Executive Summary

This Air Quality Technical Support Document addresses the impacts on ambient air quality and Air Quality Related Values (AQRVs) from potential air emissions due to the Continental Divide-Creston (CD-C) Natural Gas Development Project and from other documented regional emissions sources within a defined study area. Potential ambient air quality impacts are quantified and compared to applicable state and Federal standards, and AQRV impacts (impacts on visibility, atmospheric deposition, and potential increases in acidification to acid-sensitive lakes) are quantified and compared to applicable thresholds as defined in the Federal Land Managers' (FLMs') Air Quality Related Values Work Group (FLAG) and Interagency Workgroup on Air Quality Modeling (IWAQM) guidance documents (FLAG, 2010 and IWAQM, 1998), and other state and Federal agency guidance.

ES1. CD-C PROJECT DESCRIPTION AND EMISSIONS

The Proposed Action for the CD-C Project includes the development of approximately 8,950 new natural gas wells within the CD-C Project Area (Figure ES-1) in Southwest Wyoming. Under the Proposed Action, drilling would take place for approximately 15 years with an approximate 30 to 40-year life of project (LOP). Approximately 500 to 900 of the proposed wells could be coalbed natural gas (CBNG) wells. As of the year 2008, there were 2,454 existing wells producing in the CD-C Project Area.

Emission inventories for CD-C Project Area development and production activities were compiled for the air quality impact assessment for all existing and proposed new sources. An emission inventory of total nitrogen oxides (NO_X), sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter less than or equal to 10 microns in size (PM_{10}), particulate matter less than or equal to 2.5 microns in size ($PM_{2.5}$), volatile organic compounds (VOC), ethane, and hazardous air pollutants (HAPs) benzene, toluene, ethyl benzene, xylene, n-hexane and formaldehyde was compiled for well development activities, production activities, and ancillary facilities planned as part of the Project. The emission inventory also includes wells and ancillary facilities in the CD-C Project area that were in production as of 2008, which was selected as the baseline year for the study. Lead emissions are negligible and were not calculated in the inventory. Although not considered a VOC by the EPA, ethane (C_2H_6) compounds were included in the inventory for use in the far-field modeling. In addition, methane (CH_4), nitrous oxide (N_2O) and carbon dioxide (CO_2) emissions are included in the Project emission inventory for purposes of quantifying greenhouse gas (GHG) emissions. CO_2 equivalents for all three GHGs are reported over the LOP.

The CD-C Project emission inventory was developed using data from the CD-C Operators as the primary source of information. The inventory accounted for all applicable emissions controls such as New Source Performance Standards (NSPS) and new Tier standards for non-road engines. The most important of these emissions controls are those specifically targeted at Wyoming oil and gas sources.

