

# STATE OF COLORADO

John W. Hickenlooper, Governor  
Christopher E. Urbina, MD, MPH  
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department  
of Public Health  
and Environment

Date: TBD

Richard Payton  
8P-AR  
US Environmental Protection Agency Region VIII  
1595 Wynkoop Street  
Denver, CO 80202-1129

Dear Mr. Payton,

As required, the Colorado Department of Public Health and Environment's (CDPHE) Air Pollution Control Division (APCD) is submitting a network site modification request form for the proposed decommissioning of the Rist Canyon site (ozone and meteorology). Site common name, AQS ID and proposed actions are as follows:

- Rist Canyon AQS ID: 08-069-0012  
Removal - Ozone SPM Monitor  
Removal - Meteorological Special Purpose Monitors

This letter and the enclosed network modification form (Attachment 2) and site assessment form (Attachment 3) was made available for a 30 day public comment period from TBD to TBD. The Air Pollution Control Division did not receive any comments related to this network modification request.

## **Rist Canyon - AQS ID: 08-069-0012**

The proposed last sample to be collected from the Rist Canyon ozone monitor and meteorological sensors is to be based upon EPA's concurrence of this network modification request. The Rist Canyon site was established in 2009 in support of an EPA recommendation to verify a modeling hot spot in the foothills to the west of Fort Collins. This hot spot was originally presented in the 2010 Ozone Projections for the 2010 Base Case and 2010 Sensitivity Tests and 2010 Ozone Source Apportionment Modeling for the Denver 8-hour Ozone State Implementation Plan document. The APCD proposes to shut down the Rist Canyon ozone monitor and meteorological sensors for the following reasons:

- The monitored concentrations observed at the Rist Canyon site do not appear to validate the modeled hot spot. Attachment 1 shows a comparison of the top ranked daily 8-hour average

maximum values for sites located in the Fort Collins area. The APCD believes the 3.5 year data set is sufficient to adequately demonstrate attainment of the site's objectives. The Rist Canyon site has a calculated design value 7 ppb lower than the Fort Collins West site and 2 ppb higher than the Fort Collins CSU site. A comparison of values shows the Rist Canyon site to be redundant with the Fort Collins sites. The closure of this monitor is in accordance with EPA's effort to disinvest in redundant sites so that resources can be reallocated to further expand the existing network as needed.

- Even though the site has been in operation in excess of three years, the analyzer is still currently classified as a Special Purpose Monitor. Continued monitoring at the Rist Canyon site would require a conversion of the site' monitoring type designation, from a Special Purpose Monitoring Station (SPM) to a State and Local Air Monitoring Station (SLAMS). This conversion would imply a longer term commitment to continue monitoring at this location. The APCD believes long term monitoring at this site is not in the best interest of the air monitoring network. The monitoring resources spent on the Rist Canyon site are better spent expanding the air monitoring network elsewhere.
- The site marginally fails to meet siting criteria for ozone and meteorology. A tree located 15 meters west of the ozone probe is 18 meters above the probe; thus making it by definition an obstacle. A tree located to the southwest of the meteorological tower is also by definition an obstacle to the meteorological measurements. The location of the analyzer within the Rist Canyon Fire Station requires the use of long sample lines. The long sample line results in sample retention times in excess of 20 sec. The conversion to thick walled sample lines (smaller internal diameter) has decreased sample retention times; however, sample retention times remain marginal.

Enclosed is the associated Ambient Air Monitoring Network Modification Request Form and a copy of the Rist Canyon Site Assessment Form. If you have any questions or need further information, you can reach me at (303) 692-3232.

