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FINAL
ENVIRONMENTAL IMPACT STATEMENT

ATLANTIC RIM

NATURAL GAS FIELD DEVELOPMENT PROJECT

Prepared by

Bureau of Land Management
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Rawlins, Wyoming

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Executive Summary

Executive Summary

The Department of the Interior (DOI), Bureau of Land Management (BLM) Rawlins Field Office (RFO) has received a proposal from Anadarko E & P Company, LP, as lead proponent for a group of companies including Warren Resources, Inc., Double Eagle Petroleum and Mining Company (Companies), and other natural gas operators (collectively known as the Operators) to develop and remove natural gas resources in south western Carbon County, Wyoming. Operations are proposed for the Atlantic Rim Project Area (ARPA) encompassing 270,080 acres of land located in Townships 13 North to 20 North and Range 89 West to 92 West, south and west of Rawlins, Wyoming. Life of project (LOP) is estimated to run from 30 to 50 years.

The DOI/BLM RFO has determined the proposed project would constitute a major federal action and, therefore, requires the preparation of an environmental impact statement (EIS) in accordance with the National Environmental Policy Act of 1969, as amended (NEPA). This Final EIS (FEIS) replaces the Draft EIS in its entirety and was prepared in accordance with NEPA to assess the environmental consequences of the Operator's proposed action and alternative courses of action. It is intended to provide the public and decision-makers with a complete and objective evaluation of impacts that might occur from the Proposed Action and reasonable alternatives.

The State of Wyoming is a cooperating agency in this EIS with active participation from many agencies including in part the State Planning Office, Wyoming Game and Fish Department, the State Historic Preservation Office, the Wyoming Department of Environmental Quality, and the Wyoming Department of Agriculture. Other cooperating agencies include the Saratoga Encampment Rawlins Conservation District and the Little Snake River Conservation District.

Proposed Action

The Operators proposed to drill and develop up to 2,000 new natural gas wells. Approximately 1,800 wells would be drilled to coals within the Mesaverde Group to develop coalbed natural gas (CBNG) resources. An additional 200 wells would be drilled to access conventional natural gas found in other formations, generally expected to be deeper than the Mesaverde coals. The 2,000 proposed new natural gas wells would be in addition to the 116 ARPA exploration wells already drilled in the interim drilling period.

Proposed well spacing is eight wells per section (80-acre spacing) throughout the project area, but may reduce to four wells per sections (160-acre spacing) depending on the geology and ability of the operators to recover the gas resource. Development and drilling would begin in 2007 and continue for approximately 20 years, with a LOP of 30–50 years. Various drilling—and production—related facilities (e.g., roads, pipelines, water wells, disposal wells, compressor stations, and gas processing facilities) would also be constructed throughout the ARPA.

Scoping

Public and agency scoping was conducted to determine issues relative to the Proposed Action. A scoping notice and informational materials were mailed to potentially interested parties beginning in 2001 under the title "Atlantic Rim Coalbed Methane Project." Subsequently, the

project was re-named the "Atlantic Rim Natural Gas Development Project" in view of the proponents' request to reduce the number of wells proposed and to develop a limited number of conventional gas wells. All issues identified during scoping and BLM and Interdisciplinary Team reviews were evaluated to identify key issues that drove development of alternatives and the impact analyses. 13 key issues were identified including: Increased traffic on existing county, state, and BLM roads, adverse socio-economic impacts to local communities, impacts to surface water hydrology including increased rates of delivery of sedimentation and salts to the Colorado River system, impacts to groundwater resources, impacts to sensitive soils, impacts to air quality, successful and timely reclamation of disturbed areas, conflicts with livestock management operations, impacts to cultural and historic values within the area including historic trails, impacts to wildlife habitats, impacts to threatened, endangered and sensitive plant and wildlife species, the cumulative effects of drilling and development activities, and potential conflicts between mineral development and recreational activities. Comments to the Draft EIS (DEIS) developed two additional key issues; directional drilling/well spacing, and phased development.