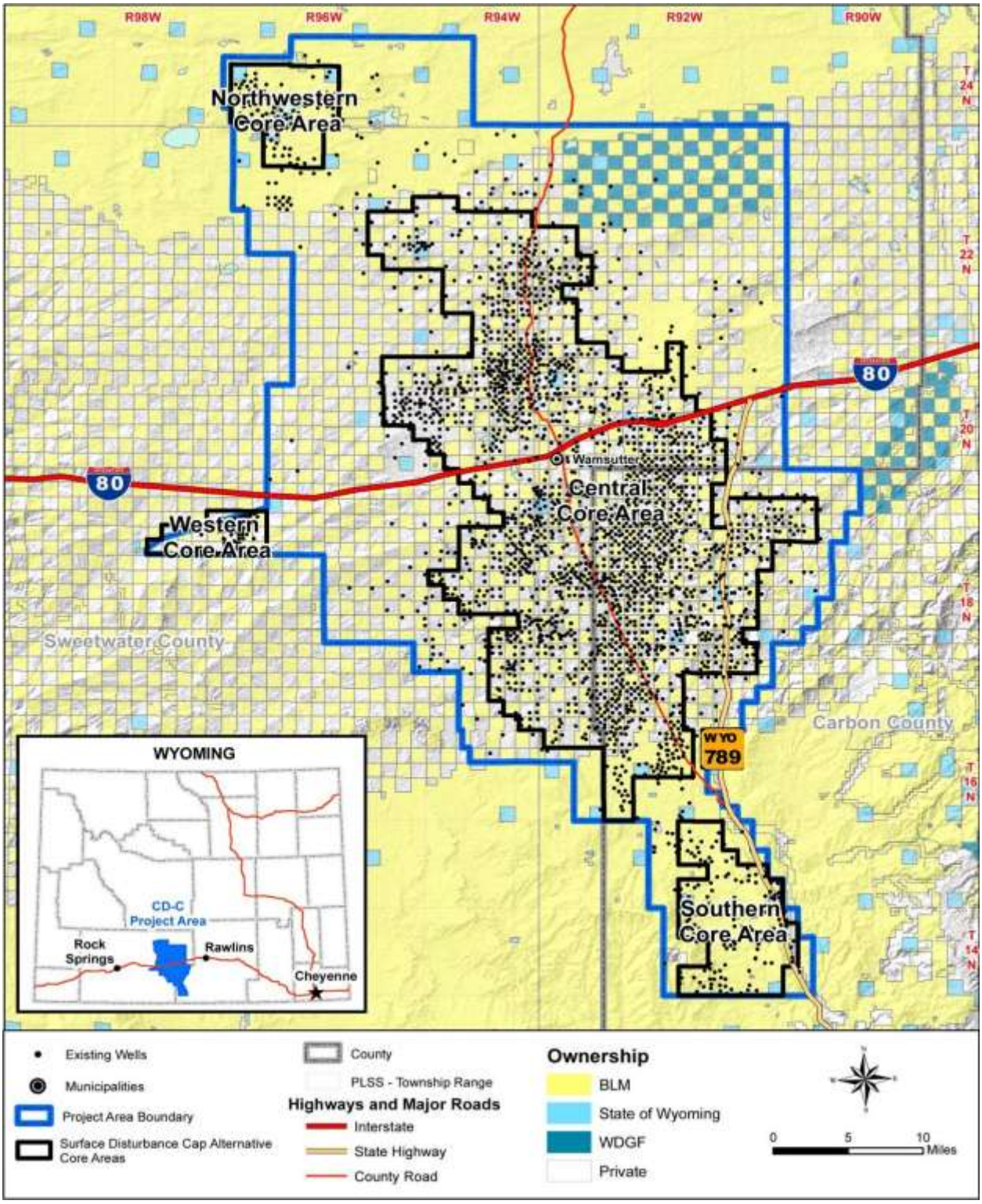

Figure ES-1. CD-C Project Location in Southwest Wyoming.

The Wyoming Department of Environmental Quality Air Quality Division (WDEQ-AQD) regulates emissions from oil and gas sources through their Oil and Gas Permitting Guidance (WDEQ-AQD, 2010). Different regulations apply in different regions of the State, with the most stringent level of controls applied to the areas with highest measured ambient ozone concentrations that occur in the Jonah-Pinedale Anticline Development (JPAD) area. The CD-C Project lies within a region of intensive oil and gas development known as the Concentrated Development Area (CDA; Figure ES-2). Under the WDEQ-AQD (2010) Guidance, emissions controls are required in the CDA for the following source categories:

- Tank Flashing
- Dehydration Units
- Pneumatic Pumps
- Pneumatic Controllers
- Produced Water Tanks
- Blow down / Venting

These control measures were taken into account in the development of the CD-C Project emission inventory. For some emissions categories, the WDEQ-AQD (2010) Guidance allows for removal of emissions controls if VOC emissions drop below a threshold that varies by source category. In the CD-C Project emission inventory, it was assumed that controls are left in place over the LOP. Table ES-1 shows the emissions control measures in each emissions source category that were modeled in this analysis.

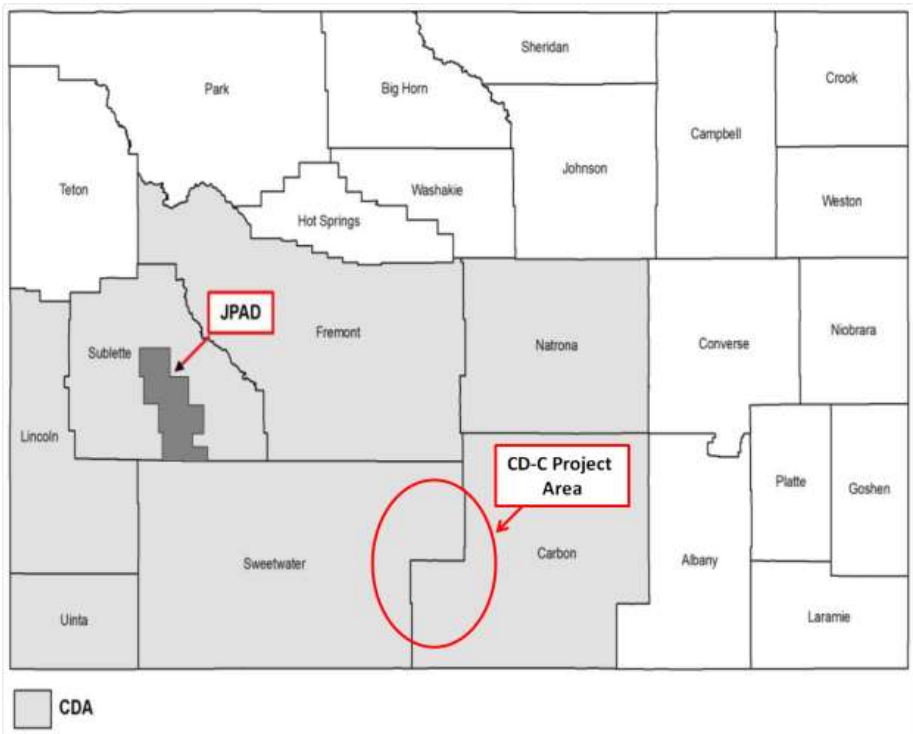

Figure ES-2. The Concentrated Development Area (from WDEQ-AQD, 2010).

Table ES-1. Table of Modeled CD-C Project Emissions Control Measures.