Sincerely,

Gregory Harshfield  
Continuous Monitoring and Data Systems Support Supervisor

cc: Gordon Pierce  
Enclosures:

- Attachment 1: Northern Front Range - Comparison of Top Ranked Daily 8-Hour Avg. Maximum Values
- Attachment 2: Rist Canyon - Ambient Air Monitoring Network Modification Form
- Attachment 3: Rist Canyon – Site Assessment Form

### Attachment 1

## Front Range - Comparison of Top Ranked Daily 8-Hour Avg. Maximum Values

Station	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

## Northern Front Range - Annual Comparison of Top Ranked Daily 8-Hour Average Maximum Values

2009 - Daily 8 Hour Average Max			2010 - Daily 8 Hour Average Max			2011 - Daily 8 Hour Average Max			2012 - Daily 8 Hour Average Max		
Rank	Rist Canyon	ppm	Rank	Rist Canyon	ppm	Rank	Rist Canyon	ppm	Rank	Rist Canyon	ppm
1	21-AUG-2009	0.071	1	14-APR-2010	0.074	1	25-Jul-2011	0.080	1	9-Aug-2012	0.077
2	19-JUN-2009	0.069	2	16-JUN-2010	0.072	2	15-Jun-2011	0.075	2	6-Apr-2012	0.076
3	22-JUN-2009	0.069	3	24-JUN-2010	0.071	3	10-May-2011	0.073	3	15-May-2012	0.072
4	11-AUG-2009	0.069	4	13-AUG-2010	0.071	4	24-Jun-2011	0.073	4	26-Mar-2012	0.071
5	13-AUG-2009	0.067	5	13-APR-2010	0.071	5	09-Aug-2011	0.073	5	9-Sep-2012	0.071
6	04-AUG-2009	0.066	6	23-JUN-2010	0.070	6	29-Jul-2011	0.072	6	8-Jun-2012	0.069
7	17-JUN-2009	0.064	7	29-JUN-2010	0.070	7	24-Jul-2011	0.071	7	28-Apr-2012	0.068
8	08-JUL-2009	0.064	8	28-JUN-2010	0.069	8	22-Jun-2011	0.070	8	28-May-2012	0.068
		4th Max:			0.069			4th Max:			0.071
		3 Year Avg:			n/a			3 Year Avg:			0.071
Rank	Fort Collins West	ppm	Rank	Fort Collins West	ppm	Rank	Fort Collins West	ppm	Rank	Fort Collins West	ppm
1	22-AUG-2009	0.082	1	24-JUN-2010	0.077	1	25-Jul-2011	0.086	1	22-Jun-2012	0.093
2	11-AUG-2009	0.074	2	14-APR-2010	0.075	2	24-Jun-2011	0.081	2	13-Jul-2012	0.086
3	13-MAY-2009	0.073	3	01-JUL-2010	0.075	3	15-Jun-2011	0.080	3	9-Aug-2012	0.086
4	08-JUL-2009	0.073	4	03-AUG-2010	0.075	4	19-Jul-2011	0.080	4	31-Aug-2012	0.08
5	19-JUN-2009	0.072	5	16-JUN-2010	0.074	5	28-Jun-2011	0.079	5	9-Sep-2012	0.079
6	04-AUG-2009	0.071	6	28-JUN-2010	0.074	6	09-Aug-2011	0.079	6	17-Jun-2012	0.077
7	12-AUG-2009	0.071	7	04-JUN-2010	0.073	7	31-Jul-2011	0.078	7	26-Jul-2012	0.077
8	15-JUL-2009	0.070	8	13-AUG-2010	0.073	8	10-May-2011	0.076	8	15-May-2012	0.076
		4th Max:			0.073			4th Max:			0.080
		3 Year Avg:			n/a			3 Year Avg:			0.078
Rank	Fort Collins CSU	ppm	Rank	Fort Collins CSU	ppm	Rank	Fort Collins CSU	ppm	Rank	Fort Collins CSU	ppm
1	22-AUG-2009	0.074	1	13-APR-2010	0.068	1	24-Jun-2011	0.071	1	22-Jun-2012	0.094
2	13-MAY-2009	0.069	2	04-JUN-2010	0.067	2	25-Jul-2011	0.070	2	13-Jul-2012	0.08
3	19-JUN-2009	0.063	3	14-APR-2010	0.066	3	19-Jul-2011	0.069	3	20-Jul-2012	0.075
4	11-AUG-2009	0.063	4	01-JUL-2010	0.066	4	15-Jun-2011	0.068	4	14-Jul-2012	0.074
5	25-JUN-2009	0.062	5	24-JUN-2010	0.065	5	17-Jul-2011	0.067	5	19-Jul-2012	0.074
6	08-JUL-2009	0.061	6	03-AUG-2010	0.065	6	31-Jul-2011	0.067	6	4-Jul-2012	0.073
7	04-AUG-2009	0.061	7	23-JUN-2010	0.064	7	09-Aug-2011	0.066	7	11-Jul-2012	0.073
8	17-JUN-2009	0.060	8	28-JUN-2010	0.064	8	10-May-2011	0.065	8	6-Apr-2012	0.072
		4th Max:			0.063			4th Max:			0.074
		3 Year Avg:			n/a			3 Year Avg:			0.069

