.65	9.1	24.3							
8/30/99	0.32	4.5	15.2							
8/31/99	0.29	4.0	14.4							
9/1/99	0.29	4.0	14.4							
9/2/99	0.37	5.2	16.6							
9/3/99	0.32	4.5	15.2			4.9				
9/4/99	0.32	4.5	15.2							
9/5/99	0.37	5.2	16.6							
9/6/99	0.32	4.5	15.2							
9/7/99	0.26	3.6	13.6							
9/8/99	0.48	6.7	19.6							
9/9/99	0.83	11.6	29.3			13.1				
9/10/99	0.46	6.4	19.1							
9/11/99	0.3	4.2	14.7							
9/12/99	0.26	3.6	13.6							
9/13/99	0.31	4.3	15.0							
9/14/99	0.31	4.3	15.0							
9/15/99	0.44	6.1	18.5			7.8				
9/16/99	0.72	10.1	26.3							
9/17/99	0.71	9.9	26.0							
9/18/99	0.57	8.0	22.1							
9/19/99	0.4	5.6	17.4							
9/20/99	0.49	6.8	19.9							
9/21/99	0.53	7.4	21.0							
9/22/99	0.77	10.8	27.6							
9/23/99	0.72	10.1	26.3							
9/24/99	0.32	4.5	15.2							
9/25/99	0.24	3.3	13.0							
9/26/99	0.42	5.9	18.0							
9/27/99	0.43	6.0	18.3							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
9/28/99	0.46	6.4	19.1			6.4				
9/29/99	0.37	5.2	16.6							
9/30/99	0.64	8.9	24.1							
10/1/99	0.39	5.4	17.2							
10/2/99	0.44	6.1	18.5							
10/3/99	0.4	5.6	17.4			12.1				
10/4/99	0.79	11.0	28.2							
10/5/99	0.7	9.8	25.7							
10/6/99	0.67	9.4	24.9							
10/7/99	0.38	5.3	16.9							
10/8/99	0.28	3.9	14.1							
10/9/99	0.31	4.3	15.0			4				
10/10/99	0.44	6.1	18.5							
10/11/99	0.54	7.5	21.3							
10/12/99	0.39	5.4	17.2							
10/13/99	0.34	4.7	15.8							
10/14/99	0.52	7.3	20.8							
10/15/99	0.65	9.1	24.3			12				
10/16/99	0.58	8.1	22.4							
10/17/99	0.49	6.8	19.9							
10/18/99	0.52	7.3	20.8							
10/19/99	0.59	8.2	22.7							
10/20/99	0.54	7.5	21.3							
10/21/99	0.52	7.3	20.8			7.9				
10/22/99	0.48	6.7	19.6							
10/23/99	0.7	9.8	25.7							
10/24/99	1.38	19.3	44.4							
10/25/99	0.91	12.7	31.5							
10/26/99	0.55	7.7	21.6							
10/27/99	0.64	8.9	24.1							
10/28/99	0.44	6.1	18.5							
10/29/99	0.72	10.1	26.3							
10/30/99	0.76	10.6	27.4							
10/31/99	0.61	8.5	23.2							
11/1/99	0.64	8.9	24.1							
11/2/99	0.79	11.0	28.2			14.2				
11/3/99	0.74	10.3	26.8							
11/4/99	0.61	8.5	23.2							
11/5/99	1.04	14.6	35.1							
11/6/99	0.64	8.9	24.1							
11/7/99	0.83	11.6	29.3							
11/8/99	0.61	8.5	23.2			7.9				
11/9/99	0.45	6.3	18.8							
11/10/99	0.46	6.4	19.1							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
11/11/99	0.45	6.3	18.8							
11/12/99	0.37	5.2	16.6							
11/13/99	0.58	8.1	22.4							
11/14/99	0.8	11.2	28.5			12.5				
11/15/99	0.87	12.2	30.4							
11/16/99	0.95	13.3	32.6							
11/17/99	0.57	8.0	22.1							
11/18/99	1.14	16.0	37.8							
11/19/99	1.1	15.4	36.7							
11/20/99	0.47	6.6	19.4			5.8				
11/21/99	1.68	23.5	52.7							
11/22/99	1.84	25.8	57.1							
11/23/99	0.87	12.2	30.4							
11/24/99	0.63	8.8	23.8							
11/25/99	0.47	6.6	19.4							