CD-C Project Emissions Source Category	Type of Control Applied
Well Pad Const Equip (diesel ICE)	Change in fuel sulfur content
Completion Equipment (diesel ICE)	Change in fuel sulfur content
Construction Traffic, Road and Well pad	Change in emissions due to fleet turnover
Construction Traffic, Road and Well pad- Fugitive Dust	Watering
Drilling Equipment (diesel ICE)	Change in fuel sulfur content and emissions reductions due to cleaner engine technology
Drilling Traffic	Change in emissions due to fleet turnover
Drilling Traffic- Fugitive Dust	Watering
Completion Traffic	Change in emissions due to fleet turnover
Completion Traffic- Fugitive Dust	Watering
Completion Venting	96% of Gas to Green Completions and 4% of Gas will be Flared
Completion Flaring	N/A
Well Pad and Access Road Construction- Fugitive Dust	Watering
Construction Wind Erosion- Fugitive Dust	None
Workover Equip (diesel ICE)	Change in fuel sulfur content
Workover Rig Traffic	Change in emissions due to fleet turnover
Workover Rig Traffic- Fugitive Dust	Watering
Heaters	None
Fugitives	None
Pneumatic Devices	No bleed devices
Pneumatic Pump	WYDEQ BACT
Dehydrator Venting	WYDEQ BACT
Tank Loadout (vapor losses)	None
Well Venting	None
Production Traffic	Change in emissions due to fleet turnover
Production Traffic- Fugitive Dust	Watering
Condensate Tank Flashing Losses	WYDEQ BACT
Condensate Tank Working Losses	WYDEQ BACT
Condensate Tank Breathing Losses	WYDEQ BACT
Production Flaring	-
Compressor Station	WYDEQ BACT was assumed to limit NOx and CO emissions for reciprocating engines
Gas Plant	WYDEQ BACT was assumed to limit NOx and CO emissions for reciprocating engines
Evaporation Ponds	None

Figure ES-3 shows drilling activity and total well count for new CD-C Project wells and wells classified as existing that either were drilled or were already producing in the CD-C Project Area as of 2008. These existing wells are not part of the Proposed Action, but are accounted for in the modeling because they are in the CD-C Project Area. Drilling of new CD-C wells under the Proposed Action begins in the year 2009. Information on the pace of drilling shown in Figure ES-3 was provided by the CD-C Operators.

The count of existing wells decreases over the LOP as wells reach the end of their productive life and are abandoned. The count of new CD-C Project wells increases while drilling is underway from 2009 to 2023. The total (existing + new) well count reaches its peak in 2023 and then declines for the remainder of the LOP as well abandonment occurs.

The field-wide CD-C Project Area gas and condensate production from existing and new CD-C Proposed Action wells over the LOP are shown in Figure ES-4. From the start of the Project in 2008, production of gas and condensate from existing wells decreases. This is because production from a single gas well peaks just after drilling is completed and declines as the reservoir is drained. Gas and condensate production from the new CD-C Proposed Action wells rises while drilling is underway and then production falls off over the rest of the LOP as drilling ceases and production from all wells declines.

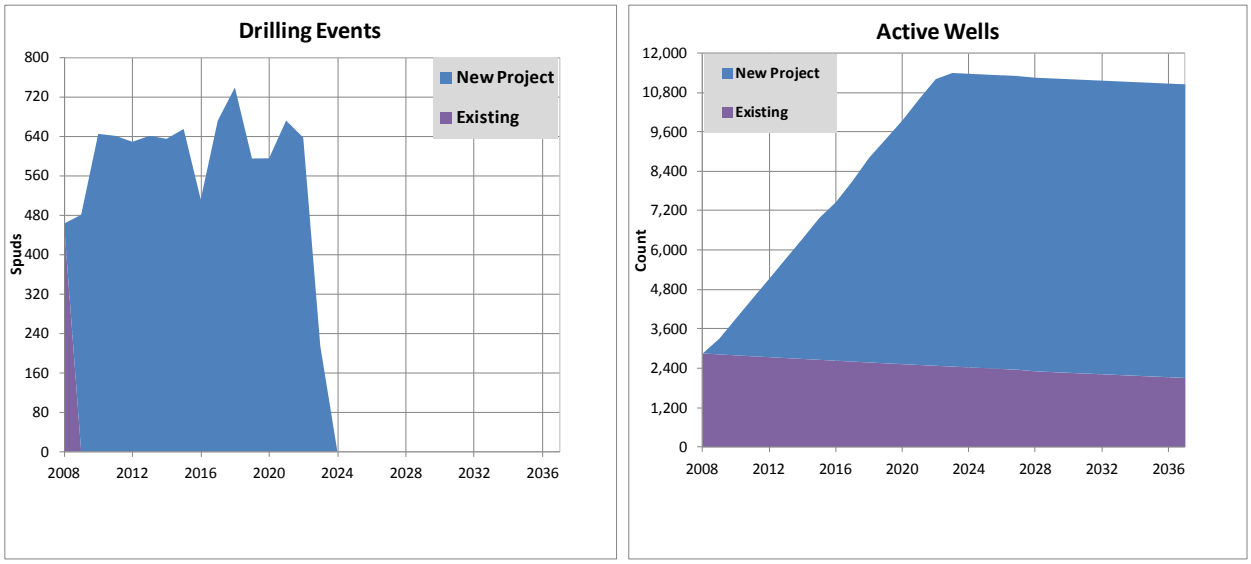

Figure ES-3. Number of CD-C Project Area wells drilled (spuds) in each year over the LOP (left panel) and number of active wells in each year over the LOP (right panel).