EPA REGION 8 AMBIENT AIR MONITORING NETWORK MODIFICATION REQUEST FORM

VERSION 2.0 (10/01)

DATE SUBMITTED: \_\_\_\_\_ CITY/TOWN AND COUNTY: \_\_\_\_\_ STATE: \_\_\_\_\_  
 AGENCY: \_\_\_\_\_

PLEASE PRINT CLEARLY IN BLOCK LETTERS. THIS FORM IS TO BE COMPLETED BY THE AGENCY REQUESTING THE MODIFICATION. THE AGENCY SHOULD PROVIDE A MAP OF THE MONITORING NETWORK WITH THE PROPOSED MODIFICATION. THE AGENCY SHOULD ALSO PROVIDE A DESCRIPTION OF THE PROPOSED MODIFICATION AND THE REASON FOR THE MODIFICATION. THE AGENCY SHOULD ALSO PROVIDE A DESCRIPTION OF THE CURRENT MONITORING NETWORK AND THE REASON FOR THE MODIFICATION.

Attachment 2

Rist Canyon - Ambient Air Monitoring Network Modification Form

EQUIPMENT	LIST NUMBER	TYPE	LOCATION	ELEVATION (M)	DIRECTION TO NEAREST ROADWAY	DISTANCE TO NEAREST ROADWAY (M)	DISTANCE TO NEAREST MONITOR (M)	TYPE OF ROADWAY	DATE OF INSTALLATION	REASON FOR MODIFICATION	COMMENTS
PM10	1	PM10	Rist Canyon	1500	North	100	100	Highway	2000	None	
PM2.5	2	PM2.5	Rist Canyon	1500	North	100	100	Highway	2000	None	
CO	3	CO	Rist Canyon	1500	North	100	100	Highway	2000	None	
SO2	4	SO2	Rist Canyon	1500	North	100	100	Highway	2000	None	
NO2	5	NO2	Rist Canyon	1500	North	100	100	Highway	2000	None	
O3	6	O3	Rist Canyon	1500	North	100	100	Highway	2000	None	

**EPA REGION 8 AMBIENT AIR MONITORING NETWORK MODIFICATION REQUEST FORM**

(VERSION 2, 4/1/04)

DATE: 1/9/2013      CITY: Larimer County - Foothills area west of Fort Collins      STATE: CO

AQS SITE ID: 08-069-0012      SITE NAME: Rist Canyon

PROPOSED MODIFICATION/REASON WHY: Site results are very similar to the Fort Collins - West location. Meteorological tower does not meet siting criteria due to nearby trees. According to EPA siting criteria, one nearby tree, to the west, is an obstruction to the ozone probe. Siting of the ozone monitor within the fire station requires an unusually long inlet line that has not always met the requirement that sample residence time be less than 30 seconds.

AIR QUALITY PARAMETER (PM10, SO2, CO, NO2, ETC.)	MONITOR TYPE (NAMS, SLAMS, SPM, TRIBAL, etc.)	CHECK ONE OR MORE OF THE APPLICABLE CATEGORIES BELOW:				LIST SAMPLER EQUIPMENT
		MAX CONC	SOURCE IMPACT	POPULATION EXPOSURE	BACKGROUND	
Ozone	SPM	x		x		API 400 E
Meteorological Tower	SPM					Met One Wind speed, wind direction, temp.

