Wyoming Wildfire Exceptional Event Demonstration

June 26, 2012- July 5, 2012

Developed by the Wyoming Department of Environmental Quality – Air Quality Division, Monitoring Section

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1.0 Scope of Report

This purpose of this report is to provide documentation on exceedances of the PM_{10} and $PM_{2.5}$ 24-hour National Ambient Air Quality Standards (NAAQS) that occurred between June 26 and July 5, 2012 due to several wildfires burning throughout Wyoming and surrounding states. During this time, the Wyoming Department of Environmental Quality – Air Quality Division (AQD) recorded fourteen (14) exceedances of the 24-hour $PM_{2.5}$ (Particulate Matter less than 2.5 micrometers in diameter)NAAQS of 35 $\mu g/m^3$ and one (1) exceedance of the 24-hour PM_{10} (Particulate Matter less than 10 micrometers in diameter) NAAQS of 150 $\mu g/m^3$.

During late June and early July, several wildfires were burning across Wyoming and surrounding states (Montana, Utah, and Colorado) contributing to smoke across Wyoming. Large wildfires including four that were ignited in late June, the Arapaho, Ask Creek Complex, Oil Creek, and the Fontenelle and smaller wildfires including Bear Cub, Cato, and Russell's Camp were burning during this time. Figure 1 shows exceeding monitors and fire locations in Wyoming.

Within this demonstration the AQD presents supporting evidence which clearly shows that the exceptional events passed the four required tests A-D under 40 CFR 50.14 (3)(iii). Specifically:

(A) The event satisfies the criteria set forth in 40 CFR 50.1;

(B) There is a clear causal relationship between the measurement under consideration and the event that is claimed to have affected the air quality in the area (CFR Section 319(b)(3)(B)(ii));

(C) The event is associated with a measured concentration in excess of normal historical fluctuations, including background; and

(D) There would have been no exceedance or violation but for the event.

As part of the Final Exceptional Events Rule, published March 22, 2007 the preamble categorizes wildfires and wildland use fires as natural events. Furthermore, the preamble also goes on to state that

> *" …both wildfires and wildland use fires fall within the meaning of "natural events" as that term used in Section 319. Therefore, ambient particulate matter and ozone concentrations due to smoke from a wildland fire will be considered for treatment as an exceptional event if the fire is determined to be either a wildfire or a wildland use fire."*

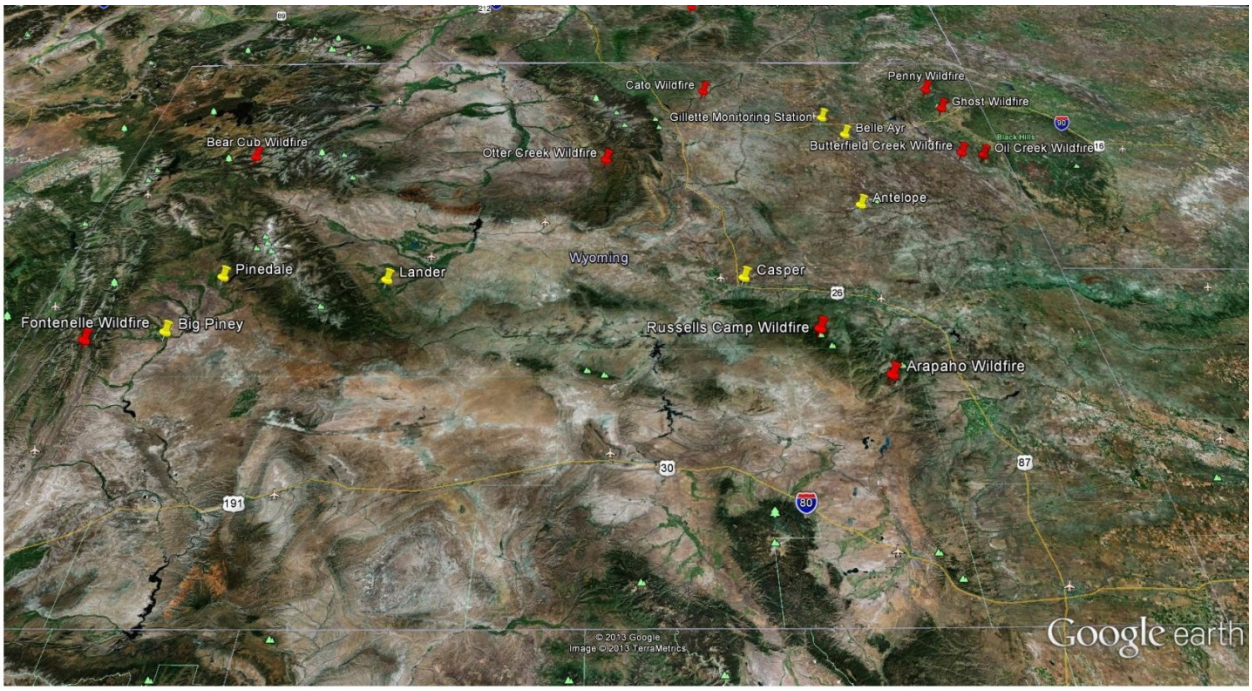
The detailed analysis contained within this document will demonstrate that the following $PM_{2.5}$ and PM_{10} events meet the requirements of the Exceptional Event Rule. The demonstration is organized by a detailed conceptual model of the event and then evidence to support each test.

The AQD is therefore requesting concurrence on the following exceptional event flags in AQS:

Table 1: June-July 2012 Particulate Matter Exceedances

Date	AQS ID	Monitor Name	Parameter	24-hour value ($\mu g/m^3$)
6/26/12	56-035-0101	Pinedale Gaseous	$PM_{2.5}$	47
6/28/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	54
6/29/12	56-013-1003	Lander SLAMS	$PM_{2.5}$	42
6/29/12	56-025-0001	Casper SLAMS	$PM_{2.5}$	37
6/29/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	111
6/30/12	56-035-0700	Big Piney Mobile	PM_{10}	190
6/30/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	144
7/1/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	85
7/2/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	97
7/3/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	75
7/4/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	68
7/4/12	56-005-0800	Gillette Mobile	$PM_{2.5}$	57
7/4/12	56-005-0892	Belle Ayr	$PM_{2.5}$	55
7/4/12	56-009-0819	Antelope	$PM_{2.5}$	47
7/5/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	38

Figure 1: Wyoming Monitoring Locations and Regional Fires



Yellow pins indicate exceeding monitors; Red pins indicate wildfires

2.0 Conceptual Model

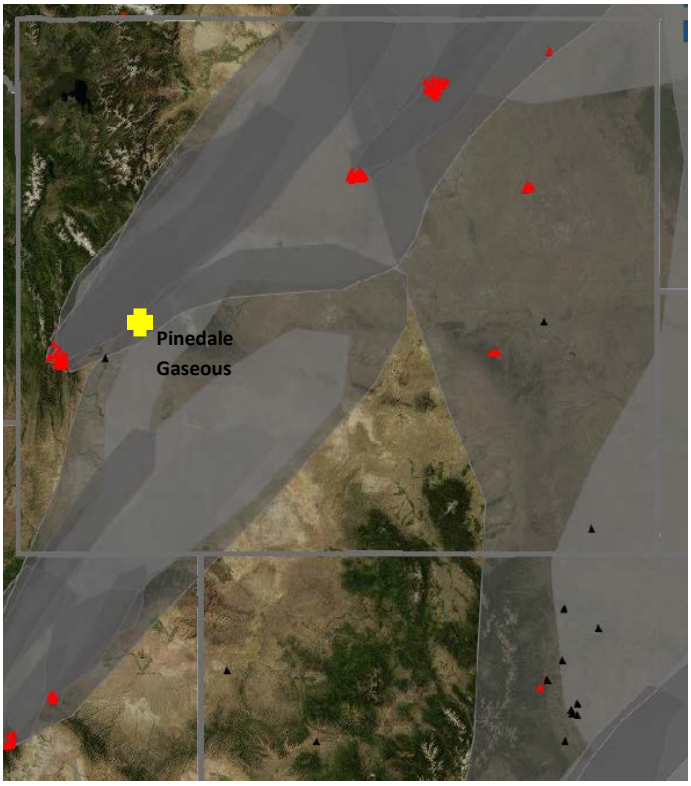
As stated above, several fires contributed to smoke impacts throughout Wyoming in late June and early July 2012. Ambient monitoring stations that monitor for PM_{10} and $PM_{2.5}$ around Wyoming were affected by smoke from these fires. These exceedances can be primarily traced to the ignition of the Fontenelle Fire in western Wyoming. According to InciWeb, (http://inciweb.org/incident/2934/) the Fontenelle Fire began on June 24, 2012 18 miles west of Big Piney, on the Bridger-Teton National Forest. The cause of the fire is still under investigation and was considered a wildfire.

Beginning June 26, the AQD began to monitor 24-hour exceedances of $PM_{2.5}$. Smoke from the Fontenelle, as well as the Seeley Fire in northeastern Utah was impacting the Pinedale/Upper Green River Basin area. The Pinedale Gaseous Station (Pinedale) $PM_{2.5}$ monitor recorded an exceedance on this day. Other monitors in the Upper Green River Basin recorded elevated values, but did not record exceedances on this day. For instance, the Big Piney Mobile Station (Big Piney) $PM_{2.5}$ monitor, closest to the Fontenelle Fire, recorded a 24-hour $PM_{2.5}$ concentration of 30 $\mu g/m^3$.

One tool used to determine smoke impacts from fire is the Hazard Mapping System (HMS) Fire and Smoke Product. This map indicates the location of fires and significant smoke plumes in the Northern Hemisphere. Year-round analysis for Canada and the United States is provided by the NOAA Satellite Analysis Branch. In the HMS images, red triangles represent fire and yellow crosses indicate exceeding monitors.

Figure 2 shows the HMS from June 26 and images from Pinedale and the Fontenelle Fire taken on June 26.

Figure 2: June 26 HMS, Pinedale image and Fontenelle Fire image

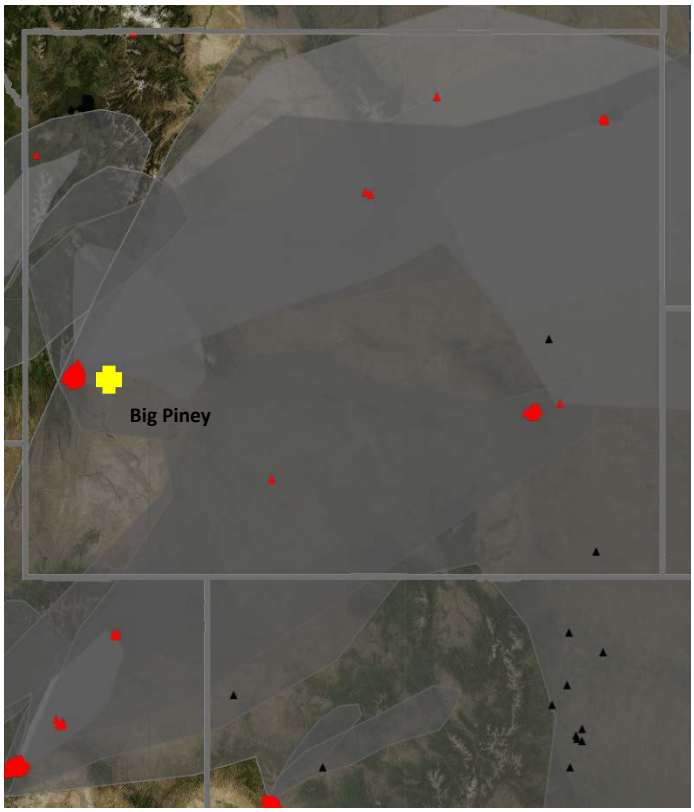


Images obtained from Pinedale Online and Inciweb

Over the next several days, the Fontenelle Fire continued to grow at a rate of approximately 10,000 acres per day according to the United States Forest Service (USFS) (See Appendix B).

On June 28, the Big Piney $PM_{2.5}$ monitor recorded its first exceedance of $PM_{2.5}$. Figure 3 shows the HMS for June 28, the image from the AQD's Warbonnet camera (looking southwest toward Big Piney) at 3:00 p.m. and the image from the AQD's Daniel Station camera looking southeast at 3:00 p.m. (with fire reflection)

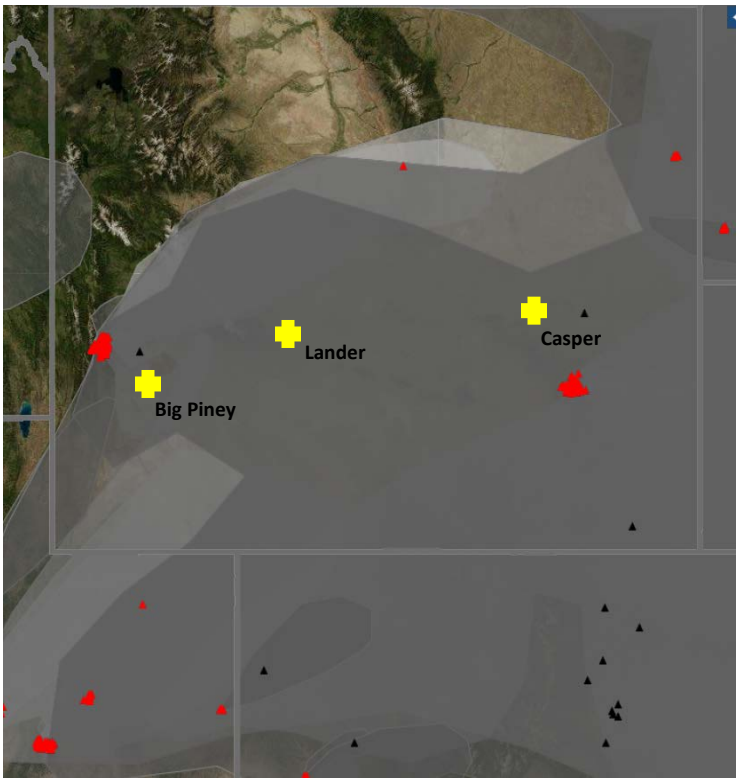
Figure 3: June 28 HMS, Warbonnet image, and Daniel image



Images obtained from WyVisNet

On June 29, smoke from the Fontenelle Fire had travelled across the state, mixing with smoke from other fires in Wyoming, Montana, Utah and Colorado. The Big Piney and the Lander and Casper State and Local Air Monitoring Stations (SLAMS) $PM_{2.5}$ monitors all recorded exceedances. On this day Lander was not only affected by wildfire smoke, but also by a local structural fire at their Community Center.

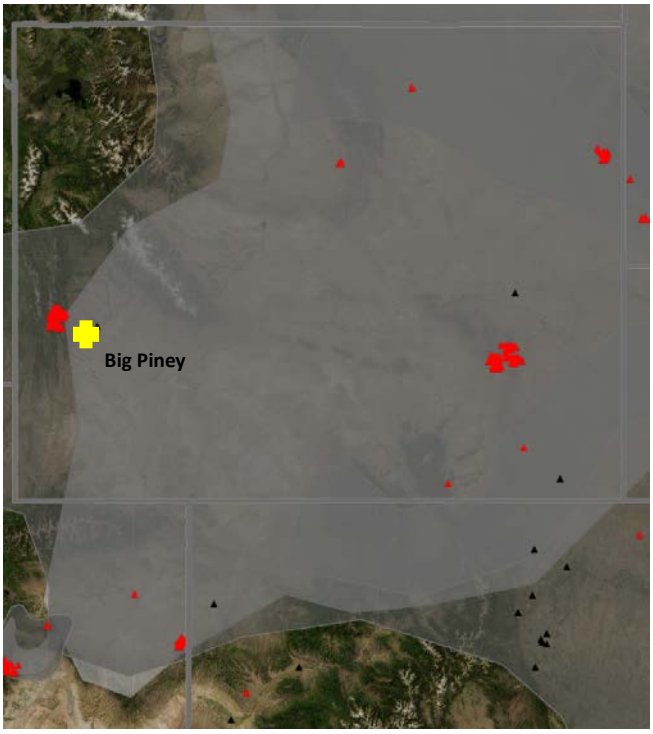
Figure 4: June 29 HMS, Casper Mountain image, and Lander Community House image



Images obtained from Casper Star-Tribune

On June 30, 2012, the Big Piney $PM_{2.5}$ and PM_{10} monitors recorded the highest concentrations of the June-July wildfire event, monitoring exceedances of both the $PM_{2.5}$ and PM_{10} NAAQS (144 and 190 $\mu g/m^3$, respectively). Exceedances of the $PM_{2.5}$ NAAQS continued at the Big Piney $PM_{2.5}$ monitor, only 18 miles from the Fontenelle Fire perimeter, from July 1-5, 2012. Figure 5 shows the HMS from June 30, a photo of the sun setting over the Fontenelle Fire incident command post on June 30 and a photo of fire near cabins at Middle Piney from July 2.

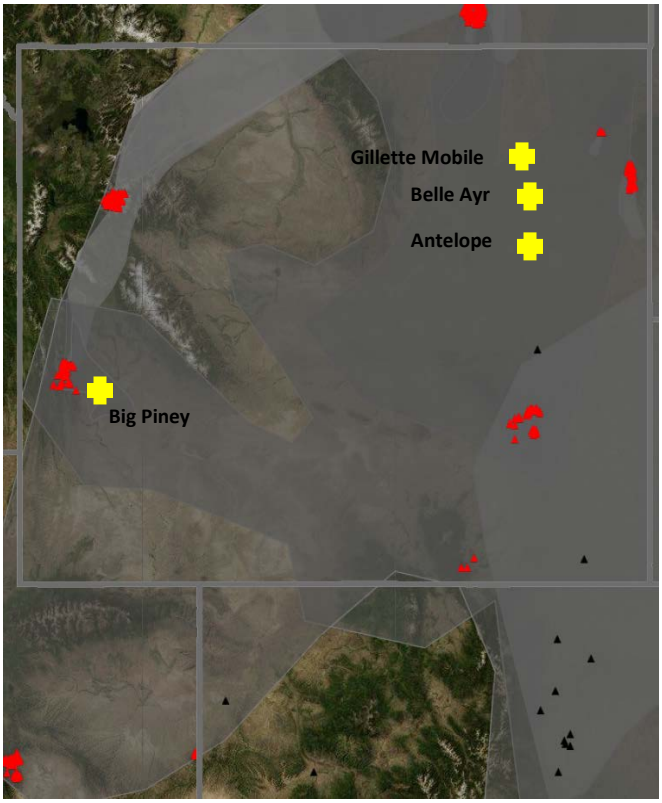
Figure 5: June 30 HMS, Incident Command image, and Middle Piney Cabins image



Images obtained from InciWeb

On July 4, smoke from the Fontenelle Fire, Ask Creek Fire, Arapahoe Fire, and several smaller eastern Wyoming wildfires converged on monitors in eastern Wyoming. On July 4, 24-hour $PM_{2.5}$ exceedances were also recorded at the Gillette Mobile $PM_{2.5}$ monitor, the Belle Ayr $PM_{2.5}$ monitor, and the Antelope $PM_{2.5}$ monitor. Figure 6 shows the HMS for July 4, an image from Gillette on July 4 (note sky is whited out from smoke), and an image of the Ash Creek smoke plume on July 3.

Figure 6: July 4 HMS, Gillette image, and Ash Creek Fire image



Images obtained from Inciweb and Rob Across America 2012

3.0 The event satisfies the criteria set forth in 40 CFR 50.1(j)

According to 40CFR50.1 (j) an exceptional event is defined as:

> "Exceptional event means an event that affects air quality, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event and is determined by the administrator in accordance with 50.14 to be an exceptional event"

The exceedances listed in Section 1 of this report, along with monitored data, satellite and aerosol analyses, photographs, and news accounts listed throughout this report are evidence that these wildfires affected air quality.

Wildfires that affected concentrations at these monitors were not reasonably controllable or preventable. As stated above, the Fontenelle Fire was a primary contributor to smoke that caused the exceedances. The United States Forest Service (USFS) utilized a suppression plan for the Fontenelle Wildfire beginning on June 24, 2012. According to the Incident Information System (InciWeb), suppression efforts began with eight (8) Smoke Jumpers and a helicopter. On the next day, an additional helicopter was assigned to the fire suppression effort and a Type 3 Incident Management Team was ordered to the fire. The helicopters dropped water and fire retardant beginning on June 24. Initial efforts by the firefighters were to keep the fire south of La Barge Creek Road. Continued growth of the fire led to a Type 2 Incident Management Team. By June 28, a National Incident Management Team assembled for additional fire management and support. On June 28, firefighters strengthened the anchor point on the southwest corner of the fire and constructed a fireline on the left and right flanks. Containment along the southwest corner was achieved on June 29. Aerial support was used on July 2 to help contain the north-northeast fire boundary. By July 12, complexity of the fire has diminished enough to release the National Incident Management Team and give control to the Type 2 Incident Team. On July 13, the Type 3 team began to assume command of the resources to fight the fire. A Type 4 Incident Management Team assumed command on July 26. Officially, the fire was declared out on October 25 at 2:15 p.m. Throughout the fire, firefighters operated in a manner to protect people, property, and infrastructure in the region.

On November 13, Justin Kaber, East Zone AFMO of the Bridger-Teton NF Big Piney and Pinedale Ranger Districts submitted an Unplanned Fire Post-Burn Reporting Form in compliance with the Wyoming Department of Environmental Quality-Air Quality Division's Smoke Management Program. The report indicated that the management response was suppression of the fire. The Unplanned Fire Post Burn Reporting Form can be found in Appendix A.

Furthermore, the wildfires that burned in Wyoming during 2012 are considered to be natural events. As part of the Final Exceptional Events Rule, published March 22, 2007 the preamble categorizes wildfires and wildland use fires as natural events. The Fontenelle, Arapaho, and all other fire burning in Wyoming were considered wildfires by the managing agencies according to their Unplanned Fire Post Burn Reporting Forms.

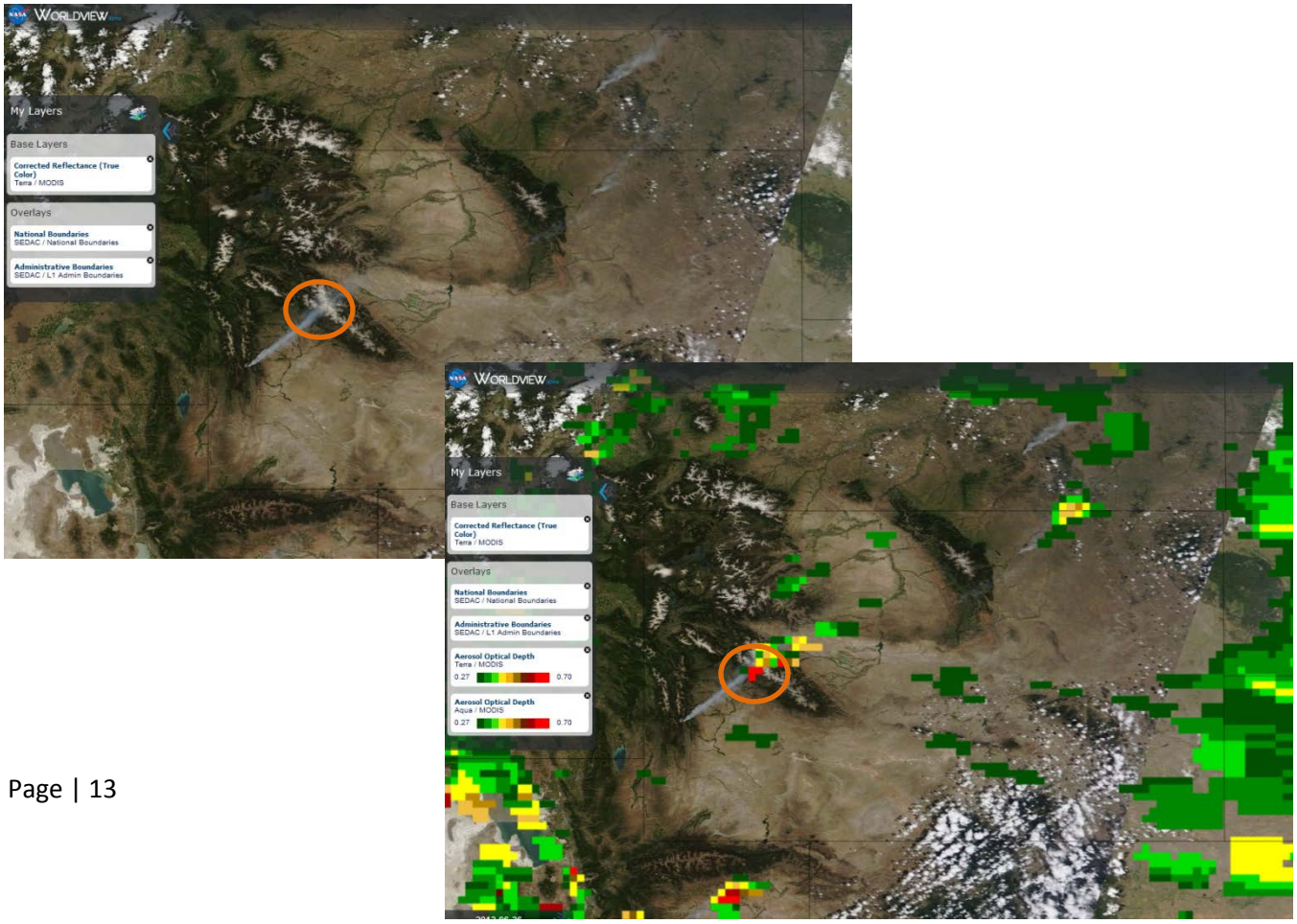
4.0 Clear Causal Relationship

There are several tools available to show that the Fontenelle Fire, as well as the numerous other wildfires burning in Wyoming and the West, exhibits a clear causal relationship between the smoke and PM_{10} and $PM_{2.5}$ exceedances. This Section will show several analytical products that add to the weight of evidence that smoke traveled from these fires to the exceeding monitors on these days in June and July. There will be a short description of each product and examples. However, it is important to note that many of these products are obtained from satellites, and there may not always be images available for every date, time and area that an exceedance occurred due to cloud cover or satellite position.

Available Satellite Data

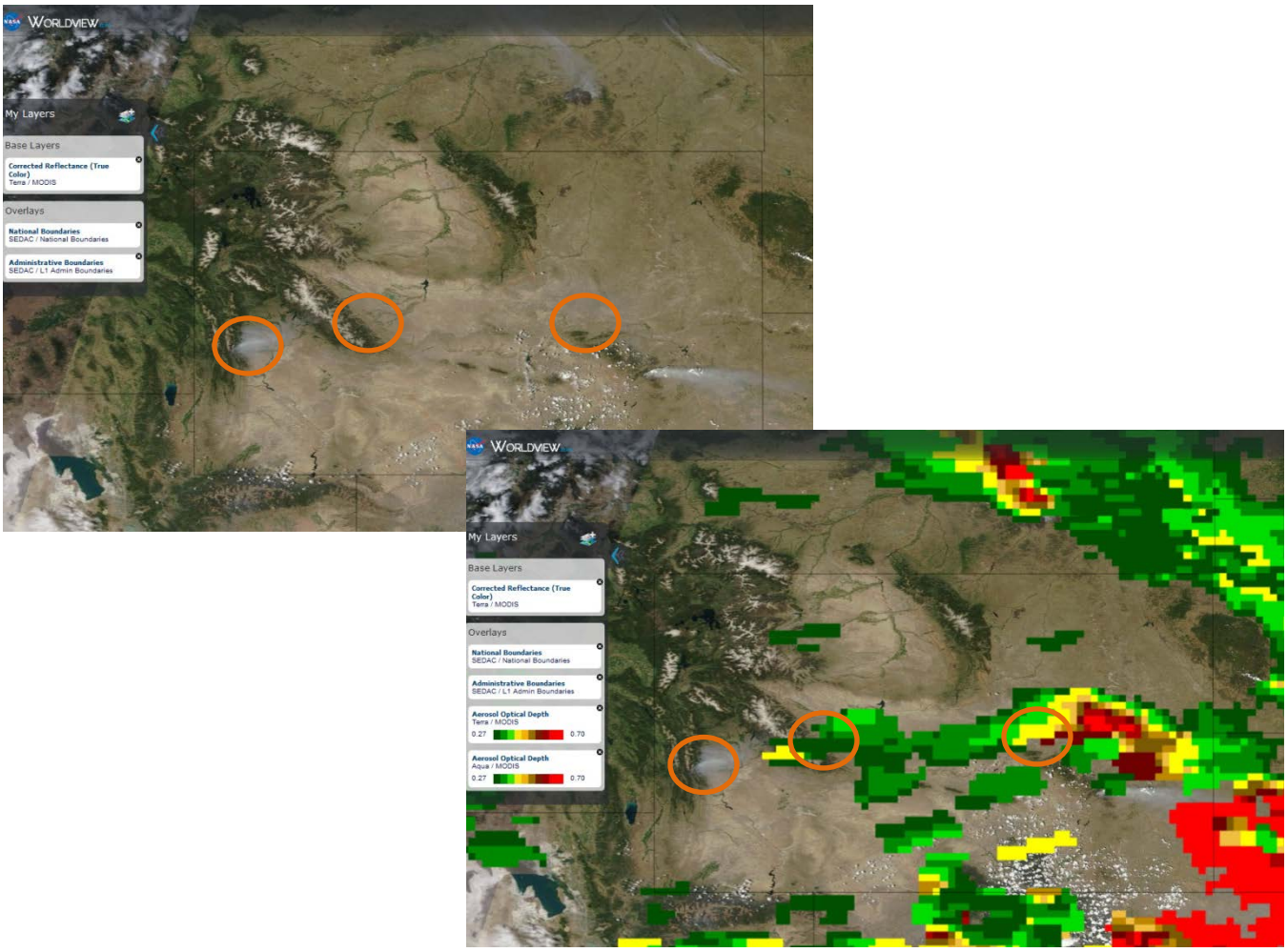
One of the most useful tools to identify the path of smoke from wildfires is NASA's MODIS (or Moderate Resolution Imaging Spectroradiometer). MODIS is a key instrument aboard the Terra (EOS AM) and Aqua (EOS PM) satellites. Terra MODIS and Aqua MODIS are viewing the entire Earth's surface every 1 to 2 days. MODIS takes "true color" images of the earth's surface as well as estimating other key air quality parameters in the atmosphere. MODIS images can see smoke plumes (images will be referred to as "true color") and can be combined with the estimated aerosol optical depth (AOD) to estimate elevated aerosol (images overlaid with AOD will be called "AOD"). Figure 7 shows the June 26 MODIS true color (top left) and AOD (bottom right). The true color image shows Fontenelle Fire plume traveling to Pinedale and the AOD shows greater aerosol concentrations in warmer colors, with the highest concentrations over Pinedale.

Figure 7: June 26 MODIS true color and AOD images



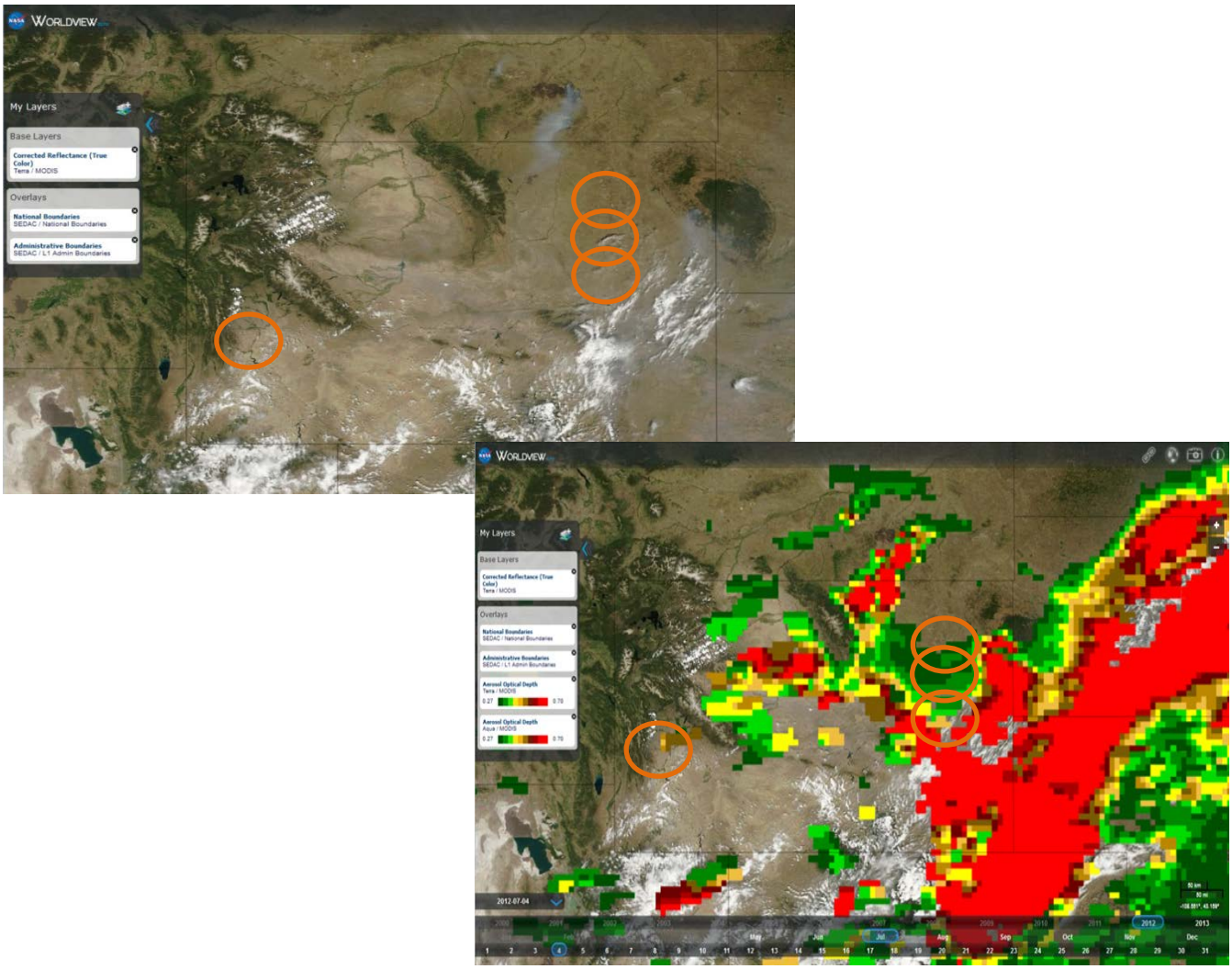
On June 29, the Big Piney, Lander, and Casper $PM_{2.5}$ monitors all exceeded the 24-hour NAAQS. Figure 8 shows the true color and AOD from June 29. Smoke is evident at the Big Piney Station, and AOD shows moderate aerosol in Lander and large aerosol concentrations near Casper.

Figure 8: June 29 MODIS true color and AOD images



July 4 also experienced $PM_{2.5}$ exceedances at the Big Piney, Gillette mobile, Belle Ayr, and Antelope monitors. Figure 9 shows the true color and AOD images for this day. Smoke is evident throughout Wyoming and the AOD is heavy throughout the eastern side of the state.

Figure 9: July 4 MODIS true color and AOD image



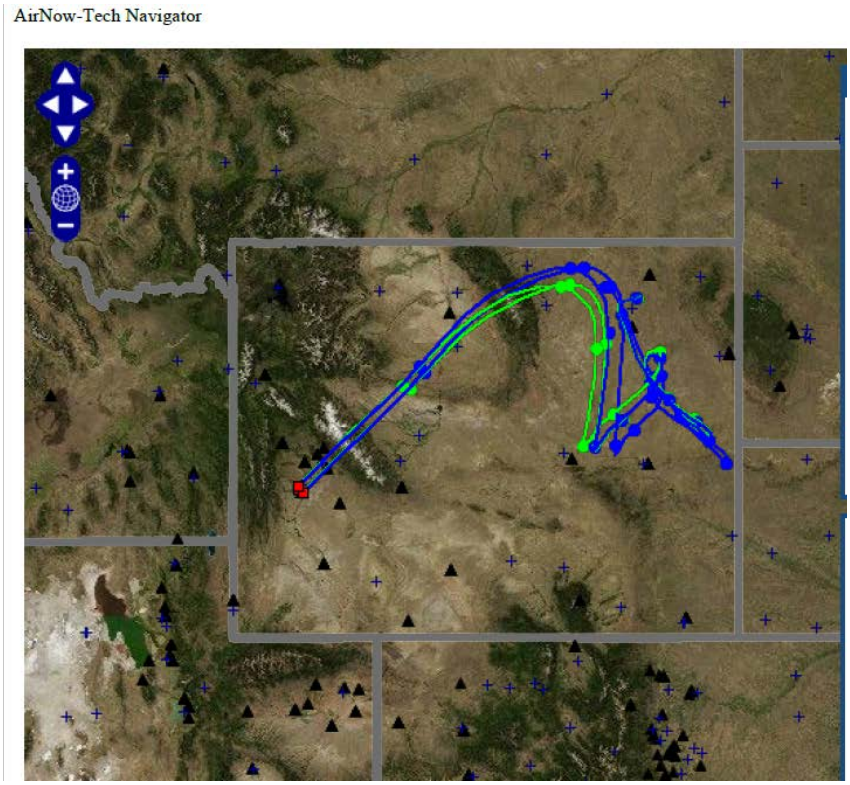
MODIS true color and AOD images for each day between June 26 and July 5 can be found in Appendix C. Additionally, NOAA has a product that estimates daily surface $PM_{2.5}$ during sun-lit time over the United States using MODIS AOD. The $PM_{2.5}$ is then estimated from daily AOD through predefined regression relation, which are derived through model simulations. These graphics can also be found in Appendix C.

HYSPLIT Trajectories

Another useful tool in identifying the cause of high particulate matter readings is a wind trajectory modeling tool called HYSPLIT. HYSPLIT uses 12 kilometer meteorological data to demonstrate not only the origin of air parcels but also evolution of air parcels as they move through the atmosphere. HYSPLIT can be used to analyze the path air parcels took prior to arriving at a selected point (backward trajectories). Conversely, HYSPLIT can also determine the eventual fate of air parcels originating from a specific point (forward trajectories). It should be noted that due to the resolution of the meteorological data, HYSPLIT may miss localized terrain features when estimating trajectories. For this demonstration, the AQD used the HYSPLIT tool from EPA's AirNow Tech to analyze trajectories.

Figure 10 shows the 72-hour forward trajectories from the Fontenelle Fire beginning on June 26. This shows air traveling across northern Wyoming and ending in the eastern area of the state on June 29. This modeling is consistent with other analyses indicating that smoke from the Fontenelle Fire traveled to Casper by June 29.

Figure 10: HYSPLIT 72-hour forward trajectory June 26-June 29



The AQD analyzed HYSPLIT forward trajectories from the Fontenelle Fire every day between June 26 and July 4. Backward trajectories from the Gillette, Belle Ayr, and Antelope monitoring station from July 4 were also run. Figures 11 and 12 show smoke from the Fontenelle and the Ash Creek Fires converging in the eastern half of Wyoming on July 4.

Figure 11:July 2 72-hr forward trajectory from Fontenelle Fire

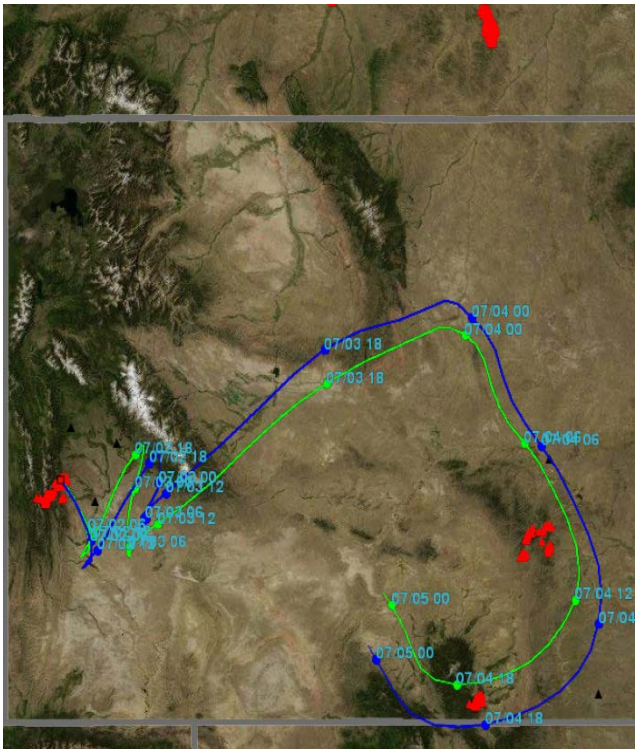
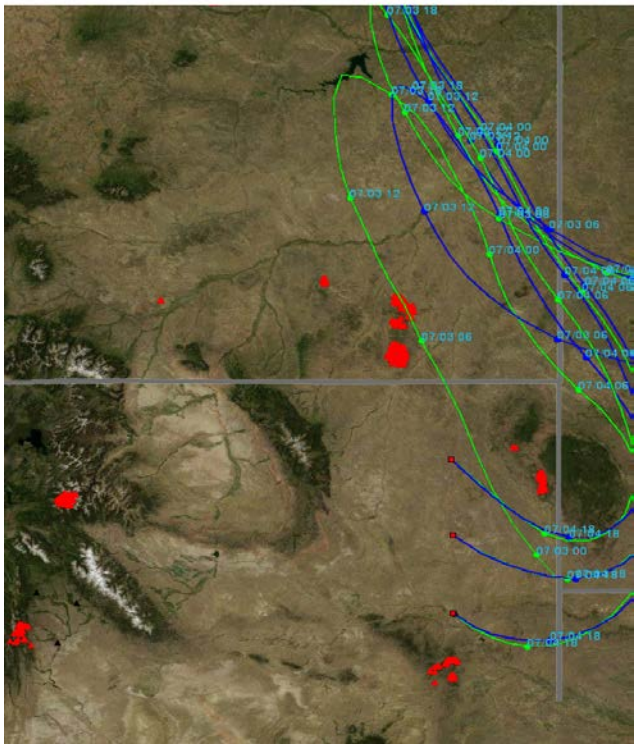


Figure 12: July 4 48-hr backtrajectory from Gillette, Belle Ayr, and Antelope



All trajectories are located in Appendix D.

FETS Fire Emissions

The Western Regional Air Partnership's Fire Emissions Tracking System (FETS) is a web-enabled database for planned and unplanned fire events. It is intended as a planning tool for daily smoke management coordination, and retrospective analyses such as emission inventories and regional haze air quality planning tasks. The AQD queried FETS to estimate $PM_{2.5}$ emissions between June 26 and July 5. Table 2 shows daily emissions from some of the larger wildfires believed to contribute to exceedances at the AQD's monitors during this time. Please note that no data was available for July 2 and July 3. Additionally, no data was available for the Oil Creek Fire. Also note that zero emissions were reported for July 5 on the Fontenelle Fire. This is because the fire did not grow on July 5; according to how FETS calculates emissions, no additional acres translate into no additional emissions. Based on air quality monitoring data, satellite analyses, photos, and other accounts, the AQD believes the Big Piney monitor was still affected by Fontenelle Fire emissions on this day.

Table 2: $PM_{2.5}$ Emissions in Tons

Date	Fontenelle Wildfire	Arapaho Wildfire	Ash Creek Wildfire	Seeley Wildfire	Cato Wildfire
6/26/2012	837	0	6975	251	523
6/27/2012	7319	0	12205	6020	3959
6/28/2012	2547	724	0	330	0
6/29/2012	6800	165	0	1634	348
6/30/2012	3812	5784	8195	199	0
7/1/2012	1181	6919	2267	1352	0
7/2/2012	N/A	N/A	N/A	N/A	N/A
7/3/2012	N/A	N/A	N/A	N/A	N/A
7/4/2012	4710	3342	12990	7096	0
7/5/2012	0	298	715	728	0
TOTALS	27206	17232	43347	17610	4830

Filter Analysis

As noted above, some of the $PM_{2.5}$ monitors that recorded exceedances (Lander and Casper) are filter-based monitors that collect samples on the EPA's National 1-in-3 day schedule. The AQD had the June 29 filters from these monitors analyzed. RJLee Group analyzed the filters using Scanning Electron Microscopes and found "*The majority of particulate observed on all of the samples consisted of carbon-rich particulate matter*". The AQD expects to see carbon-based particulate when monitors are impacted by wood smoke. This report adds to the weight of evidence that elevated $PM_{2.5}$ concentrations at Casper and Lander were caused by wildfire smoke. The report can be found in Appendix E.

News Accounts

News accounts in areas that are most influenced by wildfire smoke can also indicate a causal relationship. Several news accounts are available from the June 26-July 5 timeframe. Articles can be found in Appendix F include:

- Fires Grow in Wyoming and neighboring states – 6/24
- Cato Fire in Johnson County – 6/26
- As best they can, Wyoming officials prepare for busy fire season – 6/26
- Fontenelle Fire Update – 6/27
- Cool, still air aids Cato fire fight – 6/27
- Fontenelle Fire Update – 6/28
- Fire Destroys Lander Community Center – 6/29
- C-10TV: fire destroys Lander community center – 6/29
- Arapaho Fire forces evacuations near Wheatland – 6/29
- Fontenelle Fire Update -7/1
- Fontenelle Fire Update - 7/2
- Arapaho Fire in Wyoming destroys Christian youth camp – 7/2
- Southern Wyoming wildfire forces evacuations – 7/2
- Four major Wyoming wildfires destroy structures, force evacuations – 7/3
- Ash Creek fire remains active – 7/4
- Wyoming's Summer from Hell – 7/8

5.0 Historical Observations

The AQD performed several analyses to show that the $PM_{2.5}$ and PM_{10} exceedances listed in Table 1 are in excess of normal historical fluctuations. To show historical fluctuations in this demonstration package the AQD used 2010-2012 data. However, some stations have shorter historical records (e.g. Gillette Mobile and Big Piney), so the time period used will be noted at each monitor. All data used has been fully validated and was obtained from AQS.

Big Piney

During June-July, Big Piney recorded eight (8) exceedances of the 24-hour $PM_{2.5}$ NAAQS and one (1) exceedance of the 24-hour PM_{10} NAAQS:

Table 3: Big Piney Exceedances

Date	Value ($\mu g/m^3$)	Parameter
6/28/2012	54	$PM_{2.5}$
6/29/2012	111	$PM_{2.5}$
6/30/2012	144	$PM_{2.5}$
6/30/2012	190	PM_{10}
7/1/2012	85	$PM_{2.5}$
7/2/2012	97	$PM_{2.5}$
7/3/2012	75	$PM_{2.5}$
7/4/2012	68	$PM_{2.5}$
7/5/2012	38	$PM_{2.5}$

The Big Piney Station is one of the AQD's mobile monitoring stations and has been operating at Big Piney since March 2011. Data used for the statistical comparisons are from June and July 2011 and 2012. Cumulative percentiles are used to show the relative ranking (in percent) of the exceedance values compared to the rest of the data collected. $PM_{2.5}$ exceedances monitored in June are in the 96th% and above (i.e. top 4% of all days monitored in June of 2011 and 2012); $PM_{2.5}$ exceedances monitored in July are in the 93rd% and above.