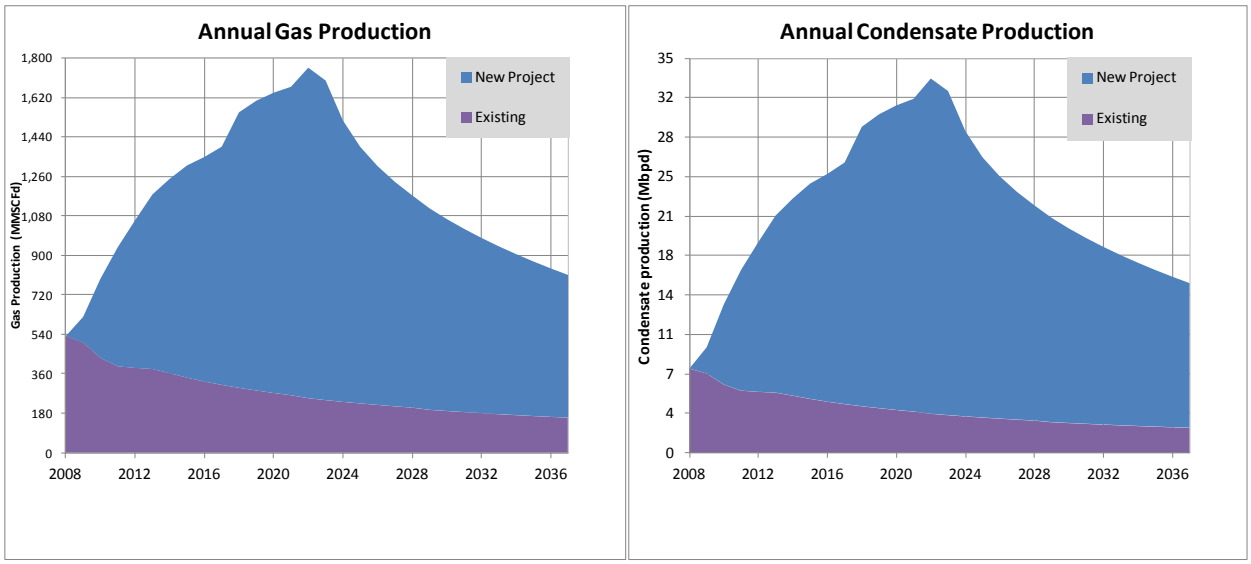

Figure ES-4. Yearly gas (left panel) and condensate (right panel) production of CD-C Project Area wells over the LOP.

Field-wide CD-C Project Area emissions are determined by the drilling and production activity. Field-wide total annual NO_X and VOC emissions for new and existing CD-C Project Area sources are shown in Figure ES-5. NO_X emissions show the impact of drilling/completion activities, with peak values coming during the time when new CD-C Proposed Action wells are being drilled. NO_X emissions drop off sharply in 2024 following the end of drilling. NO_X emissions thereafter are controlled by production sources such as compressor engines and well-site heaters. NO_X emissions from new CD-C Proposed Action sources are larger than NO_X emissions from existing sources because of the well construction/drilling activities and because there are many more new wells than existing wells (Figure ES-3).

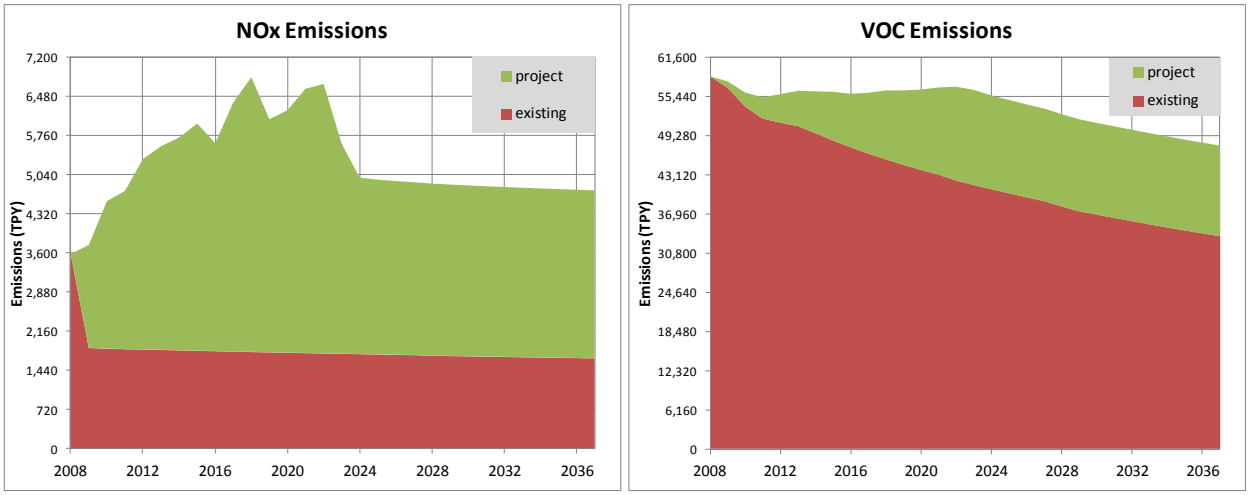

Figure ES-5. Field-wide NO_X and VOC Emissions from Existing and new CD-C Proposed Action Wells over the LOP.