PROPOSED SAMPLING START / REMOVAL DATE OR DATE STARTED / REMOVED: Proposed removal March 1, 2013

ESTIMATED MEASUREMENTS FOR AIR QUALITY PARAMETERS: Ozone and Meteorology

LOCATION (LAT./LONG. OR UTM 'S): Latitude 40.64191 Longitude -105.27525 WGS 84

SITE ELEVATION (M. MSL): 2057 Meters      PROBE HEIGHT (M. AGL): 3.6 Meters

DISTANCE TO TREE DRIPLINE (M)	DIRECTION TO TREE	DISTANCE TO OBSTACLE (M)	DIRECTION TO OBSTACLE	OBSTACLE HEIGHT ABOVE PROBE (M)	OBSTACLE COMMENTS
Tree 1052 - 15 Meters	NW	15 Meters	NW	14.4 Meters	Tree 1052 to NW is on a hill, which
					Makes it more of an obstruction.

UNRESTRICTED AIR FLOW:    >270 DEG.      >180 DEG.      <CRITERIA 270 \_\_\_\_\_ DEG.

DISTANCE TO FLUES/INCINERATORS (M): None

DISTANCE TO INTERSECTIONS (M): No intersections nearby      DISTANCE FROM SUPPORTING STRUCTURES (M): VERT. 1.2 \_\_\_\_\_ HORIZ. 2.1 \_\_\_\_\_ Probe comes out of building side

DISTANCE TO EDGE OF NEAREST ROADWAY	NAME OF ROADWAY	DIRECTION	DAILY TRAFFIC ESTIMATES	YEAR OF TRAFFIC ESTIMATES	TYPE OF ROADWAY	COMMENTS
		NORTH				
17 Meters	Rist Canyon Road	EAST			Local Highway	
		SOUTH				
		WEST				

DISTANCE TO NEAREST POINT SOURCES (MILES)	DIRECTION TO POINT SOURCES	DISTANCE TO NEAREST AREA SOURCES (MILES)	DIRECTION TO AREA SOURCES	COMMENTS
No nearby point sources.				
Forested foothills area.				

CERTIFICATION: I certify the network modification proposed above meets all 40 CFR 58, Appendix E siting criteria, except as noted with submittal.

Printed Name: \_\_\_\_\_ Signature: \_\_\_\_\_

FOR EPA USE ONLY: Received Date: \_\_\_\_\_ Follow-up Actions: \_\_\_\_\_ Approval Status  
 Given: \_\_\_\_\_ Email Response Date: \_\_\_\_\_ Letter Response Date: \_\_\_\_\_

**FOR METEOROLOGICAL PARAMETERS ONLY:**

MONITORING PURPOSE/OBJECTIVES: Monitor wind speed, temperature, and wind direction at ozone site.

PROPOSED MONITORING SCHEDULE/DURATION: Proposed shut down on March 1, 2013.

PROPOSED START / REMOVAL DATE Proposed shut down on March 1, 2013.  
 OR DATE STARTED / REMOVED:

DATA ACQUISITION SYSTEM: Air Vision

PRIMARY Air Vision	PARAMETERS:	APPLICABLE √ those that apply	SENSOR HT (M)
BACKUP	WIND SPEED/DIRECTION	X	10 Meters
EQUIPMENT MANUFACTURER/MODEL: Met One 010/020 Wind Speed Also temperature probe	SOLAR RADIATION		
	RELATIVE HUMIDITY		
WILL THE DATA BE USED FOR MODELING? <u>YES</u> NO	PRESSURE		
IS SITE REQUIRED FOR SIP? YES <u>NO</u>	SIGMA THETA	X	10 Meters
UNRESTRICTED AIRFLOW? YES <u>NO</u> Obstructions to NW and SE	PRECIPITATION		
DISTANCE TO TREE DRIPLINE (M): A number of trees are obstructions - see attachment.	TEMPERATURE	X	6 Meters
NEARBY TERRAIN: SMOOTH ROLLING <u>ROUGH</u>	OTHER (DESCRIBE)		

TOPOGRAPHIC FEATURES (E.G HILLS, MOUNTAINS, VALLEYS, RIDGES, BODIES OF WATER): In valley in foothills area of the Rocky Mountains, to the west of the city of Fort Collins, CO.