Big Piney $PM_{2.5}$ Month of June 2011-2012

Value	Count	Cumulative Percent
54	1	96
111	1	98
144	1	100

Big Piney $PM_{2.5}$ Month of July 2011-2012

Value	Count	Cumulative Percent
39	1	93
68	1	95
75	1	96
85	1	98
97	1	100

The PM_{10} exceedance was the highest value monitored in June 2011-2012.

Big Piney PM_{10} Month of June 2011-2012

Value	Count	Cumulative Percent
190	1	100

Box and whisker plots are another way to view data collected during the specified timeframe. Figure 13 shows how to interpret a box and whiskers plot.

Figure 13: How to Interpret Box and Whisker Plots

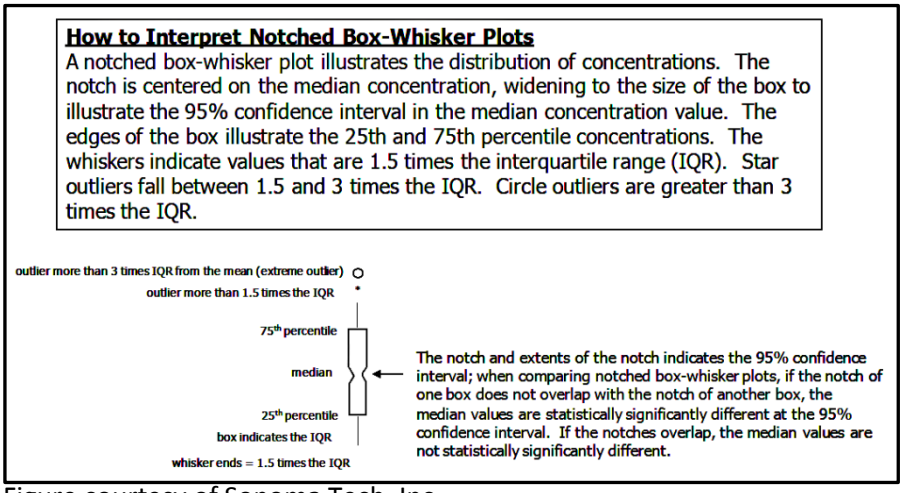


Figure courtesy of Sonoma Tech, Inc.

Figure 14 shows the box and whisker plots for the Big Piney $PM_{2.5}$ monitor. All exceedance values recorded during June-July 2012 are extreme outliers; the mean of data recorded during these months (in 2011 and 2012) are below 5 $\mu g/m^3$.

Figure 14: Box and Whisker Plots - Big Piney $PM_{2.5}$ June (left) and July (right)

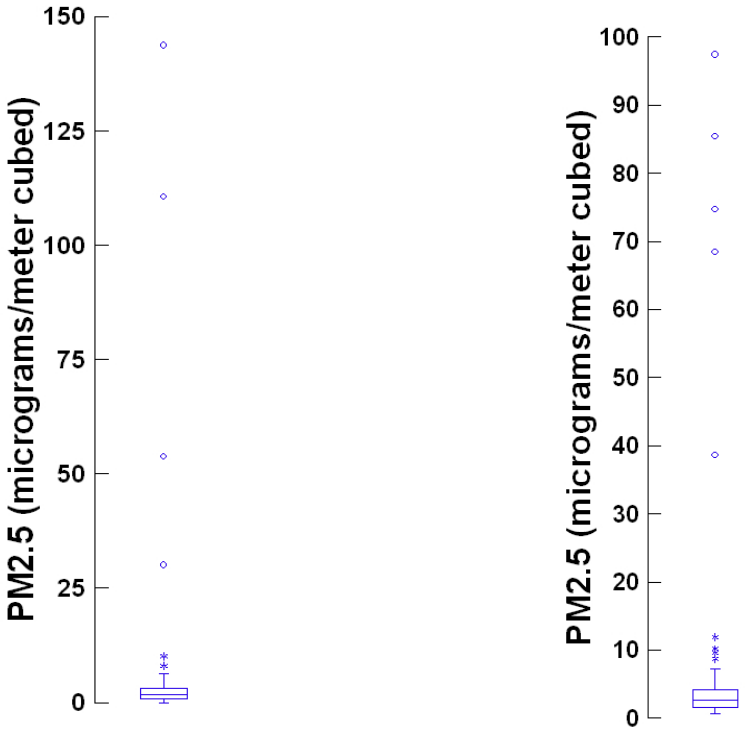
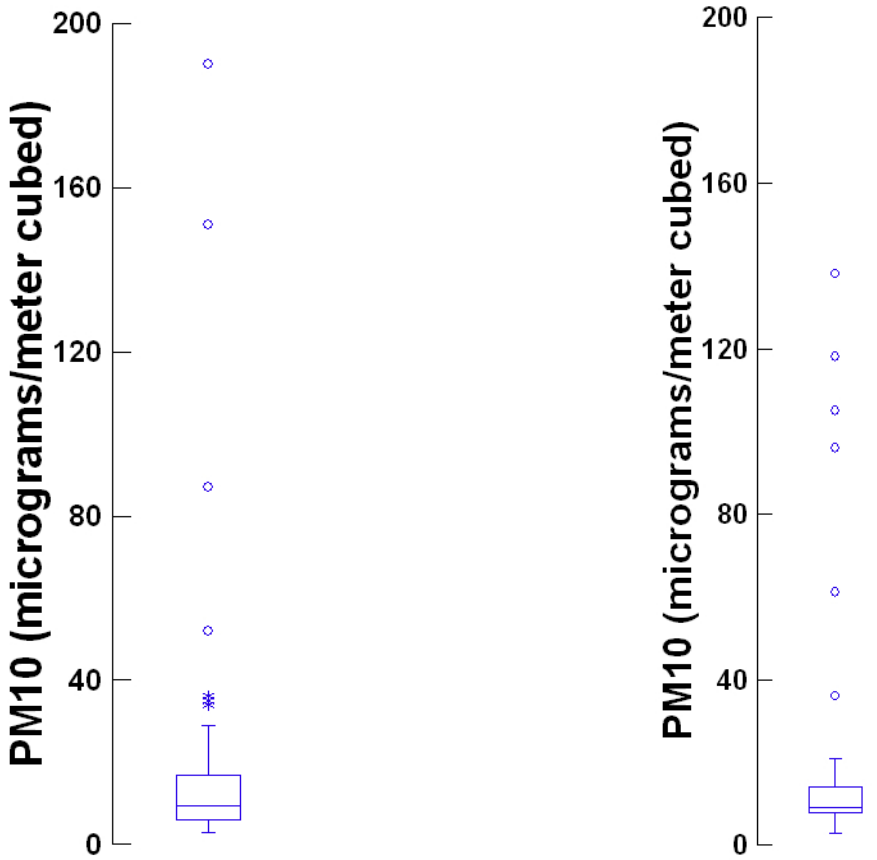


Figure 15 shows the box and whisker plots for Big Piney PM_{10} monitor, while there were no exceedances in July, the July box and whisker is included for comparative purposes. The exceedance recorded in June was an extreme outlier; the means of data recorded in these months were below 10 μg/m^3. It should be noted that other outliers were also recorded during the fire period, although none of them were exceedances and therefore are not discussed as exceptional events.

Figure 15: Box and Whisker Plots - Big Piney PM_{10} June (left) and July (right)



A histogram is another way to view the distribution of data. Figure 16 shows the histograms for Big Piney $PM_{2.5}$ monitored values for June and July 2011-2012. The majority of data lies below 25 $\mu g/m^3$, except for the exceedances listed above.

Figure 16: Histograms - Big Piney $PM_{2.5}$ June (left) and July (right)

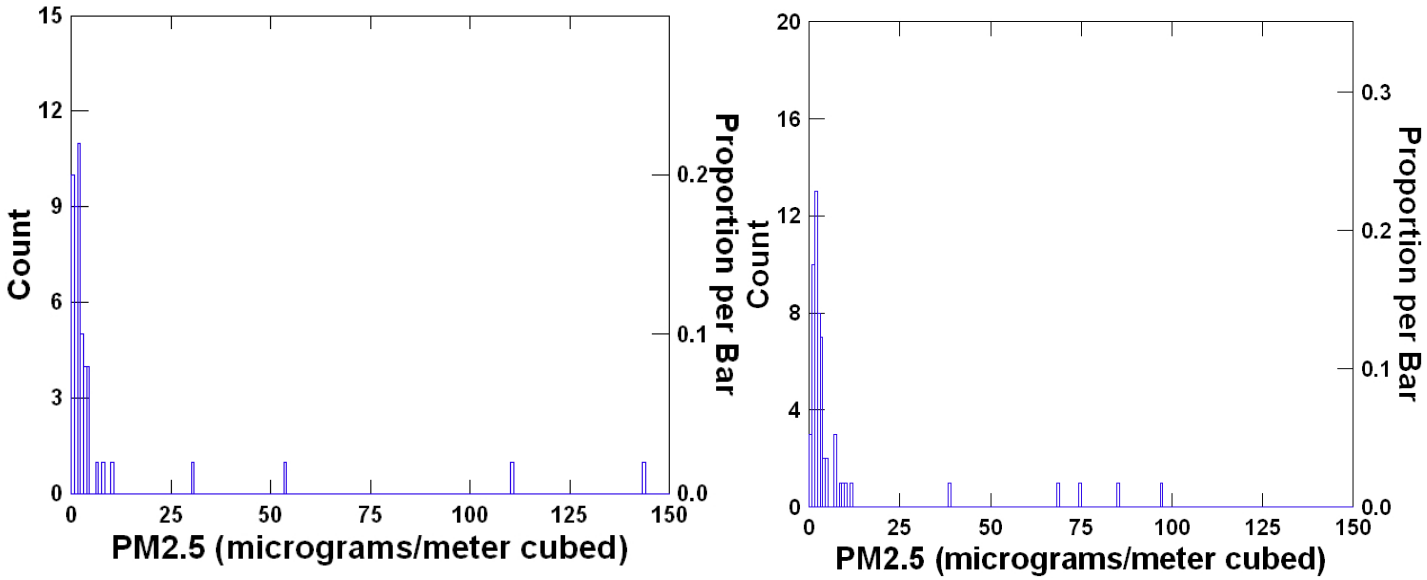
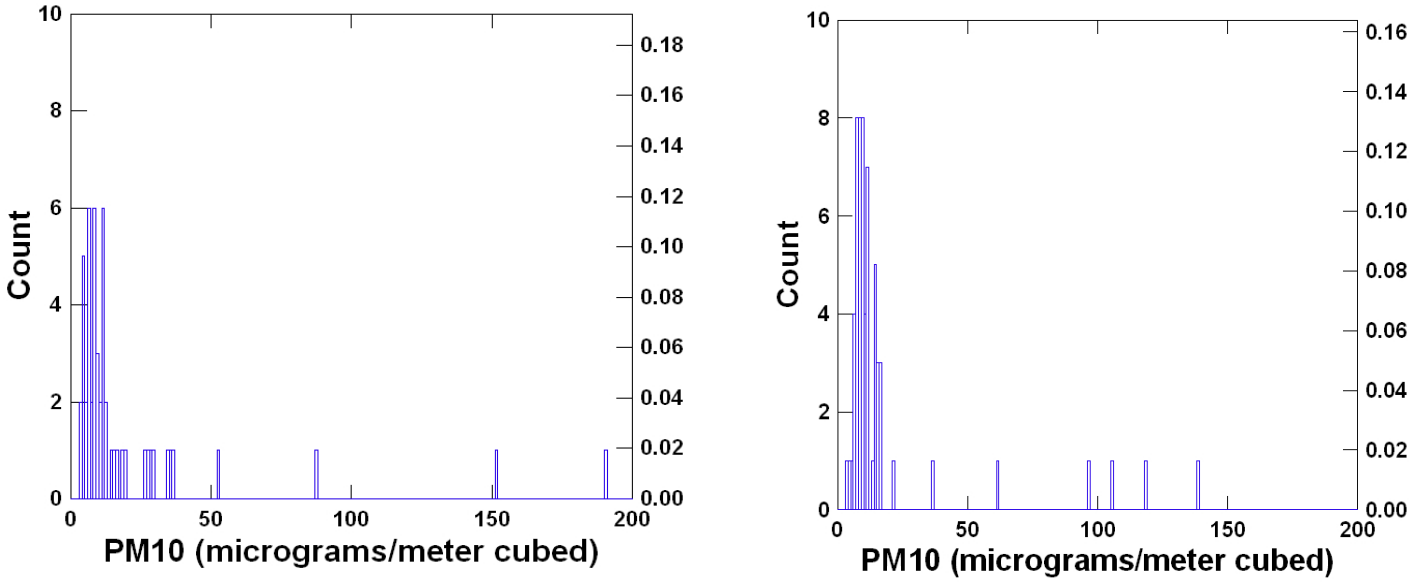


Figure 17 shows the histograms for Big Piney PM_{10} monitored values for June and July 2011 and 2012. The majority of 24-hour concentrations are below 50 $\mu g/m^3$.

Figure 17: Big Piney PM_{10} Histograms June (left) and July (right)



Pinedale Gaseous Station

The Pinedale $PM_{2.5}$ monitor recorded one (1) exceedance of the 24-hour $PM_{2.5}$ NAAQS on June 26 with a concentration of 47 μg/m^3. Data from June 2010-2012 was used to perform the statistical analyses. The exceedance recorded on June 26, 2012 was the highest 24-hour $PM_{2.5}$ concentration during the analysis period.

Pinedale Month of June 2010-2012

Value	Count	Cumulative Percent
47	1	100

Figure 18 is the box and whiskers plot from June 2010-2012. The June 26 value is an extreme outlier; the mean of the data recorded during these months is below 5 μg/m^3. Figure 19 shows the histogram of Pinedale $PM_{2.5}$ monitored values June 2010-2012, with the majority of the concentrations below 10 μg/m^3.

Figure 18: Box and Whiskers Plot Pinedale $PM_{2.5}$

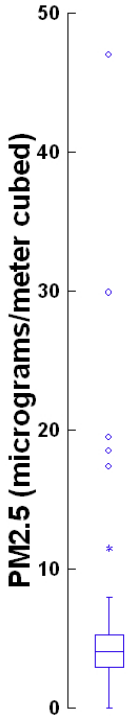
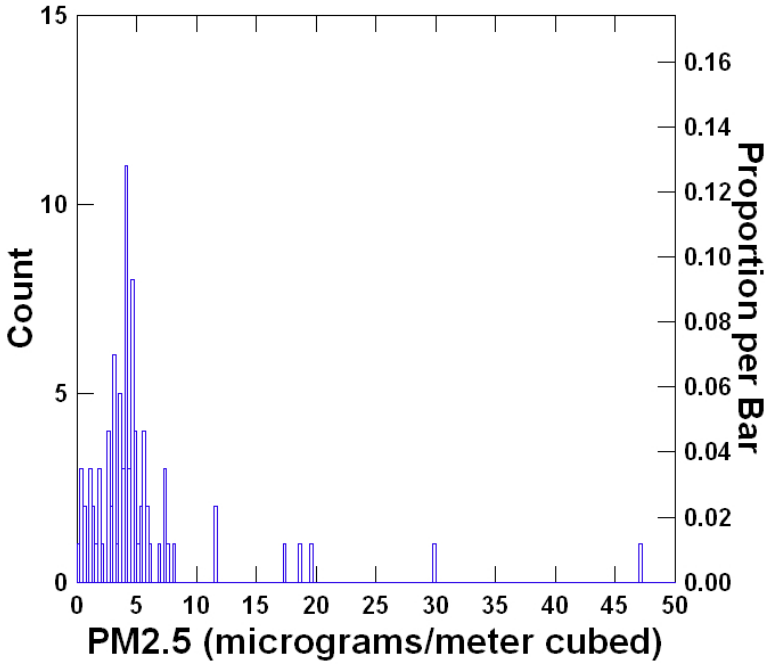


Figure 19: Histogram Pinedale $PM_{2.5}$



Lander SLAMS

The Lander SLAMS $PM_{2.5}$ monitor recorded one (1) exceedance of the 24-hour $PM_{2.5}$ NAAQS on June 29 with a concentration of 42 μg/m^3. Data from June 2010-2012 was used to perform the statistical analyses. The exceedance recorded on June 29, 2012 was the highest 24-hour $PM_{2.5}$ concentration during the analysis period.

Lander Month of June 2010-2012

Value	Count	Cumulative Percent
42	1	100

Figure 20 is the box and whiskers plot from June 2010-2012. The June 29 value is an extreme outlier; the mean of the data recorded during these months is below 5 μg/m^3 and all other data from this period lies below 10 μg/m^3. Figure 21 shows the histogram of Lander $PM_{2.5}$ monitored values June 2010-2012, with the majority of the concentrations below 5 μg/m^3.

Figure 20: Box and Whisker Plot Lander PM2.5

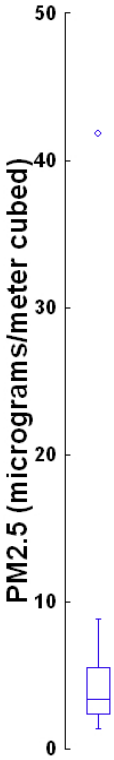
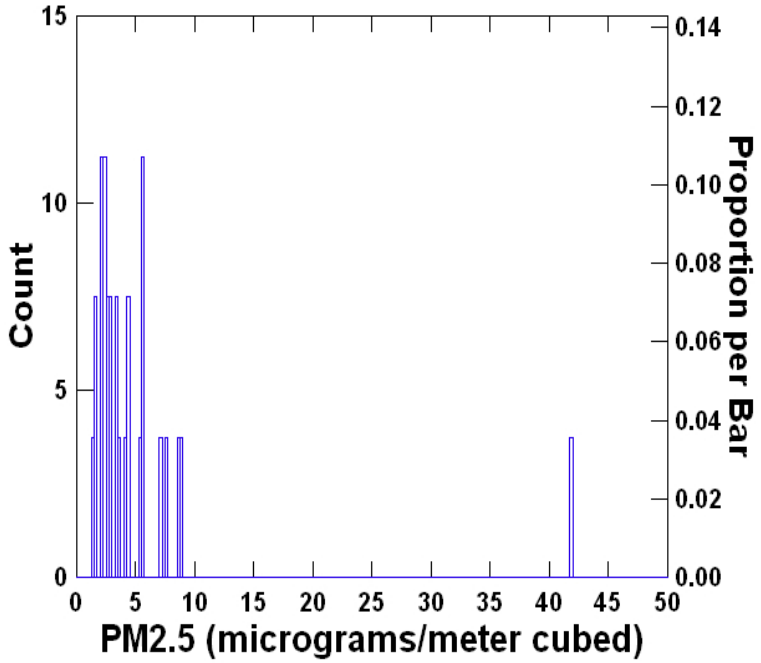


Figure 21: Histogram Lander PM2.5



Casper SLAMS

The Casper SLAMS $PM_{2.5}$ monitor recorded one (1) exceedance of the 24-hour $PM_{2.5}$ NAAQS on June 29 with a concentration of 37 μg/m^3. Data from June 2010-2012 was used to perform the statistical analyses. The exceedance recorded on June 29, 2012 was the highest 24-hour $PM_{2.5}$ concentration during the analysis period.

Casper Month of June 2010-2012

Value	Count	Cumulative Percent
37	1	100

Figure 22 is the box and whiskers plot from June 2010-2012. The June 29 value is an extreme outlier; the mean of the data recorded during these months around 5 μg/m^3 and all other data from this period lies below 20 μg/m^3. Figure 23 shows the histogram of Casper $PM_{2.5}$ monitored values June 2010-2012, with the majority of the concentrations below 10 μg/m^3.

Figure 22: Box and Whisker Plot Casper $PM_{2.5}$

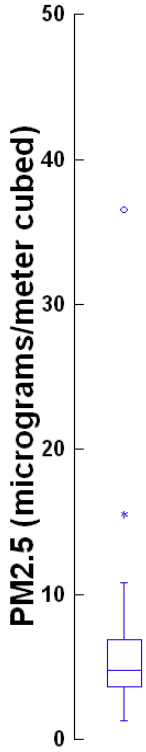
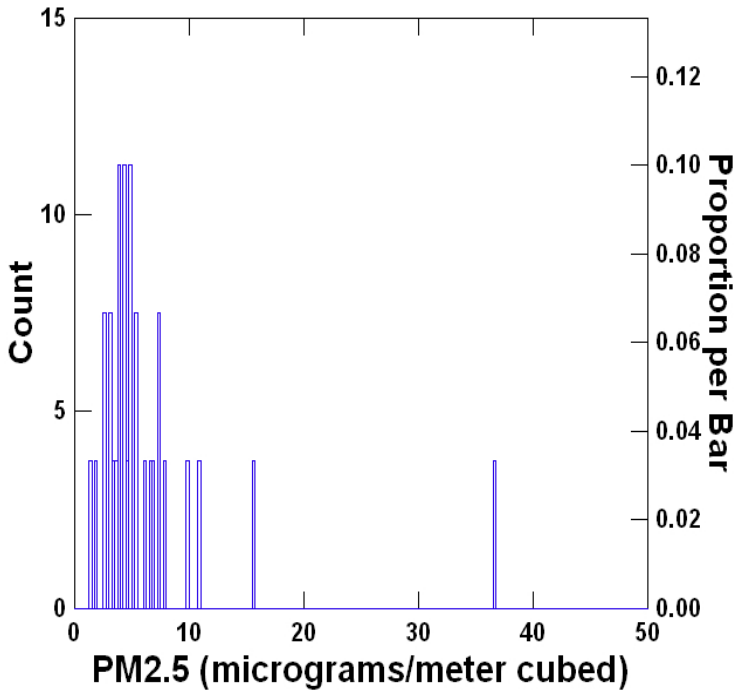


Figure 23: Histogram Casper $PM_{2.5}$



Antelope

The Antelope $PM_{2.5}$ monitor recorded one (1) exceedance of the 24-hour $PM_{2.5}$ NAAQS on July 4 with a concentration of 47 µg/m^3. Data from June 2010-2012 was used to perform the statistical analyses. The exceedance recorded on July 4, 2012 was the highest 24-hour $PM_{2.5}$ concentration during the analysis period. It should be noted that the AQD has elected not to certify the data from the Antelope $PM_{2.5}$ monitor from 2012, because of difficulties with the monitor. However, the AQD does believe that data from this day are valid and is an exceptional event.

Antelope Month of July 2010-2012

Value	Count	Cumulative Percent
47	1	100

Figure 24 is the box and whiskers plot from June 2010-2012. The July 4 value is an extreme outlier; the mean of the data recorded during these months below 5 µg/m^3. Figure 25 shows the histogram of Antelope $PM_{2.5}$ monitored values July 2010-2012, with the majority of the concentrations below 10 µg/m^3.

Figure 24: Box and Whisker Plot Antelope $PM_{2.5}$

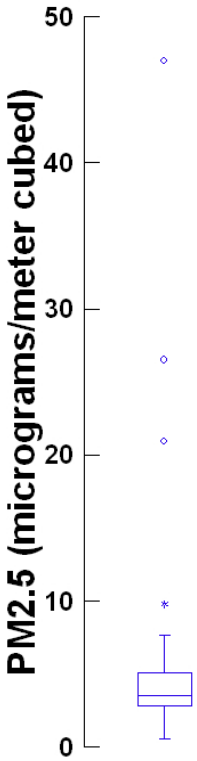
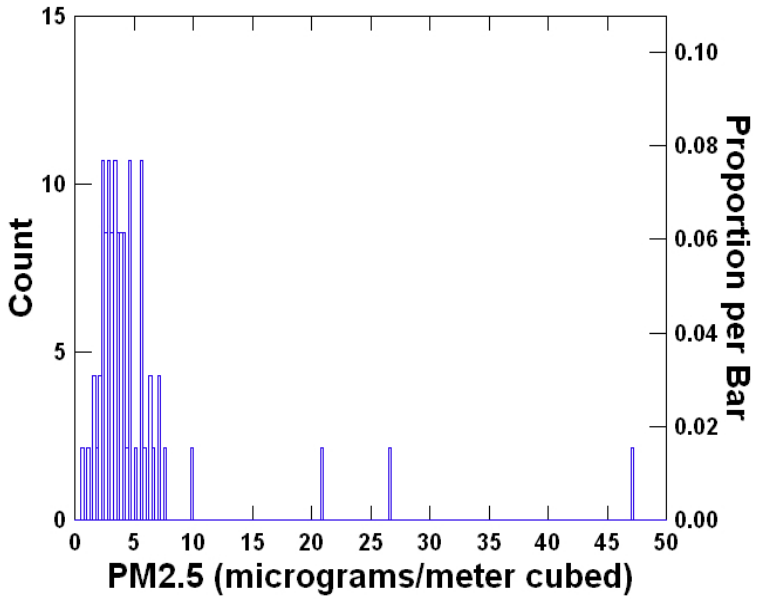


Figure 25: Histogram Antelope $PM_{2.5}$



Belle Ayr

The Belle Ayr monitor recorded one (1) exceedance of the 24-hour $PM_{2.5}$ NAAQS on July 4 with a concentration of 55 μg/m^3. Data from June 2010-2012 was used to perform the statistical analyses. The exceedance recorded on July 4, 2012 was the highest 24-hour $PM_{2.5}$ concentration during the analysis period. It should be noted that the AQD has elected not to certify the data from the Belle Ayr monitor from 2012, because of difficulties with the monitor. However, the AQD does believe that data from this day are valid and is an exceptional event.

Belle Ayr Month of July 2010-2012

Value	Count	Cumulative Percent
55	1	100

Figure 26 is the box and whiskers plot from June 2010-2012. The July 4 value is an extreme outlier; the mean of the data recorded during these months below 10 μg/m^3. Figure 27 shows the histogram of Belle Ayr $PM_{2.5}$ monitored values July 2010-2012, with the majority of the concentrations below 10 μg/m^3.

Figure 26: Box and Whisker Plot Belle Ayr $PM_{2.5}$

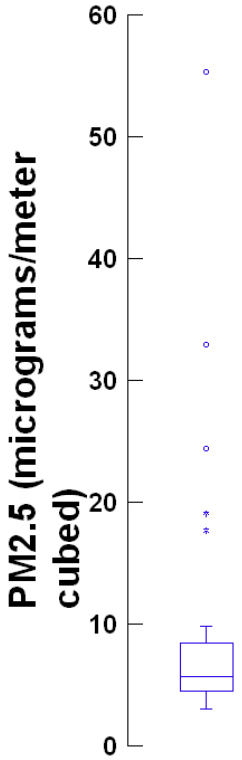
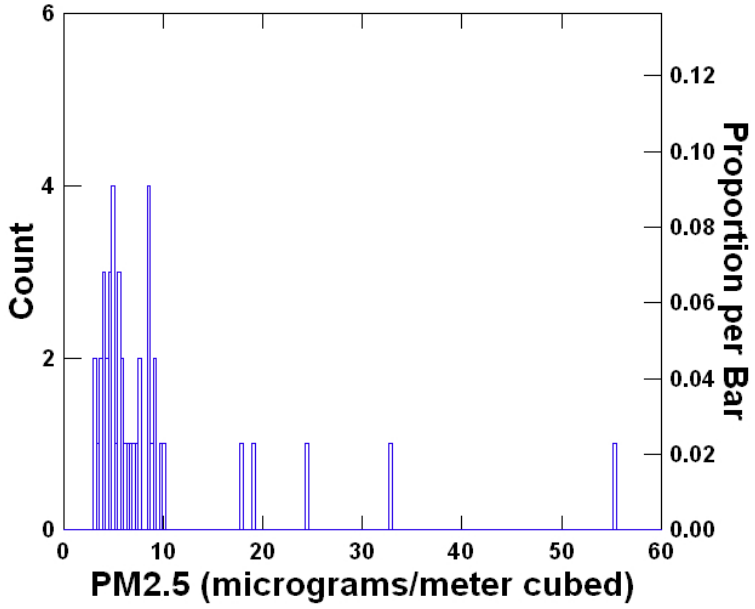


Figure 27: Histogram Belle Ayr $PM_{2.5}$



Gillette Mobile

The Gillette Mobile Station $PM_{2.5}$ monitor recorded one (1) exceedance of the 24-hour $PM_{2.5}$ NAAQS on July 4 with a concentration of 57 μg/m^3. The Gillette Mobile Station is one of the AQD's mobile monitoring stations and operated in Gillette from October 2011 to December 2012. Data used for the statistical comparisons are from July 2012. The exceedance recorded on July 4, 2012 was the highest 24-hour $PM_{2.5}$ concentration during the analysis period.

Gillette Month of July 2012

Value	Count	Cumulative Percent
57	1	100

Figure 28 is the box and whiskers plot from July 2012. The July 4 value is an extreme outlier; the mean of the data recorded during July 2012 below 10 μg/m^3. Figure 29 shows the histogram of Gillette $PM_{2.5}$ monitored values July 2012, with the majority of the concentrations below 10 μg/m^3.

Figure 28: Box and Whisker Gillette $PM_{2.5}$

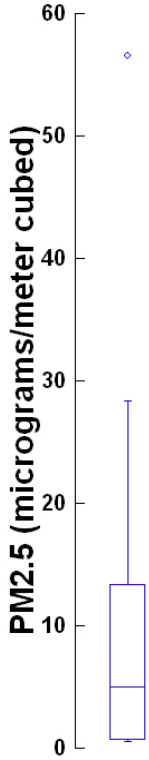
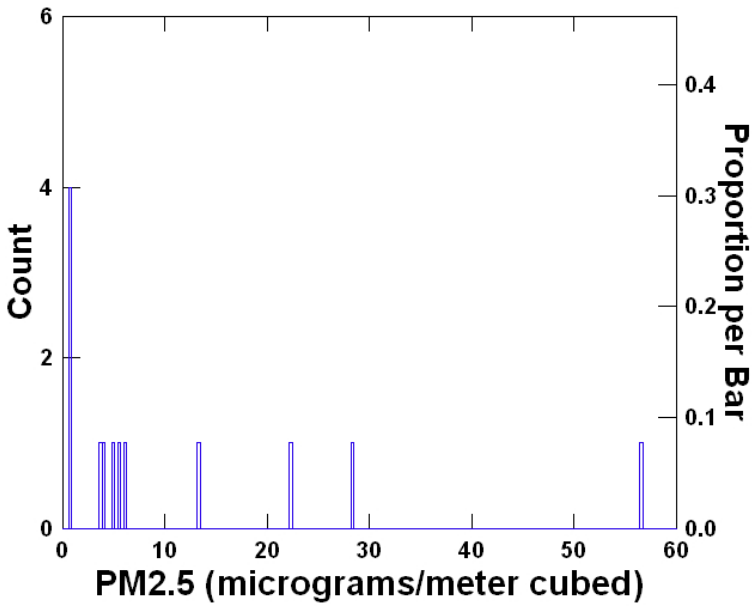


Figure 29: Histogram Gillette $PM_{2.5}$



6.0 "But-for" Analysis

Exceedances that were recorded between June 26-July 5 would not have happened but for smoke from the Fontenelle and other wildfires burning throughout Wyoming and the west. It is evident from the many news accounts, the 2012 fire season was one of the worst in recent years. Satellite data and analyzed satellite products, such as the HMS and AOD, clearly show smoke from the many fires inundating Wyoming. The FETS system estimated over 110,000 tons of $PM_{2.5}$ emitted from the major fires during this period. Filters analyzed from this time showed a heavy carbon influence indicating wood smoke was the primary component of $PM_{2.5}$ on the filters.

Section 5 analyzed data from June and July of the past three years (when available) in comparison with the exceedances listed in Table 1. All exceedances were extreme outliers and many points were the highest recorded over the analyzed data period. Most $PM_{2.5}$ means for the analyzed data were below 10 $\mu g/m^3$. It is clear from the evidence presented in Sections 3, 4, and 5 that these exceedances would not have happened but for the Fontenelle and many other wildfires burning throughout Wyoming and the West.

7.0 Mitigation Requirements: Public Notification

In accordance with CFR 51, subpart Y (51.930), the State of Wyoming and the USFS took appropriate and reasonable actions during the Fontenelle Fire and other wildfire events to protect public health, provide prompt public notification and education about the event and air quality conditions. Proper implementation of the State of Wyoming Smoke Management Plan was implemented.

The USFS utilized the InciWeb on-line service for public and interagency notifications and wildfire updates. Inciweb is an inter-agency system which tracks fire-related incidents, specifically wildland fires. The website includes photographs, maps, overviews, announcements, closures, and links to health information (http://inciweb.org/). There were also several public open houses that were held in the Big Piney area during the fire. The Wyoming State Forestry Department also posted fire information. The AQD provided near-real time PM_{10} and $PM_{2.5}$ data at many locations on the WyVisNet (www.wyvisnet.com) website. Health warnings can be found in Appendix G.

9.0 Conclusion

The Wyoming Department of Environmental Quality- Air Quality Division (AQD) is seeking EPA concurrence to exclude fourteen (14) exceedances of the 24-hour $PM_{2.5}$ NAAQS of 35 $\mu g/m^3$ and one (1) exceedance of the 24-hour PM_{10} NAAQS of 150 $\mu g/m^3$ that took place between June 26 and July 5, 2012.

During late June and early July, several wildfires were burning across Wyoming and surrounding states (Montana, Utah and Colorado) contributing to smoke across Wyoming. Large wildfires including three that were ignited in late June, the Arapaho, Ask Creek Complex, and the Fontenelle and smaller wildfires including Bear Cub, Cato, Russell's Camp were burning during this time (see Figure 1). The AQD concludes that the elevated PM_{10} and $PM_{2.5}$ concentrations were caused by these wildfires and has shown that these events have met all requirements within the Exception Event rule including, the definition of an exceptional event, a causal relationship between the measured PM_{10} and $PM_{2.5}$ concentrations and regional wildfire, especially the Fontenelle Fire; observations in excess of normal for a 3 year time period; and strong evidence showing there would have been no exceedances but for the wildfire events. Therefore, based on the weight of the evidence provided in this document, the AQD concludes that the exceedances that occurred between June 26 and July 5, 2012 were significantly influenced by regional wildfires.

The PM exceedances listed in Table 1, which the AQD is requesting concurrence, meet the definition of Exceptional Events as described in "Treatment of Data Influenced by Exceptional Events" 40 CFR Part 50.14.

Criteria **(A)** states that "[t]he event satisfies the criteria set forth in 40 CFR 50.1(j)":

40 CFR 50.1 (j) requires that an exceptional event "affects air quality, is not reasonably controllable or preventable..." and are "...natural event[s]". This demonstration includes data showing that air quality was affected. The AQD and the USFS provide evidence that the Fontenelle Fire, a primary contributor to smoke impacts, was managed appropriately. Furthermore, fires listed in this demonstration were determined to be wildfires and meet the definition of natural event as discussed in the Rule preamble.

Criteria **(B)** states that **"[**t]here is a clear causal relationship between the measurement under consideration and the event that is claimed to have affected the air quality in the area":

The AQD provides many analyses clearly showing that smoke from the Fontenelle and other fires burning throughout Wyoming and the west inundated the State and caused several exceedances. Satellite data, aerosol optical depth, the Hazard Mapping Service products, daily fire emissions, microscopic analysis of filters, news account, and photos all contribute to the weight of evidence that there is a clear causal relationship between the fires and then exceedances.

Criteria **(C)** states that **"**[t]he event is associated with a measured concentration in excess of normal historical fluctuations, including background":

Statistical analysis of June and July data over the past three years at several monitors show that these exceedances were extreme outliers and the means of data analyzed from these stations were well below these exceeding concentrations.

Criteria **(D)** states that "[t]here would have been no exceedance or violation but for the event":

Exceedances that were recorded between June 26-July 5 would not have happened but for smoke from the Fontenelle and other wildfire burning throughout Wyoming and the west. Satellite data and analyzed satellite products, such as the HMS and AOD, clearly show smoke from the many fires inundating Wyoming. The FETS system estimated over 110,000 tons of $PM_{2.5}$ emitted from the major fires during this ten (10) day period. It is also clear from the statistical analyses of the data that these exceedances were extreme outliers and they would not have happened but for smoke from regional wildfires.

In closing, the AQD has determined that the exceedances listed below are exceptional events. These events have passed the four criterion tests under 40 CFR 50.14 (3)(iii). Consequently, the AQD is requesting the concurrence on the following "RT"-wildfire flags in EPA's AQS system:

Date	**AQS ID**	**Monitor Name**	**Parameter**	**24-hour value ($\mu g/m^3$)**
6/26/12	56-035-0101	Pinedale Gaseous	$PM_{2.5}$	47
6/28/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	54
6/29/12	56-013-1003	Lander SLAMS	$PM_{2.5}$	42
6/29/12	56-025-0001	Casper SLAMS	$PM_{2.5}$	37
6/29/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	111
6/30/12	56-035-0700	Big Piney Mobile	PM_{10}	190
6/30/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	144
7/1/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	85
7/2/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	97
7/3/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	75
7/4/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	68
7/4/12	56-005-0800	Gillette Mobile	$PM_{2.5}$	57
7/4/12	56-005-0892	Belle Ayr	$PM_{2.5}$	55
7/4/12	56-009-0819	Antelope	$PM_{2.5}$	47
7/5/12	56-035-0700	Big Piney Mobile	$PM_{2.5}$	38

Appendix A: AQS Data

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA MAX VALUES REPORT

Report Request ID: 1101388 Report Code: AMP350MX May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	035	0101												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	88101		X
CRITERIA			X

SELECTED OPTIONS

Option Type	Option Value
SINGLE EVENT PROCESSING	INCLUDE EVENTS
MERGE PDF FILES	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 30

APPLICABLE STANDARDS

Standard Description
PM10 24-hour 2006
PM25 24-hour 2006
SO2 24-hour 1971

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA MAX VALUES REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-035-0101 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Pinedale Gaseous Monitor on west side of City Park and Pine Creek
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.8698240009
LONGITUDE: -109.87076
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2191
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: Multiple Monitor Types
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24-HR BLK AVG
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1						2.6	17.0					
2						4.8	15.9					
3						5.5	17.6					
4						7.4	10.1					
5						7.4	13.8					
6						3.9	9.4					
7						5.6	9.6					
8						4.5	7.2					
9						4.9	7.1					
10						3.0	8.9					
11						4.2	8.7					
12						4.1	9.5					
13						4.7	9.1					
14						4.7	11.5					
15						4.5	11.3					
16						5.3	7.5					
17						5.3	5.0					
18						8.0	7.5					
19						3.6	4.6					
20						4.1	8.1					
21						2.7	6.2					
22						7.4	7.0					
23						5.9	7.2					
24						11.5	7.9					
25						11.5	6.0					
26						P 47.0 +	6.2					
27						19.5	5.4					
28						29.9	5.1					
29						18.5	5.2					
30						17.4	6.6					
31												
NO.:	0	0	0	0	0	30	30	0	0	0	0	0
MAX:						47.0	17.6					
MEAN:						8.98	8.74					

ANNUAL OBSERVATIONS: 60 ANNUAL MEAN: 8.86 ANNUAL MAX: 47.0

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: A plus sign ("+") following a value indicates that the computed average includes one or more raw data values effected by a special event.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA REPORT

Report Request ID: 1101394 Report Code: AMP350 May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	035	0101												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	88101		

SELECTED OPTIONS

Option Type	Option Value
RAW DATA EVENTS	INCLUDE EVENTS
DAILY STATISTICS	MAXIMUM
UNITS	STANDARD
MERGE PDF FILES	YES
INCLUDE NULLS	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 30

APPLICABLE STANDARDS

Standard Description
PM25 24-hour 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-035-0101 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Pinedale Gaseous Monitor on west side of City Park and Pine Creek
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.8698240009
LONGITUDE: -109.87076
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2191
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JUNE 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	4.0	6.0	6.0	1.0	-1.0	.0	2.0	3.0	3.0	-1.0	-1.0	2.0	3.0	5.0	3.0	4.0	5.0	3.0	2.0	1.0	2.0	2.0	6.0	3.0	24	6.0
2	1.0	3.0	2.0	2.0	3.0	4.0	3.0	3.0	3.0	-2.0	1.0	5.0	6.0	3.0	2.0	6.0	4.0	2.0	7.0	10.0	15.0	10.0	12.0	11.0	24	15.0
3	11.0	11.0	11.0	11.0	5.0	3.0	3.0	3.0	6.0	7.0	6.0	8.0	3.0	2.0	4.0	4.0	4.0	6.0	4.0	2.0	3.0	4.0	5.0	6.0	24	11.0
4	6.0	8.0	7.0	8.0	9.0	7.0	5.0	6.0	7.0	8.0	9.0	6.0	6.0	8.0	8.0	10.0	6.0	4.0	8.0	7.0	6.0	8.0	10.0	11.0	24	11.0
5	8.0	10.0	8.0	4.0	3.0	6.0	7.0	4.0	5.0	7.0	7.0	10.0	10.0	9.0	9.0	6.0	9.0	11.0	10.0	9.0	7.0	9.0	7.0	3.0	24	11.0
6	-1.0	2.0	7.0	5.0	5.0	5.0	.0	.0	3.0	.0	-3.0	-5.0	2.0	7.0	4.0	4.0	7.0	9.0	4.0	2.0	24.0	7.0	4.0	3.0	24	24.0
7	4.0	4.0	5.0	5.0	5.0	5.0	8.0	7.0	.0	2.0	6.0	5.0	4.0	8.0	7.0	6.0	5.0	5.0	7.0	4.0	24.0	3.0	4.0	3.0	24	24.0
8	5.0	6.0	1.0	-1.0	3.0	4.0	5.0	5.0	3.0	3.0	6.0	4.0	5.0	4.0	6.0	8.0	7.0	6.0	4.0	5.0	5.0	3.0	5.0	6.0	24	8.0
9	7.0	6.0	3.0	2.0	2.0	6.0	9.0	7.0	5.0	7.0	6.0	6.0	8.0	7.0	7.0	4.0	.0	5.0	7.0	4.0	6.0	5.0	.0	-1.0	24	9.0
10	4.0	6.0	4.0	.0	3.0	5.0	5.0	4.0	2.0	2.0	5.0	3.0	-1.0	-2.0	-3.0	2.0	5.0	5.0	6.0	6.0	3.0	2.0	3.0	4.0	24	6.0
11	4.0	4.0	3.0	.0	.0	5.0	5.0	2.0	-2.0	3.0	5.0	2.0	2.0	3.0	6.0	7.0	4.0	1.0	4.0	6.0	16.0	15.0	4.0	4.0	24	16.0
12	3.0	2.0	5.0	5.0	3.0	6.0	3.0	3.0	-1.0	-3.0	4.0	4.0	3.0	5.0	3.0	3.0	5.0	8.0	7.0	1.0	18.0	8.0	3.0	2.0	24	18.0
13	6.0	2.0	2.0	6.0	4.0	2.0	2.0	1.0	2.0	7.0	9.0	6.0	6.0	4.0	3.0	7.0	6.0	6.0	7.0	5.0	5.0	7.0	4.0	4.0	24	9.0
14	7.0	6.0	5.0	5.0	1.0	1.0	5.0	7.0	6.0	3.0	3.0	3.0	7.0	7.0	5.0	7.0	6.0	3.0	1.0	1.0	4.0	10.0	7.0	3.0	24	10.0
15	4.0	5.0	7.0	5.0	1.0	1.0	3.0	2.0	4.0	3.0	2.0	4.0	5.0	2.0	3.0	5.0	3.0	8.0	9.0	6.0	8.0	5.0	6.0	8.0	24	9.0
16	4.0	3.0	4.0	3.0	1.0	2.0	1.0	-4.0	17.0	6.0	22.0	8.0	6.0	4.0	3.0	4.0	5.0	4.0	4.0	2.0	4.0	18.0	4.0	4.0	24	22.0
17	6.0	5.0	3.0	6.0	7.0	4.0	5.0	6.0	6.0	7.0	9.0	5.0	2.0	2.0	4.0	6.0	3.0	5.0	6.0	6.0	6.0	7.0	8.0	4.0	24	9.0
18	3.0	6.0	17.0	8.0	6.0	6.0	11.0	22.0	5.0	4.0	4.0	6.0	8.0	9.0	9.0	12.0	11.0	7.0	5.0	7.0	8.0	5.0	6.0	9.0	24	22.0
19	5.0	2.0	4.0	4.0	3.0	3.0	2.0	2.0	3.0	.0	-2.0	2.0	7.0	6.0	5.0	5.0	1.0	6.0	7.0	4.0	6.0	2.0	3.0	7.0	24	7.0
20	7.0	6.0	6.0	6.0	7.0	6.0	-2.0	3.0	5.0	-4.0	-5.0	-2.0	.0	7.0	9.0	6.0	6.0	2.0	-1.0	3.0	17.0	7.0	5.0	5.0	24	17.0
21	4.0	1.0	.0	-3.0	1.0	4.0	4.0	3.0	4.0	2.0	.0	3.0	7.0	6.0	3.0	-1.0	.0	2.0	1.0	2.0	5.0	6.0	6.0	6.0	24	7.0
22	5.0	6.0	8.0	5.0	2.0	2.0	5.0	6.0	10.0	12.0	12.0	24.0	12.0	10.0	5.0	6.0	9.0	5.0	2.0	6.0	3.0	5.0	9.0	10.0	24	24.0
23	12.0	6.0	1.0	4.0	4.0	5.0	8.0	19.0	17.0	8.0	4.0	5.0	7.0	3.0	2.0	4.0	3.0	2.0	4.0	4.0	1.0	3.0	8.0	9.0	24	19.0
24	8.0	10.0	8.0	4.0	5.0	6.0	8.0	10.0	10.0	9.0	8.0	9.0	9.0	11.0	9.0	8.0	12.0	10.0	21.0	31.0	21.0	18.0	15.0	18.0	24	31.0
25	11.0	11.0	8.0	9.0	12.0	11.0	12.0	9.0	27.0	20.0	13.0	11.0	9.0	15.0	9.0	11.0	18.0	8.0	15.0	11.0	5.0	1.0	8.0	12.0	24	27.0
26	11.0rt	10.0rt	8.0rt	6.0rt	10.0rt	9.0rt	9.0rt	11.0rt	7.0rt	5.0rt	20.0rt	BA	41.0rt	78.0rt	129.0rt	178.0rt	179.0rt	209.0rt	110.0rt	16.0rt	12.0rt	9.0rt	7.0rt	7.0rt	23	209.0
27	7.0	5.0	6.0	6.0	3.0	6.0	6.0	2.0	4.0	9.0	26.0	80.0	68.0	93.0	32.0	33.0	17.0	10.0	8.0	3.0	23.0	10.0	7.0	6.0	24	93.0
28	5.0	6.0	8.0	7.0	7.0	10.0	11.0	11.0	40.0	28.0	30.0	9.0	30.0	122.0	164.0	102.0	23.0	31.0	14.0	13.0	11.0	23.0	8.0	6.0	24	164.0
29	6.0	9.0	11.0	11.0	10.0	12.0	8.0	6.0	8.0	25.0	2.0	24.0	28.0	47.0	59.0	47.0	55.0	36.0	4.0	7.0	5.0	6.0	9.0	9.0	24	59.0
30	6.0	4.0	7.0	7.0	3.0	2.0	6.0	7.0	10.0	13.0	9.0	7.0	8.0	19.0	38.0	24.0	28.0	32.0	25.0	27.0	43.0	34.0	29.0	30.0	24	43.0
31																									0	
NO.:	30	30	30	30	30	30	30	30	30	30	30	29	30	30	30	30	30	30	30	30	30	30	30	30		
MAX:	12.0	11.0	17.0	11.0	12.0	12.0	12.0	22.0	40.0	28.0	30.0	80.0	68.0	122.0	164.0	178.0	179.0	209.0	110.0	31.0	43.0	34.0	29.0	30.0		
AVG:	5.77	5.70	5.83	4.70	4.23	4.93	5.30	5.67	7.30	6.33	7.23	8.76	10.37	16.80	18.23	17.60	14.87	15.03	10.40	7.03	10.53	8.40	7.07	7.07		