VOC emissions are influenced more strongly by production sources than by drilling and completion activities. The largest sources of VOC emissions are dehydrators, condensate tanks, pneumatic pumps and well venting. These sources all depend on gas/condensate production, so that peak field-wide VOC emissions occur during the years of peak production, which are the years with the highest number of total active wells. The bulk of VOC emissions come from existing wells, which were developed during the year 2008 or prior. These wells are not subject to the controls on VOC emissions required under the WDEQ-AQD (2010) Guidance. The new CD-C Proposed Action wells are subject to these 2010 requirements, and have controls that dramatically reduce their VOC emissions. Therefore, the new wells have lower per well VOC emissions than existing wells. The effect of the emissions controls reduces the field-wide VOC emissions from new wells so that they are lower than the field-wide emissions from existing wells, despite the fact that there are more new wells than existing wells. The peak year of VOC emissions is 2008, when the active well count, gas/condensate production, and VOC emissions from existing wells are at their maximum values.

An important uncertainty in the preparation of the CD-C Project emission inventory is the speciation of flaring emissions. Of particular concern is the fraction of flaring emissions made up by formaldehyde, a highly reactive volatile organic compound which is an ozone precursor. In accordance with the BACT requirements, the CD-C Operators have indicated their intent to control future year emissions through flaring for the following emissions source categories: condensate tank flashing and working/breathing losses, pneumatic pumps, dehydrator venting, and well completion. Because flaring is a proposed control strategy in the CD-C Project, it is important to characterize the emissions from flaring as accurately as possible, and in particular, to determine the appropriate fraction of emissions comprised by formaldehyde. The amount of formaldehyde emitted can influence ozone formation due to the CD-C Project emissions and may affect near-field formaldehyde concentrations, the cancer risk assessment and the size of calculated ozone impacts from the Project.

The natural gas flaring speciation profile (0051) from EPA's SPECIATE database (Hsu et al., 2009) was used to determine the weight fractions of volatile organic compounds to total hydrocarbons in the flared gas and to determine the VOC speciation of the flared gas (i.e. the formaldehyde content of the emissions) in the CD-C Project emission inventory. Speciation profile 0051 specifies a 20% contribution by weight from formaldehyde. The origin of this profile is not readily traceable from SPECIATE database documentation or the published literature. A review of the published literature (ENVIRON and Carter Lake, 2011) indicated that there is no clear scientific consensus on the amount of formaldehyde emissions emitted from oil and gas facility flares, and that the 20% contribution from formaldehyde in SPECIATE profile 0051 likely represents an upper bound estimate of the amount of formaldehyde present in gas facility flaring emissions. Based on this information, the WDEQ-AQD provided direction that the EPA SPECIATE flaring profile 0051 should be used to speciate emissions from flaring in the CD-C Project emission inventory.

We note that the estimates of formaldehyde emissions from flaring are likely to be conservative. This will lead to conservatism in the estimates of CD-C Project ozone impacts as well as in the near-field estimates of formaldehyde concentrations and cancer risk. Speciation of flaring emissions is discussed in more detail in Section 2.1.3.4.

ES2. REGIONAL EMISSION INVENTORIES

In addition to the CD-C Project Area emissions, emission inventories for other regional existing and proposed emissions sources within a continental-scale modeling domain (Figure ES-6) were constructed and used for cumulative modeling analyses. Emission inventories prepared by the Western Regional Air Partnership (WRAP), Carter Lake, and BP and other Operators formed the basis for the regional emission inventories for the CD-C Project far-field air quality impact analysis. Sources of PM_{10}, $PM_{2.5}$, NO_X, CO, SO_2, and VOC emissions within the study area were inventoried. Emission inventories and projections from various State and Federal agencies were used to update the WRAP analyses as appropriate for each of the years modeled. Three categories of regional emissions inventories were compiled: two base case years, a baseline year, and a future year. The base case, baseline and future year air quality modeling is described in Section ES3.2.