COMMENTS:



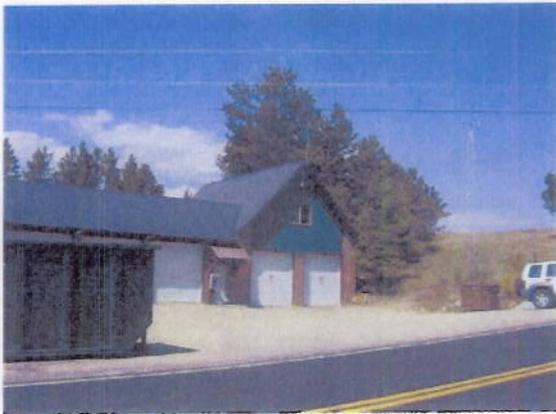
AQS Number	80690012		
SITENO	1246		
AQCR	2		
SUBREGION	A		
COMPANY	STATE OF COLORADO		
PROJECT	MONITORING		
SITENAME	11835 RIST CANYON ROAD		
STREETADDRESS	11835 Rist Canyon Road		
CITY	Larimer County		
STATE	CO		
UTMZONE	13	LATITUDE/LONGITUDE DATUM	WGS84
UTMNORTH	4499055	LONGITUDE (Dec Degrees)	-105.27525
UTMEAST	476731	LATITUDE (Dec Degrees)	40.64191
VERTICAL_MEASURE	6750	SUBREPORT MET TOWERS TABLE - Short Page	

AQS Number		80690012		Tower Observer	Nancy Chick	
				Tower Observation Date	8/31/2012	
Is there a Tower At this Site?	Yes	Tower Latitude	40.64211 Decimal Degrees, WGS 84			
		Tower Longitude	-105.27513			
Is Wind Speed Measured?	Yes	Wind Speed Measurement Height	10	Meters		
Is Wind Direction Measured?	Yes	Wind Direction Measurement Height	10	Meters		
Is Temperature Measured?	Yes					
Is Delta Temperature Measured?	No	Temperature 1 Height	6	Meters		
		Temperature 2 Height		Meters		
		Temperature 3 Height		Meters		
Is Sigma Theta Recorded?	Yes					
Is Relative Humidity Measured?	No	Relative Humidity Measurement Height		Meters		
Does Tower Meet Siting Criteria?	No					
Tower Comments	Tall Trees to West are an obstruction.					

SUBREPORT SITE PICTURES

AQS Number	Site Pictures Date	Site Pictures Taken By	Site Picture Comments
80690012	8/31/2012	Nancy Chick	The tents are temporary - for a revegetation project.