11/26/99	0.52	7.3	20.8			7.4				
11/27/99	0.82	11.5	29.0							
11/28/99	1.03	14.4	34.8							
11/29/99	0.78	10.9	27.9							
11/30/99	0.38	5.3	16.9							
12/1/99	0.72	10.1	26.3							
12/2/99	0.31	4.3	15.0			3.4				
12/3/99	1.01	14.1	34.2							
12/4/99	0.61	8.5	23.2							
12/5/99	0.76	10.6	27.4							
12/6/99	0.78	10.9	27.9							
12/7/99	0.84	11.7	29.6							
12/8/99	0.93	13.0	32.0			12.4				
12/9/99	0.71	9.9	26.0							
12/10/99	1.02	14.3	34.5							
12/11/99	0.64	8.9	24.1							
12/12/99	0.36	5.0	16.3							
12/13/99	0.43	6.0	18.3							
12/14/99	0.38	5.3	16.9			5.4				
12/15/99	0.48	6.7	19.6							
12/16/99	0.78	10.9	27.9							
12/17/99	0.56	7.8	21.9							
12/18/99	0.77	10.8	27.6							
12/19/99	1.2	16.8	39.5			17.1				
12/20/99	1.17	16.4	38.6							
12/21/99	1.74	24.4	54.3							
12/22/99	1.33	18.6	43.0							
12/23/99	1.66	23.3	52.1							
12/24/99	1.47	20.6	46.9							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
12/25/99	0.67	9.4	24.9			7.3				
12/26/99	0.64	8.9	24.1							
12/27/99	0.84	11.7	29.6							
12/28/99	1.73	24.2	54.1							
12/29/99	1.81	25.4	56.3							
12/30/99	1.14	16.0	37.8							
12/31/99	1.4	19.6	45.0							
1/1/00	1.51	21.2	48.0			23.5				
1/2/00	1.07	15.0	35.9							
1/3/00	1.46	20.5	46.6							
1/4/00	0.47	6.6	19.4							
1/5/00	0.68	9.5	25.2							
1/6/00	0.68	9.5	25.2							
1/7/00	0.73	10.2	26.5			9.7				
1/8/00	1.26	17.6	41.1							
1/9/00	0.28	3.9	14.1							
1/10/00	0.46	6.4	19.1							
1/11/00	0.68	9.5	25.2							
1/12/00	0.4	5.6	17.4							
1/13/00	0.4	5.6	17.4			5.1				
1/14/00	0.37	5.2	16.6							
1/15/00	0.8	11.2	28.5							
1/16/00	0.21	2.9	12.2							
1/17/00	1.22	17.1	40.0							
1/18/00	1.86	26.1	57.6							
1/19/00	1.83	25.6	56.8			27.2				
1/20/00	1.13	15.8	37.5							
1/21/00	1.54	21.6	48.8							
1/22/00	0.97	13.6	33.1							
1/23/00	1.06	14.8	35.6							
1/24/00	1.07	15.0	35.9							
1/25/00	0.9	12.6	31.2			12.6				
1/26/00	0.76	10.6	27.4							
1/27/00	1.17	16.4	38.6							
1/28/00	1.15	16.1	38.1							
1/29/00	1.11	15.5	37.0							
1/30/00	1.44	20.2	46.1							
1/31/00	0.79	11.0	28.2			17.1				
2/1/00	0.5	7.0	20.2							
2/2/00	0.58	8.1	22.4							
2/3/00	1.19	16.7	39.2							
2/4/00	0.76	10.6	27.4							
2/5/00	0.57	8.0	22.1							
2/6/00	0.81	11.3	28.7			10.1				

**John Day Particulate Survey Data – Continued**

<b>Blue Mt. Junior High School</b>								<b>SCC</b>	<b>AFS</b>	<b>NCC</b>
<b>Date</b>	<b>24 hr.</b>	<b>Estimated Values</b>		<b>Survey Samplers</b>		<b>MV Sampler</b>		<b>LV</b>	<b>LV</b>	<b>LV</b>
	<b>Neph</b>	<b>LV PM2.5</b>	<b>LV PM10</b>	<b>LV PM 2.5</b>	<b>LV PM 10</b>	<b>MV-2.5</b>	<b>PM10</b>	<b>PM 10</b>	<b>PM 10</b>	<b>PM 10</b>
2/7/00	0.68	9.5	25.2							
2/8/00	0.69	9.6	25.4							
2/9/00	0.68	9.5	25.2							
2/10/00	1.09	15.3	36.4							