MONTHLY OBSERVATIONS: 719 MONTHLY MEAN: 8.97 MONTHLY MAX: 209.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-035-0101 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Pinedale Gaseous Monitor on west side of City Park and Pine Creek
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.8698240009
LONGITUDE: -109.87076
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2191
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JULY 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	30.0IT	20.0IT	19.0IT	19.0IT	15.0IT	17.0IT	11.0IT	10.0IT	19.0IT	14.0IT	20.0IT	13.0IT	16.0IT	5.0IT	45.0IT	37.0IT	18.0IT	31.0IT	12.0IT	3.0IT	.0IT	17.0IT	8.0IT	9.0IT	24	45.0
2	11.0IT	7.0IT	5.0IT	6.0IT	3.0IT	6.0IT	8.0IT	8.0IT	10.0IT	19.0IT	26.0IT	36.0IT	24.0IT	17.0IT	21.0IT	37.0IT	30.0IT	13.0IT	15.0IT	AM	7.0IT	21.0IT	14.0IT	22.0IT	23	37.0
3	23.0IT	9.0IT	8.0IT	9.0IT	9.0IT	4.0IT	17.0IT	6.0IT	17.0IT	25.0IT	42.0IT	37.0IT	33.0IT	28.0IT	39.0IT	44.0IT	31.0IT	6.0IT	6.0IT	6.0IT	-2.0IT	1.0IT	15.0IT	10.0IT	24	44.0
4	18.0IT	22.0IT	16.0IT	2.0IT	4.0IT	5.0IT	2.0IT	-1.0IT	6.0IT	33.0IT	21.0IT	9.0IT	9.0IT	16.0IT	15.0IT	15.0IT	18.0IT	8.0IT	8.0IT	5.0IT	-2.0IT	-1.0IT	8.0IT	8.0IT	24	33.0
5	7.0IT	11.0IT	10.0IT	8.0IT	9.0IT	16.0IT	11.0IT	12.0IT	13.0IT	23.0IT	24.0IT	33.0IT	26.0IT	22.0IT	13.0IT	18.0IT	2.0IT	7.0IT	10.0IT	10.0IT	10.0IT	10.0IT	18.0IT	9.0IT	24	33.0
6	11.0IT	19.0IT	12.0IT	8.0IT	16.0IT	9.0IT	6.0IT	6.0IT	9.0IT	19.0IT	15.0IT	12.0IT	10.0IT	8.0IT	7.0IT	16.0IT	7.0IT	6.0IT	7.0IT	7.0IT	-2.0IT	.0IT	9.0IT	9.0IT	24	19.0
7	8.0IT	8.0IT	12.0IT	8.0IT	6.0IT	8.0IT	10.0IT	12.0IT	11.0IT	20.0IT	23.0IT	18.0IT	12.0IT	11.0IT	10.0IT	10.0IT	9.0IT	8.0IT	6.0IT	1.0IT	3.0IT	7.0IT	7.0IT	3.0IT	24	23.0
8	-1.0IT	1.0IT	6.0IT	9.0IT	9.0IT	8.0IT	9.0IT	8.0IT	6.0IT	8.0IT	22.0IT	28.0IT	6.0IT	7.0IT	11.0IT	9.0IT	4.0IT	3.0IT	3.0IT	1.0IT	5.0IT	6.0IT	4.0IT	2.0IT	24	28.0
9	-4.0IT	-1.0IT	2.0IT	2.0IT	4.0IT	7.0IT	11.0IT	10.0IT	8.0IT	8.0IT	10.0IT	28.0IT	12.0IT	9.0IT	6.0IT	4.0IT	3.0IT	4.0IT	6.0IT	8.0IT	AM	15.0IT	6.0IT	7.0IT	23	28.0
10	9.0IT	10.0IT	10.0IT	6.0IT	6.0IT	9.0IT	12.0IT	14.0IT	13.0IT	11.0IT	30.0IT	5.0IT	5.0IT	6.0IT	8.0IT	9.0IT	6.0IT	15.0IT	9.0IT	.0IT	.0IT	8.0IT	6.0IT	7.0IT	24	30.0
11	8.0IT	9.0IT	10.0IT	12.0IT	15.0IT	.0IT	1.0IT	6.0IT	10.0IT	12.0IT	28.0IT	12.0IT	AT	4.0IT	1.0IT	7.0IT	21.0IT	6.0IT	8.0IT	.0IT	-1.0IT	12.0IT	12.0IT	8.0IT	23	28.0
12	AM	6.0IT	9.0IT	12.0IT	14.0IT	13.0IT	12.0IT	9.0IT	8.0IT	12.0IT	10.0IT	8.0IT	19.0IT	18.0IT	18.0IT	18.0IT	AM	-2.0IT	.0IT	2.0IT	2.0IT	7.0IT	9.0IT	5.0IT	22	19.0
13	5.0IT	10.0IT	8.0IT	4.0IT	8.0IT	12.0IT	10.0IT	10.0IT	12.0IT	13.0IT	18.0IT	33.0IT	6.0IT	6.0IT	6.0IT	2.0IT	4.0IT	4.0IT	1.0IT	6.0IT	7.0IT	7.0IT	7.0IT	20.0IT	24	33.0
14	16.0IT	12.0IT	15.0IT	10.0IT	15.0IT	9.0IT	16.0IT	11.0IT	15.0IT	11.0IT	8.0IT	6.0IT	15.0IT	24.0IT	2.0IT	1.0IT	1.0IT	17.0IT	11.0IT	12.0IT	18.0IT	10.0IT	12.0IT	11.0IT	24	24.0
15	11.0IT	12.0IT	10.0IT	8.0IT	6.0IT	7.0IT	10.0IT	6.0IT	3.0IT	9.0IT	16.0IT	30.0IT	14.0IT	12.0IT	12.0IT	8.0IT	5.0IT	27.0IT	15.0IT	15.0IT	11.0IT	9.0IT	9.0IT	7.0IT	24	30.0
16	11.0IT	9.0IT	5.0IT	7.0IT	9.0IT	9.0IT	9.0IT	2.0IT	1.0IT	33.0IT	13.0IT	10.0IT	8.0IT	9.0IT	7.0IT	5.0IT	3.0IT	3.0IT	2.0IT	4.0IT	5.0IT	4.0IT	6.0IT	6.0IT	24	33.0
17	5.0IT	1.0IT	1.0IT	5.0IT	4.0IT	3.0IT	1.0IT	6.0IT	9.0IT	6.0IT	8.0IT	16.0IT	5.0IT	4.0IT	6.0IT	10.0IT	7.0IT	6.0IT	6.0IT	4.0IT	4.0IT	4.0IT	-1.0IT	2.0IT	24	16.0
18	8.0IT	7.0IT	10.0IT	10.0IT	9.0IT	8.0IT	2.0IT	3.0IT	10.0IT	32.0IT	10.0IT	9.0IT	6.0IT	5.0IT	9.0IT	9.0IT	8.0IT	4.0IT	-1.0IT	1.0IT	5.0IT	7.0IT	7.0IT	4.0IT	24	32.0
19	2.0IT	4.0IT	5.0IT	6.0IT	7.0IT	7.0IT	5.0IT	6.0IT	11.0IT	9.0IT	5.0IT	5.0IT	4.0IT	5.0IT	5.0IT	2.0IT	2.0IT	5.0IT	5.0IT	6.0IT	-1.0IT	-3.0IT	4.0IT	6.0IT	24	11.0
20	8.0IT	9.0IT	11.0IT	11.0IT	10.0IT	10.0IT	8.0IT	8.0IT	8.0IT	7.0IT	7.0IT	8.0IT	8.0IT	16.0IT	17.0IT	15.0IT	9.0IT	5.0IT	3.0IT	-1.0IT	AM	-1.0IT	6.0IT	5.0IT	23	17.0
21	6.0IT	8.0IT	8.0IT	10.0IT	10.0IT	9.0IT	7.0IT	4.0IT	5.0IT	8.0IT	10.0IT	21.0IT	9.0IT	8.0IT	7.0IT	5.0IT	4.0IT	3.0IT	-5.0IT	-1.0IT	4.0IT	1.0IT	4.0IT	6.0IT	24	21.0
22	5.0IT	4.0IT	4.0IT	7.0IT	8.0IT	6.0IT	5.0IT	4.0IT	5.0IT	9.0IT	9.0IT	8.0IT	27.0IT	4.0IT	-2.0IT	-5.0IT	2.0IT	8.0IT	11.0IT	11.0IT	10.0IT	8.0IT	10.0IT	10.0IT	24	27.0
23	4.0IT	8.0IT	15.0IT	5.0IT	5.0IT	5.0IT	.0IT	1.0IT	8.0IT	32.0IT	10.0IT	6.0IT	6.0IT	8.0IT	6.0IT	6.0IT	4.0IT	6.0IT	6.0IT	5.0IT	7.0IT	7.0IT	6.0IT	8.0IT	24	32.0
24	7.0IT	5.0IT	6.0IT	8.0IT	12.0IT	12.0IT	7.0IT	6.0IT	6.0IT	4.0IT	5.0IT	7.0IT	8.0IT	11.0IT	3.0IT	.0IT	5.0IT	7.0IT	12.0IT	8.0IT	8.0IT	13.0IT	17.0IT	13.0IT	24	17.0
25	10.0IT	7.0IT	10.0IT	5.0IT	3.0IT	3.0IT	5.0IT	6.0IT	.0IT	22.0IT	6.0IT	8.0IT	9.0IT	8.0IT	5.0IT	2.0IT	3.0IT	5.0IT	8.0IT	6.0IT	6.0IT	4.0IT	2.0IT	2.0IT	24	22.0
26	2.0IT	6.0IT	10.0IT	7.0IT	7.0IT	4.0IT	5.0IT	7.0IT	3.0IT	4.0IT	22.0IT	18.0IT	2.0IT	4.0IT	7.0IT	6.0IT	7.0IT	8.0IT	5.0IT	.0IT	-4.0IT	.0IT	9.0IT	12.0IT	24	22.0
27	13.0IT	11.0IT	7.0IT	9.0IT	6.0IT	.0IT	-1.0IT	1.0IT	2.0IT	4.0IT	5.0IT	5.0IT	7.0IT	6.0IT	22.0IT	7.0IT	5.0IT	1.0IT	.0IT	2.0IT	2.0IT	4.0IT	6.0IT	6.0IT	24	22.0
28	10.0IT	8.0IT	3.0IT	3.0IT	3.0IT	3.0IT	4.0IT	.0IT	-2.0IT	5.0IT	10.0IT	16.0IT	5.0IT	5.0IT	3.0IT	2.0IT	3.0IT	23.0IT	-4.0IT	-5.0IT	.0IT	9.0IT	10.0IT	10.0IT	24	23.0
29	8.0IT	6.0IT	6.0IT	7.0IT	6.0IT	5.0IT	4.0IT	-5.0IT	.0IT	12.0IT	8.0IT	4.0IT	5.0IT	4.0IT	3.0IT	6.0IT	5.0IT	6.0IT	5.0IT	4.0IT	7.0IT	6.0IT	6.0IT	8.0IT	24	12.0
30	5.0IT	.0IT	.0IT	1.0IT	.0IT	-4.0IT	-2.0IT	23.0IT	6.0IT	7.0IT	5.0IT	9.0IT	12.0IT	7.0IT	7.0IT	9.0IT	8.0IT	10.0IT	12.0IT	11.0IT	12.0IT	9.0IT	7.0IT	5.0IT	24	23.0
31																									0	
NO.:	29	30	30	30	30	30	30	30	30	30	30	30	29	30	30	30	29	30	30	29	28	30	30	30		
MAX:	30.0	22.0	19.0	19.0	16.0	17.0	17.0	23.0	19.0	33.0	42.0	37.0	33.0	28.0	45.0	44.0	31.0	31.0	15.0	15.0	18.0	21.0	18.0	22.0		
AVG:	8.83	8.27	8.43	7.47	7.93	7.00	6.83	6.63	7.73	14.37	14.87	15.27	11.31	9.90	10.63	10.47	8.07	8.43	6.07	4.52	4.32	6.70	8.10	8.00		

MONTHLY OBSERVATIONS: 714 MONTHLY MEAN: 8.77 MONTHLY MAX: 45.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

QUALIFIER CODES:

Qualifier Code	Qualifier Description	Qualifier Type
AM	Miscellaneous Void	NULL
AT	Calibration	NULL
BA	Maintenance/Routine Repairs	NULL
IT	Wildfire-U. S.	INFORM
rt	Wildfire-U. S.	REQEXC

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional concurrence are shown in lower case.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA MAX VALUES REPORT

Report Request ID: 1101386 Report Code: AMP350MX May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	035	0700												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	88101		X
CRITERIA	81102		X

SELECTED OPTIONS

Option Type	Option Value
SINGLE EVENT PROCESSING	INCLUDE EVENTS
MERGE PDF FILES	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 30

APPLICABLE STANDARDS

Standard Description
PM10 24-hour 2006
PM25 24-hour 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA MAX VALUES REPORT

May. 24, 2013

(81102) PM10 Total 0-10um STP

SITE ID: 56-035-0700 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Big Piney Site #3
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.4863610009
LONGITUDE: -110.098861
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2076
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (122) INSTRUMENT MET ONE 4 MODELS BETA A
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24-HR BLK AVG
UNITS: Micrograms/cubic meter (25 C)
MIN DETECTABLE: 4

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1						4	118					
2						6	138					
3						11	105					
4						19	96					
5						34	61					
6						4	10					
7						5	10					
8						14	15					
9						10	21					
10						4	36					
11						6						
12						10	15					
13						12	16					
14						8	9					
15						11	6					
16						6	11					
17						16	6					
18							14					
19						12	15					
20						8	9					
21						9	3					
22						26	4					
23						28	9					
24						36	7					
25						35	7					
26						29	8					
27						52	7					
28						87	6					
29						151 +	8					
30						P 190 +	8					
31												
NO.:	0	0	0	0	0	29	29	0	0	0	0	0
MAX:						190.	138.					
MEAN:						29.1	26.8					

ANNUAL OBSERVATIONS: 58 ANNUAL MEAN: 27.9 ANNUAL MAX: 190.

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 155
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 155

Note: A plus sign ("+") following a value indicates that the computed average includes one or more raw data values effected by a special event.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA MAX VALUES REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-035-0700 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Big Piney Site #3
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.4863610009
LONGITUDE: -110.098861
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2076
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24-HR BLK AVG
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1						.0	P 85.4 +					
2						1.7	P 97.4 +					
3						3.5	P 74.7 +					
4						4.2	P 68.4 +					
5						4.4	P 38.6 +					
6						1.6	7.2					
7						.9	7.1					
8						1.0	9.6					
9						1.6	10.2					
10						.0	11.9					
11						1.2						
12						-.4	8.7					
13						.7	7.1					
14						.0	1.2					
15						1.0	.9					
16						.2	2.5					
17						.5	1.7					
18							4.2					
19						.2	3.7					
20						.2	-.4					
21						.6	-.2					
22						4.2	-.8					
23						3.2	1.3					
24						8.0	1.7					
25						6.2	.6					
26						10.1	2.1					
27						30.0	.7					
28						P 53.8 +	-.5					
29						P 110.6 +	1.5					
30						P 143.7 +	1.0					
31												
NO.:	0	0	0	0	0	29	29	0	0	0	0	0
MAX:						143.7	97.4					
MEAN:						13.55	15.43					

ANNUAL OBSERVATIONS: 58 ANNUAL MEAN: 14.49 ANNUAL MAX: 143.7

8 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
8 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: A plus sign ("+") following a value indicates that the computed average includes one or more raw data values effected by a special event.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA REPORT

Report Request ID: 1101383 Report Code: AMP350 May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	035	0700												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	81102		
CRITERIA	88101		

SELECTED OPTIONS

Option Type	Option Value
DAILY STATISTICS	MAXIMUM
UNITS	STANDARD
RAW DATA EVENTS	INCLUDE EVENTS
MERGE PDF FILES	YES
INCLUDE NULLS	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 30

APPLICABLE STANDARDS

Standard Description
PM10 24-hour 2006
PM25 24-hour 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(81102) PM10 Total 0-10um STP

SITE ID: 56-035-0700 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Big Piney Site #3
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.4863610009
LONGITUDE: -110.098861
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2076
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (122) INSTRUMENT MET ONE 4 MODELS BETA A
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JUNE 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (25 C)
MIN DETECTABLE: 4

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	7	2	2	2	2	5	7	7	6	4	2	2	2	2	2	2	2	2	2	6	9	8	10	8	24	10.
2	2	2	4	5	5	7	6	4	2	6	8	6	2	2	2	7	15	2	6	12	13	13	12	10	24	15.
3	20	9	11	17	10	12	11	11	13	12	13	13	10	11	12	8	6	9	10	8	10	13	11	6	24	20.
4	7	9	7	6	6	17	13	41	15	10	15	BA	17	17	32	15	19	18	27	26	48	33	24	17	23	48.
5	13	16	9	11	19	20	23	40	33	26	29	45	79	89	82	36	44	58	81	40	21	5	7	5	24	89.
6	2	4	5	4	2	2	5	8	6	5	6	6	4	2	2	2	7	5	4	5	6	9	9	9	24	9.
7	7	6	5	2	4	7	4	20	12	7	2	2	2	2	2	2	2	4	2	2	10	8	9	8	24	20.
8	6	11	11	7	4	5	10	53	2	7	10	17	17	6	20	8	16	15	21	23	19	19	15	17	24	53.
9	8	5	4	6	4	4	4	9	10	8	8	16	18	21	17	24	28	17	18	5	5	4	7	7	24	28.
10	4	8	6	4	4	6	6	4	2	2	2	2	4	2	2	2	2	2	5	6	11	9	7	9	24	11.
11	10	7	5	2	2	7	9	7	8	8	6	2	4	7	6	5	9	10	6	6	11	9	5	6	24	11.
12	6	6	6	9	7	8	10	7	7	10	10	9	8	7	4	2	73	8	7	8	9	10	11	9	24	73.
13	8	9	12	10	5	4	30	56	11	10	28	5	6	43	10	11	10	4	6	11	9	4	4	5	24	56.
14	6	5	4	6	5	6	10	36	17	14	8	6	5	6	7	2	2	2	2	7	9	14	19	8	24	36.
15	7	6	8	7	7	6	7	10	23	8	11	50	36	12	13	14	14	11	5	2	6	6	6	8	24	50.
16	7	8	10	6	6	7	5	7	7	5	6	7	2	4	5	5	8	5	4	8	10	9	9	10	24	10.
17	11	11	13	10	9	13	10	7	57	22	11	16	20	14	10	31	43	16	14	11	10	13	12	11	24	57.
18	16	9	11	16	11	18	14	20	17	15	AV	AV	AV	AV	AV	AV	AV	48	27	24	15	15	14	13	17	48.
19	20	17	11	17	21	11	11	17	9	6	6	16	11	34	12	20	17	2	2	16	7	7	9	8	24	34.
20	8	9	9	9	6	30	39	16	5	2	2	6	4	2	2	2	2	4	6	4	6	8	8	6	24	39.
21	7	10	6	36	26	17	7	6	4	9	8	2	2	6	7	5	5	2	4	16	9	12	12	7	24	36.
22	5	5	2	17	7	54	14	53	20	20	29	27	27	23	34	26	33	30	47	49	17	42	23	26	24	54.
23	30	37	39	37	27	40	23	44	22	34	19	18	18	22	29	AN	40	26	39	13	20	19	25	42	23	44.
24	14	40	35	27	43	36	43	27	16	38	41	17	40	91	35	23	40	37	32	33	41	41	47	38	24	91.
25	21	28	27	21	36	32	31	36	16	35	31	27	42	17	47	19	63	32	227	15	26	2	4	14	24	227.
26	12	17	2	2	8	8	30	16	19	8	8	11	13	25	29	7	9	19	37	46	291	36	44	12	24	291.
27	37	2	2	6	44	204	169	207	171	67	37	59	21	24	2	5	31	2	5	20	32	46	55	12	24	207.
28	69	414	177	85	101	336	66	28	41	37	33	81	32	35	AN	22	BA	14	10	9	60	66	99	111	22	414.
29	381	820	732	153	123	24	26	82	98	138	24	42	40	15	27	90	9	25	39	63	96	149rt	207rt	239rt	24	820.
30	465rt	606rt	712rt	282rt	601rt	745rt	318rt	117rt	20rt	18rt	11rt	16rt	49rt	11rt	15rt	11rt	21rt	20rt	10rt	58rt	35rt	52rt	153rt	217rt	24	745.
31																									0	
NO.:	30	30	30	30	30	30	30	30	30	30	29	28	29	29	28	28	28	30	30	30	30	30	30	30		
MAX:	465.	820.	732.	282.	601.	745.	318.	207.	171.	138.	41.	81.	79.	91.	82.	90.	73.	58.	227.	63.	291.	149.	207.	239.		
AVG:	40.5	71.3	62.9	27.4	38.5	56.4	32.0	33.2	23.0	19.7	14.6	18.8	18.4	19.0	16.7	14.5	20.4	15.0	23.5	18.4	29.0	22.7	29.2	29.9		

MONTHLY OBSERVATIONS: 709 MONTHLY MEAN: 29.1 MONTHLY MAX: 820.

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

(81102) PM10 Total 0-10um STP

SITE ID: 56-035-0700 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Big Piney Site #3
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.4863610009
LONGITUDE: -110.098861
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2076
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (122) INSTRUMENT MET ONE 4 MODELS BETA A
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JULY 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (25 C)
MIN DETECTABLE: 4

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	303IT	274IT	276IT	422IT	359IT	322IT	160IT	39IT	24IT	33IT	21IT	11IT	13IT	11IT	17IT	19IT	13IT	19IT	45IT	28IT	109IT	93IT	94IT	141IT	24	422.
2	348IT	248IT	407IT	251IT	494IT	681IT	217IT	90IT	179IT	20IT	54IT	33IT	20IT	15IT	10IT	4IT	5IT	6IT	7IT	8IT	32IT	53IT	53IT	93IT	24	681.
3	252IT	426IT	428IT	248IT	169IT	306IT	135IT	35IT	31IT	46IT	19IT	30IT	17IT	12IT	10IT	5IT	5IT	27IT	17IT	12IT	16IT	46IT	67IT	181IT	24	428.
4	256IT	230IT	211IT	305IT	296IT	386IT	226IT	48IT	19IT	22IT	34IT	33IT	26IT	8IT	17IT	7IT	7IT	8IT	32IT	43IT	34IT	40IT	20IT	14IT	24	386.
5	18IT	62IT	151IT	249IT	135IT	58IT	79IT	100IT	153IT	52IT	27IT	35IT	38IT	36IT	144IT	34IT	21IT	27IT	16IT	7IT	10IT	16IT	6IT	9IT	24	249.
6	16IT	11IT	10IT	10IT	17IT	21IT	21IT	14IT	14IT	12IT	11IT	11IT	10IT	2IT	2IT	2IT	2IT	2IT	21IT	13IT	11IT	8IT	5IT	2IT	24	21.
7	2IT	2IT	5IT	5IT	17IT	24IT	27IT	37IT	28IT	26IT	6IT	5IT	5IT	2IT	2IT	2IT	2IT	6IT	9IT	11IT	12IT	10IT	5IT	4IT	24	37.
8	7IT	8IT	24IT	18IT	46IT	50IT	54IT	25IT	15IT	9IT	2IT	4IT	5IT	6IT	21IT	2IT	4IT	6IT	6IT	10IT	26IT	5IT	5IT	10IT	24	54.
9	20IT	20IT	28IT	28IT	33IT	40IT	12IT	53IT	58IT	37IT	10IT	5IT	6IT	15IT	26IT	6IT	10IT	12IT	12IT	11IT	24IT	13IT	10IT	27IT	24	58.
10	31IT	26IT	27IT	35IT	52IT	43IT	62IT	194IT	26IT	17IT	6IT	6IT	6IT	9IT	17IT	4IT	8IT	218IT	26IT	30IT	5IT	10IT	13IT	10IT	24	218.
11	12IT	13IT	20IT	24IT	25IT	48IT	47IT	41IT	47IT	17IT	22IT	8IT	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	18IT	13	48.
12	12IT	16IT	22IT	16IT	25IT	41IT	37IT	29IT	15IT	8IT	BA	6IT	7IT	8IT	7IT	7IT	7IT	6IT	51IT	6IT	4IT	6IT	9IT	7IT	23	51.
13	6IT	20IT	32IT	25IT	35IT	24IT	20IT	25IT	24IT	39IT	9IT	7IT	5IT	4IT	27IT	15IT	7IT	9IT	9IT	11IT	12IT	17IT	10IT	10IT	24	39.
14	12IT	10IT	7IT	7IT	8IT	12IT	11IT	9IT	8IT	7IT	7IT	10IT	8IT	72IT	9IT	4IT	2IT	2IT	6IT	2IT	2IT	2IT	2IT	2IT	24	72.
15	2IT	2IT	4IT	2IT	4IT	5IT	5IT	7IT	11IT	10IT	9IT	5IT	2IT	7IT	9IT	6IT	10IT	13IT	9IT	8IT	8IT	10IT	8IT	5IT	24	13.
16	9IT	11IT	8IT	8IT	19IT	21IT	21IT	37IT	33IT	BA	9IT	8IT	6IT	2IT	2IT	5IT	4IT	2IT	2IT	26IT	14IT	9IT	4IT	4IT	23	37.
17	4IT	2IT	2IT	6IT	12IT	14IT	11IT	10IT	10IT	8IT	7IT	2IT	5IT	2IT	2IT	4IT	5IT	5IT	2IT	7IT	9IT	9IT	9IT	9IT	24	14.
18	13IT	16IT	10IT	10IT	20IT	35IT	32IT	71IT	10IT	6IT	4IT	6IT	7IT	6IT	6IT	10IT	10IT	25IT	6IT	4IT	2IT	6IT	10IT	15IT	24	71.
19	8IT	15IT	13IT	25IT	22IT	36IT	67IT	65IT	15IT	10IT	5IT	5IT	6IT	4IT	2IT	7IT	5IT	4IT	9IT	5IT	8IT	12IT	12IT	10IT	24	67.
20	9IT	6IT	4IT	7IT	8IT	10IT	11IT	8IT	6IT	9IT	8IT	2IT	2IT	2IT	4IT	5IT	2IT	5IT	17IT	8IT	80IT	2IT	2IT	2IT	24	80.
21	2IT	5IT	6IT	7IT	8IT	6IT	6IT	4IT	2IT	2IT	2IT	2IT	2IT	2IT	4IT	5IT	7IT	7IT	2IT	4IT	2IT	2IT	2IT	2IT	24	8.
22	5IT	2IT	2IT	5IT	10IT	8IT	6IT	7IT	5IT	2IT	2IT	2IT	2IT	5IT	10IT	9IT	8IT	7IT	2IT	2IT	4IT	2IT	2IT	2IT	24	10.
23	7IT	6IT	4IT	5IT	7IT	11IT	12IT	10IT	9IT	6IT	4IT	8IT	8IT	8IT	21IT	11IT	10IT	9IT	8IT	7IT	8IT	9IT	9IT	20IT	24	21.
24	7IT	6IT	10IT	10IT	9IT	8IT	8IT	11IT	8IT	9IT	9IT	9IT	20IT	2IT	5IT	6IT	4IT	2IT	2IT	2IT	2IT	6IT	9IT	6IT	24	20.
25	2IT	2IT	7IT	6IT	5IT	5IT	8IT	8IT	8IT	6IT	7IT	9IT	7IT	5IT	5IT	6IT	8IT	9IT	8IT	11IT	7IT	5IT	23IT	11IT	24	23.
26	13IT	15IT	16IT	17IT	15IT	16IT	11IT	6IT	2IT	6IT	6IT	4IT	6IT	7IT	8IT	7IT	6IT	8IT	7IT	6IT	9IT	8IT	7IT	9IT	24	17.
27	15IT	11IT	12IT	17IT	14IT	16IT	6IT	8IT	7IT	17IT	6IT	5IT	5IT	2IT	2IT	2IT	2IT	2IT	5IT	7IT	2IT	2IT	2IT	6IT	24	17.
28	2IT	2IT	2IT	5IT	5IT	8IT	7IT	4IT	6IT	6IT	4IT	2IT	2IT	36IT	17IT	2IT	2IT	2IT	2IT	4IT	5IT	8IT	9IT	11IT	24	36.
29	20IT	4IT	7IT	17IT	17IT	18IT	15IT	6IT	4IT	6IT	2IT	2IT	6IT	9IT	10IT	8IT	5IT	4IT	5IT	8IT	12IT	13IT	11IT	6IT	24	20.
30	6IT	9IT	8IT	6IT	9IT	12IT	13IT	22IT	7IT	2IT	2IT	4IT	7IT	4IT	7IT	7IT	8IT	11IT	16IT	9IT	12IT	14IT	8IT	5IT	24	22.
31																									0	
NO.:	30	30	30	30	30	30	30	30	30	29	29	30	29	29	29	29	29	29	29	29	29	29	29	30		
MAX:	348.	426.	428.	422.	494.	681.	226.	194.	179.	52.	54.	35.	38.	72.	144.	34.	21.	218.	51.	43.	109.	93.	94.	181.		
AVG:	47.3	49.3	58.8	59.9	63.2	76.2	44.9	34.1	26.1	15.5	10.8	9.3	8.9	10.4	14.6	7.3	6.5	16.0	12.4	10.7	16.6	15.0	14.7	21.7		

MONTHLY OBSERVATIONS: 707 MONTHLY MEAN: 27.4 MONTHLY MAX: 681.

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-035-0700 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Big Piney Site #3
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.4863610009
LONGITUDE: -110.098861
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2076
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JUNE 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	3.0	2.0	1.0	.0	-1.0	.0	.0	1.0	.0	.0	-1.0	-3.0	-3.0	-2.0	.0	.0	1.0	1.0	3.0	4.0	-1.0	-2.0	-1.0	-1.0	24	4.0
2	2.0	2.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	2.0	.0	2.0	3.0	1.0	-1.0	2.0	4.0	.0	-2.0	1.0	2.0	1.0	-1.0	1.0	24	4.0
3	5.0	4.0	5.0	5.0	4.0	5.0	3.0	2.0	3.0	4.0	5.0	3.0	2.0	2.0	2.0	3.0	3.0	2.0	4.0	5.0	5.0	1.0	1.0	6.0	24	6.0
4	6.0	5.0	3.0	3.0	2.0	2.0	1.0	3.0	4.0	1.0	4.0	BA	5.0	2.0	4.0	5.0	4.0	7.0	4.0	5.0	7.0	8.0	7.0	6.0	23	8.0
5	6.0	3.0	4.0	6.0	4.0	6.0	6.0	4.0	2.0	.0	3.0	5.0	4.0	5.0	2.0	1.0	5.0	5.0	10.0	11.0	6.0	5.0	2.0	1.0	24	11.0
6	4.0	2.0	2.0	3.0	1.0	1.0	2.0	3.0	.0	-3.0	-1.0	.0	2.0	2.0	.0	2.0	2.0	2.0	2.0	2.0	3.0	4.0	3.0	2.0	24	4.0
7	1.0	2.0	2.0	2.0	1.0	2.0	4.0	4.0	4.0	3.0	1.0	-1.0	1.0	-2.0	-3.0	.0	1.0	1.0	1.0	1.0	.0	-1.0	-1.0	.0	24	4.0
8	2.0	3.0	4.0	3.0	1.0	-1.0	-3.0	.0	.0	.0	1.0	1.0	1.0	2.0	3.0	2.0	-2.0	.0	3.0	.0	.0	2.0	2.0	2.0	24	4.0
9	2.0	1.0	1.0	3.0	2.0	.0	.0	.0	.0	.0	-1.0	2.0	4.0	6.0	5.0	1.0	2.0	2.0	1.0	2.0	3.0	2.0	.0	1.0	24	6.0
10	1.0	2.0	-2.0	-3.0	-1.0	1.0	2.0	1.0	.0	1.0	2.0	.0	-1.0	.0	.0	-1.0	-1.0	-1.0	.0	1.0	1.0	.0	.0	.0	24	2.0
11	.0	.0	1.0	5.0	4.0	3.0	2.0	1.0	.0	-1.0	2.0	2.0	1.0	-1.0	-3.0	.0	.0	-1.0	-1.0	.0	6.0	5.0	1.0	3.0	24	6.0
12	3.0	1.0	2.0	1.0	.0	1.0	1.0	-1.0	-2.0	.0	1.0	-1.0	-2.0	-1.0	-3.0	-2.0	-2.0	-1.0	-1.0	-2.0	-1.0	-2.0	-1.0	2.0	24	3.0
13	1.0	.0	2.0	2.0	1.0	2.0	3.0	2.0	1.0	-3.0	-2.0	1.0	1.0	4.0	2.0	.0	1.0	.0	1.0	2.0	.0	-1.0	-2.0	.0	24	4.0
14	2.0	2.0	1.0	2.0	.0	-1.0	-1.0	-2.0	-3.0	-2.0	1.0	1.0	.0	-1.0	.0	1.0	-3.0	-4.0	-1.0	.0	.0	1.0	3.0	2.0	24	3.0
15	5.0	4.0	-3.0	-3.0	-1.0	-1.0	-1.0	.0	-1.0	-2.0	1.0	1.0	2.0	4.0	3.0	2.0	.0	-1.0	1.0	1.0	2.0	5.0	4.0	3.0	24	5.0
16	2.0	2.0	3.0	.0	-1.0	2.0	3.0	-2.0	-1.0	2.0	1.0	-1.0	-1.0	1.0	-1.0	1.0	-1.0	-3.0	.0	-1.0	-2.0	2.0	.0	1.0	24	3.0
17	3.0	1.0	1.0	1.0	-1.0	-1.0	-2.0	-1.0	1.0	.0	1.0	2.0	2.0	2.0	.0	2.0	2.0	2.0	1.0	1.0	-1.0	-1.0	-1.0	-1.0	24	3.0
18	1.0	1.0	.0	.0	1.0	2.0	3.0	3.0	2.0	.0	AV	AV	AV	AV	AV	AV	AV	14.0	8.0	2.0	1.0	.0	2.0	2.0	17	14.0
19	-1.0	2.0	6.0	3.0	.0	2.0	2.0	-1.0	.0	.0	-2.0	-2.0	-1.0	2.0	3.0	1.0	.0	1.0	-1.0	-1.0	-1.0	.0	-2.0	-3.0	24	6.0
20	2.0	3.0	1.0	1.0	1.0	-2.0	-1.0	3.0	1.0	-2.0	1.0	1.0	-2.0	-3.0	-2.0	-1.0	-1.0	-1.0	-1.0	.0	3.0	2.0	1.0	1.0	24	3.0
21	1.0	.0	-1.0	6.0	6.0	1.0	2.0	5.0	1.0	.0	1.0	-1.0	.0	1.0	.0	-3.0	-1.0	2.0	1.0	.0	.0	-3.0	-3.0	1.0	24	6.0
22	1.0	1.0	1.0	3.0	3.0	1.0	.0	-2.0	-1.0	-1.0	2.0	2.0	3.0	6.0	36.0	5.0	4.0	6.0	8.0	5.0	2.0	5.0	7.0	6.0	24	36.0
23	6.0	4.0	2.0	6.0	6.0	6.0	5.0	2.0	2.0	3.0	1.0	.0	2.0	4.0	3.0	1.0	2.0	.0	2.0	5.0	3.0	3.0	4.0	5.0	24	6.0
24	3.0	3.0	7.0	9.0	9.0	8.0	6.0	3.0	4.0	16.0	15.0	1.0	4.0	7.0	7.0	8.0	9.0	8.0	8.0	8.0	16.0	14.0	12.0	8.0	24	16.0
25	8.0	10.0	9.0	6.0	6.0	7.0	6.0	9.0	7.0	3.0	4.0	4.0	3.0	5.0	6.0	5.0	4.0	4.0	18.0	20.0	1.0	2.0	2.0	2.0	24	20.0
26	3.0	4.0	4.0	5.0	3.0	2.0	4.0	4.0	-1.0	-1.0	1.0	-1.0	.0	3.0	3.0	2.0	2.0	3.0	4.0	7.0	181.0	3.0	4.0	5.0	24	181.0
27	8.0	7.0	1.0	4.0	12.0	156.0	121.0	143.0	114.0	38.0	17.0	15.0	7.0	.0	.0	1.0	3.0	4.0	.0	.0	16.0	22.0	23.0	10.0	24	156.0
28	57.0rt	316.0rt	141.0rt	58.0rt	71.0rt	260.0rt	28.0rt	7.0rt	16.0rt	14.0rt	19.0rt	27.0rt	3.0rt	4.0rt	3.0rt	2.0rt	BA	3.0rt	1.0rt	-1.0rt	37.0rt	37.0rt	57.0rt	78.0rt	23	316.0
29	302.0rt	654.0rt	566.0rt	118.0rt	87.0rt	8.0rt	11.0rt	51.0rt	72.0rt	94.0rt	8.0rt	28.0rt	16.0rt	6.0rt	8.0rt	51.0rt	3.0rt	8.0rt	24.0rt	30.0rt	59.0rt	113.0rt	158.0rt	180.0rt	24	654.0
30	358.0rt	473.0rt	566.0rt	227.0rt	472.0rt	596.0rt	243.0rt	86.0rt	8.0rt	9.0rt	5.0rt	1.0rt	24.0rt	3.0rt	6.0rt	6.0rt	4.0rt	4.0rt	2.0rt	36.0rt	16.0rt	32.0rt	112.0rt	162.0rt	24	596.0
31																									0	
NO.:	30	30	30	30	30	30	30	30	30	30	29	28	29	29	29	29	28	30	30	30	30	30	30	30		
MAX:	358.0	654.0	566.0	227.0	472.0	596.0	243.0	143.0	114.0	94.0	19.0	28.0	24.0	7.0	36.0	51.0	9.0	14.0	24.0	36.0	181.0	113.0	158.0	180.0		
AVG:	26.57	50.47	44.43	15.97	23.17	35.73	15.10	11.03	7.87	5.83	3.10	3.18	2.76	2.14	2.86	3.34	1.61	2.23	3.33	4.80	12.13	8.63	13.10	16.17		

MONTHLY OBSERVATIONS: 711 MONTHLY MEAN: 13.28 MONTHLY MAX: 654.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-035-0700 POC: 1
COUNTY: (035) Sublette
CITY: (00000) Not in a city
SITE ADDRESS: Big Piney Site #3
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 42.4863610009
LONGITUDE: -110.098861
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 2076
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JULY 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

HOUR

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	232.0rt	213.0rt	205.0rt	328.0rt	279.0rt	247.0rt	125.0rt	20.0rt	18.0rt	15.0rt	13.0rt	9.0rt	6.0rt	4.0rt	3.0rt	6.0rt	7.0rt	5.0rt	19.0rt	17.0rt	42.0rt	62.0rt	69.0rt	107.0rt	24	328.0
2	259.0rt	195.0rt	316.0rt	193.0rt	382.0rt	532.0rt	163.0rt	45.0rt	36.0rt	14.0rt	31.0rt	18.0rt	5.0rt	6.0rt	6.0rt	2.0rt	1.0rt	3.0rt	3.0rt	3.0rt	8.0rt	28.0rt	27.0rt	62.0rt	24	532.0
3	188.0rt	322.0rt	327.0rt	189.0rt	132.0rt	226.0rt	92.0rt	15.0rt	17.0rt	24.0rt	6.0rt	10.0rt	10.0rt	4.0rt	2.0rt	3.0rt	5.0rt	5.0rt	4.0rt	5.0rt	8.0rt	23.0rt	48.0rt	130.0rt	24	327.0
4	196.0rt	167.0rt	154.0rt	235.0rt	229.0rt	285.0rt	172.0rt	22.0rt	6.0rt	7.0rt	19.0rt	20.0rt	14.0rt	10.0rt	5.0rt	4.0rt	3.0rt	2.0rt	22.0rt	24.0rt	18.0rt	17.0rt	6.0rt	6.0rt	24	285.0
5	5.0rt	41.0rt	111.0rt	187.0rt	94.0rt	33.0rt	52.0rt	65.0rt	107.0rt	34.0rt	14.0rt	18.0rt	22.0rt	25.0rt	18.0rt	18.0rt	19.0rt	22.0rt	6.0rt	6.0rt	6.0rt	7.0rt	8.0rt	10.0rt	24	187.0
6	9.0IT	6.0IT	6.0IT	8.0IT	15.0IT	18.0IT	16.0IT	12.0IT	11.0IT	9.0IT	9.0IT	8.0IT	5.0IT	3.0IT	3.0IT	5.0IT	5.0IT	1.0IT	3.0IT	5.0IT	5.0IT	6.0IT	3.0IT	3.0IT	24	18.0
7	5.0IT	4.0IT	5.0IT	6.0IT	9.0IT	20.0IT	24.0IT	16.0IT	7.0IT	9.0IT	7.0IT	5.0IT	5.0IT	4.0IT	5.0IT	6.0IT	6.0IT	6.0IT	6.0IT	7.0IT	4.0IT	1.0IT	1.0IT	4.0IT	24	24.0
8	7.0IT	6.0IT	17.0IT	16.0IT	32.0IT	36.0IT	37.0IT	14.0IT	10.0IT	4.0IT	4.0IT	3.0IT	2.0IT	4.0IT	2.0IT	2.0IT	1.0IT	2.0IT	5.0IT	7.0IT	8.0IT	5.0IT	3.0IT	5.0IT	24	37.0
9	6.0IT	19.0IT	19.0IT	23.0IT	31.0IT	27.0IT	13.0IT	13.0IT	11.0IT	11.0IT	7.0IT	1.0IT	2.0IT	4.0IT	3.0IT	2.0IT	4.0IT	6.0IT	7.0IT	8.0IT	5.0IT	4.0IT	5.0IT	16.0IT	24	31.0
10	14.0IT	23.0IT	23.0IT	21.0IT	38.0IT	25.0IT	16.0IT	41.0IT	6.0IT	6.0IT	4.0IT	-1.0IT	1.0IT	5.0IT	3.0IT	1.0IT	-1.0IT	30.0IT	6.0IT	7.0IT	5.0IT	2.0IT	4.0IT	7.0IT	24	41.0
11	8.0IT	10.0IT	9.0IT	17.0IT	20.0IT	35.0IT	29.0IT	19.0IT	11.0IT	7.0IT	5.0IT	4.0IT	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	6.0IT	13	35.0
12	6.0IT	9.0IT	21.0IT	15.0IT	13.0IT	30.0IT	28.0IT	16.0IT	9.0IT	8.0IT	BA	6.0IT	5.0IT	2.0IT	2.0IT	3.0IT	1.0IT	2.0IT	6.0IT	6.0IT	4.0IT	4.0IT	3.0IT	2.0IT	23	30.0
13	3.0IT	9.0IT	20.0IT	20.0IT	19.0IT	15.0IT	12.0IT	16.0IT	8.0IT	16.0IT	4.0IT	2.0IT	3.0IT	1.0IT	2.0IT	5.0IT	3.0IT	2.0IT	3.0IT	2.0IT	-2.0IT	.0IT	4.0IT	5.0IT	24	20.0
14	4.0IT	3.0IT	3.0IT	2.0IT	4.0IT	3.0IT	1.0IT	2.0IT	2.0IT	1.0IT	1.0IT	.0IT	-1.0IT	2.0IT	.0IT	.0IT	.0IT	-1.0IT	1.0IT	2.0IT	3.0IT	1.0IT	-1.0IT	-2.0IT	24	4.0
15	.0IT	1.0IT	.0IT	1.0IT	1.0IT	1.0IT	2.0IT	1.0IT	1.0IT	2.0IT	1.0IT	1.0IT	-1.0IT	-4.0IT	-2.0IT	-1.0IT	1.0IT	5.0IT	5.0IT	.0IT	1.0IT	6.0IT	.0IT	.0IT	24	6.0
16	3.0IT	3.0IT	3.0IT	2.0IT	8.0IT	10.0IT	6.0IT	10.0IT	11.0IT	5.0IT	BA	2.0IT	1.0IT	-2.0IT	-2.0IT	-1.0IT	.0IT	-2.0IT	-1.0IT	3.0IT	5.0IT	1.0IT	-4.0IT	-3.0IT	23	11.0
17	1.0IT	1.0IT	1.0IT	-2.0IT	2.0IT	6.0IT	6.0IT	6.0IT	.0IT	-3.0IT	-1.0IT	-1.0IT	2.0IT	6.0IT	1.0IT	-2.0IT	1.0IT	1.0IT	.0IT	1.0IT	2.0IT	2.0IT	6.0IT	7.0IT	24	7.0
18	7.0IT	9.0IT	8.0IT	8.0IT	12.0IT	15.0IT	9.0IT	18.0IT	-2.0IT	.0IT	3.0IT	3.0IT	-1.0IT	-2.0IT	1.0IT	3.0IT	2.0IT	.0IT	-2.0IT	.0IT	3.0IT	3.0IT	3.0IT	2.0IT	24	18.0
19	1.0IT	1.0IT	6.0IT	10.0IT	12.0IT	12.0IT	10.0IT	18.0IT	6.0IT	2.0IT	1.0IT	5.0IT	.0IT	-1.0IT	-1.0IT	-2.0IT	3.0IT	3.0IT	-1.0IT	-1.0IT	.0IT	1.0IT	3.0IT	3.0IT	24	18.0
20	3.0IT	2.0IT	3.0IT	2.0IT	.0IT	1.0IT	1.0IT	-1.0IT	-3.0IT	-2.0IT	-1.0IT	-1.0IT	.0IT	2.0IT	1.0IT	-1.0IT	.0IT	2.0IT	-1.0IT	-4.0IT	-2.0IT	-2.0IT	-5.0IT	-4.0IT	24	3.0
21	-2.0IT	-1.0IT	2.0IT	.0IT	-2.0IT	-1.0IT	1.0IT	2.0IT	1.0IT	.0IT	.0IT	1.0IT	.0IT	1.0IT	.0IT	-2.0IT	3.0IT	4.0IT	-1.0IT	-2.0IT	-1.0IT	-1.0IT	-4.0IT	-3.0IT	24	4.0
22	-1.0IT	.0IT	.0IT	4.0IT	6.0IT	2.0IT	-2.0IT	-2.0IT	-2.0IT	-2.0IT	-3.0IT	-2.0IT	1.0IT	2.0IT	-2.0IT	-1.0IT	2.0IT	.0IT	-5.0IT	-3.0IT	-2.0IT	-3.0IT	-3.0IT	-4.0IT	24	6.0
23	-1.0IT	2.0IT	2.0IT	.0IT	4.0IT	4.0IT	1.0IT	3.0IT	4.0IT	1.0IT	-1.0IT	-1.0IT	3.0IT	4.0IT	2.0IT	2.0IT	1.0IT	.0IT	-2.0IT	-2.0IT	.0IT	1.0IT	3.0IT	2.0IT	24	4.0
24	1.0IT	2.0IT	2.0IT	1.0IT	2.0IT	3.0IT	3.0IT	5.0IT	6.0IT	2.0IT	1.0IT	.0IT	4.0IT	5.0IT	2.0IT	2.0IT	1.0IT	.0IT	-2.0IT	-1.0IT	1.0IT	2.0IT	2.0IT	-1.0IT	24	6.0
25	-4.0IT	.0IT	6.0IT	6.0IT	2.0IT	4.0IT	5.0IT	-1.0IT	-1.0IT	-2.0IT	-4.0IT	.0IT	1.0IT	-1.0IT	.0IT	2.0IT	.0IT	-1.0IT	.0IT	.0IT	1.0IT	1.0IT	1.0IT	1.0IT	24	6.0
26	5.0IT	7.0IT	7.0IT	6.0IT	7.0IT	7.0IT	2.0IT	-1.0IT	1.0IT	4.0IT	1.0IT	-2.0IT	-1.0IT	1.0IT	1.0IT	1.0IT	1.0IT	.0IT	.0IT	.0IT	.0IT	2.0IT	3.0IT	.0IT	24	7.0
27	2.0IT	5.0IT	6.0IT	8.0IT	6.0IT	3.0IT	1.0IT	.0IT	-1.0IT	.0IT	1.0IT	1.0IT	.0IT	-1.0IT	-1.0IT	-4.0IT	-5.0IT	-3.0IT	1.0IT	.0IT	-2.0IT	-1.0IT	1.0IT	2.0IT	24	8.0
28	3.0IT	3.0IT	.0IT	-2.0IT	.0IT	3.0IT	1.0IT	-2.0IT	-4.0IT	-5.0IT	-2.0IT	.0IT	-2.0IT	.0IT	1.0IT	-1.0IT	-1.0IT	-2.0IT	-3.0IT	-4.0IT	.0IT	3.0IT	.0IT	2.0IT	24	3.0
29	6.0IT	4.0IT	3.0IT	5.0IT	5.0IT	5.0IT	6.0IT	4.0IT	-1.0IT	-3.0IT	-1.0IT	.0IT	-1.0IT	-1.0IT	-1.0IT	-2.0IT	.0IT	-2.0IT	-1.0IT	3.0IT	3.0IT	4.0IT	1.0IT	2.0IT	24	6.0
30	4.0IT	2.0IT	3.0IT	2.0IT	3.0IT	7.0IT	6.0IT	-1.0IT	-4.0IT	.0IT	-2.0IT	-5.0IT	-6.0IT	-4.0IT	1.0IT	1.0IT	3.0IT	3.0IT	1.0IT	2.0IT	3.0IT	2.0IT	1.0IT	2.0IT	24	7.0
31																									0	
NO.:	30	30	30	30	30	30	30	30	30	30	28	30	29	29	29	29	29	29	29	29	29	29	29	30		
MAX:	259.0	322.0	327.0	328.0	382.0	532.0	172.0	65.0	107.0	34.0	31.0	20.0	22.0	25.0	18.0	18.0	19.0	30.0	22.0	24.0	42.0	62.0	69.0	130.0		
AVG:	32.33	35.60	42.93	43.70	45.50	53.80	27.93	12.50	9.03	5.47	4.18	3.47	2.72	2.72	1.90	1.76	2.28	3.21	2.72	3.14	4.34	6.24	6.48	12.30		