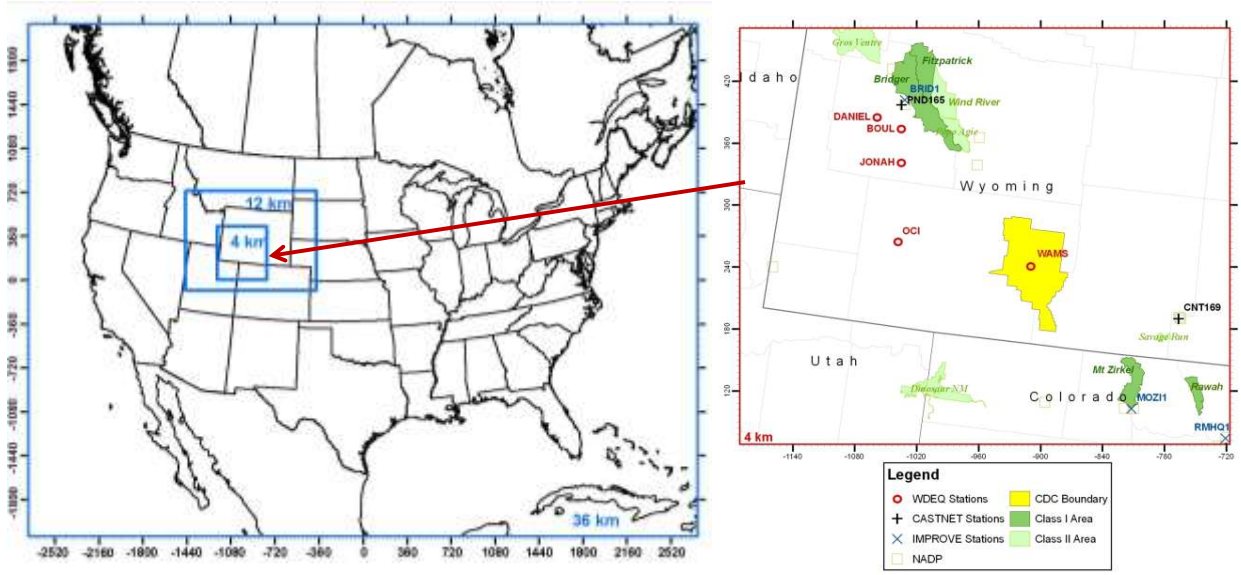

Figure ES-6. Study Area showing 36/12/4 km nested modeling grid used for photochemical grid modeling (left panel) and expanded view of the 4 km domain that was the focus of the far-field modeling impact analysis showing boundary of CD-C Project Area (yellow) and nearby Class I/sensitive Class II areas.

ES3. MODELING METHODS

In this section, we provide a brief overview of the models and methods used to carry out the near-field and far-field analyses of potential CD-C Project air quality impacts.

ES3.1 Near-Field Modeling Methods

A near-field ambient air quality impact assessment was performed to quantify maximum pollutant impacts within and nearby the CD-C Project Area resulting from Project-related development and production emissions. EPA's Guideline (EPA, 2005a) model, AERMOD (version 11353), was used to assess these near-field impacts. Regulatory model settings were used with the exception of the non-regulatory Ozone Limiting Method (OLM) model option, which was used for modeling 1-hour NO_2 concentration estimates. Three years (2008–2010) of hourly surface meteorological data measured within the CD-C Project Area near Wamsutter, along with twice daily sounding data from the Riverton, Wyoming National Weather Service (NWS) site were used for the near-field analysis. These surface data include 10 meter level measurements of wind speed, wind direction, standard deviation of wind direction [sigma theta], solar radiation, temperature (10 meter and 2 meter), and temperature difference. The AERMOD preprocessor AERMET (version 11059) was used to process the Wamsutter and Riverton meteorological data into datasets (surface data and profile data) compatible with the AERMOD dispersion model. Background pollutant concentrations provided by the WDEQ-AQD were used as an indicator of existing conditions in the region, and were assumed to include emissions from industrial emission sources in operation and from mobile, urban, biogenic, other non-industrial emission sources, and transport into the region. These background concentrations were added to modeled near-field Project impacts to calculate total ambient air quality impacts.

A near-field criteria pollutant assessment was performed to estimate maximum potential impacts of PM_{10}, $PM_{2.5}$, NO_X, SO_2, and CO from project emissions sources that are likely to operate during the development and production phases of the CD-C Project alternatives.

Near-field HAP concentrations were calculated for assessing impacts both in the immediate vicinity of Project area emission sources for short-term (acute) and long-term exposure assessments and for calculation of long-term risk. Short-term (1-hour) HAP concentrations were compared to acute Reference Exposure Levels (RELs). Long-term exposures to HAPs emitted by the Proposed Action were compared to Reference Concentrations for Chronic Inhalation (RfCs).

ES3.2 Far-Field Modeling Methods

The purpose of the far-field modeling was to quantify potential air quality impacts to both ambient air concentrations and AQRVs from air pollutant emissions of NO_X, SO_2, PM_{10}, $PM_{2.5}$, VOC and CO expected to result from the development of the CD-C Project as well as the combined effects of the CD-C Project and other new sources of emissions in the region.

The far-field air quality impact assessment for the CD-C EIS was performed with the photochemical grid model CAMx (Comprehensive Air quality Model with Extensions; ENVIRON, 2010a; www.camx.com). CAMx is an Eulerian photochemical dispersion model that allows for an integrated "one-atmosphere" assessment of gaseous and particulate air pollution (ozone, $PM_{2.5}$, PM_{10}, air toxics, mercury) over many scales ranging from sub-urban to continental. CAMx simulates the emission, dispersion, chemical reaction, and removal of pollutants in the troposphere by solving the pollutant continuity equation for each chemical species on a system of nested three-dimensional grids. The Eulerian continuity equation describes the time dependency of the average species concentration within each grid cell volume as a sum of all of the physical and chemical processes operating on that volume. CAMx was used to perform modeling of the base case years (2005-2006), the baseline year (2008), and the future year (2022).