2/11/00	0.41	5.7	17.7							
2/12/00	0.68	9.5	25.2			9.1				
2/13/00	0.48	6.7	19.6							
2/14/00	0.34	4.7	15.8							
2/15/00	0.83	11.6	29.3							
2/16/00	0.75	10.5	27.1							
2/17/00	1.48	20.7	47.2							
2/18/00	0.83	11.6	29.3			10.9				
2/19/00	0.91	12.7	31.5							
2/20/00	1.32	18.5	42.8							
2/21/00	0.7	9.8	25.7							
2/22/00	0.3	4.2	14.7							
2/23/00	0.61	8.5	23.2							
2/24/00	1.08	15.1	36.2			14.7				
2/25/00	0.61	8.5	23.2							
2/26/00	0.46	6.4	19.1							
2/27/00	0.44	6.1	18.5							
2/28/00	0.62	8.7	23.5							
2/29/00	0.77	10.8	27.6							
3/1/00	1.05	14.7	35.3			12.8				
3/2/00	0.65	9.1	24.3							
3/3/00	0.68	9.5	25.2							
3/4/00	0.56	7.8	21.9							
3/5/00	0.24	3.3	13.0							
3/6/00	0.58	8.1	22.4							
3/7/00	0.73	10.2	26.5			10.8				
3/8/00	0.73	10.2	26.5							
3/9/00	0.86	12.0	30.1							
3/10/00	0.65	9.1	24.3							
3/11/00	0.54	7.5	21.3							
3/12/00	0.68	9.5	25.2							
3/13/00	0.44	6.1	18.5			4.9				
3/14/00	0.41	5.7	17.7							
3/15/00	0.43	6.0	18.3							
3/16/00	0.39	5.4	17.2							
3/17/00										
3/18/00										
3/19/00						3.7				
3/20/00										

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr. Neph	Estimated Values		Survey Samplers		MV Sampler		LV PM 10	LV PM 10	LV PM 10
		LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10			
3/21/00										
3/22/00										
3/23/00	0.43	6.0	18.3							
3/24/00	0.59	8.2	22.7							
3/25/00	0.75	10.5	27.1			8.9				
3/26/00	0.66	9.2	24.6							
3/27/00	0.49	6.8	19.9							
3/28/00	0.39	5.4	17.2							
3/29/00	0.67	9.4	24.9							
3/30/00	0.83	11.6	29.3							
3/31/00	0.63	8.8	23.8			8.3				
4/1/00	0.58	8.1	22.4							
4/2/00	0.53	7.4	21.0							
4/3/00	0.37	5.2	16.6							
4/4/00	0.37	5.2	16.6							
4/5/00	0.31	4.3	15.0							
4/6/00	0.50	7.0	20.2			6.4				
4/7/00	0.60	8.4	23.0							
4/8/00	0.34	4.7	15.8							
4/9/00	0.54	7.5	21.3							
4/10/00	0.49	6.8	19.9							
4/11/00	0.40	5.6	17.4							
4/12/00	0.47	6.6	19.4			7.6				
4/13/00	0.37	5.2	16.6							
4/14/00	0.49	6.8	19.9							
4/15/00	0.42	5.9	18.0							
4/16/00	0.52	7.3	20.8							
4/17/00	0.55	7.7	21.6							
4/18/00	0.46	6.4	19.1			8				
4/19/00	0.33	4.6	15.5							
4/20/00	0.32	4.5	15.2							
4/21/00	0.35	4.9	16.1							
4/22/00	0.39	5.4	17.2							
4/23/00	0.34	4.7	15.8							
4/24/00	0.35	4.9	16.1			7.5				
4/25/00	0.37	5.2	16.6							
4/26/00	0.40	5.6	17.4							
4/27/00	0.36	5.0	16.3							
4/28/00	0.29	4.0	14.4							
4/29/00	0.35	4.9	16.1							
4/30/00	0.30	4.2	14.7			5.6				
5/1/00	0.39	5.4	17.2							
5/2/00	0.38	5.3	16.9							
5/3/00	0.36	5.0	16.3							

### John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
Date	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
5/4/00	0.27	3.7	13.9							
5/5/00	0.36	5.0	16.3							