MONTHLY OBSERVATIONS: 707 MONTHLY MEAN: 15.48 MONTHLY MAX: 532.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

QUALIFIER CODES:

Qualifier Code	Qualifier Description	Qualifier Type
AN	Machine Malfunction	NULL
AV	Power Failure	NULL
BA	Maintenance/Routine Repairs	NULL
IT	Wildfire-U. S.	INFORM
rt	Wildfire-U. S.	REQEXC

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional concurrence are shown in lower case.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA REPORT

Report Request ID: 1101413 Report Code: AMP350 May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	013	1003												
	56	025	0001												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	88101		

SELECTED OPTIONS

Option Type	Option Value
RAW DATA EVENTS	INCLUDE EVENTS
DAILY STATISTICS	MAXIMUM
UNITS	STANDARD
MERGE PDF FILES	YES
INCLUDE NULLS	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 31

APPLICABLE STANDARDS

Standard Description
PM25 24-hour 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-013-1003 POC: 1
COUNTY: (013) Fremont
CITY: (44760) Lander
SITE ADDRESS: 600 WASHINGTON, Lander, WY
SITE COMMENTS: NORTH ELEM SCHOOL
MONITOR COMMENTS: SEE POC 2 SAMPLER CHANGED OVER FROM POC 1 TO 2 12-31-01

STATE: (56) Wyoming
AQCR: (241) CASPER
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: RESIDENTIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 42.8410493870
LONGITUDE: -108.73627732
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1634
PROBE HEIGHT: 7

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SLAMS
COLLECTION AND ANALYSIS METHOD: (143) R & P Model 2000 PM-2.5 Air Sample
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1												
2						AN	13.0 IT					
3												
4												
5						7.5	14.7 IT					
6												
7												
8						5.5	5.3 IT					
9												
10												
11						2.5	7.3 IT					
12												
13												
14						4.0	4.4 IT					
15												
16												
17						2.9	3.8 IT					
18												
19												
20						2.4	5.3 IT					
21												
22												
23						8.8	4.4 IT					
24												
25												
26						7.0	3.6 IT					
27												
28												
29						P 41.8 rt	4.4 IT					
30												
31												
NO.:	0	0	0	0	0	9	10	0	0	0	0	0
MAX:						41.8	14.7					
MEAN:						9.16	6.62					

ANNUAL OBSERVATIONS: 19 ANNUAL MEAN: 7.82 ANNUAL MAX: 41.8

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

(88101) PM2.5 - Local Conditions

SITE ID: 56-025-0001 POC: 1
COUNTY: (025) Natrona
CITY: (13150) Casper
SITE ADDRESS: CITY COUNTY BLDG CENTER AND C STREETS
SITE COMMENTS: ACTIVE AS OF 1-1-67 INACTIVE AS OF 1-1-74 RO ANALYSIS
MONITOR COMMENTS: PM2.5 SITE STARTED ON 5/19/2009

STATE: (56) Wyoming
AQCR: (241) CASPER
URBANIZED AREA: (1350) CASPER, WY
LAND USE: COMMERCIAL
LOCATION SETTING: URBAN AND CENTER CITY

CAS NUMBER:
LATITUDE: 42.8510636924
LONGITUDE: -106.32508813
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1600
PROBE HEIGHT:

SUPPORT AGENCY: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality
MONITOR TYPE: SLAMS
COLLECTION AND ANALYSIS METHOD: (143) R & P Model 2000 PM-2.5 Air Sample
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1												
2						5.3	17.4 IT					
3												
4												
5						9.8	18.7 IT					
6												
7												
8						6.5	6.6 IT					
9												
10												
11						4.7	10.3 IT					
12												
13												
14						4.3	5.8 IT					
15												
16												
17						7.9	AN					
18												
19												
20						2.6	AH					
21												
22												
23						7.4	5.4 IT					
24												
25												
26						15.5	AH					
27												
28												
29						P 36.5 rt	3.9 IT					
30												
31												
NO.:	0	0	0	0	0	10	7	0	0	0	0	0
MAX:						36.5	18.7					
MEAN:						10.05	9.73					

ANNUAL OBSERVATIONS: 17 ANNUAL MEAN: 9.92 ANNUAL MAX: 36.5

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

QUALIFIER CODES:

Qualifier Code	Qualifier Description	Qualifier Type
AH	Sample Flow Rate out of Limits	NULL
AN	Machine Malfunction	NULL
IT	Wildfire-U. S.	INFORM
rt	Wildfire-U. S.	REQEXC

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional concurrence are shown in lower case.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA MAX VALUES REPORT

Report Request ID: 1101417 Report Code: AMP350MX May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	005	0800												
	56	005	0892												
	56	009	0819												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	88101		X

SELECTED OPTIONS

Option Type	Option Value
SINGLE EVENT PROCESSING	INCLUDE EVENTS
MERGE PDF FILES	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 31

APPLICABLE STANDARDS

Standard Description
PM25 24-hour 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA MAX VALUES REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-005-0800 POC: 1
COUNTY: (005) Campbell
CITY: (00000) Not in a city
SITE ADDRESS: Gillette College Tech Center Mobile Trailer
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: COMMERCIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 44.2658330009
LONGITUDE: -105.504167
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1382
PROBE HEIGHT:

SUPPORT AGENCY: (0009) Air Resource Specialists, Inc
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24-HR BLK AVG
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1						-.7	13.4					
2						-2.5	28.4					
3						-1.9	22.2					
4						-.2	P 56.5 +					
5						1.4	5.6					
6						.1	6.1					
7						-1.1	-.8					
8						.2	-1.7					
9						-.4	-1.2					
10						-1.4	.8					
11						-.9	5.0					
12						-.7	4.0					
13						-1.4						
14						-1.7						
15						-.3						
16						.1						
17						-.6						
18						-.4	.6					
19						-1.1	-.5					
20						-1.5	.7					
21						-1.0	3.8					
22						1.6	-3.2					
23						1.5	-2.0					
24						3.7	-2.3					
25						4.5	-1.8					
26						2.6	.7					
27						9.7	-1.4					
28						21.3	-2.0					
29						6.5	-1.2					
30						13.7	-1.2					
31							-1.1					
NO.:	0	0	0	0	0	30	26	0	0	0	0	0
MAX:						21.3	56.5					
MEAN:						1.64	4.90					

ANNUAL OBSERVATIONS: 56 ANNUAL MEAN: 3.15 ANNUAL MAX: 56.5

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: A plus sign ("+") following a value indicates that the computed average includes one or more raw data values effected by a special event.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA MAX VALUES REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-005-0892 POC: 3
COUNTY: (005) Campbell
CITY: (00000) Not in a city
SITE ADDRESS: BELLE AYR BA-4,5N,5S
SITE COMMENTS: AMAX BELLE AYR MINE. SOUTH WEST SITE KNOWN AS BA-4. CATEGORY A SITE - MAXIMUM CONC
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 44.0970740009
LONGITUDE: -105.343164
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1366
PROBE HEIGHT:

SUPPORT AGENCY: () Not Found
MONITOR TYPE: INDUSTRIAL
COLLECTION AND ANALYSIS METHOD: (182) Thermo Scientific TEOM 1405-DF Dic
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24-HR BLK AVG
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1							3.1					
2							24.4					
3							17.7					
4							P 55.3 +					
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29						4.9						
30						7.7						
31												
NO.:	0	0	0	0	0	2	4	0	0	0	0	0
MAX:						7.7	55.3					
MEAN:						6.30	25.13					

ANNUAL OBSERVATIONS: 6 ANNUAL MEAN: 18.85 ANNUAL MAX: 55.3

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: A plus sign ("+") following a value indicates that the computed average includes one or more raw data values effected by a special event.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA MAX VALUES REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-009-0819 POC: 3
COUNTY: (009) Converse
CITY: (00000) Not in a city
SITE ADDRESS: ANTELOPE SITE 3
SITE COMMENTS: ANTELOPE COAL COMPANY/ANTELOPE MINE. SOUTH SITE KNOWN AS SITE 3. CATEGORY B SITE -
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (241) CASPER
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 43.4266210725
LONGITUDE: -105.38645251
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 0
PROBE HEIGHT:

SUPPORT AGENCY: (0041) Antelope Coal Company
MONITOR TYPE: INDUSTRIAL
COLLECTION AND ANALYSIS METHOD: (182) Thermo Scientific TEOM 1405-DF Dic
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: 2012

DURATION: 24-HR BLK AVG
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1							9.8					
2							26.5					
3							20.9					
4							P 47.0 +					
5												
6												
7												
8												
9												
10												
11							7.7					
12							7.2					
13							6.4					
14							4.4					
15							3.8					
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26						8.4						
27						14.8						
28						23.3						
29						14.0						
30						12.6						
31												
NO.:	0	0	0	0	0	5	9	0	0	0	0	0
MAX:						23.3	47.0					
MEAN:						14.62	14.86					

ANNUAL OBSERVATIONS: 14 ANNUAL MEAN: 14.77 ANNUAL MAX: 47.0

1 Values marked with 'P' exceed the PRIMARY STANDARD of: 35.5
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 35.5

Note: A plus sign ("+") following a value indicates that the computed average includes one or more raw data values effected by a special event.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: KCN

RAW DATA REPORT

Report Request ID: 1101415 Report Code: AMP350 May. 24, 2013

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	56	005	0800												
	56	005	0892												
	56	009	0819												

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	88101		

SELECTED OPTIONS

Option Type	Option Value
RAW DATA EVENTS	INCLUDE EVENTS
DAILY STATISTICS	MAXIMUM
UNITS	STANDARD
MERGE PDF FILES	YES
INCLUDE NULLS	YES

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC

GLOBAL DATES

Start Date	End Date
2012 06 01	2012 07 31

APPLICABLE STANDARDS

Standard Description
PM25 24-hour 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-005-0800 POC: 1
COUNTY: (005) Campbell
CITY: (00000) Not in a city
SITE ADDRESS: Gillette College Tech Center Mobile Trailer
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: COMMERCIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 44.2658330009
LONGITUDE: -105.504167
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1382
PROBE HEIGHT:

SUPPORT AGENCY: (0009) Air Resource Specialists, Inc
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JUNE 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	-1.0	-1.0	1.0	1.0	1.0	-1.0	-3.0	2.0	4.0	BA	-1.0	-5.0	-4.0	-5.0	-4.0	-1.0	-1.0	-2.0	-1.0	.0	-1.0	1.0	3.0	1.0	23	4.0
2	-1.0	-4.0	-2.0	-1.0	-2.0	-2.0	-2.0	-5.0	-1.0	.0	-5.0	-4.0	-3.0	-3.0	-3.0	-8.0	-7.0	-3.0	-3.0	.0	1.0	2.0	.0	-5.0	24	2.0
3	-4.0	-2.0	-3.0	-3.0	-3.0	-3.0	-2.0	-2.0	-2.0	-3.0	-2.0	-2.0	-2.0	-3.0	-5.0	-3.0	-2.0	-2.0	-1.0	-1.0	1.0	1.0	.0	1.0	24	1.0
4	1.0	-1.0	-1.0	1.0	1.0	.0	-1.0	2.0	1.0	-4.0	-4.0	-1.0	2.0	-1.0	2.0	2.0	.0	-1.0	-2.0	.0	2.0	-1.0	-4.0	.0	24	2.0
5	2.0	1.0	.0	-1.0	2.0	2.0	.0	.0	3.0	4.0	.0	1.0	-1.0	-1.0	-1.0	3.0	4.0	3.0	5.0	4.0	4.0	4.0	1.0	-4.0	24	5.0
6	-4.0	-2.0	2.0	7.0	7.0	4.0	2.0	.0	-1.0	-2.0	-2.0	1.0	-1.0	-2.0	1.0	.0	-2.0	-1.0	2.0	-2.0	-3.0	.0	.0	-1.0	24	7.0
7	-4.0	-2.0	2.0	.0	-1.0	2.0	3.0	1.0	.0	.0	-1.0	.0	-2.0	-2.0	-4.0	-4.0	-3.0	-3.0	-2.0	-2.0	.0	.0	-2.0	-3.0	24	3.0
8	-2.0	-1.0	-1.0	1.0	2.0	2.0	3.0	2.0	1.0	2.0	3.0	3.0	2.0	.0	-1.0	-4.0	-4.0	.0	-1.0	-2.0	.0	1.0	.0	.0	24	3.0
9	1.0	3.0	3.0	2.0	1.0	2.0	3.0	2.0	.0	-4.0	-5.0	-3.0	1.0	.0	-4.0	-5.0	-3.0	.0	.0	-3.0	-1.0	-1.0	-1.0	1.0	24	3.0
10	-2.0	.0	.0	-2.0	.0	1.0	.0	.0	-2.0	-2.0	-3.0	-3.0	-1.0	-1.0	-3.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-4.0	-4.0	24	1.0
11	-3.0	-3.0	.0	2.0	.0	-1.0	.0	.0	2.0	.0	-4.0	-3.0	-2.0	-3.0	-3.0	-2.0	-1.0	-1.0	-2.0	-1.0	.0	1.0	1.0	.0	24	2.0
12	1.0	1.0	1.0	.0	2.0	1.0	-3.0	-1.0	-1.0	-3.0	-2.0	-2.0	-1.0	-1.0	-1.0	-2.0	-3.0	.0	-2.0	-3.0	2.0	2.0	-1.0	-2.0	24	2.0
13	-1.0	1.0	1.0	1.0	3.0	1.0	-1.0	-3.0	-3.0	-2.0	-4.0	-4.0	-3.0	-5.0	-4.0	-3.0	-1.0	1.0	.0	-1.0	-2.0	1.0	-1.0	-5.0	24	3.0
14	-4.0	-2.0	1.0	1.0	-1.0	-3.0	-2.0	-1.0	-3.0	-3.0	-4.0	-4.0	-2.0	-2.0	-3.0	-4.0	-1.0	.0	2.0	.0	-2.0	-3.0	-3.0	1.0	24	2.0
15	.0	-2.0	-2.0	-1.0	-1.0	-1.0	4.0	3.0	-2.0	-2.0	-1.0	-2.0	-4.0	-4.0	-3.0	-1.0	1.0	3.0	4.0	1.0	1.0	.0	-1.0	1.0	24	4.0
16	.0	-2.0	-2.0	.0	2.0	3.0	1.0	-1.0	.0	1.0	2.0	3.0	.0	-2.0	-1.0	-2.0	-4.0	-5.0	-1.0	.0	1.0	3.0	5.0	2.0	24	5.0
17	.0	2.0	.0	.0	3.0	3.0	1.0	1.0	-2.0	-2.0	-2.0	-2.0	.0	-1.0	-1.0	-3.0	-4.0	.0	1.0	.0	-3.0	-4.0	-1.0	-2.0	24	3.0
18	-4.0	-5.0	-3.0	.0	1.0	1.0	-1.0	2.0	4.0	.0	-1.0	-1.0	-3.0	-4.0	-2.0	-1.0	-2.0	.0	1.0	.0	.0	1.0	3.0	3.0	24	4.0
19	2.0	.0	-1.0	-2.0	.0	-3.0	-4.0	.0	5.0	3.0	-4.0	-2.0	.0	-2.0	-1.0	.0	-1.0	-3.0	-1.0	.0	-4.0	-2.0	-3.0	-4.0	24	5.0
20	-1.0	-2.0	-2.0	.0	-2.0	-2.0	-1.0	-1.0	-1.0	-3.0	-4.0	.0	1.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	.0	.0	-2.0	-4.0	-5.0	24	1.0
21	-3.0	-4.0	-3.0	-2.0	-2.0	3.0	.0	-4.0	-3.0	1.0	1.0	1.0	1.0	-1.0	-2.0	-3.0	-4.0	-4.0	-3.0	-1.0	3.0	5.0	1.0	-1.0	24	5.0
22	1.0	1.0	-1.0	-2.0	-1.0	-3.0	1.0	6.0	2.0	-2.0	.0	1.0	2.0	25.0	-1.0	.0	-3.0	-3.0	.0	3.0	3.0	2.0	5.0	4.0	24	25.0
23	1.0	3.0	2.0	-2.0	-1.0	2.0	2.0	-1.0	-1.0	-1.0	-1.0	.0	1.0	.0	.0	5.0	6.0	3.0	.0	3.0	3.0	4.0	6.0	2.0	24	6.0
24	1.0	2.0	1.0	.0	2.0	7.0	6.0	3.0	2.0	3.0	4.0	3.0	5.0	5.0	6.0	6.0	2.0	3.0	6.0	7.0	3.0	1.0	5.0	6.0	24	7.0
25	2.0	-1.0	4.0	7.0	6.0	4.0	4.0	6.0	7.0	6.0	8.0	8.0	4.0	2.0	3.0	7.0	8.0	6.0	4.0	2.0	2.0	2.0	3.0	6.0	24	8.0
26	1.0	-4.0	.0	6.0	8.0	7.0	8.0	7.0	6.0	3.0	.0	5.0	2.0	-2.0	1.0	-1.0	-1.0	-2.0	-1.0	.0	2.0	5.0	7.0	6.0	24	8.0
27	6.0	6.0	5.0	3.0	1.0	.0	1.0	.0	-1.0	.0	1.0	3.0	7.0	12.0	24.0	28.0	21.0	15.0	15.0	12.0	7.0	9.0	17.0	43.0	24	43.0
28	49.0	50.0	49.0	39.0	41.0	35.0	26.0	15.0	9.0	16.0	10.0	31.0	20.0	8.0	19.0	16.0	13.0	13.0	16.0	6.0	6.0	6.0	8.0	11.0	24	50.0
29	10.0	15.0	13.0	12.0	11.0	8.0	7.0	9.0	9.0	10.0	11.0	9.0	4.0	.0	.0	1.0	.0	2.0	.0	-1.0	.0	2.0	8.0	18.0	24	18.0
30	29.0	42.0	26.0	23.0	31.0	45.0	33.0	36.0	20.0	-1.0	4.0	5.0	1.0	.0	1.0	3.0	3.0	3.0	3.0	2.0	4.0	4.0	5.0	9.0	24	45.0
31																									0	
NO.:	30	30	30	30	30	30	30	30	30	29	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
MAX:	49.0	50.0	49.0	39.0	41.0	45.0	33.0	36.0	20.0	16.0	11.0	31.0	20.0	25.0	24.0	28.0	21.0	15.0	16.0	12.0	7.0	9.0	17.0	43.0		
AVG:	2.43	2.97	3.00	3.00	3.70	3.80	2.83	2.60	1.73	.52	-.20	1.20	.80	.17	.27	.70	.30	.67	1.23	.73	.93	1.40	1.77	2.63		

MONTHLY OBSERVATIONS: 719 MONTHLY MEAN: 1.63 MONTHLY MAX: 50.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

(88101) PM2.5 - Local Conditions

SITE ID: 56-005-0800 POC: 1
COUNTY: (005) Campbell
CITY: (00000) Not in a city
SITE ADDRESS: Gillette College Tech Center Mobile Trailer
SITE COMMENTS:
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: COMMERCIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 44.2658330009
LONGITUDE: -105.504167
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1382
PROBE HEIGHT:

SUPPORT AGENCY: (0009) Air Resource Specialists, Inc
MONITOR TYPE: SPECIAL PURPOSE
COLLECTION AND ANALYSIS METHOD: (170) Met One BAM-1020 Mass Monitor w/VS
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JULY 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	9.0IT	9.0IT	17.0IT	17.0IT	14.0IT	13.0IT	11.0IT	9.0IT	16.0IT	22.0IT	13.0IT	12.0IT	7.0IT	6.0IT	11.0IT	14.0IT	9.0IT	8.0IT	23.0IT	18.0IT	22.0IT	17.0IT	16.0IT	9.0IT	24	23.0
2	9.0IT	21.0IT	23.0IT	17.0IT	23.0IT	38.0IT	40.0IT	60.0IT	80.0IT	26.0IT	28.0IT	47.0IT	52.0IT	40.0IT	59.0IT	43.0IT	22.0IT	13.0IT	12.0IT	6.0IT	3.0IT	4.0IT	6.0IT	11.0IT	24	80.0
3	10.0IT	15.0IT	18.0IT	21.0IT	28.0IT	26.0IT	14.0IT	13.0IT	10.0IT	8.0IT	7.0IT	2.0IT	3.0IT	7.0IT	6.0IT	9.0IT	13.0IT	16.0IT	22.0IT	18.0IT	14.0IT	18.0IT	16.0IT	219.0IT	24	219.0
4	394.0rt	326.0rt	245.0rt	109.0rt	101.0rt	139.0rt	30.0rt	-2.0rt	-1.0rt	-1.0rt	-1.0rt	1.0rt	-2.0rt	-2.0rt	-2.0rt	-5.0rt	-5.0rt	-1.0rt	5.0rt	8.0rt	7.0rt	5.0rt	4.0rt	5.0rt	24	394.0
5	4.0IT	2.0IT	.0IT	-2.0IT	1.0IT	2.0IT	3.0IT	4.0IT	5.0IT	4.0IT	3.0IT	5.0IT	5.0IT	5.0IT	.0IT	20.0IT	19.0IT	3.0IT	1.0IT	1.0IT	7.0IT	27.0IT	AQ	11.0IT	23	27.0
6	11.0IT	7.0IT	7.0IT	6.0IT	6.0IT	8.0IT	6.0IT	4.0IT	4.0IT	16.0IT	14.0IT	14.0IT	11.0IT	7.0IT	6.0IT	5.0IT	2.0IT	2.0IT	4.0IT	6.0IT	2.0IT	.0IT	.0IT	-1.0IT	24	16.0
7	.0IT	-2.0IT	-1.0IT	1.0IT	-1.0IT	-1.0IT	.0IT	.0IT	.0IT	-3.0IT	-2.0IT	.0IT	-1.0IT	-3.0IT	-2.0IT	2.0IT	2.0IT	-2.0IT	-4.0IT	-3.0IT	-1.0IT	1.0IT	.0IT	-1.0IT	24	2.0
8	-3.0IT	-2.0IT	2.0IT	2.0IT	.0IT	-1.0IT	-3.0IT	-2.0IT	-2.0IT	-1.0IT	-2.0IT	-3.0IT	-3.0IT	-3.0IT	-4.0IT	-4.0IT	-1.0IT	-2.0IT	-5.0IT	-3.0IT	-2.0IT	-1.0IT	1.0IT	.0IT	24	2.0
9	.0IT	.0IT	-2.0IT	-2.0IT	-4.0IT	-2.0IT	-4.0IT	-8.0IT	-7.0IT	-3.0IT	.0IT	.0IT	.0IT	1.0IT	1.0IT	1.0IT	-1.0IT	1.0IT	-1.0IT	-5.0IT	2.0IT	6.0IT	1.0IT	-3.0IT	24	6.0
10	-1.0IT	-1.0IT	.0IT	-1.0IT	-3.0IT	1.0IT	3.0IT	2.0IT	1.0IT	2.0IT	4.0IT	2.0IT	.0IT	1.0IT	.0IT	.0IT	3.0IT	1.0IT	-2.0IT	-3.0IT	.0IT	4.0IT	4.0IT	3.0IT	24	4.0
11	2.0IT	2.0IT	3.0IT	3.0IT	5.0IT	1.0IT	-3.0IT	.0IT	4.0IT	4.0IT	5.0IT	7.0IT	8.0IT	7.0IT	3.0IT	2.0IT	8.0IT	10.0IT	10.0IT	11.0IT	8.0IT	8.0IT	7.0IT	5.0IT	24	11.0
12	5.0IT	4.0IT	5.0IT	5.0IT	4.0IT	9.0IT	16.0IT	5.0IT	4.0IT	3.0IT	1.0IT	.0IT	1.0IT	1.0IT	1.0IT	-1.0IT	-1.0IT	4.0IT	6.0IT	5.0IT	5.0IT	6.0IT	4.0IT	4.0IT	24	16.0
13	4.0IT	5.0IT	6.0IT	6.0IT	5.0IT	4.0IT	4.0IT	6.0IT	6.0IT	3.0IT	3.0IT	2.0IT	1.0IT	1.0IT	4.0IT	AL	AL	AL	AL	AL	AL	AL	AL	AL	15	6.0
14	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	0	
15	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	0	
16	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	0	
17	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	2.0IT	3.0IT	2.0IT	-3.0IT	-3.0IT	-5.0IT	-3.0IT	3.0IT	2.0IT	-1.0IT	1.0IT	11	3.0
18	2.0IT	-2.0IT	.0IT	6.0IT	9.0IT	10.0IT	5.0IT	2.0IT	1.0IT	1.0IT	1.0IT	-3.0IT	-4.0IT	-5.0IT	-3.0IT	1.0IT	-2.0IT	-3.0IT	-1.0IT	1.0IT	5.0IT	1.0IT	-3.0IT	-3.0IT	24	10.0
19	1.0IT	2.0IT	-2.0IT	-3.0IT	.0IT	4.0IT	2.0IT	1.0IT	.0IT	-3.0IT	-4.0IT	-4.0IT	-4.0IT	-3.0IT	1.0IT	.0IT	-3.0IT	-4.0IT	-4.0IT	1.0IT	2.0IT	1.0IT	3.0IT	3.0IT	24	4.0
20	1.0IT	-1.0IT	-2.0IT	3.0IT	6.0IT	5.0IT	5.0IT	5.0IT	2.0IT	-2.0IT	-2.0IT	.0IT	-1.0IT	.0IT	2.0IT	.0IT	-2.0IT	-1.0IT	-2.0IT	.0IT	1.0IT	-2.0IT	.0IT	3.0IT	24	6.0
21	6.0IT	35.0IT	54.0IT	19.0IT	6.0IT	4.0IT	2.0IT	3.0IT	4.0IT	3.0IT	-3.0IT	.0IT	3.0IT	-3.0IT	-2.0IT	-4.0IT	-8.0IT	-7.0IT	-6.0IT	-4.0IT	-2.0IT	-4.0IT	-2.0IT	-1.0IT	24	54.0
22	-3.0IT	-3.0IT	-4.0IT	-6.0IT	-5.0IT	-2.0IT	.0IT	-2.0IT	-2.0IT	-3.0IT	-6.0IT	-7.0IT	-7.0IT	-3.0IT	-1.0IT	-1.0IT	-2.0IT	-5.0IT	-4.0IT	-1.0IT	-2.0IT	-1.0IT	-3.0IT	-4.0IT	24	0.0
23	-2.0IT	-2.0IT	-2.0IT	-4.0IT	-3.0IT	.0IT	-3.0IT	-2.0IT	-2.0IT	-2.0IT	1.0IT	-1.0IT	-1.0IT	-2.0IT	-4.0IT	-4.0IT	-5.0IT	-4.0IT	-3.0IT	-2.0IT	-2.0IT	-1.0IT	2.0IT	-2.0IT	24	2.0
24	-6.0IT	-3.0IT	-4.0IT	-7.0IT	-5.0IT	-4.0IT	-1.0IT	1.0IT	.0IT	.0IT	-3.0IT	-5.0IT	-5.0IT	-3.0IT	-1.0IT	-4.0IT	-2.0IT	1.0IT	.0IT	1.0IT	1.0IT	-2.0IT	-3.0IT	-2.0IT	24	1.0
25	-2.0IT	1.0IT	-1.0IT	-4.0IT	-2.0IT	-2.0IT	.0IT	.0IT	-1.0IT	-2.0IT	-1.0IT	-4.0IT	-4.0IT	-4.0IT	-4.0IT	-2.0IT	-2.0IT	-2.0IT	-2.0IT	-4.0IT	-4.0IT	-2.0IT	.0IT	3.0IT	24	3.0
26	5.0IT	.0IT	-2.0IT	-1.0IT	.0IT	2.0IT	1.0IT	1.0IT	1.0IT	1.0IT	.0IT	-1.0IT	.0IT	.0IT	2.0IT	1.0IT	-1.0IT	.0IT	.0IT	2.0IT	4.0IT	2.0IT	2.0IT	.0IT	24	5.0
27	-3.0IT	-1.0IT	.0IT	-1.0IT	-1.0IT	.0IT	1.0IT	1.0IT	-1.0IT	BA	-3.0IT	-3.0IT	-2.0IT	-2.0IT	-2.0IT	.0IT	.0IT	-3.0IT	-3.0IT	-2.0IT	-1.0IT	-1.0IT	-3.0IT	-4.0IT	23	1.0
28	-4.0IT	-3.0IT	-4.0IT	-3.0IT	-2.0IT	-2.0IT	-3.0IT	-6.0IT	-5.0IT	-2.0IT	-4.0IT	-4.0IT	-4.0IT	-5.0IT	-4.0IT	-1.0IT	-5.0IT	-5.0IT	1.0IT	3.0IT	2.0IT	5.0IT	5.0IT	2.0IT	24	5.0
29	2.0IT	4.0IT	4.0IT	-2.0IT	.0IT	.0IT	-3.0IT	1.0IT	.0IT	-4.0IT	-2.0IT	-4.0IT	-4.0IT	-1.0IT	-1.0IT	-4.0IT	-3.0IT	.0IT	-2.0IT	-4.0IT	-4.0IT	-1.0IT	.0IT	-3.0IT	24	4.0
30	-2.0IT	-3.0IT	-2.0IT	-2.0IT	-1.0IT	-2.0IT	-1.0IT	.0IT	-1.0IT	-2.0IT	-2.0IT	-4.0IT	-6.0IT	-2.0IT	1.0IT	2.0IT	.0IT	-2.0IT	-2.0IT	-3.0IT	-2.0IT	-1.0IT	2.0IT	4.0IT	24	4.0
31	1.0IT	.0IT	-1.0IT	-1.0IT	.0IT	1.0IT	2.0IT	2.0IT	.0IT	-4.0IT	-3.0IT	1.0IT	-1.0IT	-4.0IT	-6.0IT	-5.0IT	-6.0IT	-2.0IT	1.0IT	-1.0IT	-2.0IT	-1.0IT	1.0IT	.0IT	24	2.0
NO.:	27	27	27	27	27	27	27	27	27	26	27	27	27	28	28	27	27	27	27	27	27	27	26	27		
MAX:	394.0	326.0	245.0	109.0	101.0	139.0	40.0	60.0	80.0	26.0	28.0	47.0	52.0	40.0	59.0	43.0	22.0	16.0	23.0	18.0	22.0	27.0	16.0	219.0		
AVG:	16.30	15.19	13.22	6.52	6.70	9.30	4.59	3.63	4.30	2.35	1.56	1.85	1.56	1.18	2.29	2.48	.96	.48	1.44	1.59	2.44	3.33	2.27	9.59		

MONTHLY OBSERVATIONS: 648 MONTHLY MEAN: 4.79 MONTHLY MAX: 394.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-005-0892 POC: 3
COUNTY: (005) Campbell
CITY: (00000) Not in a city
SITE ADDRESS: BELLE AYR BA-4,5N,5S
SITE COMMENTS: AMAX BELLE AYR MINE. SOUTH WEST SITE KNOWN AS BA-4. CATEGORY A SITE - MAXIMUM CONC
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 44.0970740009
LONGITUDE: -105.343164
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1366
PROBE HEIGHT:

SUPPORT AGENCY: () Not Found
MONITOR TYPE: INDUSTRIAL
COLLECTION AND ANALYSIS METHOD: (182) Thermo Scientific TEOM 1405-DF Dic
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JUNE 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
2	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
3	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
4	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
5	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
6	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
7	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
8	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
9	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
10	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
11	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
12	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
13	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
14	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
15	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
16	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
17	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
18	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
19	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
20	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
21	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
22	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
23	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
24	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
25	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AX	AX	AX	AS	AS	AS	AS	AS	AS	AS	0	
26	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
27	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
28	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	BA	BA	BA	BA	BA	11.4	9.5	11.8	14.1	13.9	16.8	14.1	7	16.8
29	10.4	4.4	8.6	3.4	7.6	2.5	-.4	4.8	3.6	7.0	8.9	14.3	5.0	AN	5.1	3.2	-1.5	4.4	4.8	-.5	-1.7	5.3	4.3	10.8	23	14.3
30	25.3	25.3	27.6	22.6	21.8	23.5	23.0	10.8	.9	-3.0	-9.4	-3.3	1.7	3.5	1.2	-1.5	2.8	2.0	3.3	-2.3	1.5	2.6	.3	5.7	24	27.6
31																									0	
NO.:	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	3	3	3	3	3	3	3		
MAX:	25.3	25.3	27.6	22.6	21.8	23.5	23.0	10.8	3.6	7.0	8.9	14.3	5.0	3.5	5.1	3.2	2.8	11.4	9.5	11.8	14.1	13.9	16.8	14.1		
AVG:	17.85	14.85	18.10	13.00	14.70	13.00	11.30	7.80	2.25	2.00	-.25	5.50	3.35	3.50	3.15	.85	.65	5.93	5.87	3.00	4.63	7.27	7.13	10.20		

MONTHLY OBSERVATIONS: 54 MONTHLY MEAN: 7.26 MONTHLY MAX: 27.6

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

(88101) PM2.5 - Local Conditions

SITE ID: 56-005-0892 POC: 3
COUNTY: (005) Campbell
CITY: (00000) Not in a city
SITE ADDRESS: BELLE AYR BA-4,5N,5S
SITE COMMENTS: AMAX BELLE AYR MINE. SOUTH WEST SITE KNOWN AS BA-4. CATEGORY A SITE - MAXIMUM CONC
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (243) WYOMING
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 44.0970740009
LONGITUDE: -105.343164
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 1366
PROBE HEIGHT:

SUPPORT AGENCY: () Not Found
MONITOR TYPE: INDUSTRIAL
COLLECTION AND ANALYSIS METHOD: (182) Thermo Scientific TEOM 1405-DF Dic
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JULY 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	1.2	6.3	5.1	2.5	2.4	4.9	.8	-2.9	-1.1	1.2	2.7	5.6	-.9	5.0	2.5	7.6	9.7	5.9	.4	5.5	14.1	.4	.9	-3.2	24	14.1
2	13.0	9.5	4.0	11.9	51.3	64.5	62.0	78.2	52.0	35.7	12.3	4.2	20.1	29.4	45.7	30.3	17.0	24.9	-.4	-7.1	-9.5	4.2	15.9	17.3	24	78.2
3	4.1	3.1	11.5	10.4	15.3	20.7	16.1	13.2	7.7	5.9	.4	-.3	-6.5	AN	AN	AN	AN	AN	3.7	24.1	24.5	23.7	19.8	139.3	19	139.3
4	386.6rt	285.7rt	220.3rt	140.4rt	109.9rt	51.3rt	4.3rt	-.6rt	-2.6rt	AN	-1.8rt	AN	-8.2rt	-4.9rt	-3.4rt	-1.4rt	1.5rt	-2.8rt	.0rt	-2.4rt	AN	-6.5rt	7.0rt	-9.3rt	21	386.6
5	-9.1	-1.4	AN	-.6	-4.5	-3.8	-4.0	-2.1	2.4	AN	AN	AN	-5.4	AN	-1.3	-8.8	AN	AN	AN	AN	-10.0	6.2	12.8	7.3	15	12.8
6	-7.5	-4.1	-6.3	-7.2	-1.5	-4.6	-6.9	-9.5	AN	-6.5	-.3	.4	AN	-6.1	AN	AN	AN	AN	AN	-9.4	AN	AN	AN	AN	13	.4
7	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	-.8	AN	-2.4	AN	-9.1	-7.7	-5.4	.6	-6.9	-.1	-9.0	AN	AN	AN	9	.6
8	AN	AN	AN	AN	-3.5	-2.2	AN	-9.0	-6.9	AN	AN	AN	AN	-5.2	-7.9	AN	AN	AN	-4.5	-5.3	AN	AN	-3.7	-7.0	10	-2.2
9	AN	-8.8	AN	AN	AN	AN	AN	AN	AN	4.8	4.8	AN	AN	AN	-1.8	AN	AN	AN	-8.9	5.7	10.5	-8.0	-8.1	-6.3	10	10.5
10	-9.7	AN	AN	AN	AN	-3.3	AN	AN	AN	-.5	-8.6	AN	-9.0	-6.6	-4.4	-8.4	AX	AT	AT	AS	AS	AS	AS	AS	8	-.5
11	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
12	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
13	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
14	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
15	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
16	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
17	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
18	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	0	
19	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AS	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
20	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
21	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
22	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
23	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
24	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
25	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
26	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
27	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
28	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
29	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
30	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
31	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	AI	0	
NO.:	7	7	5	6	7	8	6	7	6	6	8	4	7	6	8	6	4	4	7	8	6	6	7	7		
MAX:	386.6	285.7	220.3	140.4	109.9	64.5	62.0	78.2	52.0	35.7	12.3	5.6	20.1	29.4	45.7	30.3	17.0	24.9	3.7	24.1	24.5	23.7	19.8	139.3		
AVG:	54.09	41.47	46.92	26.23	24.20	15.94	12.05	9.61	8.58	6.77	1.09	2.48	-1.76	1.93	2.54	1.93	5.70	7.15	-2.37	1.38	3.43	3.33	6.37	19.73		

MONTHLY OBSERVATIONS: 153 MONTHLY MEAN: 12.47 MONTHLY MAX: 386.6

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

(88101) PM2.5 - Local Conditions

SITE ID: 56-009-0819 POC: 3
COUNTY: (009) Converse
CITY: (00000) Not in a city
SITE ADDRESS: ANTELOPE SITE 3
SITE COMMENTS: ANTELOPE COAL COMPANY/ANTELOPE MINE. SOUTH SITE KNOWN AS SITE 3. CATEGORY B SITE
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (241) CASPER
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 43.4266210725
LONGITUDE: -105.38645251
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 0
PROBE HEIGHT:

SUPPORT AGENCY: (0041) Antelope Coal Company
MONITOR TYPE: INDUSTRIAL
COLLECTION AND ANALYSIS METHOD: (182) Thermo Scientific TEOM 1405-DF Dic
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JUNE 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
2	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
3	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
4	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
5	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
6	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
7	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
8	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
9	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
10	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
11	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
12	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
13	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
14	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
15	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
16	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
17	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
18	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
19	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
20	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
21	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
22	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
23	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
24	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	AH	0	
25	AH	AH	AH	AH	AH	AH	AH	AH	AH	AX	AX	AX	8.7	9.5	11.3	4.1	8.8	3.6	5.3	3.5	5.6	5.6	5.4	5.8	12	11.3
26	6.6	8.4	5.1	4.6	7.1	6.8	9.3	10.8	5.6	9.4	6.5	2.2	6.0	4.7	4.9	3.5	-1.3	2.9	4.4	2.0	2.3	3.8	26.0	61.3	24	61.3
27	56.7	24.0	16.3	13.3	4.8	7.9	4.4	4.6	4.1	9.4	14.9	18.3	24.9	23.9	28.6	14.1	12.8	8.2	4.5	16.0	11.3	10.7	11.7	10.5	24	56.7
28	15.1	22.2	27.0	35.6	50.1	52.3	50.4	AN	AN	AN	27.2	32.9	26.2	12.1	9.2	12.5	12.8	12.9	22.1	16.6	15.5	11.8	14.0	11.7	21	52.3
29	11.5	10.4	11.7	35.6	64.8	51.2	26.1	13.4	15.8	13.0	4.1	6.1	13.1	12.0	5.8	2.3	1.8	2.7	3.1	9.8	3.4	6.6	6.2	7.7	24	64.8
30	6.9	8.5	14.8	18.5	22.1	26.4	40.7	32.0	18.3	6.2	8.0	6.1	6.5	6.3	6.3	6.1	5.8	6.3	6.9	7.7	5.8	8.1	14.6	15.4	24	40.7
31																									0	
NO.:	5	5	5	5	5	5	5	4	4	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6		
MAX:	56.7	24.0	27.0	35.6	64.8	52.3	50.4	32.0	18.3	13.0	27.2	32.9	26.2	23.9	28.6	14.1	12.8	12.9	22.1	16.6	15.5	11.8	26.0	61.3		
AVG:	19.36	14.70	14.98	21.52	29.78	28.92	26.18	15.20	10.95	9.50	12.14	13.12	14.23	11.42	11.02	7.10	6.78	6.10	7.72	9.27	7.32	7.77	12.98	18.73		

MONTHLY OBSERVATIONS: 129 MONTHLY MEAN: 13.71 MONTHLY MAX: 64.8

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

May. 24, 2013

(88101) PM2.5 - Local Conditions

SITE ID: 56-009-0819 POC: 3
COUNTY: (009) Converse
CITY: (00000) Not in a city
SITE ADDRESS: ANTELOPE SITE 3
SITE COMMENTS: ANTELOPE COAL COMPANY/ANTELOPE MINE. SOUTH SITE KNOWN AS SITE 3. CATEGORY B SITE
MONITOR COMMENTS:

STATE: (56) Wyoming
AQCR: (241) CASPER
URBANIZED AREA: (0000) NOT IN AN URBAN AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: RURAL

CAS NUMBER:
LATITUDE: 43.4266210725
LONGITUDE: -105.38645251
UTM ZONE:
UTM NORTHING:
UTM EASTING:
ELEVATION-MSL: 0
PROBE HEIGHT:

SUPPORT AGENCY: (0041) Antelope Coal Company
MONITOR TYPE: INDUSTRIAL
COLLECTION AND ANALYSIS METHOD: (182) Thermo Scientific TEOM 1405-DF Dic
PQAO: (1188) Wyoming Air Quality Division, Dept Of Environmental Quality

REPORT FOR: JULY 2012

DURATION: 1 HOUR
UNITS: Micrograms/cubic meter (LC)
MIN DETECTABLE: 2

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	10.2	9.2	9.2	11.1	9.5	8.0	11.1	10.6	10.9	13.8	11.6	12.4	10.3	9.1	7.1	8.8	13.0	7.9	8.3	5.8	9.0	10.3	11.0	7.9	24	13.8
2	14.7	37.7	17.6	17.2	11.5	24.7	57.5	69.9	37.0	30.7	28.3	26.4	21.8	22.4	17.5	20.0	17.4	17.7	20.9	24.1	28.8	26.0	24.5	22.8	24	69.9
3	23.1	25.1	36.2	41.4	30.1	36.1	32.8	20.0	16.5	12.1	10.6	6.6	10.6	8.3	9.1	9.6	13.8	11.2	12.6	14.2	31.0	36.1	29.9	25.1	24	41.4
4	55.5rt	195.3rt	256.5rt	231.1rt	121.6rt	59.0rt	58.1rt	52.9rt	12.4rt	5.5rt	4.7rt	5.1rt	7.7rt	4.4rt	4.7rt	9.9rt	6.0rt	11.2rt	7.3rt	5.6rt	5.5rt	3.3rt	3.1rt	2.8rt	24	256.5
5	9.0	6.8	5.2	4.7	10.1	6.4	4.2	5.7	3.9	8.0	7.3	8.3	9.6	10.2	6.0	2.1	AN	AN	AN	AN	AN	AN	AN	AN	16	10.2
6	AN	AN	AN	AN	AN	16.8	AN	AN	11.8	9.7	14.2	11.1	11.0	8.2	6.8	6.4	6.6	6.6	4.2	6.9	2.5	6.6	8.5	9.0	17	16.8
7	7.2	8.9	8.3	AN	AN	9.5	10.9	AN	AN	3.0	2.0	3.7	3.5	4.6	2.0	2.7	AN	AN	AN	AN	AN	AN	AN	AN	12	10.9
8	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	3.1	4.1	3.6	4.5	4.6	5.2	AN	AN	AN	AN	6	5.2
9	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	2.4	3.7	5.4	1.8	3.5	2.8	4.1	3.5	3.0	4.0	4.2	11	5.4
10	7.7	3.8	5.0	6.5	AN	AN	AN	AN	7.9	4.6	4.6	5.3	2.8	4.9	AN	AT	AT	2.1	6.8	3.1	6.0	2.7	3.9	5.7	17	7.9
11	5.0	1.2	2.4	2.5	6.0	2.0	4.9	2.6	8.1	4.0	6.7	5.3	8.9	10.3	6.7	8.1	10.9	20.1	17.1	10.8	6.8	9.5	14.0	12.3	24	20.1
12	12.9	14.3	12.3	11.5	11.5	12.5	10.1	8.8	7.9	4.8	5.2	4.4	4.7	6.6	3.7	3.4	2.0	4.3	6.5	5.2	6.0	5.9	4.1	5.9	24	14.3
13	8.9	6.9	4.5	6.1	8.8	4.8	6.5	6.0	6.1	5.3	8.3	6.8	7.9	5.7	11.4	6.6	7.1	7.6	8.2	6.4	3.4	3.3	2.3	5.8	24	11.4
14	4.7	4.3	8.9	8.1	5.8	5.4	3.4	1.0	2.9	7.4	2.0	3.9	5.4	6.1	2.1	7.4	5.8	4.9	-.6	6.6	3.5	1.1	2.7	4.8	24	8.9
15	2.7	1.6	1.6	2.2	1.8	4.8	5.0	3.5	3.2	4.0	6.3	4.5	6.6	5.7	5.9	6.3	7.0	8.2	1.2	1.5	1.1	2.3	2.9	1.4	24	8.2
16	2.5	1.2	1.2	3.9	3.7	4.9	4.0	4.5	.8	5.6	2.0	2.4	.8	1.5	3.9	3.9	1.2	AN	AN	AN	AN	AN	AN	AN	17	5.6
17	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	0	
18	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	0	
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31	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	0	
NO.:	13	13	13	12	11	13	12	11	13	14	14	14	14	15	15	15	13	13	13	13	12	12	12	12		
MAX:	55.5	195.3	256.5	231.1	121.6	59.0	58.1	69.9	37.0	30.7	28.3	26.4	21.8	22.4	17.5	20.0	17.4	20.1	20.9	24.1	31.0	36.1	29.9	25.1		
AVG:	12.62	24.33	28.38	28.86	20.04	14.99	17.38	16.86	9.95	8.46	8.13	7.59	7.97	7.36	6.25	6.98	7.40	8.45	7.68	7.65	8.93	9.18	9.24	8.98		

MONTHLY OBSERVATIONS: 312 MONTHLY MEAN: 11.97 MONTHLY MAX: 256.5

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

QUALIFIER CODES:

Qualifier Code	Qualifier Description	Qualifier Type
AH	Sample Flow Rate out of Limits	NULL
AI	Insufficient Data (cannot calculate)	NULL
AL	Voided by Operator	NULL
AN	Machine Malfunction	NULL
AQ	Collection Error	NULL
AS	Poor Quality Assurance Results	NULL
AT	Calibration	NULL
AX	Precision Check	NULL
BA	Maintenance/Routine Repairs	NULL
IT	Wildfire-U. S.	INFORM
rt	Wildfire-U. S.	REQEXC

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional concurrence are shown in lower case.