View 1



View 2



View 3



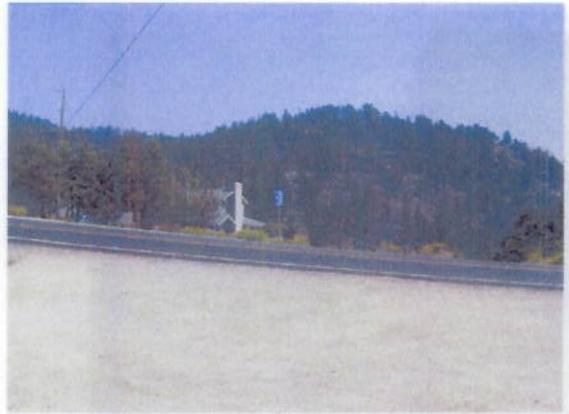
Ground Cover View



North View



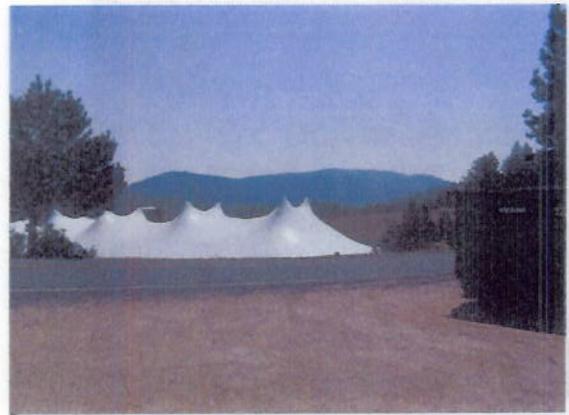
Northeast View



East View



Southeast View



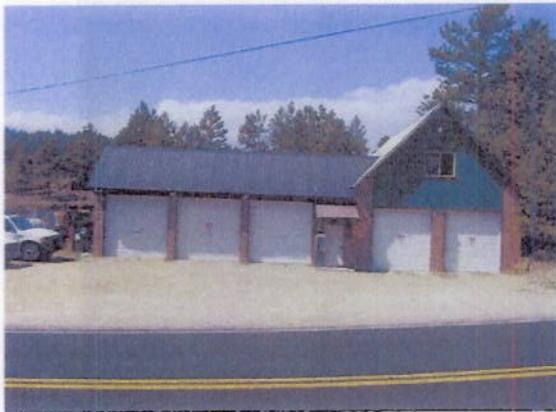
South View



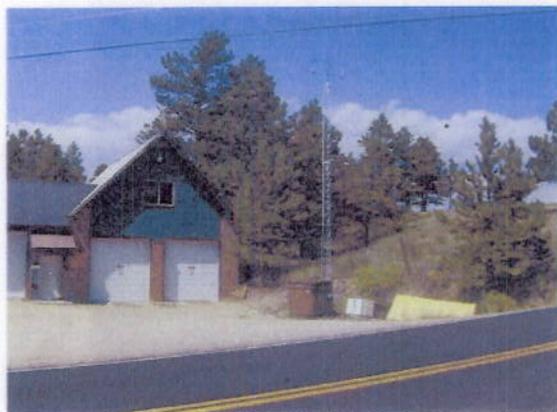
Southwest View



West View



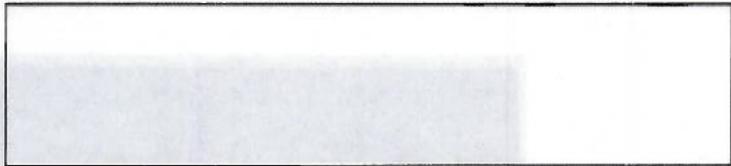
Northwest View



**SUBREPORT SITE DIAGRAMS**

AQS Number    Site Diagram Date    Site Diagram Observer    Site Diagram Comments

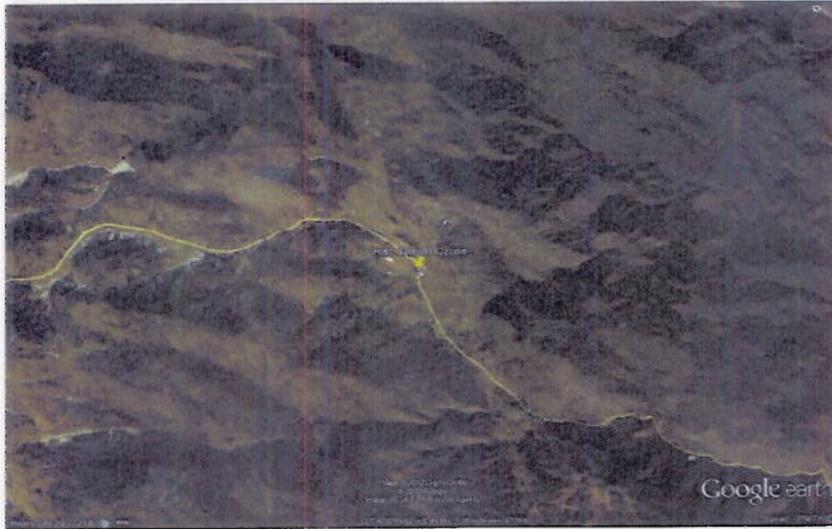
80690012    8/31/2012    Nancy Chick



Site Diagram 1



Site Diagram 2



Site Diagram 3

## SITE STREET INFORMATION

AQS Number	Tangent Street Number	Street Name	Road Type	Traffic Count	Year of Traffic Count	Direction From Site to Street	Source of Traffic Count
80690012	54	Rist Canyon Road	LOCAL ST OR HY			E	

## SUBREPORT - TREE INDIVIDUAL

## TREES - INDIVIDUAL

Tree Identification Number	AQS Number	Tree Latitude	Tree Longitude	Tree Species	Is Tree an Evergreen?	Tree Comments
1050	80690012	40.64212	-105.27502	PINE	Yes	NE TREE NEAR ROAD.
1051	80690012	40.64236	-105.27501	PINE	Yes	North Tree on Hill. GPS reading taken on road, east of tree. (Tree is on fenced private property).
1052	80690012	40.64212	-105.27539	PINE	Yes	Tallest tree to NW.