5/6/00	0.38	5.3	16.9			4.6				
5/7/00	0.42	5.9	18.0							
5/8/00	0.33	4.6	15.5							
5/9/00	0.32	4.5	15.2							
5/10/00	0.30	4.2	14.7							
5/11/00	0.41	5.7	17.7							
5/12/00	0.47	6.6	19.4			5.7				
5/13/00	0.36	5.0	16.3							
5/14/00	0.44	6.1	18.5							
5/15/00	0.39	5.4	17.2							
5/16/00	0.43	6.0	18.3							
5/17/00	0.35	4.9	16.1							
5/18/00	0.39	5.4	17.2			7.1				
5/19/00	0.37	5.2	16.6							
5/20/00	0.40	5.6	17.4							
5/21/00	0.41	5.7	17.7							
5/22/00	0.41	5.7	17.7							
5/23/00	0.34	4.7	15.8							
5/24/00	0.29	4.0	14.4			7.2				
5/25/00	0.45	6.3	18.8							
5/26/00	0.36	5.0	16.3							
5/27/00	0.27	3.7	13.9							
5/28/00	0.23	3.2	12.8							
5/29/00	0.26	3.6	13.6							
5/30/00	0.38	5.3	16.9			3.9				
5/31/00	0.31	4.3	15.0							
6/1/00	0.29	4.0	14.4							
6/2/00	0.30	4.2	14.7							
6/3/00	0.33	4.6	15.5							
6/4/00	0.34	4.7	15.8							
6/5/00	0.36	5.0	16.3			7				
6/6/00	0.28	3.9	14.1							
6/7/00	0.30	4.2	14.7							
6/8/00	0.30	4.2	14.7							
6/9/00	0.25	3.5	13.3							
6/10/00	0.24	3.3	13.0							
6/11/00	0.31	4.3	15.0			2.5				
6/12/00	0.27	3.7	13.9							
6/13/00	0.24	3.3	13.0							
6/14/00	0.27	3.7	13.9							
6/15/00	0.23	3.2	12.8							
6/16/00	0.27	3.7	13.9							

## John Day Particulate Survey Data – Continued

Blue Mt. Junior High School								SCC	AFS	NCC
Date	24 hr.	Estimated Values		Survey Samplers		MV Sampler		LV	LV	LV
	Neph	LV PM2.5	LV PM10	LV PM 2.5	LV PM 10	MV-2.5	PM10	PM 10	PM 10	PM 10
6/17/00	0.24	3.3	13.0			3.9				
6/18/00	0.26	3.6	13.6							
6/19/00	0.25	3.5	13.3							
6/20/00	0.28	3.9	14.1							
6/21/00	0.28	3.9	14.1							
6/22/00	0.27	3.7	13.9							
6/23/00	0.25	3.5	13.3			3.8				
6/24/00	0.28	3.9	14.1							
6/25/00	0.24	3.3	13.0							
6/26/00	0.26	3.6	13.6							
6/27/00	0.34	4.7	15.8							
6/28/00	0.41	5.7	17.7							
6/29/00	0.47	6.6	19.4			6.7				
6/30/00	0.32	4.5	15.2							
7/1/00	0.35	4.9	16.1							
7/2/00	0.29	4.0	14.4							
7/3/00	0.24	3.3	13.0							
7/4/00	0.27	3.7	13.9							
7/5/00	0.27	3.7	13.9			4.4				
7/6/00	0.38	5.3	16.9							
7/7/00	0.34	4.7	15.8							
7/8/00	0.33	4.6	15.5							
7/9/00	0.33	4.6	15.5							
7/10/00	0.30	4.2	14.7							
7/11/00	0.39	5.4	17.2			5.5				
7/12/00	0.40	5.6	17.4							
7/13/00	0.37	5.2	16.6							
7/14/00	0.36	5.0	16.3							
7/15/00	0.28	3.9	14.1							
7/16/00	0.30	4.2	14.7							
7/17/00	0.32	4.5	15.2			4				
7/18/00	0.30	4.2	14.7							
7/19/00	0.31	4.3	15.0							
7/20/00	0.36	5.0	16.3							
7/21/00	0.45	6.3	18.8							
7/22/00	0.52	7.3	20.8							
7/23/00	0.24	3.3	13.0			2.2				
7/24/00	0.29	4.0	14.4							
7/25/00	0.28	3.9	14.1							
7/26/00	0.35	4.9	16.1							
7/27/00	0.34	4.7	15.8							
7/28/00	0.36	5.0	16.3							
7/29/00	0.34	4.7	15.8			5.2				
7/30/00	0.41	5.7	17.7							
7/31/00	0.42	5.9	18.0							