Appendix B: Wyoming Unplanned Fire Post Burn Report

STATE OF WYOMING
DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Unplanned Fire Post Burn Reporting Form

For events that exceed 50 acres.

CONTACT INFORMATION:

NAME Justin Kaber PHONE 307-276-5827

ADDRESS 10418 S US HWY 189 FAX 307-276-5203

CITY Big Piney E-MAIL jkaber@fs.fed.us

STATE WY ZIP 83113

AGENCY/COMPANY (IF APPLICABLE) USFS – Bridger-Teton NF

VOLUNTEER FIRE ORGANIZATION: ☐

BURN NAME Fontenelle **ID #** *1145*

LOCATION: COUNTY Sublette/Lincoln ELEVATION (FEET) 8000

LEGAL: SECTION 19 TOWNSHIP 28N RANGE 116W

LATITUDE 42 26'03" LONGITUDE 110 36'02" DATUM

UTM: ZONE EAST NORTH DATUM

LAND OWNERSHIP: FEDERAL [x] STATE [x] MUNICIPAL [ ] PRIVATE [x]

SENSITIVE RECEPTORS: POPULATION(S) W/I 10 MI. [x] NONATTAINMENT AREA(S) W/I 10 MI. [ ] CLASS I AREA(S) W/I 30 MI. [ ]

PUBLIC INFORMATION:

JURISDICTIONAL FIRE AUTHORITY(IES): NAME USFS DATE/TIME 6/24/2012

NAME Sublette Co Fire DATE/TIME

PUBLIC NOTIFICATION: METHOD Trapline, press releases DATE Continual

METHOD DATE

MANAGEMENT RESPONSE: SUPPRESSION [x] MANAGE TO ACHIEVE MGT. OBJECTIVE* [ ]

* SPECIFY: RESTORATION [ ] MAINTENANCE [ ]

DAILY BURN INFORMATION:

DATE (MONTH/DAY/YR)	VEGETATION TYPE (SEE LIST)	ACRES	LOADING (TONS/ACRE)
6/24/2012	Lodgepole pine/fir; Forest	100	15-25
6/25/2012	Lodgepole pine/fir; Forest	900	15-25
6/26/2012	Lodgepole pine/fir; Forest	10,000	15-25
6/27/2012	Lodgepole pine/fir; Forest	10,000	15-25
6/28/2012	Lodgepole pine/fir; Forest	10,000	15-25
6/29/2012	Lodgepole pine/fir; Forest	10,000	15-25
6/30/2012	Lodgepole pine/fir; Forest	10,000	15-25
7/1/2012	Lodgepole pine/fir; Forest	10,000	15-25

AIR QUALITY MONITORING:

[x] CONDUCTED VISUAL MONITORING, IDENTIFY:

DOCUMENTATION ATTACHED Yes

[ ] CONDUCTED AMBIENT AIR QUALITY MONITORING, IDENTIFY:

DOCUMENTATION ATTACHED _____

[ ] CONDUCTED VISIBILITY MONITORING, IDENTIFY:

DOCUMENTATION ATTACHED _____

SMOKE MANAGEMENT EDUCATION: (FOR UNPLANNED FIRE UNDER MANAGEMENT ONLY)

WDEQ-AQD SMOKE MANAGEMENT EDUCATION MATERIAL REVIEWED ON _____

TRAINING PROGRAM COMPLETED ON _____

COMMENTS

This form shall be submitted to the WDEQ-AQD no later than December 31.

SIGNATURE Justin Kaber **DATE** 11/10/2012

If Unplanned Fire Post Burn Reporting Form is submitted electronically, the electronic signature will be attributed to the sender.

VEGETATION TYPE LIST

Lodgepole Pine / Fir: little dead & down	Ponderosa Pine: open canopy	Barley
Forest: heavy dead & down with brush	Ponderosa Pine: closed canopy	Corn
Thinning Unit: not piled with red needles	Juniper	Hay
Logging Slash: mod. accumulations	Sagebrush	Oats
Logging Slash: clearcut	Mountain Brush	Seeds: Alfalfa
Logging Slash Piles: hand	Short Grasses	Seeds: Grass
Logging Slash Piles: tractor, clean	Tall Grasses	Wheat
Logging Slash Piles: tractor, dirty	Weeds	CRP
Logging Slash Piles: landing		Ditches

STATE OF WYOMING

DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Visual Monitoring Log

BURN NAME _____ **ID #** _____

OBSERVER NAME(S) _____

_____

SUCCESSIVE OBSERVATIONS:

DATE(S) (MONTH/DAY/YR)	TIME OF DAY	SMOKE PLUME APPEARANCE		HEIGHT OF SMOKE PLUME	DIRECTION OF SMOKE DISPERSION	RESIDUAL SMOKE PRESENT
		Fig. 1	Fig. 2			

STABLE

CLOUDS IN LAYERS, NO VERTICAL MOTION

STRATUS TYPE CLOUDS

SMOKE COLUMN DRIFT APART AFTER LIMITED RISE

POOR VISIBILITY IN LOWER LEVELS DUE TO ACCUMLATION OF HAZE AND SMOKE

FOG LAYERS

STEADY WINDS

FIGURE 1

UNSTABLE

CLOUDS GROW VERTICALLY AND SMOKE RISES TO GREAT HEIGHTS

CUMULUS TYPE CLOUDS

UPWARD AND DOWNWARD CURRENTS GUSTY WINDS

GOOD VISIBILITY

DUST WHIRLS

FIGURE 2

COMMENTS

STATE OF WYOMING

DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Photo / Video Log

BURN NAME _____ **ID #** _____

PHOTOGRAPHER NAME(S) _____

_____

PHOTO / VIDEO OBSERVATIONS:

DATE(S) (MONTH/DAY/YR)	TIME OF DAY	PHOTO		VIDEO		PHOTOGRAPHER LOCATION	DIRECTION OF CAMERA VIEW
		Film	Digital	Film	Digital		
See attachment							

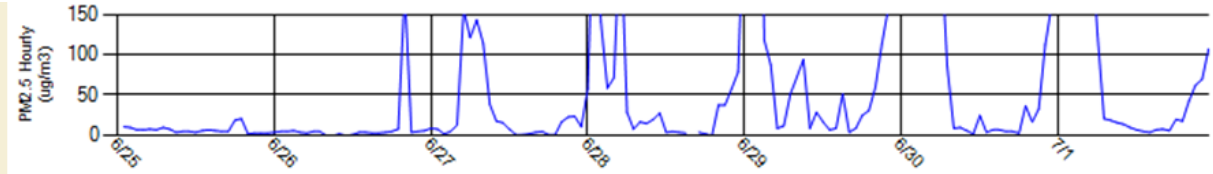
COMMENTS See attached report "Fontenelle Fire Smoke Management"

Fontenelle Fire Smoke Management (Attachment to the Un-Planned Burn Report)

Information, Data, and the Incident Management Decision Framework

During six days of major runs between June 26 and July 2, 2012, when the Fontenelle Fire was burning almost 10,000 acres a day, it lofted pyrocumulous columns of smoke that reached 22,000 feet in elevation, were visible over the Teton Mountains, and made NASA's Image of the Day page. Despite the heavy dead fuel load of decadent Lodgepole pine, the power of the wind overrode the power of the fire and the column laid over to touch the lives of the residents and vacationers in Pinedale, Wyoming, about 75 miles south of Jackson Hole. Other affected communities included Marbleton and Big Piney, Wyoming.

Air quality monitoring data in Pinedale was literally off the chart during five of the six days of aggressive fire movement:

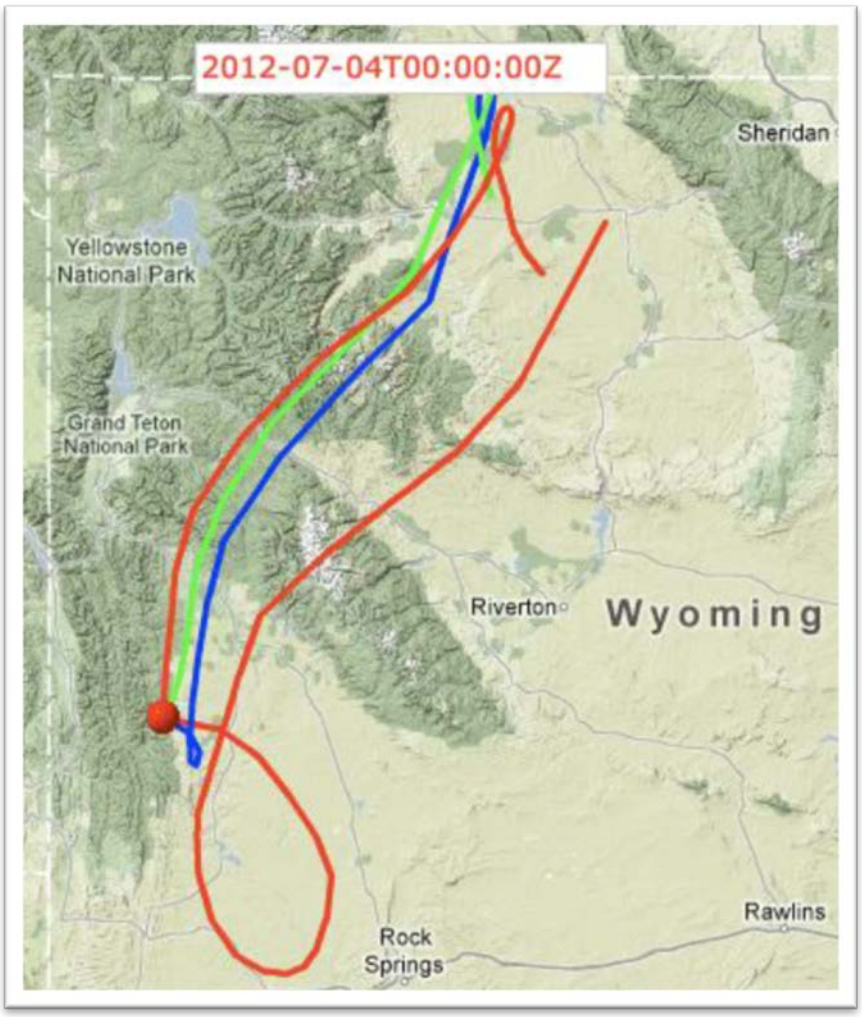


This graph shows hourly values for fine particulate; to help put the measurements in perspective, a 24-hour average reading over 35 exceeds the National Ambient Air Quality Standard.

In response to the likelihood of significant and persistent smoke impacts to multiple communities, NIMO Incident Commander Bob Houseman requested dedicated smoke management support to address potential concerns from the communities, to help provide for public and firefighter safety, and to analyze information regarding current and forecast conditions to better prepare and respond.

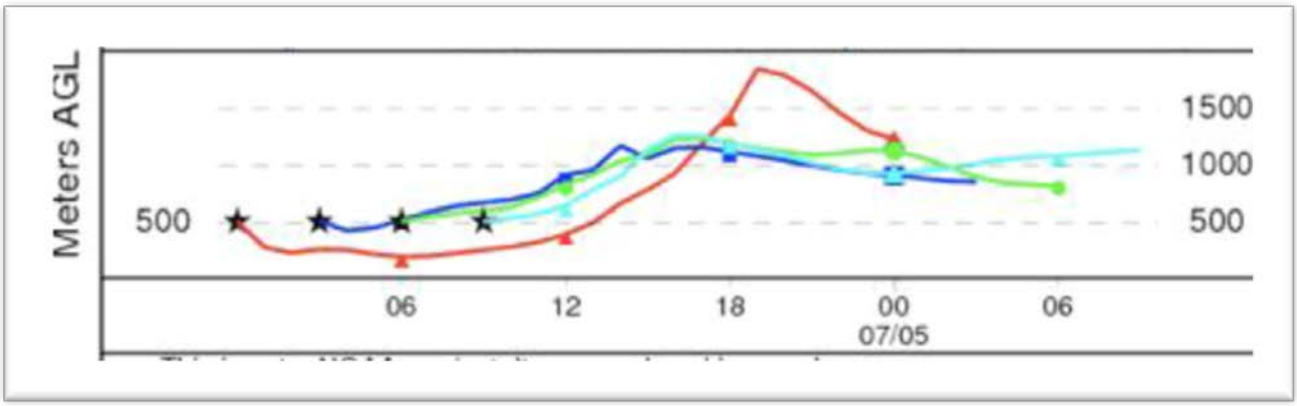
Mike Broughton, Smoke Management Specialist for the US Fish and Wildlife Service, and Miriam Rorig, research meteorologist with the Pacific Northwest Research Station's AirFire Team, were working with the Area Command Decision Support Center in Golden, Colorado to provide geographic area interagency coordination of smoke information similar to the effort pioneered in the Southwest region for the 2011 megafires. They modeled daily forecasts of smoke plume drift and concentrations using the Air Resource Laboratory's Hysplit trajectory model (http://www.arl.noaa.gov/HYSPLIT_info.php) and the

AirFire team's BlueSky Smoke Modeling Framework (http://www.airfire.org/bluesky/), and provided analysis of the model runs and twice-daily smoke and air quality reports to state and local health organizations, environmental quality agencies and area fire managers.



The Hysplit run at left illustrates model output for the smoke plume trajectory starting at 1800 hours July 4th 2012 and continuing every three hours.

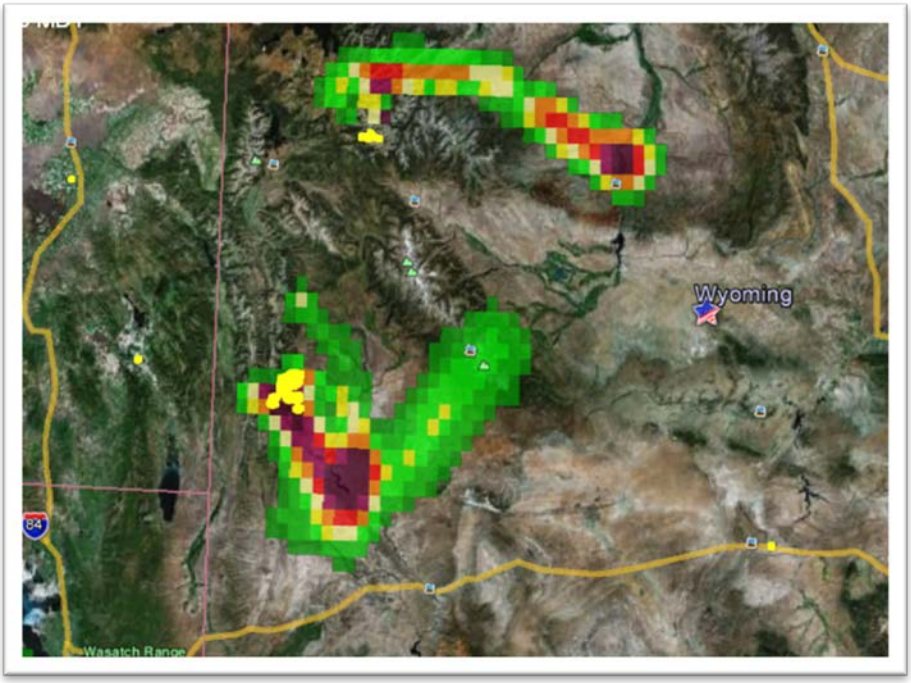
The profile below illustrates the height of the projected column in meters above ground level. Potential episodes of concern are easily identifiable when the smoke column is forecast to approach ground level, particularly when the plume trajectory may travel over an area of concentrated population.



When paired with the BlueSky estimates of particulate concentrations, (green indicates low impacts, yellow and orange are moderate impacts, and red and purple are high impacts) a targeted message can be provided to the public that gives them the ability to scale their activities according to their needs and sensitivities.

(Fontenelle Fire is lower left, the fire to the north is Bear Cub).

While these tools are invaluable to support the extant public information networks, their technical nature requires that interpretation of the outputs be translated into language that is readily understood and that the significance of the outputs is accurately portrayed in context with the assumptions and limitations of the model architecture. In addition, the theoretical numbers are of greatest value when supported by instrumentation that measures actual particulate concentrations.



On July 2, Erin Law, Smoke Management Program Coordinator for the MT/ID Airshed Group, was ordered to the Fontenelle Fire to support the integration of the modeling, calibration, and interpretation efforts, and apply them to develop an incident-specific smoke management strategy. As is often the case in the dynamic fire environment, on July 3rd the weather moderated and receptive fuels ahead of the fire were greatly reduced. Smoke movement changed to a pattern of localized impacts due to overnight downslope flow whose levels were perfectly captured by the existing particulate monitor in Big Piney. On July 5th, the fire received a little over a tenth of an inch of precipitation and smoke issues were minimal.

Despite the lack of an immediate threat from smoke, several points to ponder for the next incident may be gleaned from the Fontenelle Fire experience:

- If an incident has smoke issues, the challenge is to ensure that the smoke message is accurate, consistent throughout the affected area, and coordinated through the appropriate organizational authority.

- Existing smoke monitoring networks can be a local phenomenon and the means to access their data may not be readily apparent. A national inventory of available particulate monitoring data sources, the programs they support, and program contacts would be very helpful.

- Because the smoke management technical specialist position on an incident is a new concept, integrating smoke management information into the team environment is as yet undefined. Structured introductions at Command and General Staff were very helpful. Expectations of individual functional areas should be clearly defined in order to avoid the perception that unwanted products are being pushed onto unprepared recipients already fully engaged in emergency response.

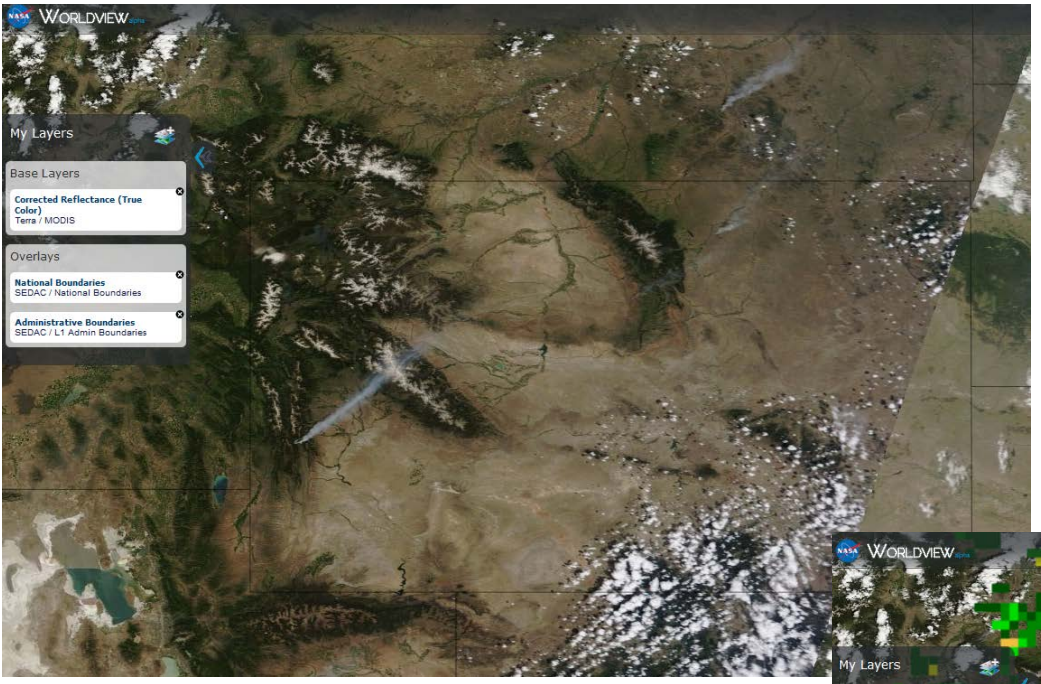
- Fire Information personnel may not be prepared to talk about smoke. Generic smoke talking points are available on many public health and disaster preparedness organization web pages (http://www.bt.cdc.gov/disasters/wildfires/facts.asp). More incident-specific smoke messages can be a natural extension of the discussion regarding current fire perimeter and predictions about where the fire is expected to grow.
    - If the fire area has representative smoke monitoring data available, a graph of hourly particulate measurements could be posted alongside the fire progression map so that folks could correlate how many acres of growth produced how much smoke.

- Smoke forecasts can supplement the fire behavior forecast to provide expected duration and intensity of smoke events and help people decide between stay and mitigate, or whether they may need to leave the area. These products can be requested if they are not already available.

- In general, rural area residents may have less use for highly technical monitoring data and extended smoke episode forecasts due to their familiarity with smoke exposure, their knowledge and use of well-established personal mitigation actions, and their understanding of the limitations of the weather forecast.

Appendix C: MODIS Satellite Products

June 26, 2012

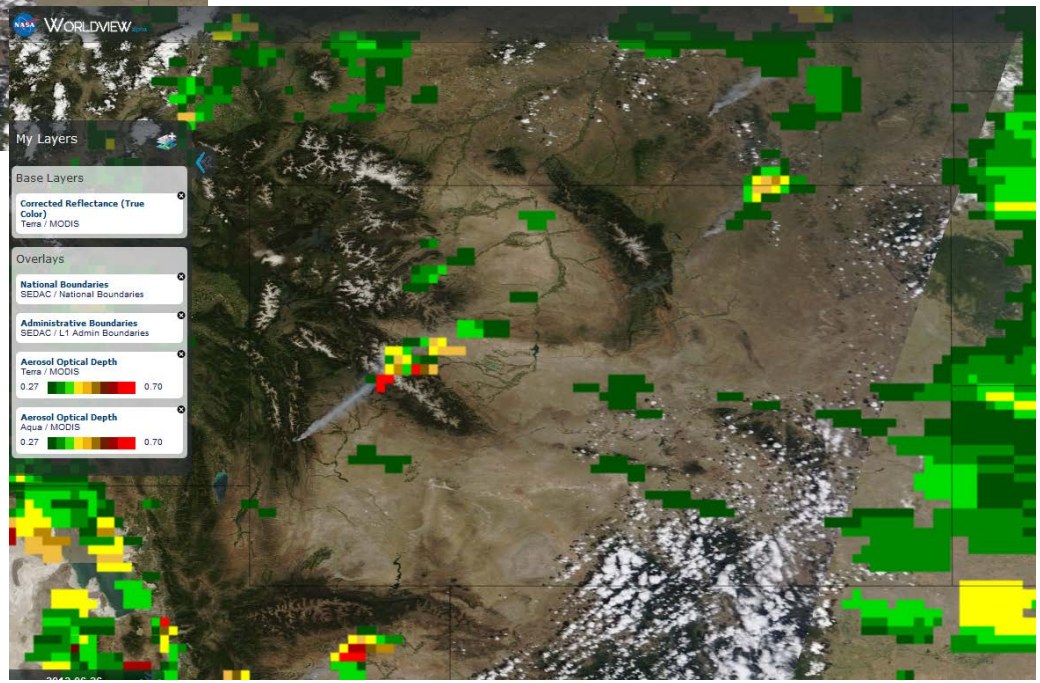


June 26, 2012 MODIS Terra True Color Image

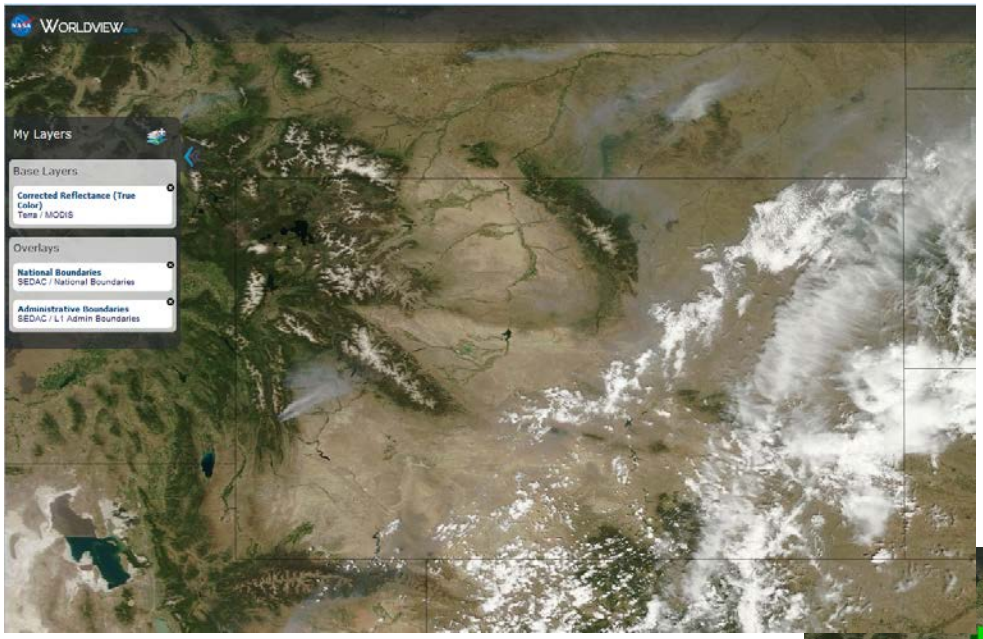
Aerosol Optical Depth (AOD) vs PM2.5

AOD represents the total column loading of aerosols in the atmosphere

PM2.5 is a measure of the mass of particles near the surface



June 27, 2012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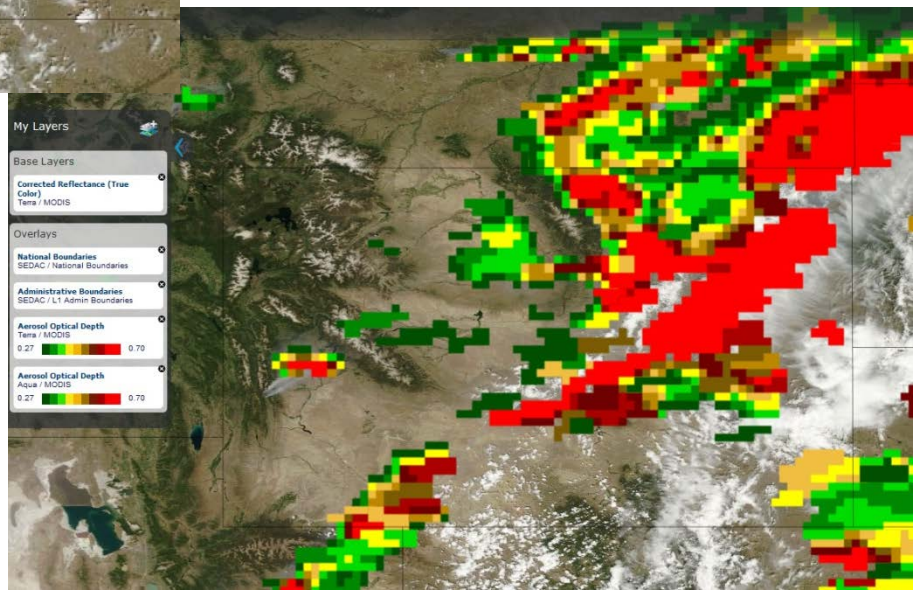
SEDAC / L1 Admin Boundaries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SEDAC / L1 Admin Boundaries
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Aerosol Optical Depth
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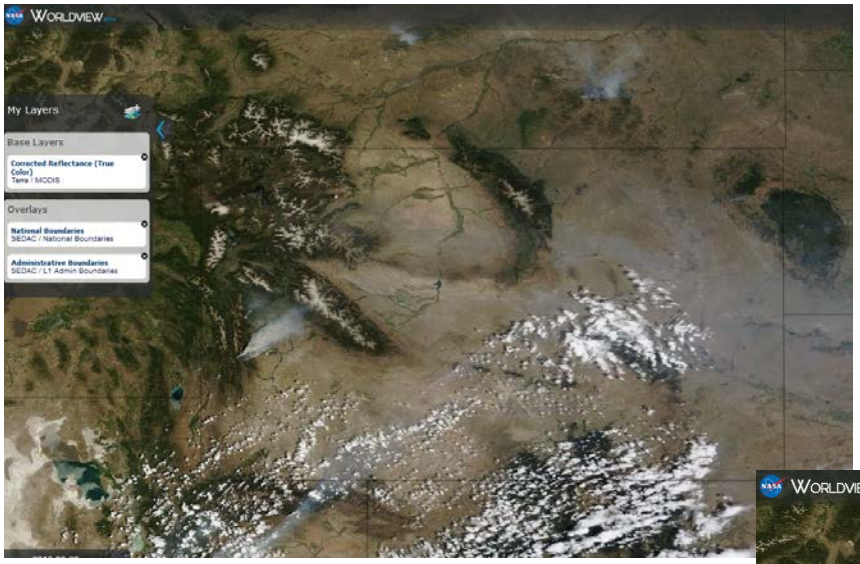
June 28, 2012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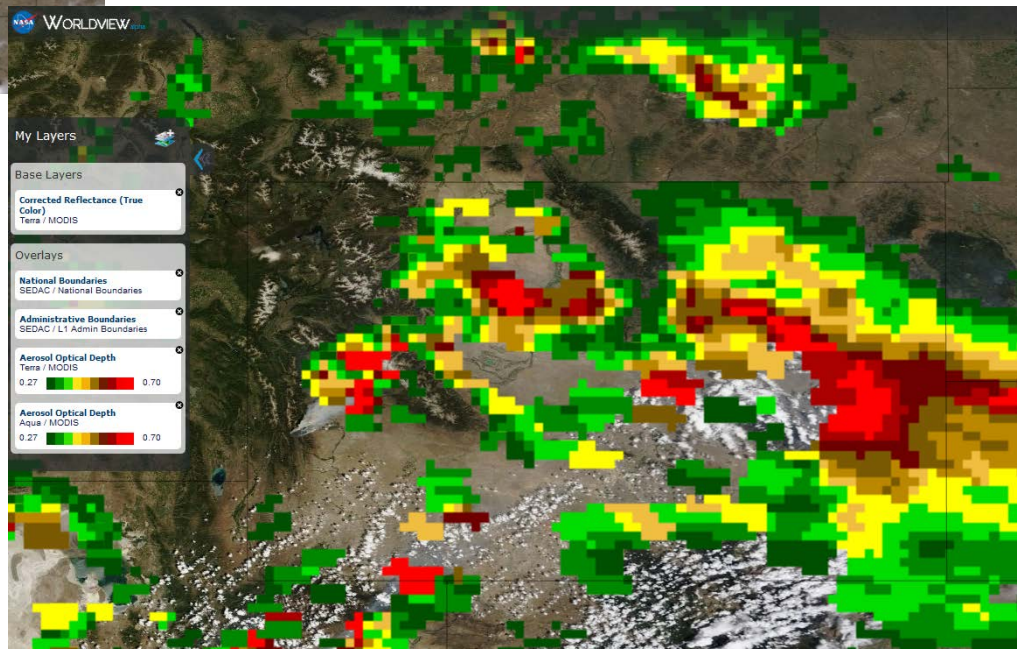
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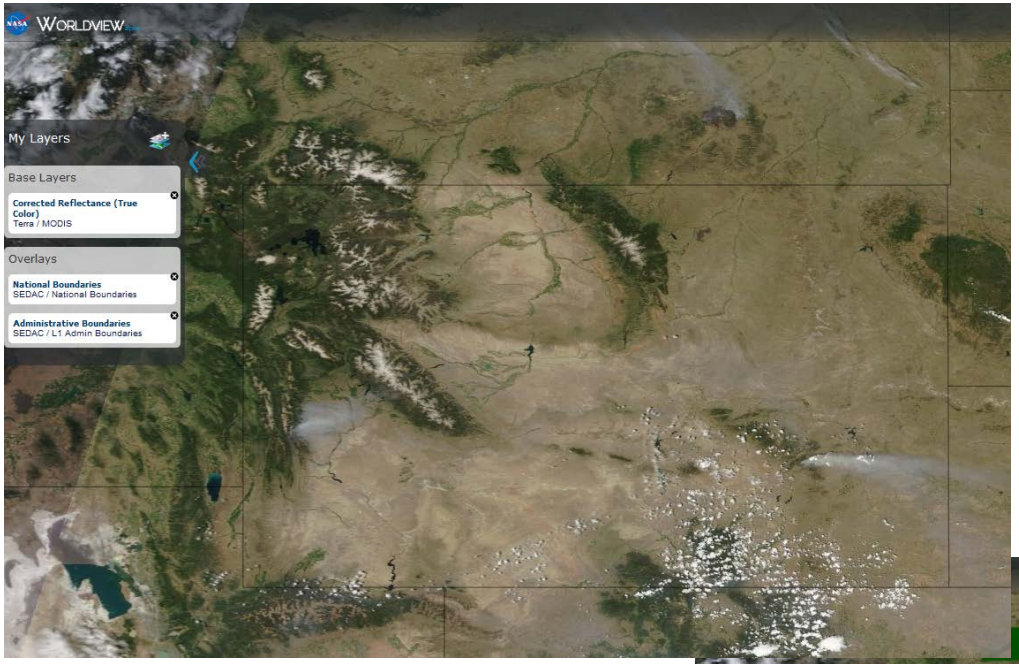
June 29, 2012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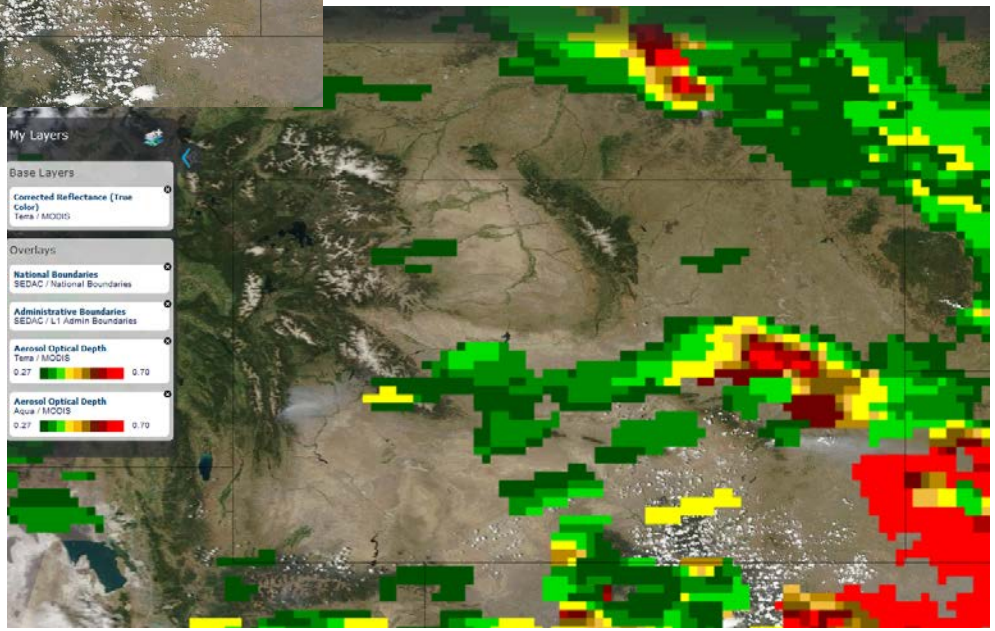
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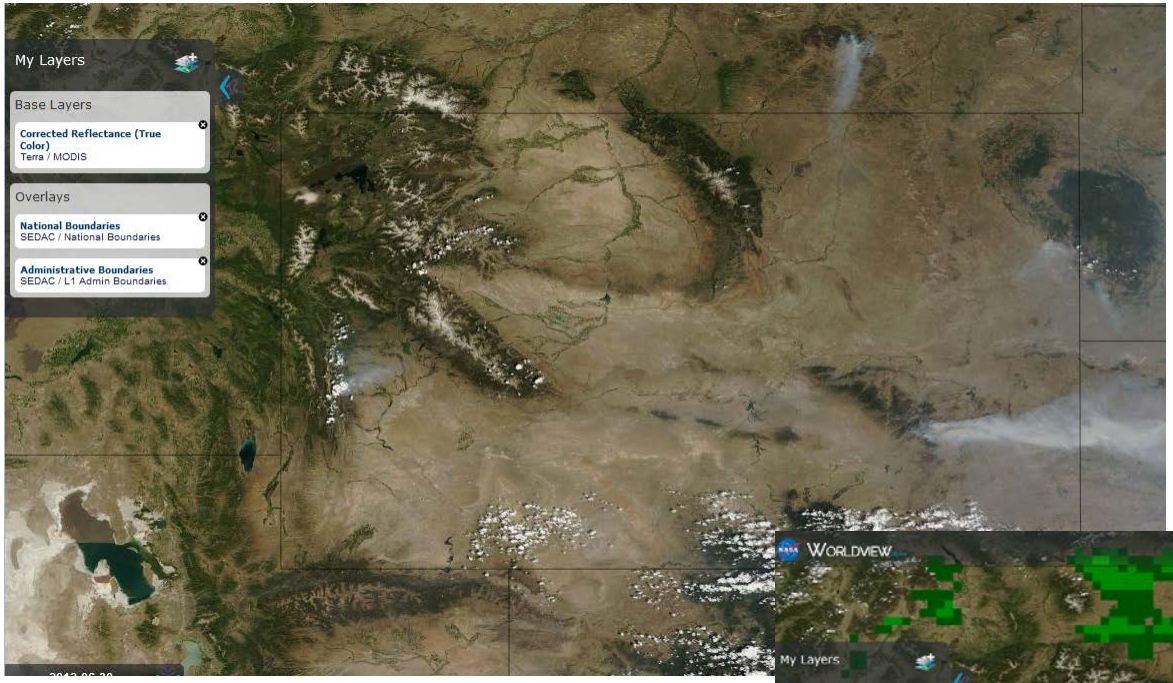
June 30, 2012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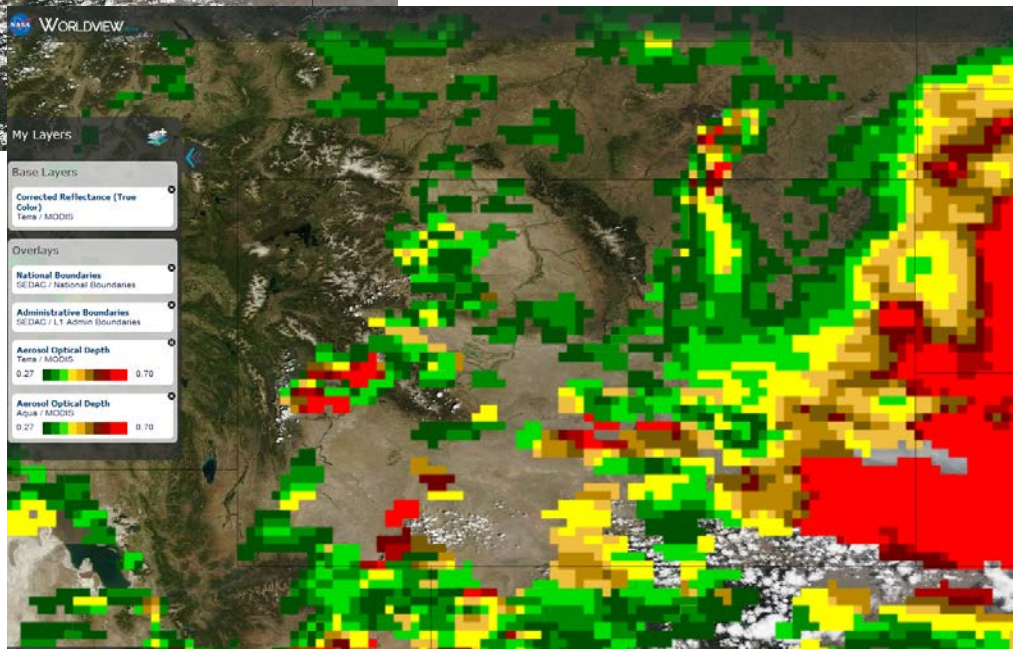
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Aerosol Optical Depth
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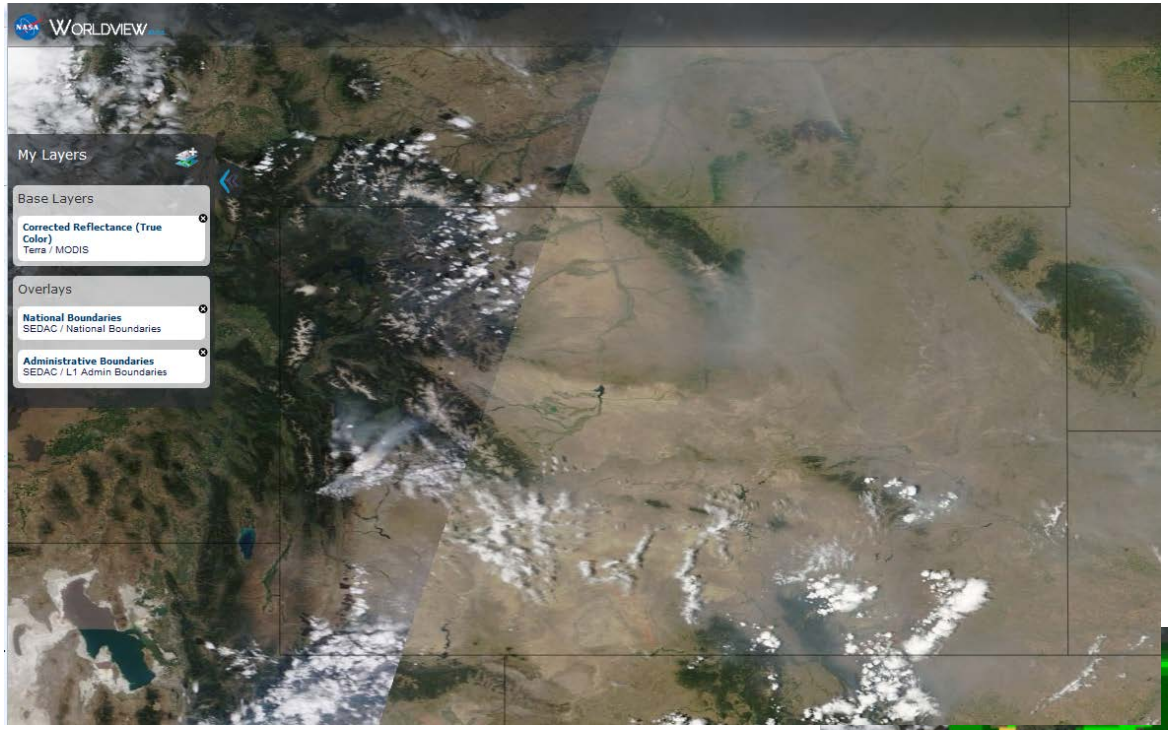
July 1, 2012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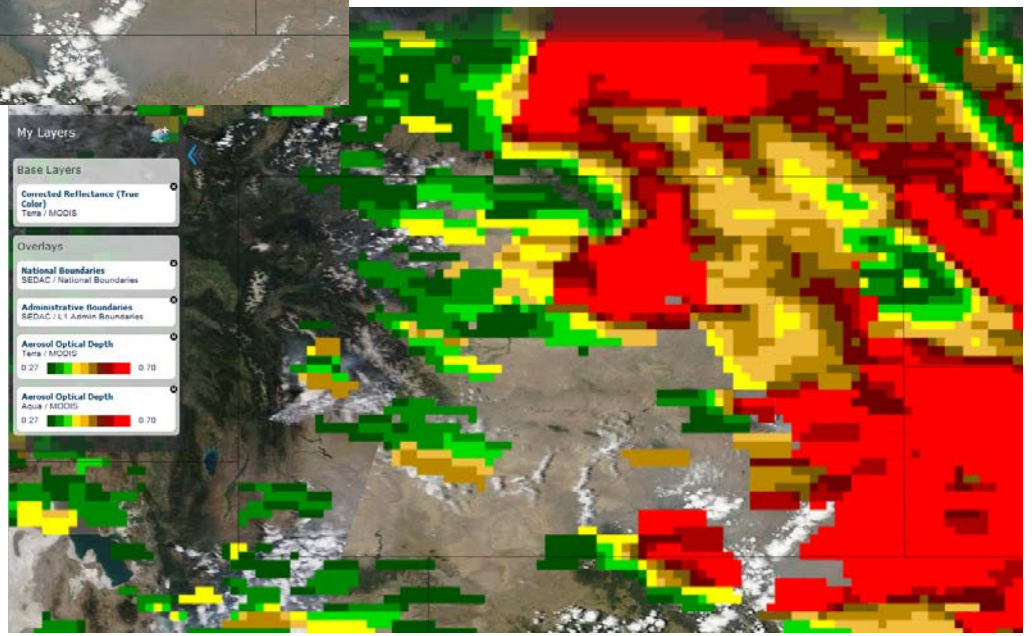
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Aerosol Optical Depth
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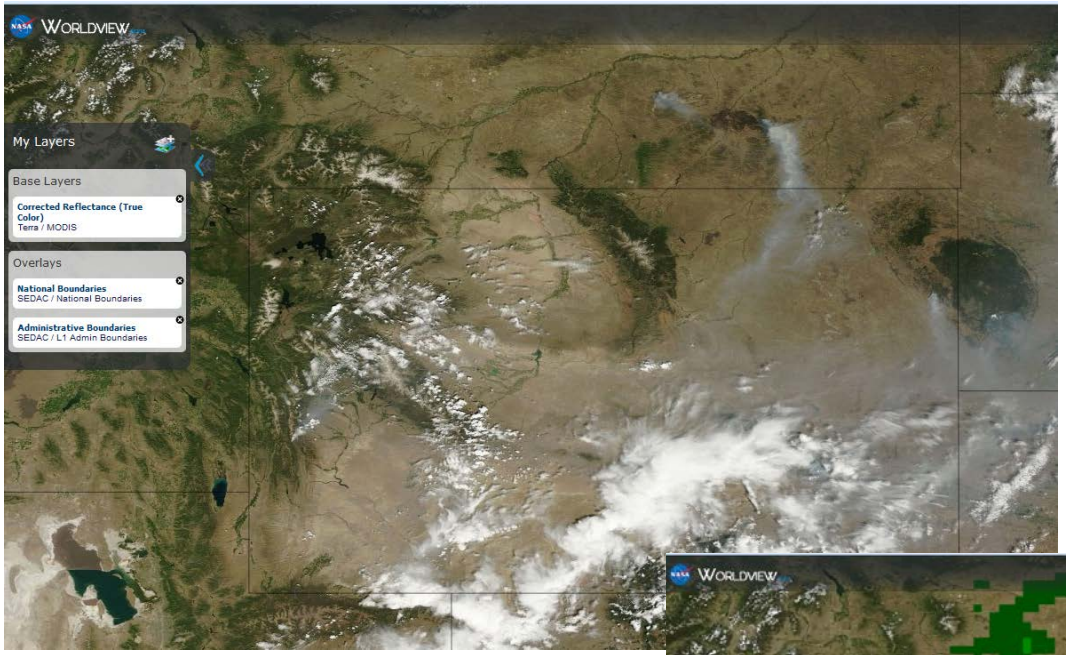
0.70

