

MANAGING GARFIELD COUNTY'S AIR QUALITY

Scope of Work: 2010 Air Monitoring for Volatile Organic Compounds

Prepared By

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Measuring Speciated Non-Methane Organic Compounds (EPA Compendium Method TO-12):

In an effort to continue defining Volatile Organic Compound (VOC) issues in the community our proposal for 2010 is to continue using EPA Compendium Method TO-12 to measure for total non-methane organic compounds (NMOC), as well as the 78 individual (speciated) non-methane organic compounds (SNMOC). Using this analytical method, we will continue to gather data on all of the hazardous air pollutants (HAP) detected in our initial study (2005-2007) as well as several other compounds that have been implicated as ozone precursors; an air quality management issue of increasing interest for Garfield County and the State of Colorado. SNMOC sampling will be performed for 24-hours on an every six day basis (starting January 2010) at the existing Rifle (Henry Building), Parachute (Old High School), Silt/Dry Hollow (Melton Ranch), and Rulison (Potter Ranch) locations. This equates to 248 total SNMOC samples (including duplicates) for the upcoming year (Table 1). The possibility of relocating the monitoring site from the Potter Ranch to another location will be determined at a later date. Our goal is to keep our fixed rural locations in close proximity to oil and development activities in response to local citizens' odor concerns.

Measuring Carbonyl Compounds (EPA Compendium Method TO-11A):

We also intend to continue using EPA Compendium Method TO-11A to measure for a variety of carbonyl compounds (both aldehydes and ketones). Carbonyls have been implicated in the occurrence of eye, skin and respiratory irritation. Carbonyl sampling will be performed for 24-hours on an every twelve (12) day basis (starting January 2010) at the existing Rifle (Henry Building), Parachute (Old High School), Silt/Dry Hollow (Melton Ranch), and Rulison (Potter Ranch) locations. This equates to 132 total carbonyl samples (including blanks and duplicates) for the upcoming year (Table 1). Again, the possibility of relocating the monitoring site from the Potter Ranch to another location will be determined at a later date.

Table 1. SUMMARY OF 2010 GARFIELD COUNTY AIR MONITORING SAMPLES (VOCs Only – County Funded)

Site Location	NMOC (24-hr, every 6 days)	NMOC (duplicates)	Carbonyls (24-hr, every 12 days)	Carbonyls (duplicates)	Carbonyls (field blanks)
Parachute ¹	60	2	30	1	2
Rifle ²	60	2	30	1	2
Melton Ranch ³	60	2	30	1	2
Potter Ranch ⁴	60	2	30	1	2

1. *Parachute (Old High School, 100 E. 2nd Street)*. A small urban center within very close proximity to oil and development activities. Parachute is also a hub of industrial support businesses and experiences heavy industrial, commercial and commuter traffic on a daily basis. The town is bisected by Interstate 70 and is subject to heavy daily railroad activity supplying materials to the oil and gas industry. Parachute has a population of 1360 (July 2005 population

estimate). This is an increase of 1.6 percent from the 2000 census. The Parachute PM₁₀ monitor has been in operation since May 2000.

2. *Rifle (Henry Building, 144 3rd Street)*. A rapidly growing urban center within very close proximity to oil and development activities. Rifle is also a hub of industrial support businesses and experiences heavy industrial, commercial and commuter traffic on a daily basis. The town is bisected by Interstate 70 and is subject to heavy daily railroad activity supplying materials to the oil and gas industry. Rifle has a population of 8118 (July 2005 population estimate). This is an increase of 4.6 percent from the 2000 census.

3. *Silt/Dry Hollow - Melton Ranch (512 Owens Dr.)*. A rural homestead approximately 4 miles south of the town of Silt in currently in close proximity to moderate oil and development activities.

4. *Rulison – Potter Ranch (0598 County Road 323)*. A rural homestead approximately 0.6 miles south of the I-70 Rulison exit in close proximity to moderate oil and development activities.

SCOPE OF SERVICES:

1. Speciated Non-methane Organic Compounds (SNMOC) analysis using GC/FID in Canisters (EPA TO-12)
 - 1-in-6 day sampling = 60 samples *4sites = 240 + 8 collocates = 248 samples total
2. TO-11A Carbonyl Compounds using Compendium Method TO-11A
 - 1-in-12 day sampling = 30 samples *4sites = 120 + 4 collocates + 8 field blanks = 132 samples total
3. Canister and Passive Probe Rental (for item #1)

Item #	Item Description	Total Cost Per Item #
1	A. PAMS Canister Sample analysis following the TAD (Table 1) B. Canister Cleaning and Handling C. VOC analysis using the GC/FID with MSD verification D. Monthly data validation and reporting E. AQS entry within 90 days of the end of each calendar quarter	-
2	A. Carbonyl Sample analysis following Compendium Method TO-11A (Table 2) B. Purchase and handling of DNPH cartridges C. Carbonyl Analysis using TO-11A for 12 Target compounds D. Monthly data validation and reporting E. AQS entry within 90 days of the end of each calendar quarter	-
3	A. Canister and Passive Probe Rental	-
Total		-