ES3.2.1 Base Case Modeling of 2005-2006

In the base case modeling, CAMx was applied for the calendar years 2005 and 2006 using a nested-grid modeling domain with horizontal spatial resolution 36/12/4 km (Figure ES-6). The primary function of the 36 km grid domain is to provide lateral boundary conditions to the 12 km grid domain. The 4 km grid encompasses the CD-C Project Area and nearby Class I and sensitive Class II areas. The 2005 and 2006 base case model runs used actual emissions of NO_X, SO_2, PM_{10}, $PM_{2.5}$, VOC, ethane and CO from all sources for those years and included a comprehensive inventory of oil and gas (O&G) emissions sources within Southwest Wyoming developed by Carter Lake and BP as well as the WRAP Phase III O&G emissions for the Denver-Julesburg, Piceance, and Uinta Basins. The development of the 2005 and 2006 base case emissions inventories is described in Section 2.2.1 with more detailed provided in Appendix G. The emission inventories were processed through the SMOKE (Sparse Matrix Operator Kernel Emissions; Coats, 1996a,b) emissions model to prepare model-ready, gridded, speciated emissions. Meteorological inputs (temperatures, winds, etc.) were prepared using the PSU/NCAR Mesoscale Model Version 5 (MM5; Anthes and Warner, 1978; Dudhia, 1993) for the two modeled years, 2005 and 2006. The CAMx model was run for the two year period, and CAMx gas phase and particle phase model estimates were compared against observed ambient

values for those two years and a model performance evaluation was conducted (Appendix A). Model performance was deemed satisfactory by the CD-C Stakeholders. The next step in the CD-C analysis was to apply CAMx for a baseline emissions scenario.

ES3.2.2 Baseline Modeling of 2008

At their January 7, 2010 meeting, the CD-C stakeholders determined that the baseline year to be used in performing future year modeling and impact analyses would be 2008. Originally, 2006 was to have been the baseline year, but extensive development of oil and gas resources in Southwest Wyoming occurred during the 2006-2008 period, and emissions of criteria pollutants and ozone precursors from this source category were significantly larger in 2008 than in 2006. The economic slowdown in 2008-2009 led to a reduction in the pace of development such that the 2009 total emissions are smaller than 2008 emissions. 2008 was a National Emission Inventory (NEI) year, in which states submit emission inventories to the EPA. Because emission inventories for 2008 for the State of Wyoming were available at the time of the baseline modeling, and because 2008 is the year of peak emissions from the energy sector in Wyoming, the stakeholders selected 2008 as the baseline year for the impact analysis modeling. Another important factor is that more ambient monitoring data were available in 2008 than in 2006. This is critical for developing future year ozone projections. Carter Lake Consulting and ENVIRON developed a regional emission inventory for the year 2008 for use in CAMx baseline modeling, and the 2008 inventory is described briefly in Section 2.2.2 and in more detail in Appendix F.

The CD-C 2008 baseline run consisted of two annual runs. Both annual simulations were performed with 2008 emissions; one year was run with 2005 meteorology and the other year was run with 2006 meteorology. CAMx was applied using the 36/12/4 km nested-grid modeling domain as shown in Figure ES-6. The main study area was within the 12/4 km modeling domain shown in Figure ES-6 and included all sources and receptor areas of interest in the far-field air quality and AQRV assessment of the CD-C Project alternatives and regional emissions.

In addition to its use as the current year on which future year CD-C modeling was based, the 2008 baseline modeling was also used to assess the impacts of the existing emissions (as of 2008) within the CD-C Project Area on regional air quality. The purpose of this assessment was to evaluate the state of regional air quality under the baseline emission scenario. The CAMx output concentration fields were used for the evaluation of regional air quality, and the CAMx probing tools were used to isolate the contribution of existing 2008 CD-C Project area emissions sources to the total modeled concentrations. A detailed summary of the results of the 2008 baseline modeling is given in Appendix I.

ES3.2.3 Future Year Modeling of 2022

The year 2022 was selected for the CD-C future year impact analysis modeling because it is a year of high VOC and NO_X emissions from CD-C Project Area sources and is the year in which is the overall air quality/AQRV impacts from CD-C Project sources are likely to be greatest.

Future year cumulative inventories were developed for the year 2022. The WRAP 2018 inventory was used as a starting point and all non-oil and gas sources were projected or interpolated to the 2022 modeling year except: ammonia, wind-blown dust, biogenics, and fires. These source categories were held unchanged from the base years. The WRAP 2018

inventory was adjusted for emissions related to oil and gas activity for counties within the 4 km portion of the modeling domain. The WRAP 2018 oil and gas inventory was adjusted for CD-C project emissions and other Reasonably Foreseeable Development (RFD) emission sources. RFD emissions were based on recent and ongoing NEPA analyses performed within the 4 km grid region of the modeling domain.