July 2, 2012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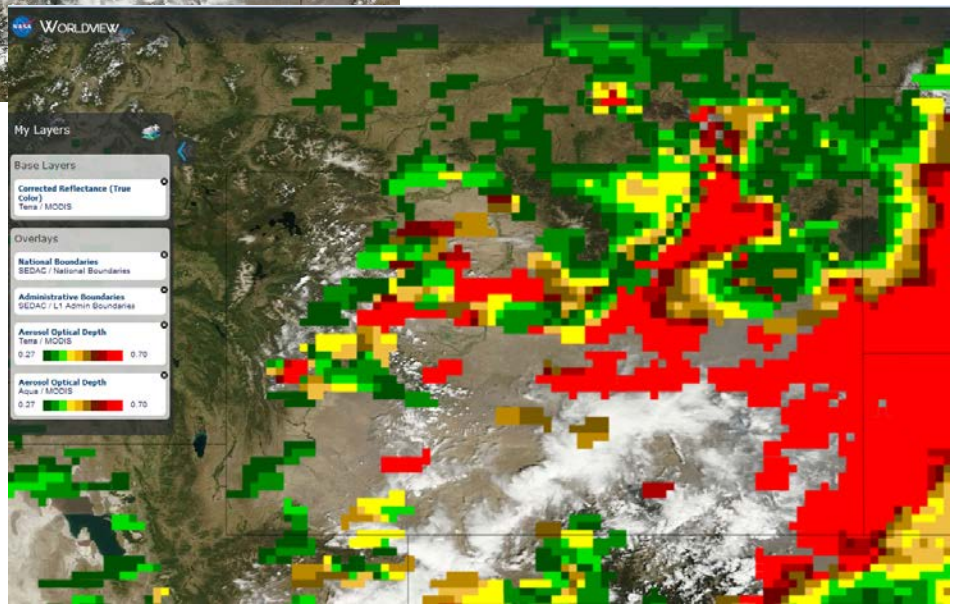
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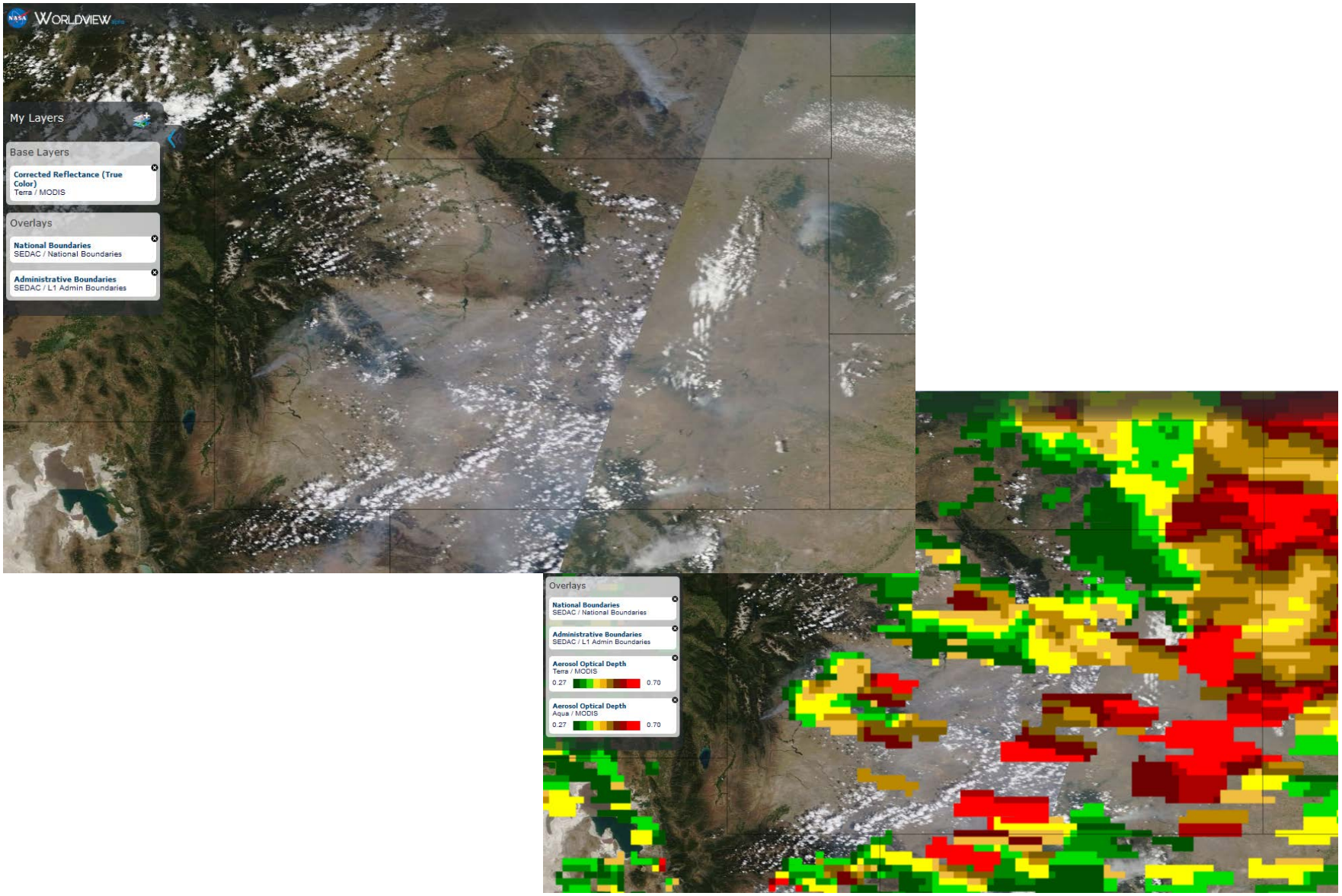
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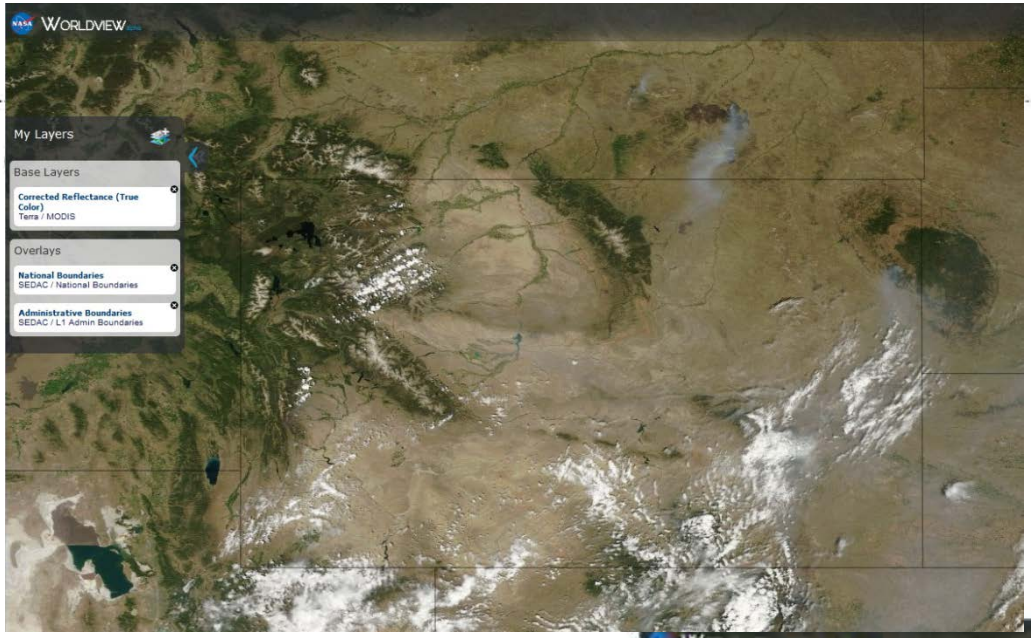
July 4, 2012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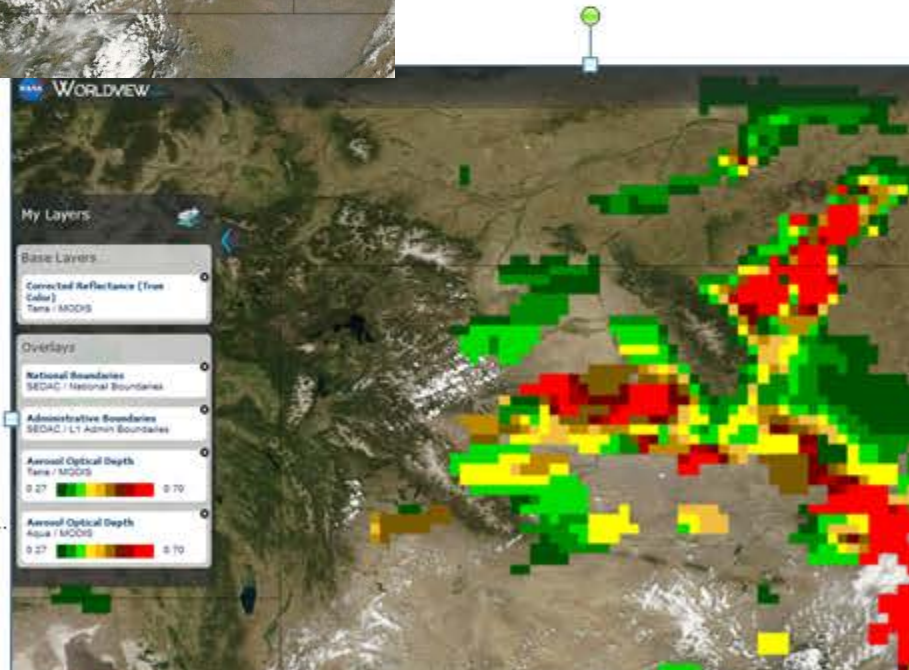
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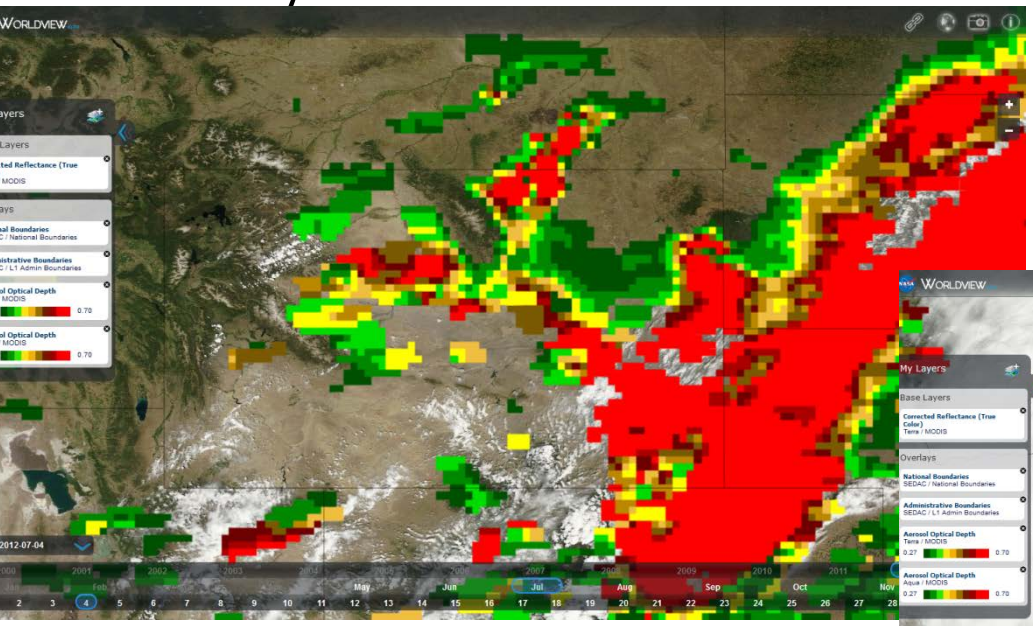
July 4



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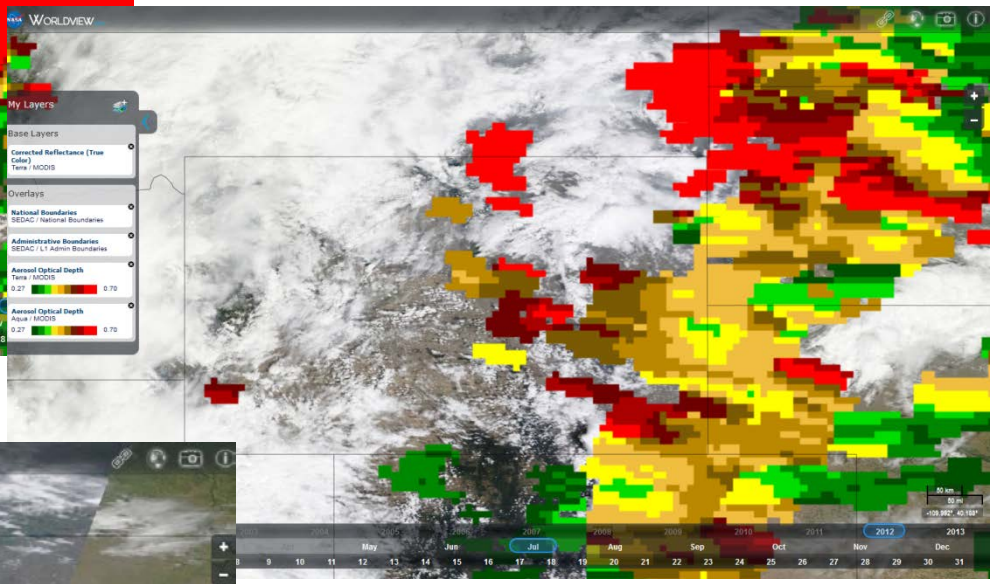

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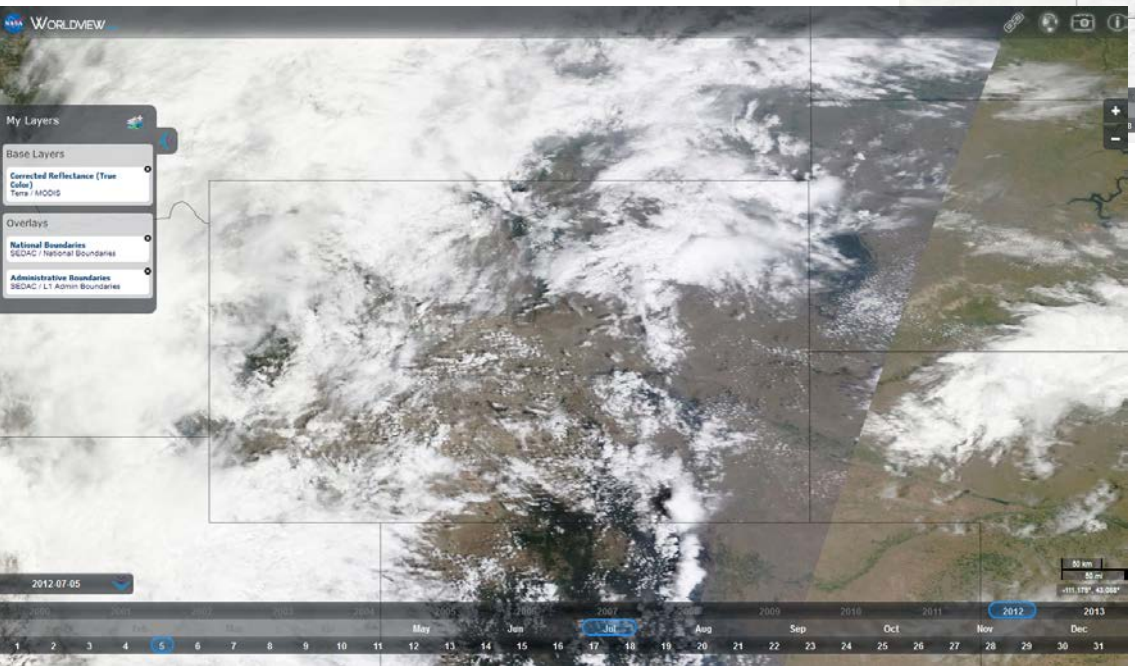
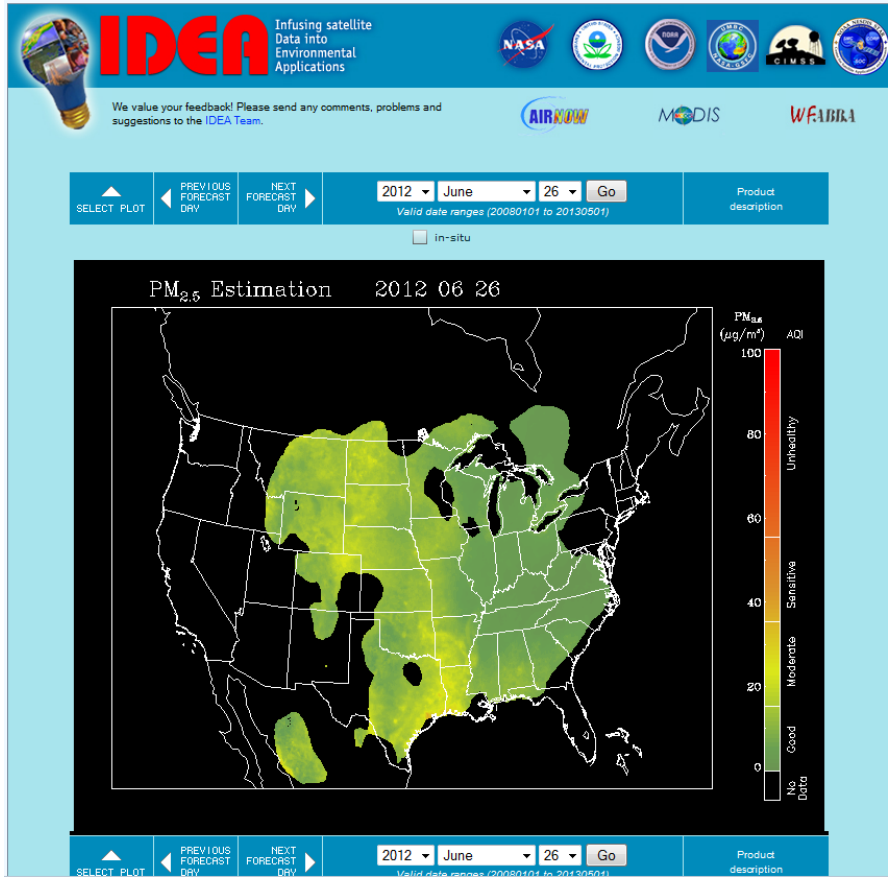
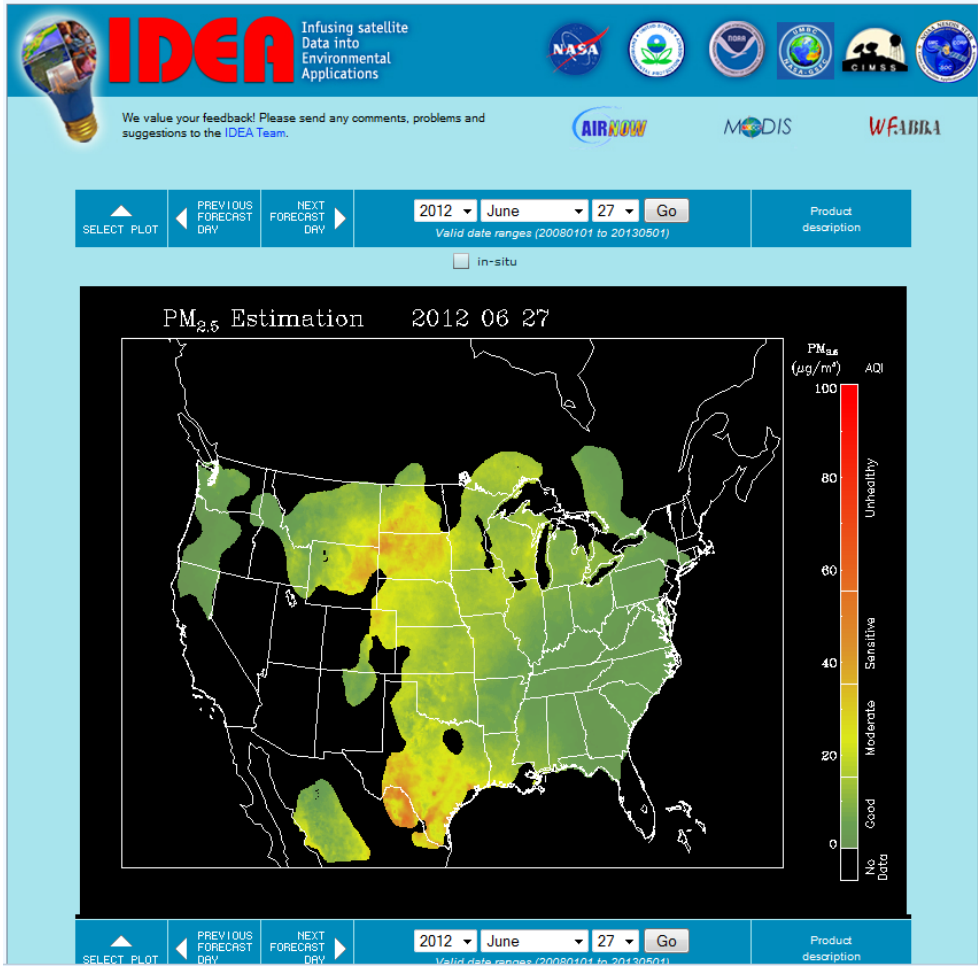


PM2.5 estimation from MODIS AOD

This product estimates daily surface PM2.5 (Particulate Matter with a diameter smaller than 2.5 microns) during sun-lit time over the United States using AOD (aerosol optical depth) from MODIS (the Moderate Resolution Imaging Spectroradiometer). Daily AOD is first derived from MODIS Terra, Aqua with following criteria: use average AOD from Terra and Aqua in areas where MODIS AOD from both satellite instruments is available; use AOD from MODIS in areas where MODIS AOD is available from only one MODIS instrument. The PM2.5 is then estimated from daily AOD through predefined regression relation, which are derived through model simulations.





IDEA

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AIRNOW MODIS WFABBA

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Valid date ranges (20080101 to 20130501)

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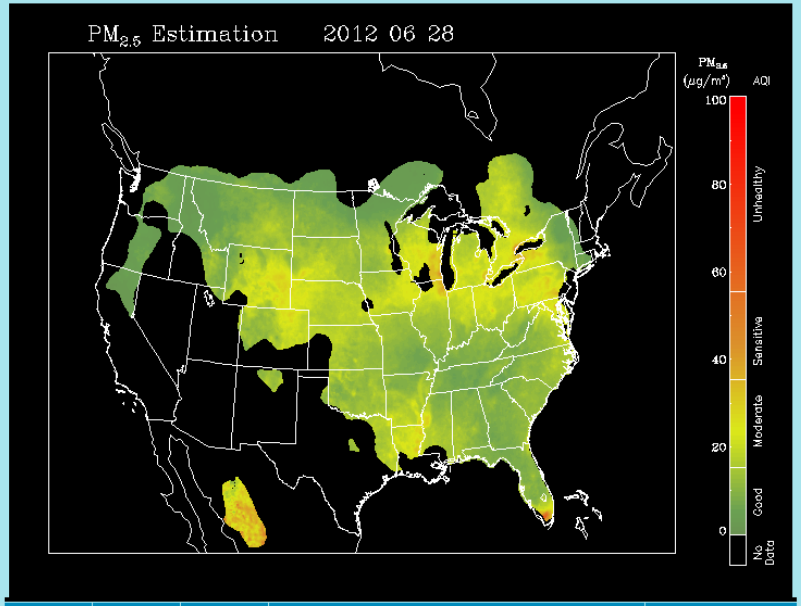

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AIRNOW MODIS WFABBA

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Valid date ranges (20080101 to 20130501)

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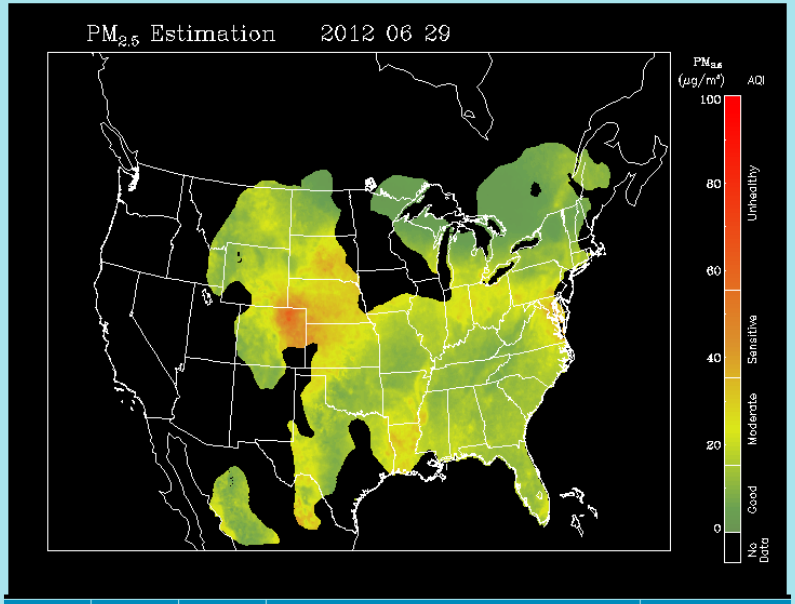

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Valid date ranges (20080101 to 20130501)

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AIRNOW MODIS WFABBA

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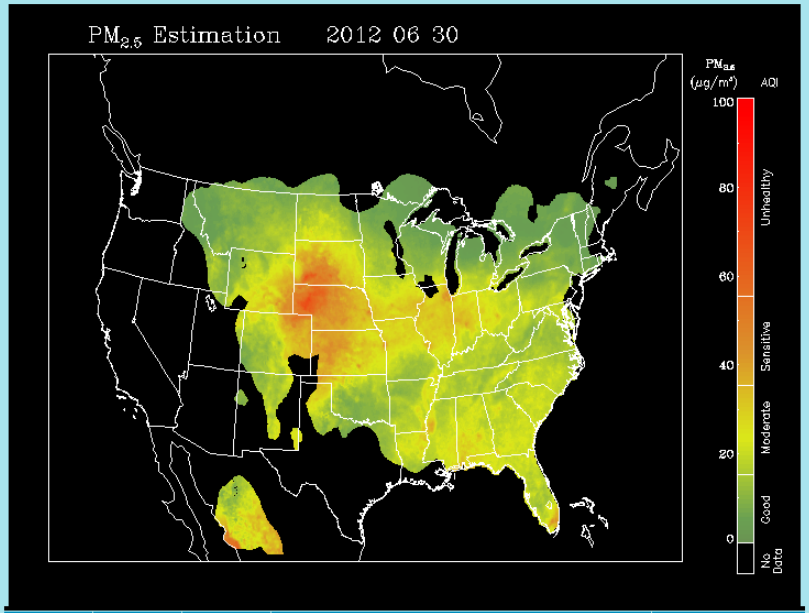

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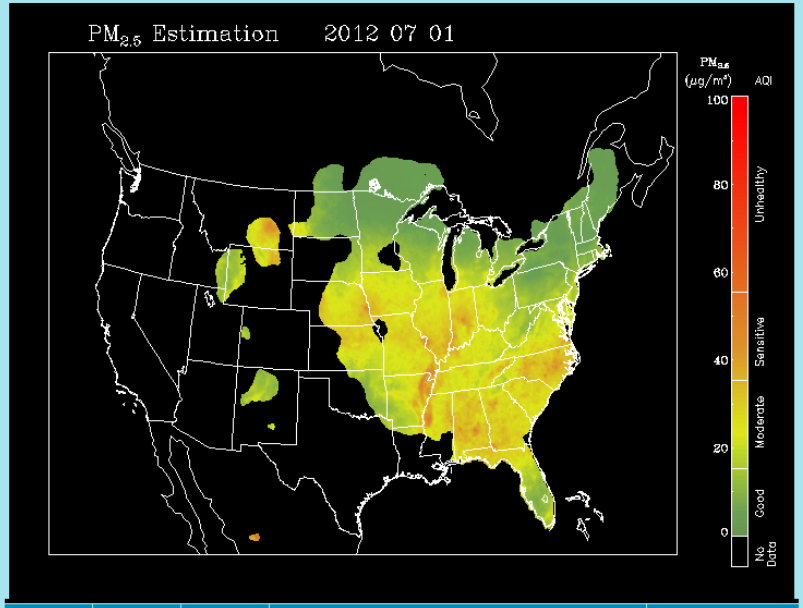

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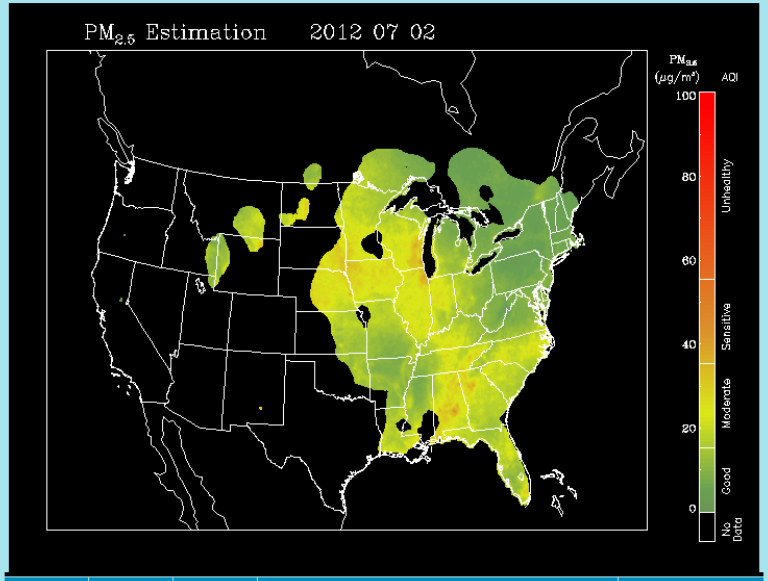

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AIRNOW MODIS WFABBA

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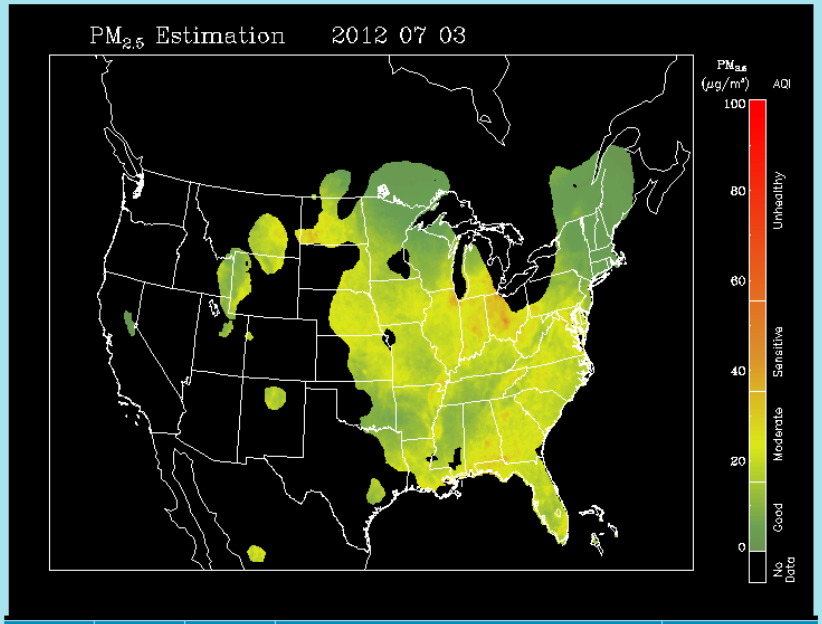

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AIRNOW MODIS WFABBA

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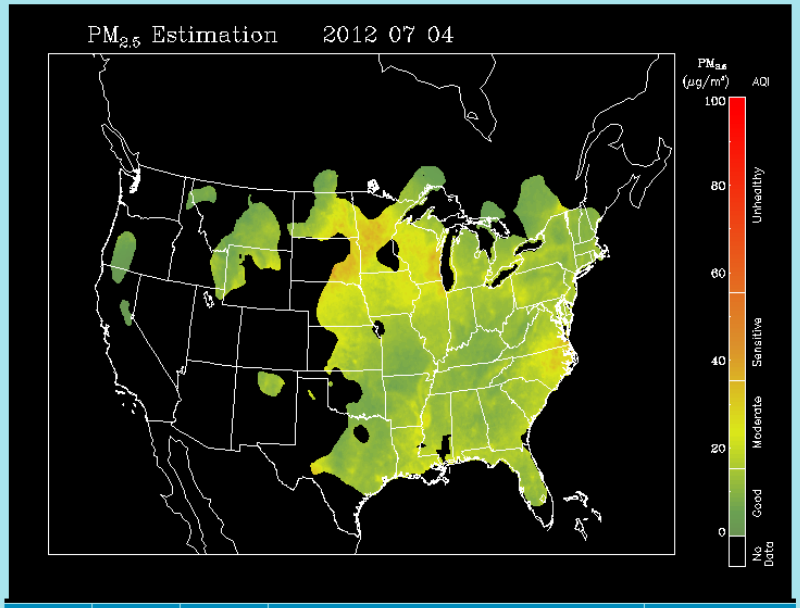