1053	80690012	40.64182	-105.27508	PINE	Yes	Tallest tree to SSE - Double trunk at base.
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TREES - INDIVIDUAL

ID	AGS Number	Latitude	Longitude	Tree Type	Is Tree in Evergreen?	Type Comments
1050	80690012	40.64182	-105.27508	PINE	Yes	NE TREE NEAR ROAD.
1051	80690012	40.64182	-105.27508	PINE	Yes	North Tree on Hill. GPS reading taken on road, east of site. (Tree is on fenced private property).
1052	80690012	40.64182	-105.27508	PINE	Yes	Tallest tree to NW.



Site AQS Number	80690012	
Parameter (Pollutant)	44201	Parameter Codes:
POC	1	CO 42101 O3 44201 NO2 42602 SO2 42401
Evaluation Date (YYYYMMDD)	20120831	PM10 STP 81102 PM2.5
Evaluation Observer	Nancy Chick	Lead In TSP at STP 12128
Probe Height (m above ground)	3.6	CO 3 +/- 1/2 Meters Microscale CO 3 - 15 Meters Middle and Neighborhood Scale O3, SO2, NO2 3 - 15 Meters PM10, PM2.5, Lead 2-7 Meters Microscale 2-15
Probe Horizontal Distance (m)	2.1	O3, NO2, SO2 - > 1 meter from supporting structure
Probe Vertical Distance (m)	1.2	O3, NO2, SO2 - > 1 meter from supporting structure
Probe Material	TEFLON	O3, NO2 - Teflon or Pyrex Glass
Probe Building Side	YES	N, NE, etc, or NONE
Probe In a Dusty Area?	No	SO2 - Away from dirty, dusty areas PM10, PM2.5 - Area should be paved or have vegetative ground cover
Residence Time for Pollutant	36	O3, NO2 - Less than 20 seconds
Unrestricted Air Flow (Degrees)	270	CO, O3, SO2, NO2 - Must be 270, or 180 if on side of a building. O3 - Must Include predominant wind dir. SO2 - Wind during peak season must be included in 270 arc. PM10, PM2.5 - At least 270, including predominant wind direction. Lead - At least 270, except for street canyon sites.
Furnace Or Incinerator Flues Nearby?	No	SO2 - No flues or other minor SO2 sources should be nearby PM10, PM2.5, Lead - Recommended Non
Does Site Meet Siting Criteria?	<input type="checkbox"/>	Check Box if Site Meets All EPA Siting Requirements for this Parameter
Pollutant Comments	Trees to NW and SE of probe can block wind. Siting criteria for residence time are not met.	Record any unusual characteristics of site, conditions that do not conform to requirements, etc.

Subreport - Monitor Tangent Roads Linked to Site Roads Table V2

AQS NUMBER	PARAMETER	POC	TANGENT STREET NUMBER	STREET NAME	Rist Canyon Road	ROAD DISTANCE COMMENTS
80690012	44201	1	54			
DIRECTION FROM SITE TO STREET	DISTANCE FROM MONITOR PROBE TO TANGENT ROAD	ROAD TYPE	TRAFFIC COUNT (VEHICLES PER DAY)	YEAR OF TRAFFIC COUNT	SOURCE OF TRAFFIC COUNT	
E	17	LOCAL ST OR HY				

SUBREPORT - Monitor Obstruction Table - Portrait Version

AQS NUMBER	PARAMETER	POC	IS THIS AN ACTUAL OBSTRUCTION TO BE REPORTED TO AOS ?	Yes	OBSTRUCTION COMMENTS	Height of tree includes hill.
80690012	44201	1				
Obstruction Number	PROBE OBSTRUCTION TYPE	DIRECTION FROM MONITOR PROBE TO OBSTRUCTION	DISTANCE FROM MONITOR TO PROBE OBSTRUCTION (Meters)	HEIGHT OF POTENTIAL PROBE OBSTRUCTION (Meters)	OBSTRUCTION OBSERVATION DATE	OBSERVER
1052	TREE	NW	15	18	8/31/2012	Nancy Chick