RFD is defined as 1) air emissions from the undeveloped portions of authorized NEPA projects, and 2) air emissions from not-yet-authorized NEPA projects (if emissions are quantified when modeling commences). RFD information from not-yet-authorized projects was obtained from the BLM and was based on ongoing air quality analyses for NEPA projects. RFD information for authorized development was obtained from final NEPA documents that have been submitted to BLM for planned project development, specifically from the air quality analyses performed for these projects. RFD emissions are discussed further in the Section 2.3.1.4.

Full development of proposed projects inventoried as RFD may or may not coincide with full development of the CD-C Project. As a result, the assumption that all RFD are fully developed during the maximum year of project development results in some conservatism in the cumulative impact analysis.

Previous EIS analyses quantified and tracked sources categorized as Reasonably Foreseeable Future Actions (RFFA). RFFA were defined as sources with unexpired permits that were not yet operating within the baseline year defined for modeling. Since the WRAP 2018 emission inventories are based on future projections of source emissions that are not yet operating, the RFFA source category is not necessary for purposes of this EIS.

CAMx was configured for the 2022 runs in a manner identical to the 2008 modeling, except for the changes in the anthropogenic regional emission inventory due to growth and controls between 2008 and 2022 and the addition of the RFD sources and the CD-C Proposed Action emissions. The meteorology, boundary conditions, and model options were the same in the 2022 modeling as in the 2008 and 2005-2006 simulations.

ES4. CD-C PROJECT IMPACT ANALYSIS RESULTS

The results of the near-field and far-field air quality impact analyses are summarized in this Section.

ES4.1 Summary of Near-Field Impacts

Air quality impacts resulting from production activities associated with any of the CD-C Project alternatives over the life of the project would be below the National Ambient Air Quality Standards (NAAQS) and Wyoming Ambient Air Quality Standards (WAAQS), and would not exceed the Prevention of Significant Deterioration (PSD) Class II Increments.

Well field development activities including well pad construction and well drilling could result in elevated 1-hour NO2 concentration impacts and 24-hour $PM_{2.5}$ concentration impacts that are above the level of the NAAQS at areas immediately adjacent to these activities.

ES4.2 Summary of Far-Field Impacts

Key results of the analysis of the air quality and AQRV impacts of the CD-C Proposed Action are described below.

ES4.2.1 Criteria Pollutants Including Ozone

The CD-C Proposed Action makes no significant contribution to modeled exceedances of the National Ambient Air Quality Standards, Wyoming Ambient Air Quality Standards or Colorado Ambient Air Quality Standards for ozone or any other criteria pollutant in the 2022 future year.

For all pollutants except ozone, the CD-C modeling results show attainment throughout the 4 km domain except in the immediate vicinity of point sources unrelated to CD-C. Modeled exceedances of the CO, PM_{10} and $PM_{2.5}$ standards are the result of impacts from a 2005 fire in Lincoln County, and the lone SO_2 exceedance is highly localized and due to emissions from a Fremont County source. An ozone exceedance occurs at Boulder, Colorado, where CD-C has no significant contribution to ozone concentrations.

Examination of the spatial scale and magnitude of the CD-C Project contribution to criteria pollutant concentrations within the 4 km grid shows that exceedances of the ambient air quality standards in the 2022 future year modeling are not related to emissions from the CD-C Project.

The CD-C Project contribution to the future year ozone design values was assessed using the EPA's Modeled Attainment Test Software (MATS; Abt, 2009) and the absolute modeled concentrations. The MATS-estimated CD-C Proposed Action maximum impact on the 2022 future year ozone design value is less than or equal to 0.8 ppb for both meteorological years. The two year approximation to a 2022 design value obtained using absolute model concentrations shows the CD-C Proposed Action maximum ozone impact to be 1.6 ppb or less. For both the absolute modeled concentration and MATS results, the largest ozone impacts due to the CD-C Proposed Action emissions were in the vicinity of the Project Area. In Sublette County, where the only MATS-projected exceedances of the 75 ppb NAAQS occur, ozone impacts due to the CD-C Proposed Action were less than or equal to 0.04 ppb. The highest CD-C ozone contributions occurred on days when regional 8-hour ozone was low (<60 ppb).

Prevention of Significant Deterioration (PSD) Increments are not exceeded at any Class I or sensitive Class II area within the 4 km domain.

ES4.2.2 AQRV Impacts

ES4.2.2.1 Visibility Impacts

The visibility analysis showed 1-5 days with CD-C Proposed Action visibility impacts greater than 0.5 dv at Class I and sensitive Class II areas over the course of the 2 year simulation of the future year emissions scenario. There was 1 day with CD-C Proposed Action visibility impact >1.0 dv during this period. The largest visibility impacts occurred at the Savage Run, Dinosaur and Mount Zirkel areas. No other Class I or sensitive Class II area had any day with visibility impacts >0.5 dv due to the CD-C Proposed Action emissions.

ES4.2.2.2 Deposition Impacts

There were no sulfur deposition impacts from CD-C Project exceeding the DAT at any Class I/sensitive Class II area; however, the DAT for nitrogen was exceeded at several Class I areas near/downwind of CD-C Project area.

ES4.2.2.3 Acidification at Sensitive Lakes

There were no ANC changes exceeding the 10% threshold or sensitive lake impacts where ΔANC<1 μeq/L due to emissions from the CD-C Proposed Action.