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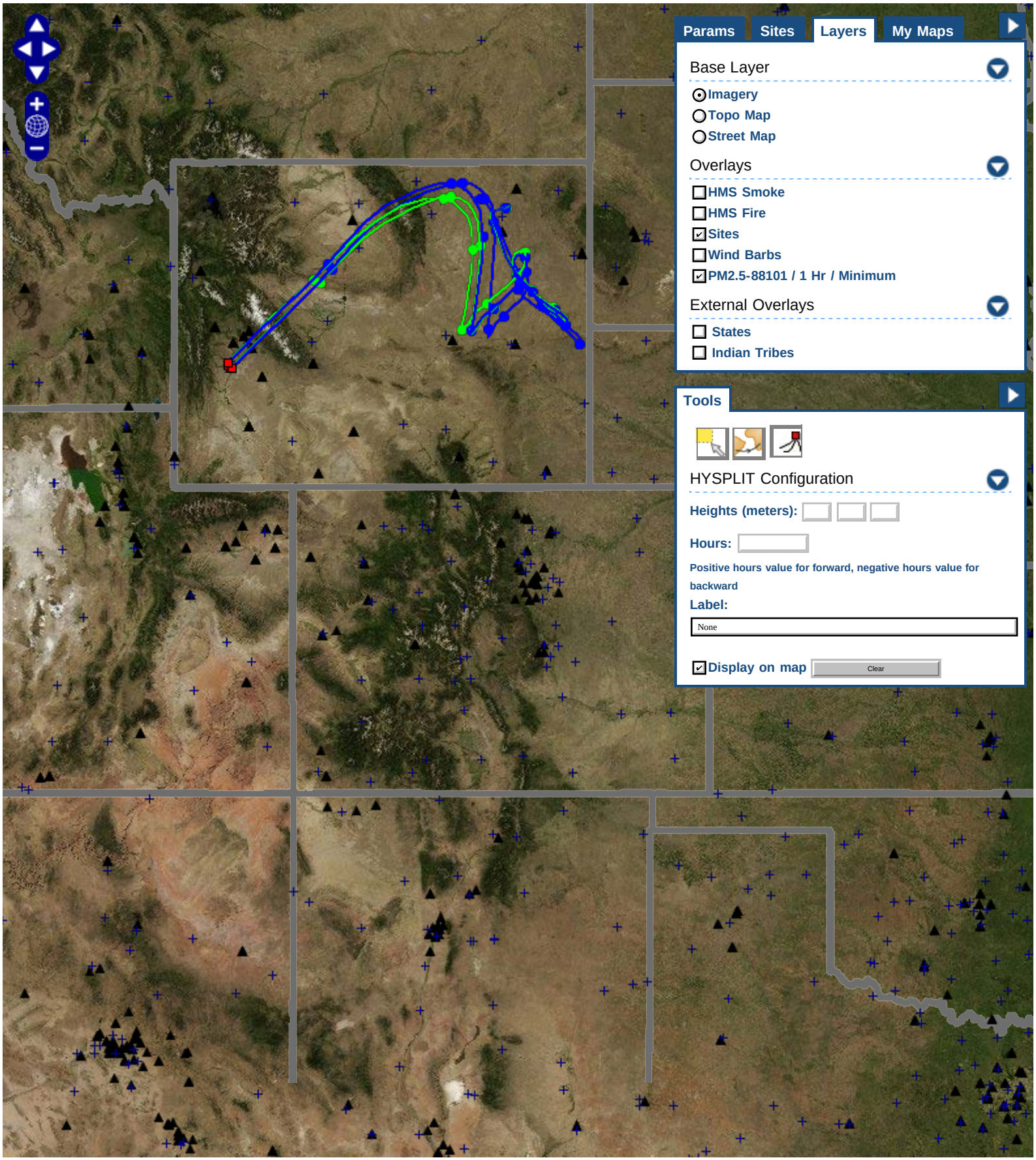
Appendix D: HYSPLIT Analyses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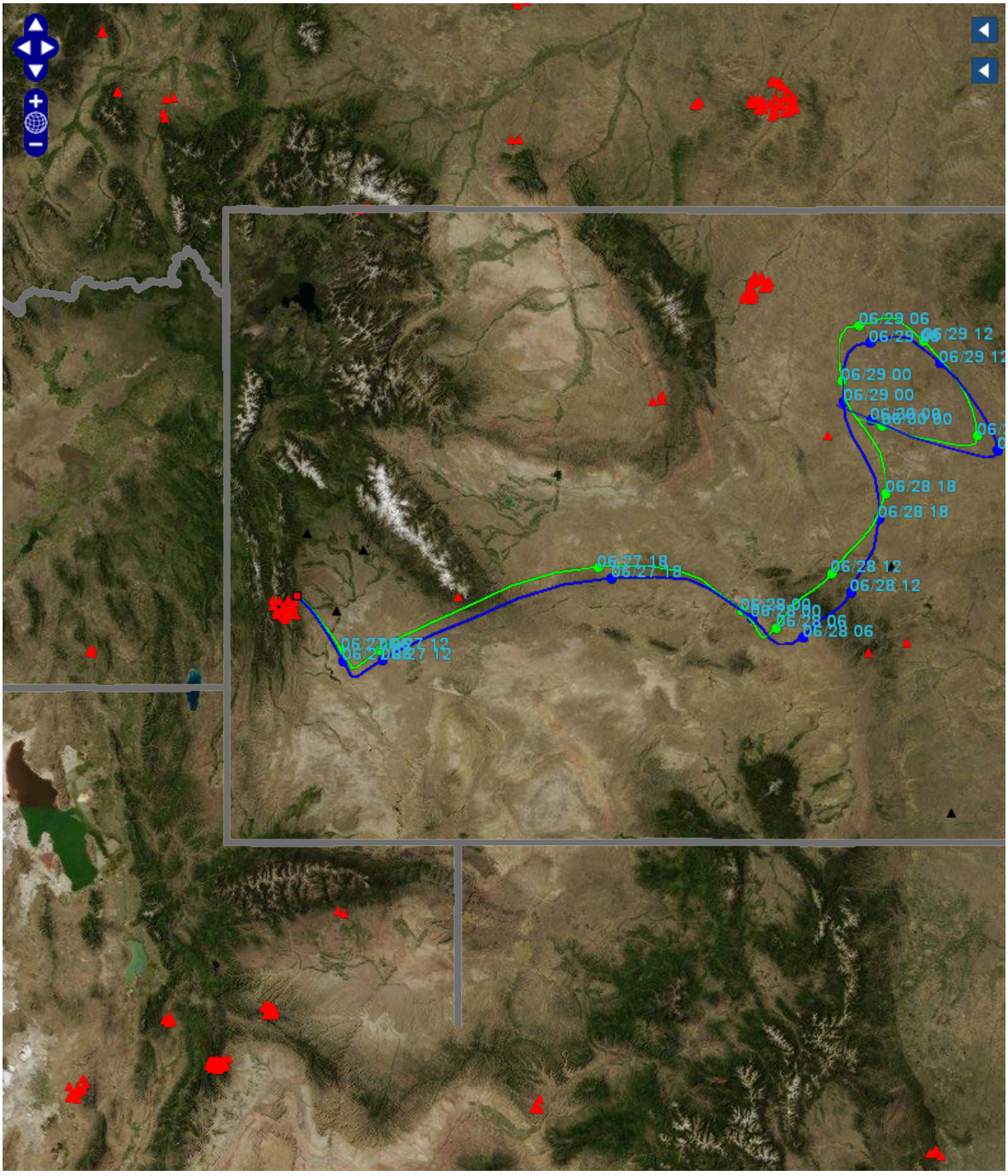
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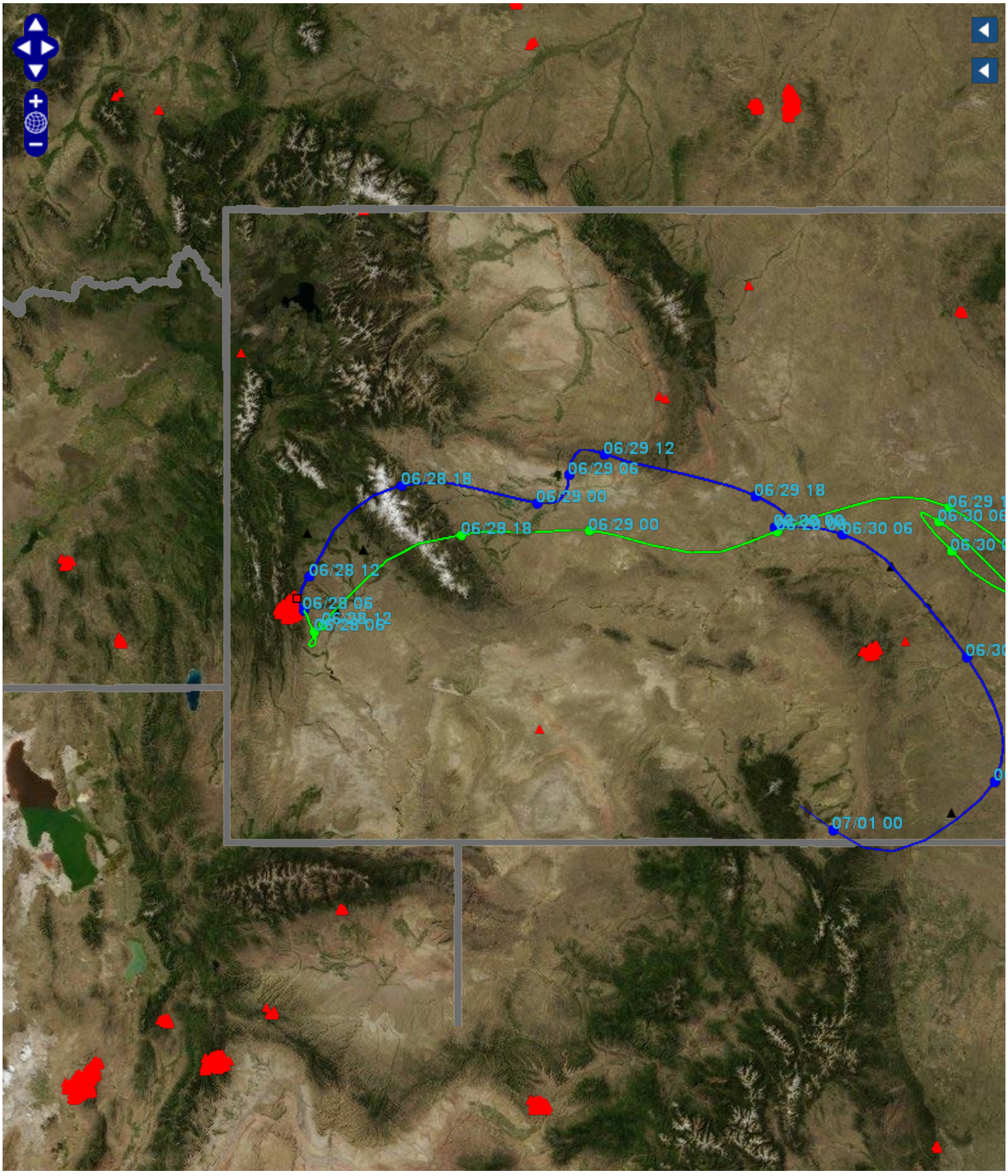
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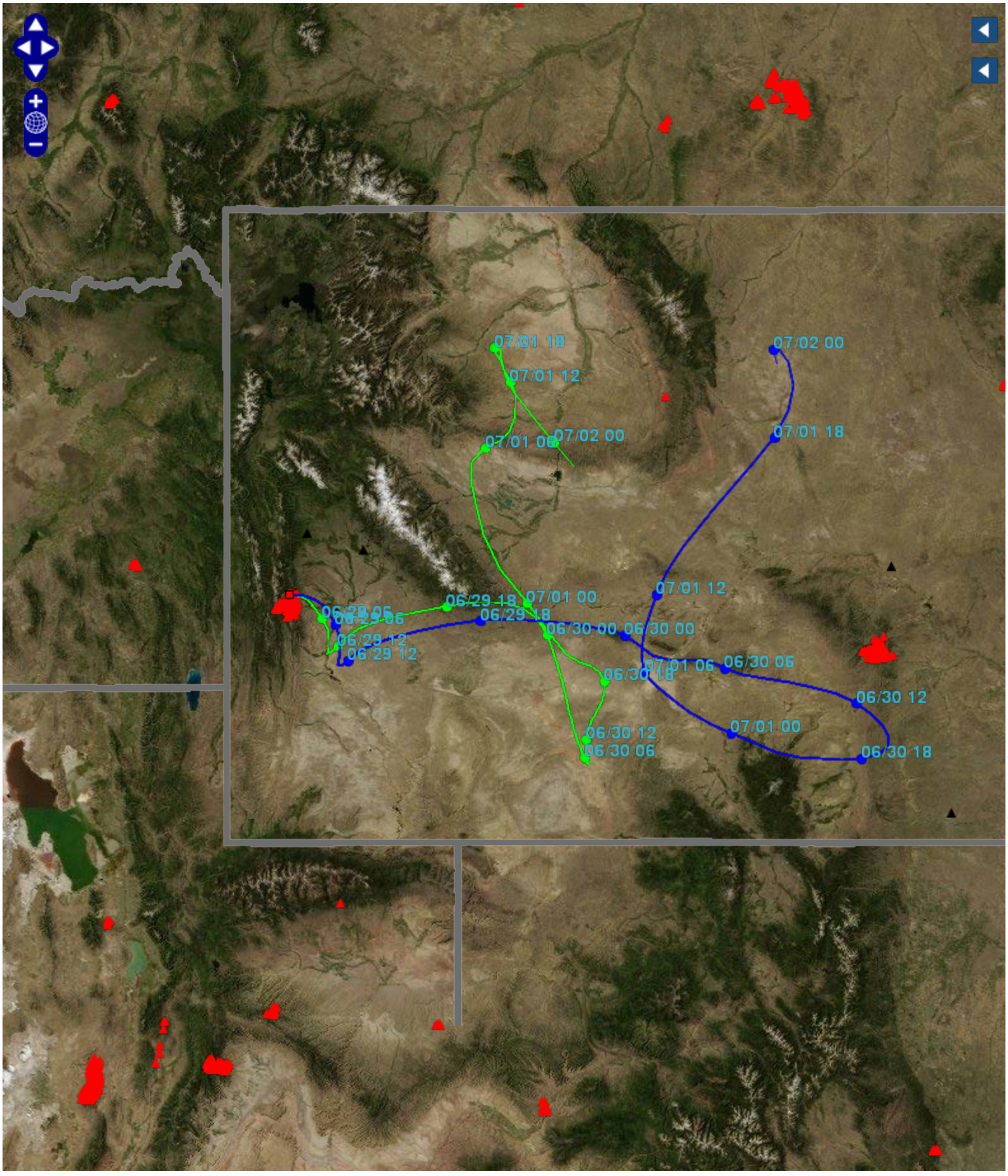
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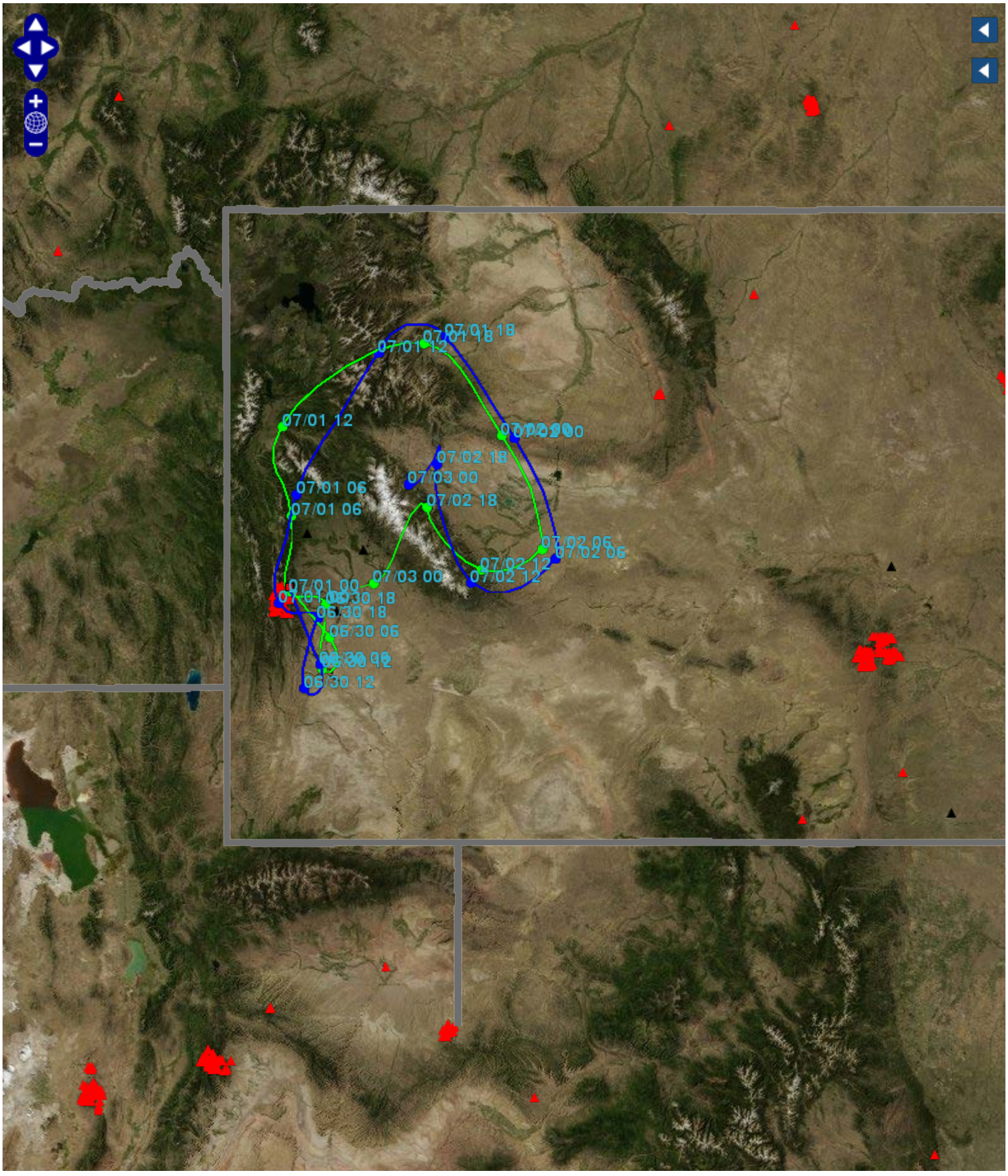
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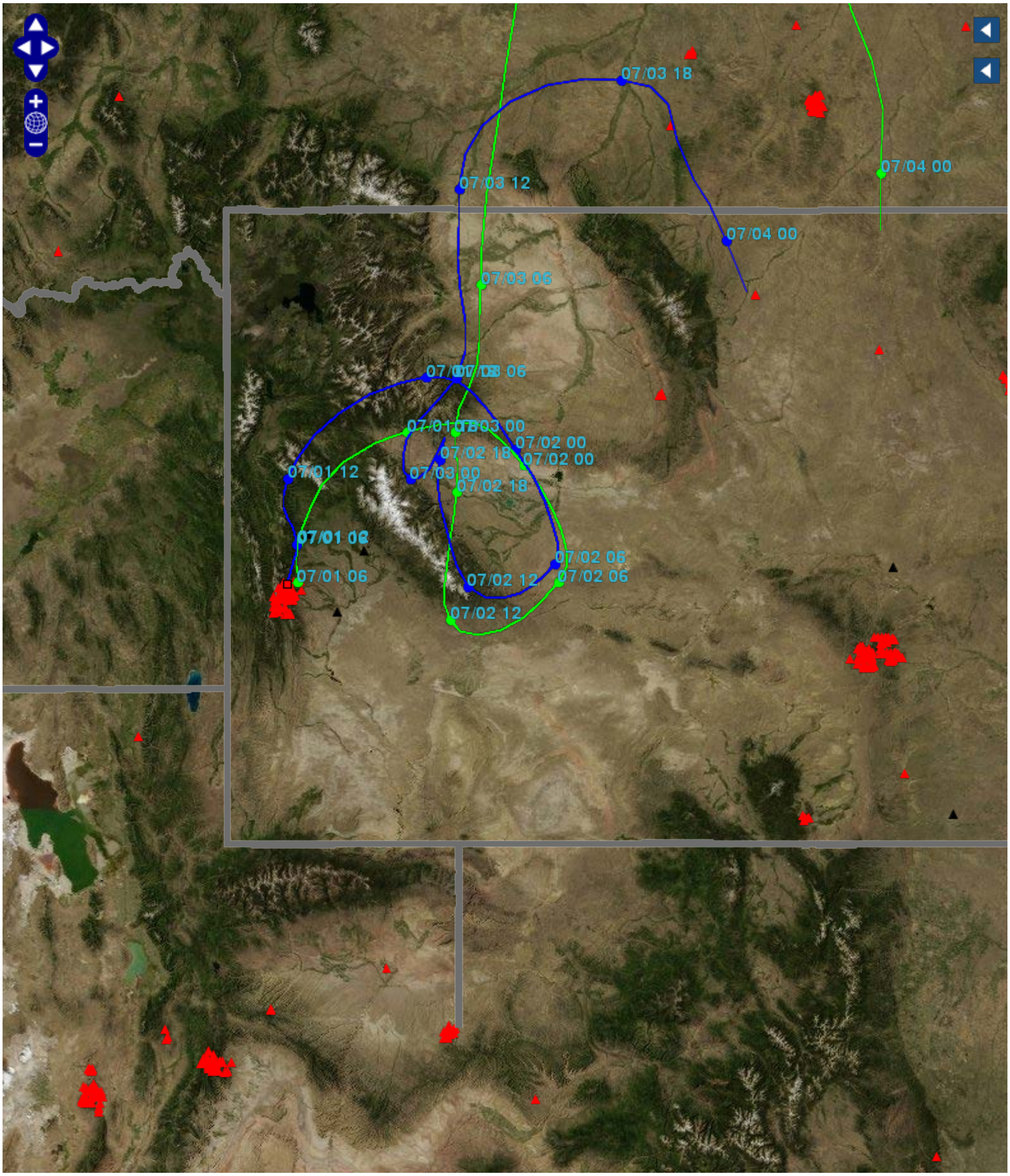
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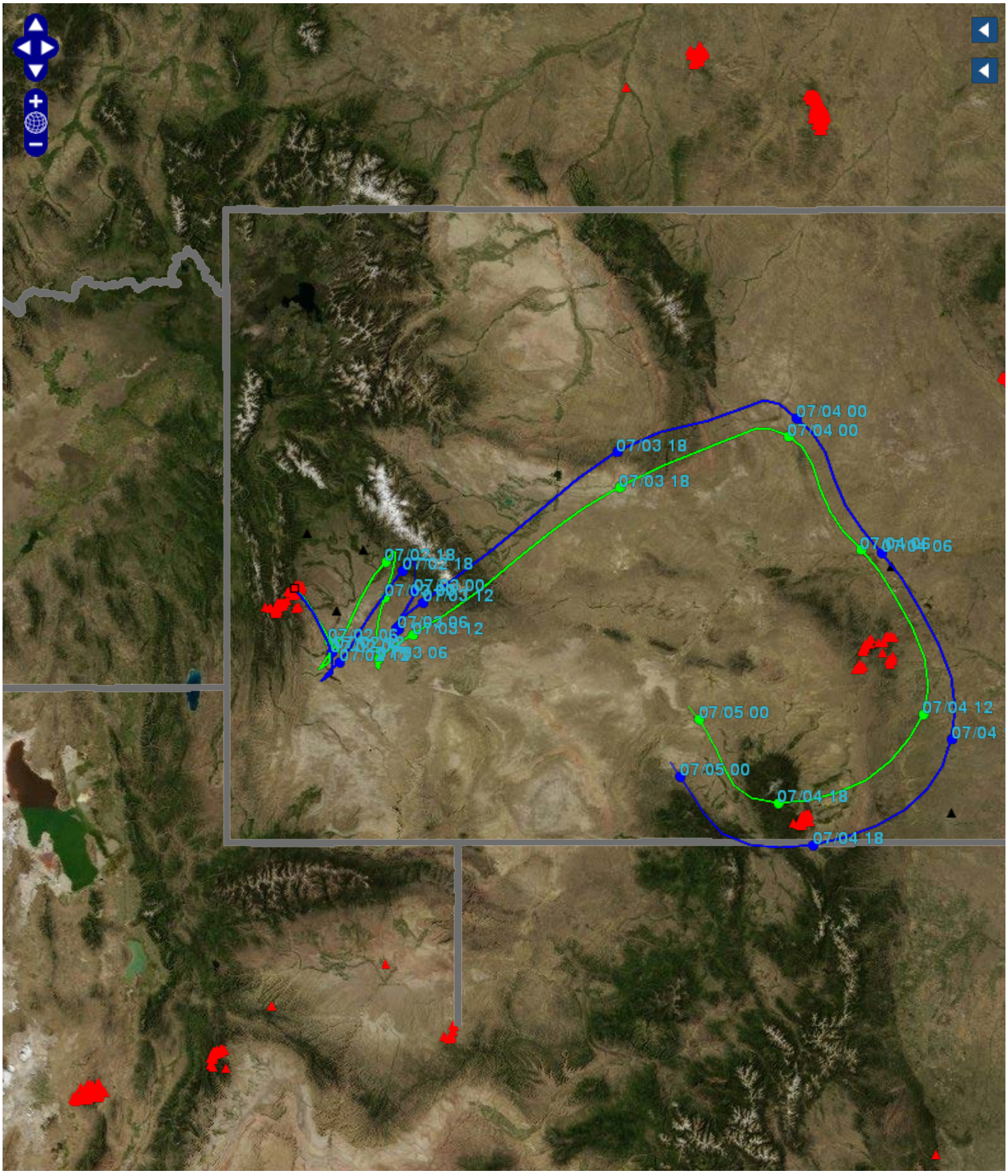
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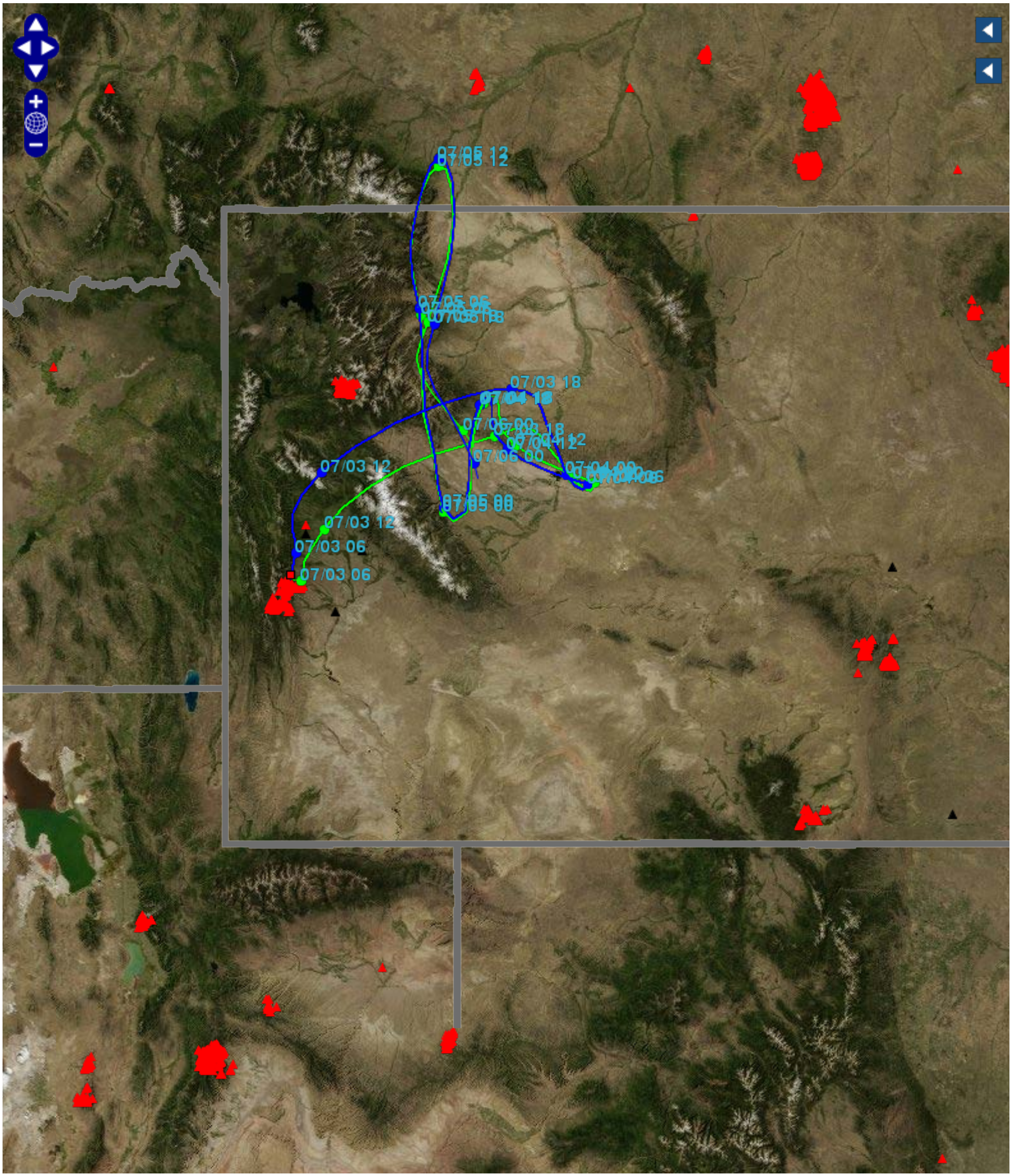
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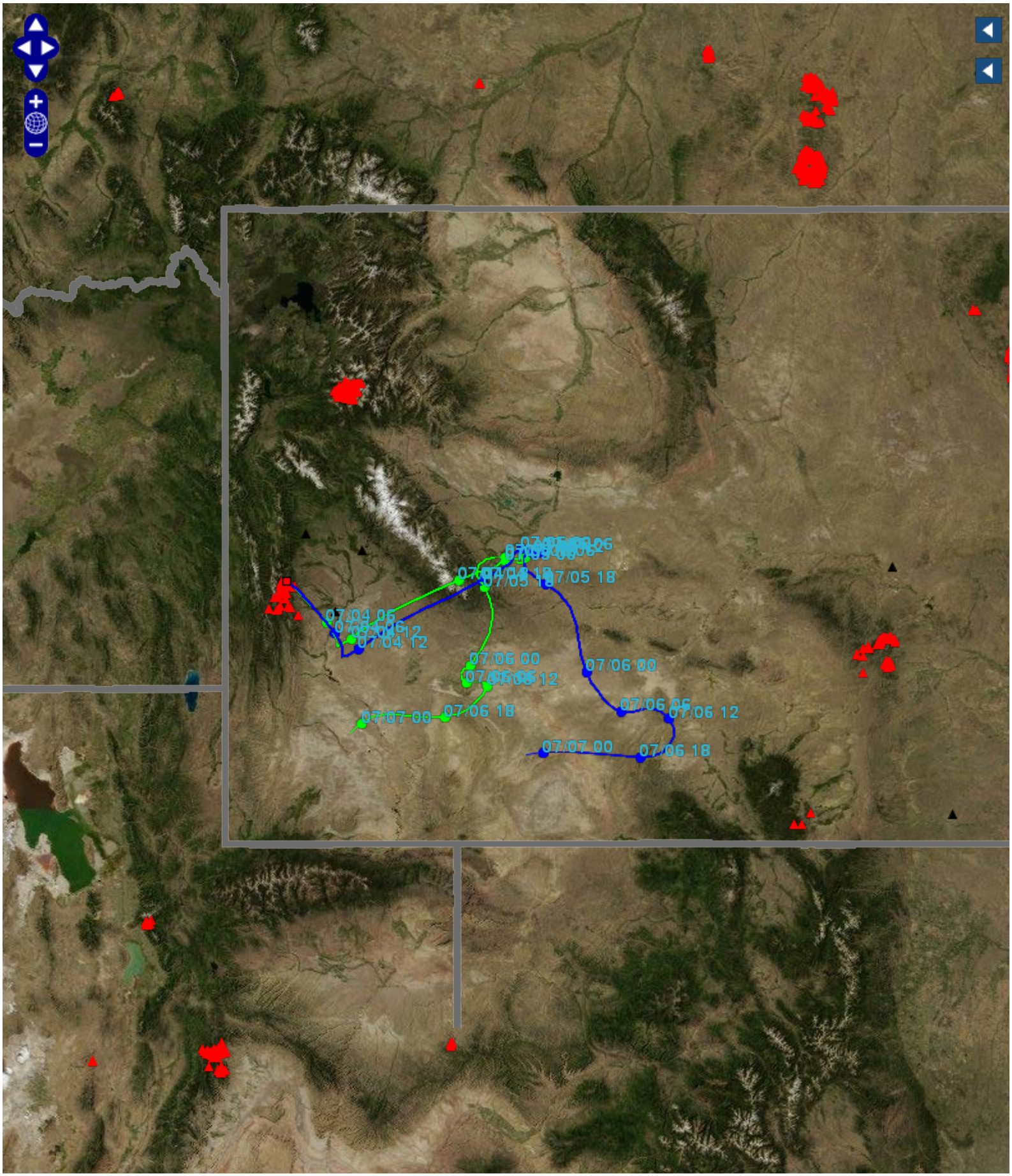
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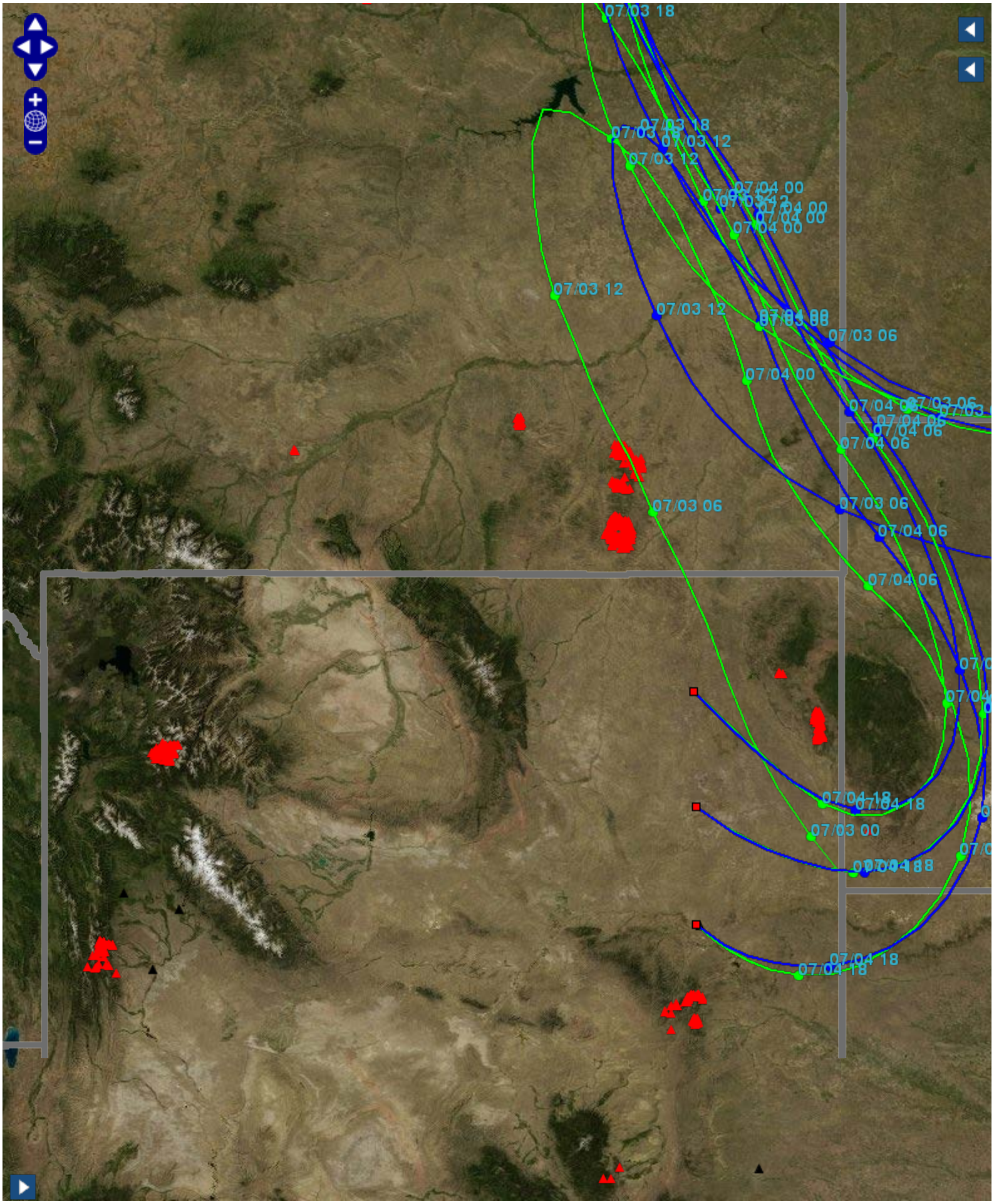
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Appendix E: Filter Analyses

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

January 16, 2013

Mr. Kevin Chartiers
Inter-Mountain Laboratories
PO Box 4006
Sheridan, WY 82801

RE: PM2.5 Filters
RJLG Project No: TEH1024546
IML P.O. #240568

Dear Mr. Chartiers:

Four PM2.5 filters were received w by RJ Lee Group, Inc. (RJLG) and assigned the RJLG identification number as follows.

IML Sample ID	RJLG Tracking Number	Sampling Dates	Sampling Locations
T1667797	10218770	06/29/12	Casper
T1667849	10218771	06/29/12	Lander
T2509967	10218772	09/21/12	Jackson
T2510108	10218773	09/21/12	Rock Springs

Preparation and Analyses

A section of each filter was mounted onto an SEM stub and coated with a thin layer of carbon to provide the electrically conductive surface needed for the SEM. The samples were analyzed using scanning electron microscope (SEM) coupled with energy dispersive spectroscopy (EDS) to distinguish particle types based on morphology and elemental composition.

Summary of Findings

The majority of particulate observed on all of the samples consisted of carbon-rich particulate matter. Minor amounts of Si/Al and Si/Al/K-rich particulate was also present. Field images and spectra of each filter are illustrated below in Figures 1-4. Please note that the Fluorine (F) peak is from the Teflon media.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. This test report is not to be reproduced except in full, without written approval of the laboratory. Unless notified to return the samples covered in this report, RJ Lee Group will store them for a period of thirty (30) days before discarding.

Should you have any questions regarding this information, please do not hesitate to contact us.

Sincerely,

Steven Schlaegle
Director, Energy and Utilities

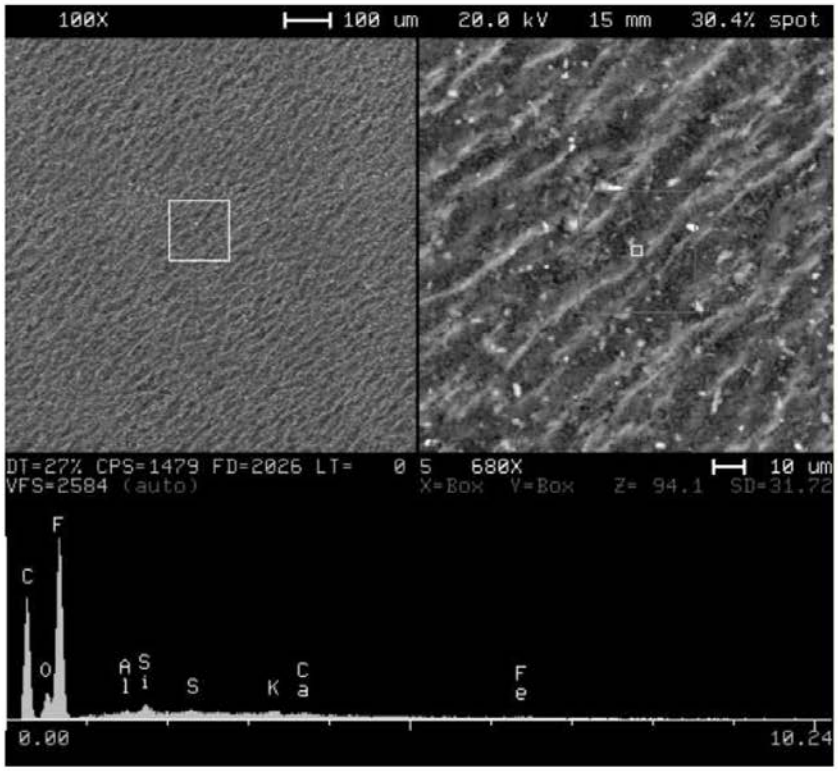

Figure 1. Backscattered electron image and elemental spectra from sample T1667797. The darker background is the C-rich component. The Si/Al particulate is associated with the brighter specks and the ridges are the (F) filter media.

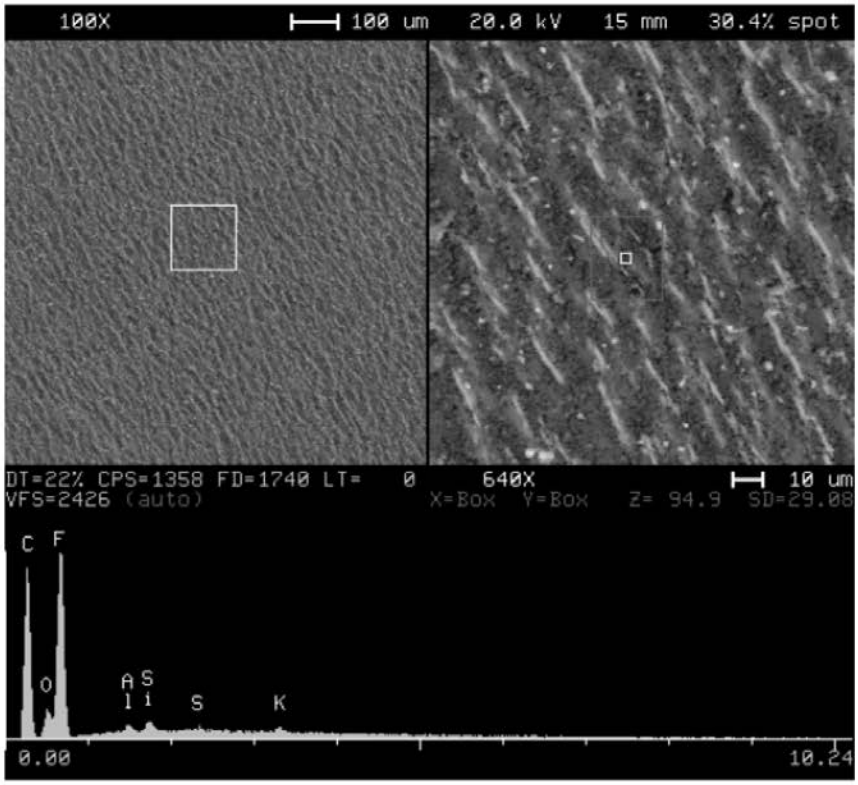

Figure 2. Backscattered electron image and elemental spectra from sample T1667849. The darker background is the C-rich component. The Si/Al particulate is associated with the brighter specks and the ridges are the (F) filter media.

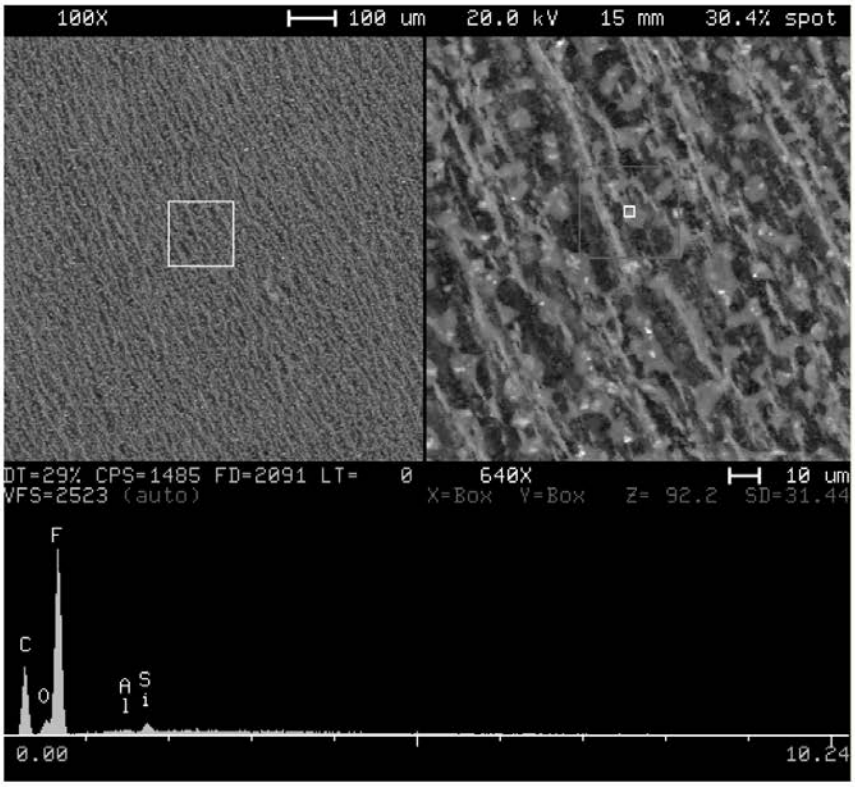

Figure 3. Backscattered electron image and elemental spectra from sample T2509967. The darker background is the C-rich component. The Si/Al particulate is associated with the brighter specks and the ridges are the (F) filter media.

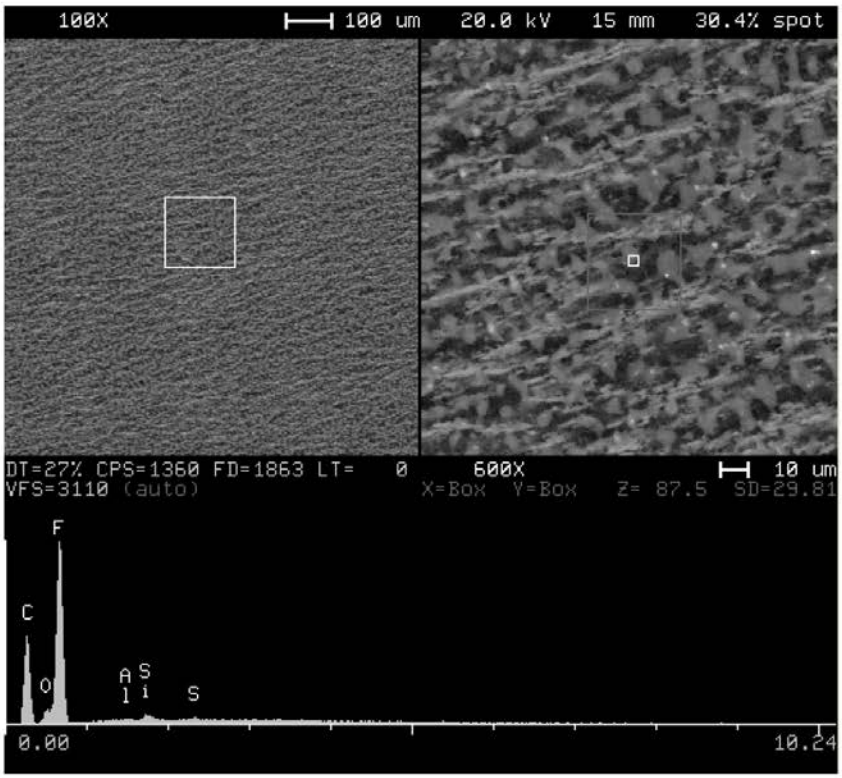

Figure 4. Backscattered electron image and elemental spectra from sample T2510108. The darker background is the C-rich component. The Si/Al particulate is associated with the brighter specks and the ridges are the (F) filter media.

Appendix F: News Accounts

Fires grow in Wyoming and neighboring states

Jun 24, 2012 **- The Associated Press**

Firefighters prepared for the worst this weekend as hot, dry and windy weather returned and revived a wildfire burning in the Medicine Bow National Forest in east-central Wyoming.

"It's batten down the hatches for sure; definitely gusty winds that are coming through camp," fire spokeswoman Laura McConnell said Friday afternoon. "...It definitely is the beginning of a very critical and crucial 48 hours for fire crews."

The fire was producing noticeably more smoke Friday afternoon after relative calm activity on Wednesday and Thursday, McConnell said.

Since it was discovered last Sunday, the Russell's Camp fire has burned about 4.5 square miles and is only about 10 percent contained. About 500 firefighters are battling the fire about 30 miles south of Glenrock.

Anticipating extreme fire conditions this weekend, fire crews prepared safety zones where firefighters could flee in case the Russell's Camp fire makes a sudden run, fire spokeswoman Susan Ford said. A safety zone is an area "where your crew can get to from the line in case the fire is going to burn over," Ford said.

The area would have "limited vegetation," where the crews "can safely survive 15 or 20 minutes of the fire blowing through there," she added.

In addition, backup fire lines are being constructed four or five miles from the fire to help stop any run, she said.

The National Weather Service posted red flag warnings for much of southern Wyoming, including the area with the Russell's Camp fire.

Ford said firefighters haven't been able to establish much fire line on the north side of the fire because of the rugged terrain.

The good news is that no residences or structures are in the immediate vicinity on that side of the fire, she said. So far, no structures have been lost since the fire started.

Separately, Gov. Matt Mead on Friday asked for a federal agricultural disaster declaration for all of Wyoming, except Teton County, because of drought. The declaration could provide some federal emergency aid to farmers and ranchers.

Utah

Unpredictable winds and high temperatures were challenging crews in their battle Saturday against a Utah wildfire that forced more than 2,300 people to flee their homes.

Firefighters remained posted around houses in Saratoga Springs and Eagle Mountain, about 40 miles south of Salt Lake City, after the blaze burned within a quarter mile of some homes Friday, says Bureau of Land Management spokeswoman Teresa Rigby.

No homes have burned, she said, and fire officials want to see what the nearly 9-square-mile fire on tinder-dry grasslands does Saturday afternoon before deciding whether residents can return to their homes. Rigby says an updated count shows an evacuation order affects nearly 600 homes and over 2,300 residents.

The fire, which officials believe was started Thursday by target shooters, is 30 percent contained.

Colorado

Firefighters have given up some ground to a wildfire that has scorched more than 118 square miles in northern Colorado and destroyed at least 191 homes.

Incident commander Bill Hahnenberg says some crews stationed near threatened homes Friday had to retreat for their safety, and the fire's containment has slipped from 60 percent to 45 percent. The fire is burning 15 miles west of Fort Collins.

Authorities issued nearly 1,000 evacuation notices Friday night, some of which went to residents who had only returned home two days earlier.

Meanwhile, a fire in near Mancos in southwestern Colorado prompted authorities to order the evacuation of 22 homes Saturday morning. The fire was reported Friday and has burned 700-800 acres, but fire spokeswoman Pam Wilson says the blaze burned actively overnight.

Cato Fire in Johnson County (Updated)

Written by Justin Wolffing

Tuesday, 26 June 2012 15:37

The Cato fire has now grown in size and an estimated 20,000+ acres has been burned. It is hard to get an exact measurement on the fire as it is burning on multiple fronts. Swift winds Tuesday afternoon pushed the fire northeast toward the town of Clearmont. The fire originated Monday, and may have been caused by lightning. Stay tuned to the Big Horn Mountain Radio Network for the latest on the fires burning in the region. **For the latest information, check out the fire update banner on the frontpage.**

This article is no longer updated, please click the link above for the latest information.

Reports indicate Hepp Ranch has been evacuated due to the fire. We have not received any reports regarding other ranches in the area at this time. Our initial report regarding the Cato Fire came from the National Weather Service Office in Riverton and a Facebook post Tuesday, stating the fire was 100 acres in size. By late Tuesday, the fire had jumped across Double Cross Road, and was visible on the ridge above Thompson Creek. A resident on Facebook reported possible evacuation notice of Thompson Creek Road however we have not received reports of evacuations at this time.

News Director Justin Wolffing was on the scene at Double Cross road, and described the fire...

Crews from Clearmont Fire, Johnson County Fire, and several from Sheridan County were fighting the blaze. Visible smoke in Sheridan and elsewhere west of the Cato fire was caused by two fires burning on the Worland side of the Bighorns (see the BLM release below).

We expect to know more information tomorrow morning. Pictures of the fire are at our Facebook page.

---Original report---

The National Weather Service in Riverton is reporting that a fire is burning 13 miles northeast of Buffalo. The fire, known as the "Cato Fire" started late Monday, and was possibly caused by lightning. The exact cause has yet to be confirmed, however crews are on the scene. The size of the

fire was estimated to be 100 acres, and smoke is coming into Buffalo at this time. We are awaiting a call from Johnson County Fire Officials.

Big Horn Mountain Radio Network initially received a report of the fire via our Facebook page this morning. There are also other fires burning in the region, according to the BLM.

----Update #1 (4:10 pm)----

According to Wes Johnson, Johnson County Fire Chief, the fire is "much larger than 100 acres." Johnson was expecting a call from Sheridan County regarding additional engines. He could not provide additional details, but will be updating us as soon as he can.

---Update #2 (7:05 pm)---

The Cato fire is continuing to grow in size. At the moment it appears to be moving northeast towards Arvada-Clearmont. Power lines have been burned and some local ranchers are currently herding their cattle away from the fire. The fire started late Monday and was possibly caused by lightning. Crews are on the scene, and the size of the fire is difficult to estimate since it's continuing to grow but our best guess at this time is around 300 acres. We will continue to update you on the fire and we have video on the way that we will be posting soon.

--Update #3 (9:09 pm)--
The Cato fire was heading northeast, burning on multiple fronts. At 9 pm, the best estimate was that the fire had burned 600 or more acres, however it is hard to judge the total acreage due to the fire burning on many fronts. The National Weather Service in Riverton is doing a great job keeping us up to date on the status of this and other fires burning in the region. Here is the website: https://www.facebook.com/photo.php?fbid=463465253663810&set=a.217925718217766.65908.211590608851277&type=1&theater

trib.com Wyoming's News Source
Star-Tribune

As best they can, Wyoming officials prepare for busy fire season

Brutal weather ... with more to come

JUNE 26, 2012 7:00 AM • BY KELSEY DAYTON STAR-TRIBUNE STAFF WRITER

Smoke-filled skies and temperatures creeping near 100 degrees could confuse people in Wyoming. The weather experienced by the state has been like that normally seen in August, not June.

A combination of a low snowpack this winter, a dry spring and hot weather has stirred forest fires to levels normally seen in mid-July or August, said Bill Crapser, state forester.

This year March, April and May were three of the driest months on record for the state and those are usually the wet months, Crapser said. The state also experienced a low snowpack, leaving land dry and runoffs low. Then, there has been wind and hot temperatures, all adding to create a brutal and early fire season.

“If we had a really strong monsoon season, we could get some relief,” he said.

However, that’s not in the forecast.

This week brings “critical fire weather conditions,” said Paul Skrbac, a senior forecaster with the National Weather Service in Riverton.

Dry thunderstorms were expected beginning Monday night, complete with gusting winds and lightning. There is no significant rain in the forecast in the foreseeable future, Skrbac said.

Temperatures in the state reached 105 in several places during the weekend, including Worland, which broke its record of 102 for June 24, set in 1988, Skrbac said.

On Wednesday, the state will get a slight reprieve with cooling of about

10 degrees.

“So instead of very hot, it will be just hot,” Skrbac said.

Temperatures will rise again at the end of the week.

The continued heat, wind and impending thunderstorms has firefighters on alert across the

state, Crapser said.

Already more than 600 people are working on the Russells Camp Fire and about another 100 are working on the Bridger-Teton, he said. The Fontenelle Fire on the Bridger-Teton, first reported Sunday, is 300 acres. According to a press release, it is burning heavy dead and fallen timber.

The fire has been upgraded and the forest ordered a Type 3 Incident Management Team, which was expected to take control of the fire Monday evening. A Type 3 team is called when a fire exceeds the forest's capabilities to manage internally, a press release said. The cause of the fire is under investigation.

The Russells Camp Fire on the Medicine Bow National Forest and Thunder Basin National Grassland reached more than 5,000 acres as of Monday afternoon, according to the Incident Information System.

Smoke also was blowing into Wyoming from fires in Colorado and South Dakota.

There also are some small fires burning in Wyoming, Crapser said.

Large fire fuel, such as logs 3-6 inches in diameter, has only 6 or 7 percent moisture, Crapser said. That means quick ignition and complete combustion for fires.

The whole state is susceptible to fire, but the southern half of the state is currently the driest and hottest, he said.

The Rocky Mountain Coordination Group, which brings together fire agencies in the region, is working to pre-position resources, Crapser said. Areas where lightning is predicted will have people stationed nearby to help immediately.

The state forestry office is currently talking with the governor's office about the budget for fighting wild land fires, Crapser said. There is worry this year's fires will exceed budgets.

There also is worry about firefighter shortages and fatigue with potential for fires throughout the region.

"We are doing our best to manage it," Crapser said.

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A "Slice of Life" view of Pinedale and Sublette County, Wyoming
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Road & Weather Links

Fontenelle Fire update, Wednesday, June 27, 8:45AM: Emergency Area Closure in effect for the Fontenelle Fire in the Wyoming Range, which is now officially reported to be 12,000 acres this morning. It started on Sunday in Lincoln County and has spread into Snider Basin in Sublette County. 3 helicopters, 5 engines, and 2 crews of 20 firefighters each are working this fire, as well as help from the Sublette County Sheriff's Office and Volunteer Fire Departments. A Type 2 Management Team has been requested. See Inciweb for maps and updates, as well as related stories below. Fire updates are also being aired on KPIN 101.1FM Radio.

Fontenelle Fire This fire in the Wyoming Range grew from 300 to 2,000 acres on Tuesday and moved into Sublette County and Snider Basin. The Forest Service has issued an area closure for public safety. See Inciweb for maps and updates.
Photo by U.S. Forest Service, Bridger-Teton National Forest.

Smoky Pinedale Winds brought smoke from the Fontenelle Fire in the Wyoming Range over Pinedale on Tuesday afternoon. As of 3:00PM Tuesday (June 26th) the fire had grown from 300 to 900 acres. It is in Lincoln County, approximately 33-miles northwest of the community of LaBarge, Wyoming on the Kemmerer Ranger District of the Bridger-Teton National Forest. There are no closures or evacuations at this time. The fire is burning in heavy dead and down timber and being suppressed by 89 firefighters and 3 helicopters. A Type 3 Management Team is now in charge of the fire for the Forest. Click here for more pictures (6 photos)
Photo by Dawn Ballou, Pinedale Online.