AQS NUMBER	PARAMETER	POC	IS THIS AN ACTUAL OBSTRUCTION TO BE REPORTED TO AOS ?	Yes	OBSTRUCTION COMMENTS	Probe mounted on side of this building.
80690012	44201	1				
Obstruction Number	PROBE OBSTRUCTION TYPE	DIRECTION FROM MONITOR PROBE TO OBSTRUCTION	DISTANCE FROM MONITOR TO PROBE OBSTRUCTION (Meters)	HEIGHT OF POTENTIAL PROBE OBSTRUCTION (Meters)	OBSTRUCTION OBSERVATION DATE	OBSERVER
5013	BUILDING	W	2.1	8.3	8/31/2012	Nancy Chick

SUBREPORT - TREE HISTORY- Grouped by AQS

AQS Number

80690012

Parameter Codes:

CO 42101 03 442

Pollutant - AQS Code

44201

PM10 STP

81102

Lead In TSP at STP 12128

Site Tree and Object Height Calculation Sheet

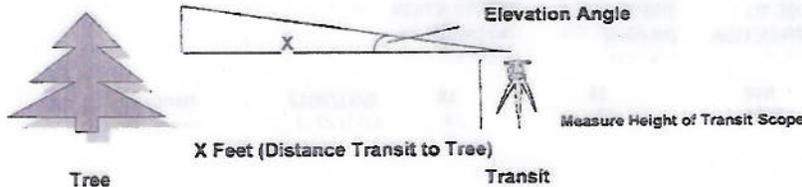
080690012 - 20120831 - TreeHeight.jpg

Site Evaluation - Tree and Object Height Calculations

Date: 20120831 Observer: Nancy Chick  
Transit Used: Mass DPW 324

AQS Site Number 080690012 RIST Canyon

Fill out this form to measure and calculate the height for individual trees near the site.  
Tree Height Calculation



Formula:  
Tangent (Elevation Angle) = Height of Tree / X Feet. Therefore,

[(Tangent of Elevation Angle) \* (X Distance in Feet)] + Height of Transit (Feet) = Height of Tree (Feet)

Convert Feet to Meters: Feet \* 0.3048 Convert Inches to Feet: Inches/12

Table with 6 columns: Tree Identification Number, Elevation Angle to Top of Tree (Degrees), Distance to Tree Base (Feet), Height of Transit (in/feet), Height of Tree (Feet), Height of Tree (Meters). Rows include NW Tree, Building Gate, Tower W5, Tower Temp, North Tree, and SSE Tree.

Moderate releve  
No releve needed  
No releve  
No releve

More Transit to base place SSE Tree 19.2° 90 FT 65.8 / 55 FT 36.8 11.2 Meters

Tree Identification Number	AQS Number	Parameter	Direction from Probe to Tree	Distance from Probe to Tree (Meters)	Tree Height (Meters)	Is the Tree an Obstruction ?	Tree History Comments
1050	80690012	44201	NE	17	6.7	No	

Tree Photo 1	Tree Photo 2	Tree Photo 3	Tree Photo 4	Tree Photo 5
				

Tree Identification Number	AQS Number	Parameter	Direction from Probe to Tree	Distance from Probe to Tree (Meters)	Tree Height (Meters)	Is the Tree an Obstruction ?	Tree History Comments
1051	80690012	44201	N	37	13.5	No	Height includes hill.

Tree Photo 1	Tree Photo 2	Tree Photo 3	Tree Photo 4	Tree Photo 5
				

Tree Identification Number	AQS Number	Parameter	Direction from Probe to Tree	Distance from Probe to Tree (Meters)	Tree Height (Meters)	Is the Tree an Obstruction ?	Tree History Comments
1052	80690012	44201	NW	15	18	Yes	Height includes hill.

Tree Photo 1	Tree Photo 2	Tree Photo 3	Tree Photo 4	Tree Photo 5
				

Tree Identification Number	AQS Number	Parameter	Direction from Probe to Tree	Distance from Probe to Tree (Meters)	Tree Height (Meters)	Is the Tree an Obstruction ?	Tree History Comments
1053	80690012	44201	SSE	24	11.2	No	

Tree Photo 1	Tree Photo 2	Tree Photo 3	Tree Photo 4	Tree Photo 5
				