Gas Prices
June 24, 2012

Pinedale	3.699
Big Piney	3.687
Wyoming	3.549
USA	3.420

Regular unleaded average.
WY & US provided by AAA.

Diesel Prices
June 24, 2012

Pinedale	3.879
Big Piney	4.117
Wyoming	3.811
USA	3.716

WY & US provided by AAA.

Chuckwagon Days Rodeo signup TODAY

Call 307-859-8835 between 7:30AM and 11:00AM for all rodeo events (roughstock, bareback, bull riding, ranch bronc, calf roping, breakaway roping, barrels, mutton bustin, team doctoring – this signup is for the adult rodeo only, see website for registration for Lil' Buckaroo). www.ChuckwagonDays.com. Chuckwagon Days is July 3 & 4 in Big Piney/Marbleton.

Headlines:

- Road work continues on Granite Creek Road
- Area Closure in place for Fontenelle Fire
- Fire Closure issued for Fontenelle Fire
- Fontenelle Fire grows to 2,000 acres
- Smoke precaution tips for Sublette County
- Sublette Examiner – June 26, 2012
- Temporary Closure ordered for La Barge Creek Road for Fontenelle Fire
- Fontenelle Fire smoke hits Pinedale
- More resources ordered for Fontenelle Fire
- BP to sell Jonah and Pinedale gas operations in Wyoming
- Fontenelle Fire
- Pinedale Roundup – June 22, 2012
- Fire danger raised to High

Pinedale Local:

- Chett Whitman qualifies to compete at National High School Finals Rodeo
- Dust storm
- 4-H Car Wash fundraiser in Bondurant June 30th
- Early Sublette County Fair info wanted
- Attendance Rates, Ockham's Razor, and That Really Good Football Coach
- Boulder Landscape and Transportation Plan public meeting July 2
- Medical Clinics closed July 4th
- Sage Grouse Initiative Strategic Watershed Action Team event June 29
- Sublette Center public meeting June 27th & 28th

Front Page Story Archive

Pinedale Webcam

Pinedale Web Camera

Pinedale DEQ Webcam

Pinedale DEQ Cam

WYDOT US 191 Trappers Point Webcam

Cora WYDOT Cam

Bondurant Webcam

Dell Fork Ranch

Big Piney US 189 Webcam

Hwy 351 junction - View north

Sand Draw US 191 Webcam

View looking south
WYDOT cam

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Cool, still air aids Cato fire fight

Posted: Jun 27, 2012 4:56 PM MDT

By Chris Davis - email

Thursday Update -

Cool, still air helped fire crews keep the Cato fire in Northeast Wyoming from spreading too much overnight.

The Wyoming State Forestry Division reports the blaze in Sheridan and Johnson counties grew about 700 acres since Wednesday evening to just under 26,000 acres. Johnson County Fire Chief Wes Johnson says that growth was toward the east.

No new structures are being threatened, and no injuries have been reported.

He says they'll have a better idea of containment numbers when they map more of the scene Thursday afternoon.

###

A thick haze has descended on Sheridan as several large wildfires burn throughout the state. But one blaze in northeast Wyoming poses a particularly dangerous threat.

Spreading Tuesday night into Sheridan County, the lightning-caused Cato Fire covered roughly 25,000 acres of rangeland between Buffalo and Clearmont as of Wednesday evening.

"This morning it was cool and calm, the winds had laid down," said Fritz Bates, fire chief for the Clearmont Fire Department, on Wednesday. "Now the temperature's coming up, the winds are changing, we're starting to get some runs."

Several fire agencies, including Clearmont, are trying to stop those runs with a total of 16 engines, 9 earth-movers, a couple aircraft and 50-or-so firefighters.

But Bates still worries flames could jump the fire line.

"There's a pretty good chance of that," he said, "if the winds pick up and push the right direction; look at the run it made yesterday."

One of the biggest challenged crews are facing are variable winds. Since they can't predict where the air currents are going to go, they can't predict where the fire's going to go, and they're left playing catch-up.

"'What can we do to help? What can we do to help?'" Everybody wants to help," said Judy Penn, a Clearmont resident for the last 22 years.

She's helping organize volunteers to make food for firefighters at the Clearmont Community Center.

"We've got so many donations of food," she said, "and everybody's bringing stuff and dropping it off."

Some people drop off stories instead of food: One of her neighbors lost two pastures already and can't get to them to find out how their livestock are doing.

Crews also evacuated around 30 houses on Thompson Creek Road Tuesday night.

They're stories of uncertainty, but Penn said they're met with reassurance.

"It's a small community, but they all pitch in."

Foresters have confirmed several small structures, like barns and sheds, have been lost in the fire, but nothing major.

Bates estimates it'll take about a week to get the fire mopped up completely.

Fontenelle Fire - June 28 - PM Update (posted 6/28/12)

Fontenelle Fire Management Team

Status: The Fontenelle Fire is burning on the Bridger-Teton National Forest approximately 17 miles west of Big Piney. The fire was reported on June 24, 2012 and is under investigation. At this time the burned area is measured at almost 23,000 acres.

Objectives for the Fire:
• Provide for firefighter and public safety
• Minimize impacts to oil/gas infrastructure & restore access as soon as safely possible
• Prepare and protect structures in Snider Basin
• Keep the fire to the east of Clear Creek

Recent Events: High winds caused active fire behavior throughout the day. The fire's spread has continued in heavy fuels and slowed when reaching sagebrush/grass. The fire has progressed through the Fish Creek drainage into the Middle Piney Creek area.

A meeting between incident personnel and industry managers took place today to coordinate protection of the natural gas infrastructure. At this time, no wells have been damaged by the fire.

The decision was made this evening to mobilize a National Incident Management Team (NIMO). The six-person NIMO team will provide additional fire management and logistical support.

Today's Strategy: Firefighters strengthened the anchor point on the southwest corner of the fire and constructed fireline on the left and right flanks. Two additional 20 person fire crews are expected to arrive tomorrow to assist with suppression. Structure protection is in place at the Middle Piney summer home area.

Forecast: A Red Flag warning was extended until 9:00 pm tomorrow evening.

Closures: Road closures at present extend from the forest boundary at the top of Bare Pass at Red Castles, west to N. Piney Meadows and Tri Basin Divide, south to Cheese Pass, Mount Isabel, and Red Park, east to the junction of LaBarge Creek Road and the forest boundary, and north to Bare Pass. Further closures may be needed to ensure firefighter and public safety. The public is asked to be cautious when driving on the LaBarge Road between Hwy. 189 to the closure at the forest boundary as there may be large fire engines, fire traffic and impact from smoke.

More Information:
www.fs.usda.gov/btnf
www.inciweb.org
www.tetonfires.com
Twitter at @WildeType2_IMT
Fire Information: (307) 276-3324

C10-TV: Fire Destroys Lander Community Center

18 days ago by Victoria 7

By Victoria Fregoso, Lead Reporter at County10.com

(Lander, Wyo.) – A fire has destroyed the Lander Community Center. Exclusive video footage shows the fire before crews arrived at the scene. “Basically we were paged to this fire about 5:30 this evening, we responded to find over 25 percent of the structure involved,” said Nick Hudson, Administrator of the Lander Volunteer Fire Department. “The fire started some where near the front of the building. We ended up getting our resources here very quickly. We also got sources from Hudson, Fort Washakie, Lander Rural, also Battalion 1 out of Riverton as well as a Riverton City Engine.”

Crowds gathered around to watch a building that served so many purposes to the community go up in flames. “We started attack from the front, eventually made our way into the interior after we got some of the stuff cooled down. We actually have some structure compromised at this time, we will not be doing any more interior attack on the community center at this time.”

Jack Stephenson was working at the community center preparing it for an event when the fire started, he made the call to 911. “I got here about a quarter after five, about 15 minutes later, I noticed the fire out in the front area,” Stephenson said. “I called 911, the fire alarm went off in the building and I went out the side and that’s basically about it.”

He said because of fire drill training at his other job he knew exactly what to do. But there was one thing however, he wasn’t able to save. “That’s my pick up out front, it destroyed it.”

The more than 9,500 square foot building first began as the American Legion Home, then became the Elks Lodge, then the City of Lander purchased it and the building became the Lander Community Center. ”It’s obviously a big loss to the community,” said Lander City Council Member Cade Maestas. “It’s been here for a long time, I don’t know exactly how long, but it’s an old building. With it being 4th of July week it’s booked really heavy. Relay for Life was in here cooking all of their stuff for tomorrow, from what we understand, everything was in there for that. There’s reunions scheduled all next week here. So obviously it’s going to disrupt not only current activities, but it’s also a huge piece of the history to the city.”

The Lander Community Center was the largest venue in the county. It was the home of the Lander One Shot Antelope Hunt and has hosted everything from weddings, to dances, meetings, funerals, reunions and many more events. ”I’ve had some good times here, you know we come up here for our Christmas party, this is where I vote, so it was a bit emotional, you know, it’s a big deal for us,” Maestas said.

No one was injured during the fire. As the smoke began to clear the crews began tearing it down with a backhoe. A fire investigator will begin looking for the cause of the fire as soon as possible.

“As soon as it’s safe for him to be around the building he’ll go ahead and do an investigation. More than likely a full investigation will be some time to come but hopefully his investigation will be completed some time tomorrow afternoon, ” Hudson said.

If the risk of fires increase over this coming weekend, Hudson said a fire ban might become possible at this point, but that has yet to be determined. County 10 will keep you updated with the latest info on any fire bans.

trib.com

Fire destroys Lander Community Center

By KELSEY DAYTON Star-Tribune staff writer | Posted: Friday, June 29, 2012 7:45 am

LANDER — A late Thursday afternoon fire gutted the Lander Community Center.

Lander Volunteer Fire Department spokesman Nick Hudson said no one was believed to be in the building at the time and no injuries were reported.

Hudson said the center is primarily used for banquets and meetings.

The Fire Department received a call reporting the fire at 5:30 p.m. Hudson said the first fire truck arrived within 2 to 3 minutes. About 25 percent of the center was engulfed in flames at that point.

Hudson said the fire appeared to have started in front of the building but the cause of the blaze wasn't immediately known.

The building is set away from other buildings so containment was never really an issue, Hudson said.

The big concern was getting enough water to fight the fire. Hudson said Lander residents were asked to avoid unnecessary water use until Friday morning. Fire crews went so far as to pull water from nearby ditches.

In addition to the Lander Volunteer Fire Department, response teams included the Fremont County Fire District and crews from Riverton, Fort Washakie and Hudson. The Fremont County EMS also responded.

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Print Page

Last modified: Friday, June 29, 2012 5:55 PM MDT

Arapaho Fire forces evacuations near Wheatland

CHEYENNE -- Several areas in Platte County have been evacuated because of the Arapaho Fire.

Around 30 homes have been evacuated on Fletcher Park Road in the Laramie Peak Ranch subdivision, said Platte County emergency management coordinator Jane Carlson.

Around 2 p.m. Friday, Platte County officials received a notice from the Albany County Sheriff's Office advising them to evacuate because the fire was heading at a rapid pace toward Murphy Ridge.

The fire also caused several nearby camps to be evacuated.

In Guernsey and Platte County, there have been reports of smoke from the fire.

"Guernsey has heavy smoke and ash," Carlson said. "Sometimes people cannot see out of their windows."

Fontenelle Fire update – Sunday night, July 1, 2012 (posted 7/1/12)

47,478 acres, 5% contained, fire backburn diverts fire around Middle Piney summer homes, community meetings planned for July 2nd

Great Basin IMT Team 5

Fontenelle Fact Sheet for Sunday, at 10:00 p.m.

Torching - The Fontenelle Fire moved further into the Middle Piney drainage on Sunday, July 1st. The trees are 30-40 feet tall, giving perspective to how high the flames were. Photo by Great Basin IMT Team 5.

Status: The Fontenelle Fire is burning on the Bridger-Teton National Forest, BLM High Desert District and State/Private Lands approximately 17 miles west of Big Piney, Wyoming. The fire began on June 24, 2012. The fire is currently burning in heavy, dead timber with occasional areas of grass and sage in the lower elevations.

Fire Statistics:
- 47,478 acres burned
- 5% contained
- 584 Personnel on scene

Community Meetings: The Incident Command Team will conduct public meetings Monday, July 2 at 5 p.m. in the Lovatt Room of the Pinedale Library, and at 7:30 p.m. at the Latter-Day Saints church, 2250 Piney Drive, Big Piney. Times and locations can also be found at www.Inciweb.org.

Recent Events: The fire continued its progress northeast, spotting across Middle Piney road near the Forest Service boundary and pushing two miles north through sagebrush and grass to Johnson Ridge. A backburn on the timbered slope behind the Middle Piney vacation cabins successfully diverted the fire's progress away from the cabins; however, the fire continued around the burnout and crossed Middle Piney road at Star Hill. Changing winds, very low humidity and high temperatures helped contribute 2,469 acres to the fire.

Today's Strategy: Aerial support from helicopters operating from the Big Piney-Marbleton airport and heavy tankers from Pocatello, Idaho will be used to help firefighters try to contain the north-northeast fire boundary. Firefighters will continue to construct and improve fire line along the south-southwest portion of the fire area.

Forecast: The fire area will be under a Red Flag warning into the evening of July 2 due to high winds and low relative humidity.

Closures: Road closures at present extend from the forest boundary at the top of Bare Pass at Red Castles, west to N. Piney Meadows and Tri Basin Divide, south to Cheese Pass, Mount Isabel, and Red Park, east to the junction of LaBarge Creek Road and the forest boundary, and north to Bare Pass. The road closure on Middle Piney Road may move east depending on fire conditions. Further closures may be needed to ensure firefighter and public safety. The public is asked to be cautious when driving on the LaBarge Road between Hwy. 189 to the closure at the forest boundary as there may be large fire engines, fire traffic and impact from smoke.

More Information:
www.fs.usda.gov/btnf
www.inciweb.org
www.tetonfires.com
Twitter: @WildeType2_IMT
Fontenelle Fire information phone: 307-276-3324

Related Links:
Fire Restrictions

Expanded Closure Map
Fontenelle Fire photo gallery

Partial Fire Restrictions in effect for Park and Forest (posted 7/1/12)

Grand Teton National Park and Bridger-Teton National Forest joint release

Based upon a current fire danger rating of High and regional fire conditions, Teton Interagency fire managers announced partial fire restrictions will begin on Sunday, July 1, 2012 for Grand Teton National Park and the Bridger-Teton National Forest. Teton County will also implement similar restrictions.

Fire managers study the moisture content of various fuel types, track current and expected weather conditions, and monitor available fire-fighting resources, as well as the occurrence of human-caused fires, to determine when fire restrictions need to be applied to public lands.

Partial fire restrictions include:

• Lighting, building, maintaining, attending or using a fire, campfire, barbecue or grill is **allowed only** at designated recreation sites such as established campgrounds or picnic areas. Use of portable stoves and lanterns using gas, jellied petroleum or pressurized liquid fuel, or use of a fully enclosed sheepherder type stove with a spark arrester screen is permitted.

• Smoking is **allowed only** in an enclosed vehicle, building (unless otherwise prohibited), developed recreation site, or while in an area at least three feet in diameter that is barren or cleared of all flammable materials (i.e. parking lots, developed campsites, or locations surrounded by water).

• Operating a chainsaw is **prohibited** in national parks. Operating a chainsaw on national forest lands is **permitted only** when equipped with a USDA or SAE approved spark arrester that is properly installed and in effective working order. Operators must also carry a chemical pressurized fire extinguisher with a minimum rating of 2A and one round point shovel with an overall length of at least 36 inches.

• Discharge of fireworks and use of explosives requiring blasting caps are **prohibited**.

• Welding is **prohibited** in national parks. For national forest locations, welding or operating acetylene or other torch with open flame is **only allowed** in cleared areas of at least 10 feet in diameter. A chemical pressurized fire extinguisher with a minimum rating of at least 2A must be at the location.

Violation of these prohibitions is punishable by a fine of up to $5,000 for an individual or $10,000 for an organization, and/or by imprisonment for more than six months.

Unattended or abandoned campfires can quickly escalate into wildfires, and it is extremely important that all campfires are completely extinguished and cold to the touch before campers leave their site. Visitors should **NEVER** leave a fire unattended, and should prepare for the unexpected by having a water bucket and shovel on hand and ready to use. The fine for an abandoned campfire is $225, but campers can also be held liable for suppression costs if their campfire becomes a wildfire.

As the Fourth of July holiday approaches, visitors and local residents alike are reminded that **fireworks are NOT permitted** in Grand Teton National Park, on the Bridger-Teton National Forest, or in Teton County. It is essential that everyone comply with this regulation, especially given the current fire danger rating and tinder-dry conditions.

To report a fire or smoke in either area, call 307-739-3630. For more fire information, visit www.tetonfires.com.

BLM issues Fire Restrictions (posted 7/1/12)

Bureau of Land Management

Effective Sunday, July 1, the Bureau of Land Management (BLM) will issue fire restrictions for all public lands administered by the Kemmerer and Pinedale field offices in Lincoln County. Fire restrictions for the entire Bridger-Teton National Forest will also go into effect on July 1.

Fire restrictions have previously been implemented by the Kemmerer and Rock Springs field offices in Uinta and Sweetwater counties as well as by the Rawlins Field Office in Albany, Carbon, Sweetwater and Laramie counties.

Hot, dry conditions and high fire danger have prompted the prohibition of the following activities:

• Building, maintaining, attending or using a fire or campfire except within agency-provided fire grates at developed recreation sites, or within fully enclosed stoves with a ¼" spark arrester type screen, or within fully enclosed grills, or in stoves using pressurized liquid or gas.
• Smoking, except in an enclosed vehicle or building, a developed recreation site, or while stopped in an area at least three feet in diameter that is barren or cleared of all flammable materials.
• Operating a chainsaw without a U.S. Department of Agriculture or Society of Automotive Engineers approved spark arrester properly installed and working, a chemical fire extinguisher of not less than 8 ounces capacity by weight, and one round point shovel with an overall length of at least 36 inches.
• Using a welder, either arc or gas, or operating an acetylene or other torch with open flame, except in cleared areas of at least 10 feet in diameter with a chemical pressurized fire extinguisher of not less than 8 ounces capacity.

These fire restrictions are in addition to the year-round wildfire prevention restrictions on BLM-administered lands throughout Wyoming, which include:

• Discharging or using any fireworks.
• Discharging of a firearm using incendiary or tracer ammunition.
• Burning, igniting or causing to burn any tire, wire, magnesium, or any other hazardous or explosive material.
• Operating any off-road vehicle on public lands unless the vehicle is equipped with a properly installed spark arrester pursuant to 43 CFR 8343.1 (c).

Violation of this Fire Prevention Order is punishable by a fine of not more than $100,000, or imprisonment of not more than 12 months, or both. (43 CFR 9212.4 and 18 U.S.C. 3571). Restitution for total suppression and damage costs incurred will be borne by the violator.

For more information on BLM fire restrictions or conditions, please visit www.wy.blm.gov/wy_fire_restrictions/ or http://www.fs.usda.gov/btnf/.

Fontenelle Fact Sheet – evening update July 2, 2012 (posted 7/2/12)

52,386 acres, 8% contained, no structures lost to date

Great Basin IMT Team 5

Fontenelle Fact Sheet for Monday, July 2, 2012 at 10:00 p.m.

Due to less fire activity, future updates will only be completely once a day at 9 a.m. unless condition warrant otherwise.

Status: The Fontenelle Fire is burning on the Bridger-Teton National Forest, BLM High Desert District and State/Private Lands approximately 17 miles west of Big Piney, Wyoming. The fire began on June 24, 2012. The fire is currently burning in heavy, dead timber with occasional areas of grass and sage in the lower elevations.

Fire Statistics: 52,386 acres burned | 8% contained | 682 Personnel on scene

Recent Events: The fire was very active today but there was minimal growth to the perimeter. Hand crews and dozers are making progress on the part of the fire that jumped Middle Piney Road.

The summer homes located on upper Middle Piney Creek were successfully defended by firefighters and as of 8:00 p.m. Sunday were only minimally affected. Fire began moving down slope at about 2:00 p.m. Fire managers employed a sprinkler system, a fire break cut into the timber and a back burning operation to successfully defend the homes. Crews focused on building fireline to secure the perimeter. Sacajawea Campground was also defended through fuel thinning and tree limbing, the facility was only minimally affected.

There is now a working retardant base located at the airport. This will make refueling and turnaround times much quicker.

The two town meetings held in Big Piney and Pinedale were successful in reaching approximately 200 concerned residents. Representatives from all agencies involved in the fire were present to discuss fire behavior, progression, resources, etc. (Highlights)

Today's Strategy: Aerial support from helicopters operating from the Big Piney-Marbleton airport and heavy tankers from Pocatello, Idaho were used to help firefighters try to contain the north-northeast fire boundary. Firefighters continued to construct and improve fire line along the south-southwest portion of the fire area.

Fire managers requested that the public avoid using Middle Piney Road to minimize congestion and ensure safety.

Forecast: The fire area will be under a Red Flag warning until 5:30 p.m. on Tuesday due to high winds and low relative humidity.

Closures: Road closures at present extend from the forest boundary at the top of Bare Pass at Red Castles, west to N. Piney Meadows and Tri Basin Divide, south to Cheese Pass, Mount Isabel, and Red Park, east to the junction of LaBarge Creek Road and the forest boundary, and north to Bare Pass. The road closure on Middle Piney Road may move east depending on fire conditions. Further closures may be needed to ensure firefighter and public safety. The public is asked to be cautious when driving on the LaBarge Road between Hwy. 189 to the closure at the forest boundary as there may be large fire engines, fire traffic and impact from smoke.

Ap-state-wy

Southern Wyoming wildfire forces evacuations

Print Page

By BEN NEARY

Published:
Jul 02,2012

Crews are facing off against two fast-moving forest fires in southeastern Wyoming.

The Squirrel Creek Fire about 30 miles southwest of Laramie had burned about 7,000 acres by Monday morning. The fire has forced the evacuation of an unknown number of residents in the Fox Creek Road area.

Forest Service spokesman Aaron Voos says the Squirrel Creek Fire was active Sunday night and is likely to grow substantially larger. He says a federal management team will take firefighting efforts.

Farther north, the Arapaho Fire has burned roughly 75,000 acres in the Laramie Range southwest of Wheatland.

Jim Whittington is a public information officer on the Arapaho Fire.

Whittington says erratic winds have pushed the fire in different directions and says many summer homes and other structures are in the area.

trib.com

Arapaho Fire in Wyoming destroys Christian youth camp

By KELSEY DAYTON Star-Tribune staff writer | Posted: Monday, July 2, 2012 10:00 pm

LANDER -- When the call came at 1:30 a.m. Friday to evacuate a Christian camp near Wheatland, Grace Camp Director Marlin Driskell thought it was just a precaution.

About 65 people, mostly staff members and some high school students from Indiana there to work on the facility, left the grounds by 5 a.m.

By 3 p.m. Driskell learned the camp was destroyed by the Arapaho Fire.

“It did a devastating job up there, from what I hear,” Driskell said Monday.

The Arapaho Fire, as of Monday afternoon, is the largest burning in Wyoming at more than 75,000 acres, according to InciWeb. It started Wednesday about 25 miles north of Wheatland.

A press release reported an unknown number of structures have been destroyed.

On Monday crews focused on trying to protect more threatened buildings, said Connor Seli, a fire spokesman.

Crews battled hot and dry conditions with erratic wind, he said.

Among the buildings believed to have been destroyed were some on a University of Wyoming research property, UW spokesman Chad Baldwin said.

The research center, used for a variety of field work, had several cabins on the land, which was donated to the university in 2005, Baldwin said.

According to InciWeb, “large expansion” of the fire is possible if it spreads to the Friend Creek drainage.

The fire’s behavior was considered “extreme” in a press release, with reported plume-dominated behavior, rapid spread and long-range spotting creating its own weather.

The fire is believed to be lightning-caused. About 200 homes, cabins and summer camps, including Black Mountain Lookout, have been evacuated, according to the Wyoming State Forestry Division.

Camp Grace, which started in 1940, had 13 buildings on 640 acres, including a chapel that could sit 160 people, with a game room attached, Driskell said. The lodge was originally built as a hotel in 1916, Driskell said.

When Driskell learned the fire had hit the camp, he wished he had taken with him a photograph of the building from when it was first built, he said.

A regular camp was not in session at the time of the evacuation. Instead, there were high school and college students from across the country training to prepare for the next camp session. The camp evacuated to Wheatland, where Driskell lives, and students were sent home.

The buildings, because of their location in the mountains, were not insured, he said. Driskill said there are already plans to rebuild the camp and reopen by next summer.

Four major Wyoming wildfires destroy structures, force evacuations

JULY 03, 2012 12:34 PM • FROM STAFF AND WIRE REPORTS

Fed by bone-dry timber and fanned by hot winds, the four major wildfires burning in Wyoming today have destroyed an unknown number of buildings and forced hundreds to evacuate.

The Albany County Sheriff's Office issued an immediate evacuation notice this morning for areas east of Sheep Mountain to Harmony Lane, and south of Lake Hattie as crews battle the Squirrel Creek Fire near Woods Landing southwest of Laramie. The notice includes the area northwest of Lake Hattie to Highway 130.

The evacuation center is the Albany County Fairgrounds. For more information, call 307-721-1801.

Authorities urged evacuees to assist neighbors if necessary.

The Albany County media release also advised that the Arapaho Fire in the county's northeast area is advancing quickly. Authorities said residents should be prepared to leave the area immediately. "This fire is moving at unprecedented rates," the release said.

The Arapaho Fire, currently the state's largest, is burning near Laramie Peak southwest of Wheatland. It had burned nearly 88,000 acres by this morning, fire spokesman Jim Whittington said.

The fire was classified as 10 percent contained and has burned an undetermined number of structures as it has fanned out in rough terrain in the mountains near Laramie Peak.

"The real story on this fire has been the erratic winds, we've had this fire push north, push south, push east and push west at various times," Whittington said.

Whittington said fire managers are pleased with the progress that the nearly 575 personnel fighting the fire have made. He said local fire departments and officials have been particularly helpful in protecting cabins and other structures.

"We've got structural protection in place, for all the places that might be affected today and tonight," Whittington said. "We'll be very vigilant about that."

State Forester Bill Crapser said today that 300 structures had been evacuated in and around the Arapaho Fire.

Officials are paying particular attention to the west side of the fire, Whittington said. He said there's a possibility that the fire could move into new terrain where a combination of

getting into a new drainage combined with the right fuels and wind could cause it to become extremely active.

"We're going to do our best to prevent that, but we have a lot of exposed line out there," Whittington said.

The National Weather Service issued a red flag warning for much of Wyoming on today, projecting gusty winds and very warm temperatures.

Conditions around most of Wyoming are extremely dry, Crapser said. He said logs up to 6 inches in diameter are showing moisture levels as low as 6 percent.

"My folks out in the field with 25 to 30 years of experience are telling me they've never seen anything like this before, as far as fire behavior," Crapser said. He said one worker took a video of a wall of flame perhaps 400 feet tall coming over a ridge at the Arapaho Fire.

The Oil Creek Fire, burning northwest of Newcastle in Weston County, blew up from 6,000 acres to about 20,000 acres overnight, Crapser said. He said it forced the evacuation of more than 400 people, including residents of the town of Osage, but had only apparently burned a single building so far.

Crapser said local fire departments, as well as some fire departments from South Dakota, have helped to battle the fire.

The Squirrel Creek Fire had burned almost 7,000 acres by this morning, according to a government news release.

Crapser said more than 300 people had been evacuated from the Squirrel Creek Fire, which is burning on the eastern flanks of the Snowy Range. He said up to 180 structures were covered by the evacuation order.

The Fontenelle Fire, about 17 miles west of the western Wyoming community of Big Piney, had burned nearly 56,000 acres in Sublette and Lincoln counties by this morning.

Crapser said today that it appears that both the Squirrel Creek and Oil Creek fires were human-caused. He said that typically 15 percent of the wildfires in the state are human-caused.

Gov. Matt Mead toured the Arapaho Fire on Monday and later said he's calling on county governments around the state to impose fire restrictions. The governor called on citizens not to use fireworks on the Fourth of July because of the fire risk.

Ash Creek Fire remains active

Posted: Jul 4, 2012 5:18 PM by **Q2 News**
Updated: Jul 4, 2012 8:23 PM

COLSTRIP - The Ash Creek Fire continues to experience active fire behavior, primarily on the northeast, east and southeast flanks of the perimeter. There has been some torching, short crown runs and short-range spotting in timber areas Wednesday afternoon. The fire is most active in the Sartin Draw moving north to the 2011 Mill Fire burned area. Surface fire in the more open grassy areas, on the east flank, continues to burn moderately in those lighter fuels.

The fire is currently south of Highway 212 about a mile north of the South Fork of Threemile Creek and a mile west of Sonnette Road; although the fire did reach Sonnette Road in two places Tuesday. On the north side of Highway 212 the fire is up to Elk Ridge about a mile south of Stacey School and is nearing the 2011 Mill Fire burned area.

Ranches and residences remain threatened particularly in the Ashland/Broadus Divide near the leading edge of this fire. Highway 212 between Ashland and Broadus remains closed due to fire activity and smoke. Please respect the fire restrictions in place by the Northern Cheyenne Tribe and local Counties by ceasing fireworks and open fire use of any kind. The Ashland Ranger District of the Custer National Forest is under Stage 2 Fire Restrictions and has initiated area closures due to fire activity on all National Forest System lands north of Highway 212. More detailed explanation of the restrictions and closures is available at the Custer National Forest website www.fs.usda.gov/custer.

Wyoming's Summer from Hell

By the Star-Tribune staff | Posted: Sunday, July 8, 2012 10:00 am | 1 Comment

ALAN ROGERS | Star-Tribune
Bales of hay sit outside the outline of an irrigation pivot, where the grass changes drastically from green to brown, on June 28 near Glendo.




Summer 2012 in Wyoming might as well just be called “The Summer from Hell.”

Just barely a week into the official start of summer and record-high temperatures were being set daily for almost every locale that had a thermometer. Meanwhile, an almost impossibly dry spring made forests and open spaces one big tinder box. If the forecasts haven’t called for triple-digit highs, they’ve called for high winds and lightning — the perfect recipe for big, fast-moving fires.

Already, more than 200,000 acres in Wyoming have burned. And, there are at least two more months of hot weather to go.

H2 Oh

Water use surged from 397 million gallons to 622 million gallons in the city of Casper compared with last year’s cool June. But June 2012 didn’t break any water-use records, said David Hill, public utilities manager for the city of Casper.

Hill doesn’t anticipate water restrictions so far, but said it depends on the weather.

“You never know what the future holds, but at this point in time, it does not look like there’s going to be any restrictions,” Hill said.

2005 still holds the June record for 675 million gallons pumped. Filling federal reservoirs took priority that year during the drought, resulting in mandatory water restrictions in February through April. But it had nothing to do with city consumption, Hill said.

Water use might increase over the summer, but Hill doesn’t foresee another significant spike this summer regardless of how hot it gets. Last August, the city pumped 736 million gallons of water.

“Our water treatment plant and water facilities can easily handle it,” Hill said.

Where’s the water?

It generally happens every year, but not until much later: Wildlife have started to move into towns looking for food, and with rodents come foxes, badgers and snakes, said Rock Springs game warden Dave Hays.

Big ungulates such as deer and antelope also move into town to eat what’s green — generally people’s roses, tulips and ornamental bushes.

The main concern, other than landscaping damage, is to watch for wildlife on the roads.

“With more wildlife moving in, there will likely be more crashes,” Hays said.

Stay alert for animals crossing the road, even in the middle of town.

Snakes may also be more visible in town, as they chase rodents.

Campers should be cautious of camping near watering holes. As conditions dry, water becomes harder for wildlife to find and camping near a spring, creek or watering hole could prevent numerous animals from drinking much needed water.

Chill out

Temperatures aren't the only things setting records. For some retailers and service providers, hot weather means red-hot business.

"It makes you go gangbusters," said Jim Barankiewicz at Tim Force Tin Shop.

His shop has been "extremely busy" selling about 40 percent more air conditioners this year. The business has been busy repairing and maintaining air conditioners earlier, too. Central air conditioning is a hot-selling item as it can drop the temperature more than 25 degrees.

John Saulsbury, manager at Dennis Supply Co., said the air conditioning business hasn't spiked like this in almost a decade, and a hot spring brought an early season peak.

Cool It Refrigeration Inc., and Arrowhead, Inc., both reported a boost in air conditioner sales of at least 20 percent. Cool It owner Shawn Richardson said it picked up early and hasn't slowed.

"We have been just buried with work," Arrowhead owner Bud Sprenger said. Even with service techs working overtime, he's had to turn away customers. Commercial coolers also working overtime keep his phone ringing. Even pop machines suffer extra wear earlier this year from higher temperatures and product sales.

Fan sales are up at Ace Hardware, and it's been tough keeping evaporation coolers in stock. "Everybody's out," owner Tim Bailey said.

People are cooling off more in home pools if sales at Bioguard Pool & Spa Products are any indication. "Usually we have a few regulars come in, but this summer we've had that business at least triple for pool chemicals," manager Alyssa McCluskey said.

Something electric in the air

Scorching temperatures have increased power use, as more people rely on air conditioning to beat the heat. Rocky Mountain Power customers in Wyoming used more electricity last month than in any of the three previous Junes, according to figures provided by the company.

"You are going to see an increase in electricity use when the temperatures get warmer, and it's definitely been a hot summer so far," Rocky Mountain Power spokesman Jeff Hymas said.

The company provides roughly 60 percent of the electricity used in Wyoming.

Unlike some other states in the region, Wyoming's electricity demand typically peaks in the winter. The state generally uses less central air conditioning and more electrical heating. So even with the high temperatures, last month's power use still ranked below the use in December.

Rocky Mountain Power made improvements to its system to make sure it was ready to handle summertime demand, Hymas said. In Casper, for example, the company replaced 1,100 feet of overhead wire with new conductor that can deliver more electricity. Workers also installed new equipment at a substation to improve the company's ability to route power on different lines.

The work was completed in May.

"We've already had some really hot days in June, and our system has performed well so far," Hymas said.

Customers can save money on their electricity bills by setting thermostats to a higher temperature, keeping blinds and windows closed during the day and using heat-producing appliances at night.

Cool in the pool

Although no definite numbers are available this early in the season, Casper city pool attendance for June could have already passed last summer's total.

Recreation Supervisor Jim Goblirsch said, based on observations, the hot temperatures increased attendance at the pools.

"Typically, June is not our big month," he said. "Usually June's a little bit cooler and we have more opportunities for rain and such, but this June looks like it was a very good month from everything we can see."

The city operates five outdoor pools with a capacity of 75,000 to 100,000 gallons of water, Goblirsch said. Mike Sedar Park Pool, Marion Kreiner Park Pool, East Casper Community Pool and Washington Park Pool opened June 4. Paradise Valley Pool opened a few days earlier.

Goblirsch said new floating toys have been added at East Casper Community Pool and Paradise Valley Pool, and the pools are hosting free events.

"The pools have all been working good," he said. "This hot weather, we encourage people to come out. It's a great way to beat the heat a little bit."

Fish feel the heat

Humans aren't the only ones who noticed warmer temperatures this year.

Wyoming's golden trout population began spawning more than three weeks earlier than normal, responding to summer conditions in spring.

Golden trout need the water to be about 46 degrees to spawn, said Story Fish Hatchery superintendent Steve Diekema.

Water normally hits that mark around June 15 when ice begins melting off of high mountain lakes. This year, it was May 23.

"If nothing else, spawning early allows their fry to grow bigger," Diekema said. "Out in the wild, they will hatch out and have three extra weeks to grow before winter."

Changes in temperature don't necessarily affect all fish, said Steve Sharon, fish culture supervisor for the Wyoming Game and Fish Department.

Spawning in other fish may depend more on day length, stream flows or barometric pressure.

Tourists still visit

So far, the rash of wildfires in Wyoming haven't kept tourists out of the state, tourism industry officials say.

The Wyoming Office of Tourism has had a lot of inquiries about fire bans and fire restrictions.

"The good part is most people want to do right by resources," said Diane Shober, tourism agency director. "Most of the people love where they are. They are calling to find out what they can and can't do."

The agency's job, she said, is to be sure the information provided to visitors is accurate and up to date.

"We are all doing our part so that people can still have an enjoyable time," Shober added.

Because of the wildfires in Colorado, she said, some events were forced to relocate to Wyoming. She mentioned a bike race that had been scheduled for Colorado Springs.

Wyoming could be a lightning strike away from the same situation.

“I certainly feel for our colleagues in Colorado,” she added.

Chris Brown, the director of the Wyoming Lodging and Restaurant Association, said he spoke with a half dozen hotel operators Thursday from Casper, Laramie, Jackson and Worland.

“I was happy to hear that overall so far they have not been negatively impacted,” Brown said.

And visitors are still coming to Yellowstone Park.

The park so far hasn’t been affected at all by the wildfires, Amy Bartlett, public affairs officer, said Thursday.

Fire restrictions are in place but there have been no road closures.

“We’re still sitting pretty,” Bartlett said.

Appendix G: Health Alerts

Hot, dry, dangerous: Fire risk extreme, officials warn

Jun 26, 2012 **- By Christina George, Staff Writer**

Several agencies, including those in Fremont County, are on high alert due to extreme fire risk in nearly all of Wyoming.

"It's going to remain really, really dry, and everyone needs to watch anything that has to do with outdoor burning," said Paul Skrbac, a meteorologist with the National Weather Service office in Riverton.

On Tuesday, a red-flag warning for fire danger remained in effect for most of the state.

Recent record-breaking heat isn't helping and has some officials drawing comparisons between the current fire threats and catastrophic incidents in past years.

"The dry conditions that we are experiencing today rival those of the 1988 Yellowstone fire season and the 1999-2003 drought seasons," said Wind River Agency fire management officer Bob Jones in a news release issued by the Bureau of Indian Affairs Forestry and Wildland Fire Management.

Record heat

On Friday, a heat wave entered the area, heightening the fire risk. The National Weather Service attributed the warmth to a ridge of high pressure over the central high plains that pulled a hot and extremely dry air mass from the southwest of the country across west and central Wyoming.

The 97-degree high set in downtown Riverton on Friday, made it the third-hottest June 22 reported since recordkeeping began in 1907.

In nearby Lander, Friday warmed to 94 degrees, making it the fifth- warmest June 22 on record for the city since 1892.

Although no records were broken, Saturday remained warm.

With a 100-degree high, Worland was the state's hottest place. Downtown Riverton was a close second at 99 degrees. Saturday's temperature in Riverton now ranks as the city's fourth-warmest June 23 ever.

Saturday's high temperature of 96 degrees in Lander tied for the third-warmest June 23 documented there, where records date back to the late 19th century.

Sunday, June 24, also was a scorcher, with records broken in Riverton and Rock Springs.

Rock Springs reported a 105-degree high on Sunday, which shattered the previous 102-degree record set in 1974 and 1988.

Downtown Riverton experienced a 101-degree high, tying the 1990 record.

Lander was a degree shy from hitting the 99-degree record set in 1988. Sunday's 98-degree high is the city's second-hottest June 24 in the record books.

Things didn't cool off Monday, June 25, with record-breakers in Casper and Rock Springs at 100 and 93 degrees, respectively.

Locally, downtown Riverton experienced a 99-degree high, tying for the second-warmest June 25 in the logbooks.

Monday's high temperature in Lander tied for the third warmest on record, at a reported 95 degrees.

Surrounding fires

Despite a few close calls, including an unattended campfire in the Wind River Mountains last week that burned 1/10th of an acre before firefighters extinguished the flames, the county has been spared from major wildfires of the type raging in elsewhere Wyoming and in neighboring states.

"People really need to be careful with fireworks and fires right now," Fremont County Fire Protection District Chief Craig Haslam said. "Do not leave them unattended, and be very careful."

Hazy skies hovering over the Wind River Basin from fires burning in surrounding places show the risk for the region.

As of Tuesday morning, there were two major fires burning in Wyoming, both of which are producing smoke that can be seen in Fremont County.

In the Medicine Bow National Forest, the Russell's Camp Fire that started on June 17 has scorched nearly 5,500 acres.

Also in progress is the newer Fontenelle Fire northwest of LaBarge in Lincoln County that has burned 300 acres since it started on Sunday.

There were also reports of two other fires starting this week near Ten Sleep and in Johnson County.

Skrbac said other fires contributing to the smoky skies in the county are in Utah, Nevada, Colorado and South Dakota.

No fire restrictions yet

"Fremont County has been lucky so far, and we need to keep it that way because the conditions are getting drier and drier every day," Skrbac said.

"Check with the local forest service for restrictions. There aren't any in place yet, but I expect them to be forthcoming," he added.

Haslam asks the public to be mindful.

"We are very concerned with how dry it is in the county right now," Haslam said. "We are asking people to be careful."

In a news release, the Bureau of Land Management's Wind River/Bighorn Basin District urged those using public lands for recreating to use caution.

"We are experiencing a lack of moisture and unseasonably hot and dry conditions which are expected to continue for the foreseeable future," assistant fire management officer Ryan Sundberg said in the release. "Please be fire safe while recreating this summer."

Sundberg cautions campers and those recreating to be aware of the dried vegetation that can easily burn.

"Ensure your campfire is completely out before turning in for the night," he added.

Reservation concern

Since the fire season got under way, the Wind River Agency has suppressed more than 60 fires on the Wind River Indian Reservation.

Because the agency expects the figure to climb, it is bringing in additional firefighting resources to be staged for initial attack on the reservation.

Jones believes the reservation is at the same time and place as the extreme fire seasons seen in past years such as the 2000 Kates Basin fire that burned more than 137,000 acres in the Owl Creek Mountains, and the 2002 South Fork Fire that burned more than 15,000 acres in the Wind River Mountain Range.

The recent mountain pine beetle infestation and white pine blister rust have contributed to a heavy dead fuel load that makes for an "explosive" fire condition, the release states.

More danger

On Monday, the National Weather Service issued a warning of possible strong winds and lightning in the area through Tuesday evening. Skrbac said the storms likely would exacerbate fire conditions.

"The thunderstorms will be dry but will produce wind and possible lightning strikes," he said.

The high-pressure center is expected to bring in a steady stream of hot and dry air, creating favorable conditions for dry thunderstorms.

"Humidity will continue to be low, in the low teens, with some in the single digits, and very gusty and erratic winds are expected with the thunderstorms," the weather station's report reads.

This week's temperatures in both Riverton and Lander are expected to fall a bit to 90-degree range, with the warmest day for both communities occurring on Tuesday at about 95 degrees.

The only chance of precipitation for the neighboring cities is Tuesday evening, with a 20 percent possibility.

For more information about the state's fire danger and weather forecast, visit the National Weather Service's website at http://www.crh.noaa.gov/riw/.

Smoke In Casper From Area Fires

By **Brian Scott** June 27, 2012

According to the National Weather Service and Emergency Management of Natrona County, the smoky haze we see in the Casper area this morning is from fires across the region and nothing burning in Natrona County.

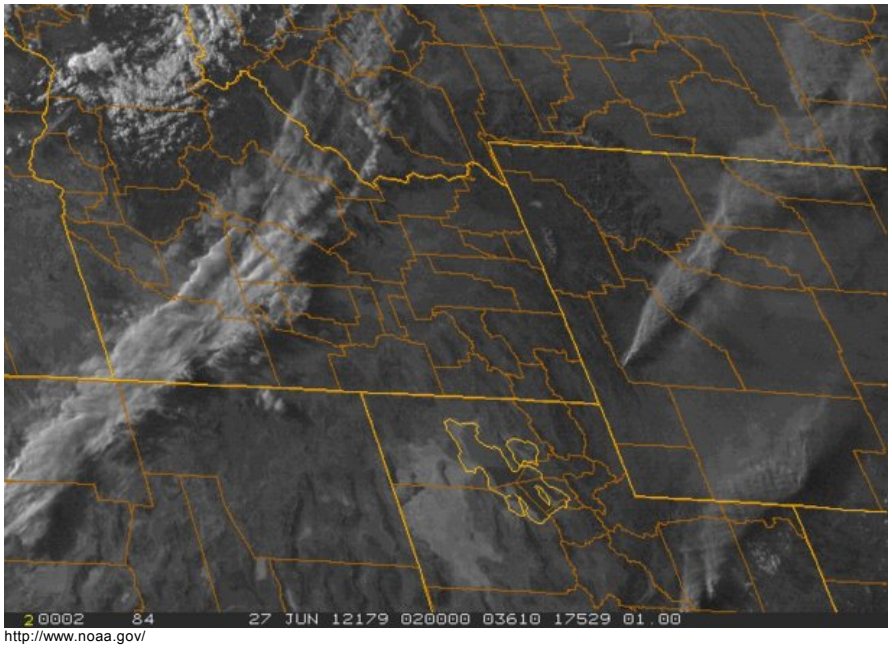
Emergency Management Coordinator Stew Anderson issued this statement earlier today.

> **Please be advised that all the smoke in the area is from wildfires that are located in other counties in Wy as well as severe fires in Colorado and Montana. No fires are currently burning in Natrona county.**

From the National Weather Service;

> *Areas of smoke from area wildfires are likely this morning across much of central Wyoming. Today is likely to be the coolest day this week in the wake of yesterday cold front, especially across the north. Breezy conditions will develop across the southern two-thirds of the area, with a fewisolated dry thunderstorms will be possible in the far southern and eastern areas. Warm and dry conditions are expected to continue through the week with little to no precipitation in the forecast. This will keep critical fire conditions going through the foreseeable future.*

The National Weather Service also shared this satellite image of the smoke plumes of fires in Utah and the Fontanelle fire here in Wyoming that are adding to the smoky conditions.



http://www.noaa.gov/

trib.com

Hazy days

Casper officials issue health warning due to air quality

By the Star-Tribune staff | Posted: Thursday, June 28, 2012 6:00 am

The Community Health Center of Wyoming has issued a warning of the possible health risks associated with the increased amount of smoke in the air from wildfires in Wyoming and surrounding states.

Those especially at risk include people with chronic respiratory illnesses, older adults and children, according to the Wyoming Department of Health. Children are more susceptible to the smoke because their airways are not fully developed and because they breathe more air per pound of body weight.

“Smoke can certainly worsen symptoms for those who have allergies, asthma or any other respiratory illness or condition,” said John Drinnon, division director for the Casper-Natrona County Health Department.

Symptoms of respiratory complications include shortness of breath; wheezing; increased sputum production; coughing; and the inability to sleep due to coughing, sinus or allergy symptoms, headache and stuffy nose, according to the Community Health Center. The large amounts of fire retardants being used to extinguish the wildfires can also contribute to the substandard air quality.

Despite the amplified danger the heavy winds pose to fire, Drinnon said they will likely help sweep particulates out of the air.

He recommends residents limit their exposure to the smoke by staying indoors, closing doors and windows and keeping the air conditioning or fan running to circulate the air.

Drinnon also advised people to refrain from adding any indoor air pollution, such as smoking, candles or incense.

The Community Health Center said citizens who may be experiencing any symptoms should contact their health professional immediately. If you have difficulty breathing, go to the local emergency room or quick-care clinic.