The three action alternatives summarized below meet the Purpose and Need of the proposal but vary in response to the key issues. An alternative considered in depth in the DEIS (Alternative B) has not been carried over to the FEIS. Other alternatives were considered but eliminated from detailed study.

Alternatives

Alternative A - No Action

NEPA regulations require that EIS alternative analyses "include the alternative of no action" [40 CFR 1502.14(d)]. For this analysis, "no action" means that the BLM would reject the Proponents proposal and the proposed activity would not take place. Development activities and operations approved under EAs during the interim drilling period would continue as approved.

Alternative C

Under Alternative C the operators would be approved to develop natural gas resources from the desired target formations but operations would be subject to development protection measures (DPM) in those areas with sensitive or crucial resource values (as detailed in appendix L), likely resulting in fewer acres of disturbance and reduced road density on federal lands. Generally DPMs focus on surface disturbance limits, selection of facility locations, drilling, and construction practices and, in some cases, no surface occupancy. Examples of such areas where DPMs would be applied are wildlife and fish habitat and areas with sensitive soils. As an end product, geographic information system (GIS) layers would be available to operators for development of site-specific proposals for their planning of the annual program.

Alternative D - BLM Preferred Alternative

The goal of this alternative is to minimize surface disturbance while optimizing natural gas recovery. Annual planning between the operators and the BLM would be a key component of this alternative. The annual planning would require the operators to submit to the BLM their proposed plan of operation for the forthcoming year. The BLM would then work with the operators at a site-specific level to minimize surface disturbance by applying the appropriate

lease stipulations, conditions of approval, best management practices, and any other measures deemed necessary to minimize surface disturbance and still allow for the recovery of natural gas.

Coalbed and conventional natural gas resources would be developed, while reclamation activities stabilize disturbed soils and vegetation communities. For the overall Atlantic Rim area, no more than 7,600 acres of the project area would be disturbed and unsuccessfully reclaimed at any time. For the overall Atlantic Rim area, there would be a 6.5 acres/wellpad short-term disturbance goal (2.8% of the ARPA). Those areas designated as "Category A" would have a short-term disturbance goal of less than 6.5 acres per well pad. Category A, as depicted on map M-7, includes areas with sensitive fish populations, and crucial wildlife habitats, and unique vegetation communities, and is about 72,200 acres in extent.

Environmental Impacts

Geology / Minerals / Paleontology

No significant effects are anticipated for these resources under any of the action alternatives (Proposed Action and Alternatives C and D). The purpose of this proposal is to remove and market natural gas resources. These resources would be permanently depleted.

Air Quality

Air quality impacts from the project would occur from pollutants emitted during construction and production operations. The assessment of project potential impacts included both a near-field and a far-field analysis. The near-field analysis assessed direct project impacts in the immediate vicinity of project activities resulting from construction or production reflective of maximum emissions. The far-field analysis assessed potential impacts from field-wide project emissions at in-field locations within the ARPA and at far-field locations (i.e., sensitive Class I and Class II areas). The far-field analysis also assessed regional emission sources located with the model domain.

Near-field impacts from action alternatives emissions were shown to be below the applicable Wyoming Ambient Air Quality Standards (WAAQS) and National Ambient Air Quality Standards (NAAQS). For far-field effects direct visibility impacts from the action alternatives were predicted to be below the "just noticeable visibility change" (1.0 dv) at all sensitive wilderness areas using both the Federal Land Managers' Air Quality Related Values Workgroup (FLAG) and Interagency Monitoring of PROtected Visual Environments (IMPROVE) background visibility data. Project source emissions from the action alternatives would result in an acid neutralizing capacity (ANC) change less than the level of acceptable change (LAC) at analyzed acid-sensitive lakes. The predicted maximum S and N deposition potential impacts from all action alternatives are below the 0.005 kg/ha-yr DAT at all the sensitive PSD Class I and Class II areas. For potential in-field impacts all action alternatives are below applicable ambient air quality standards.

Soils

The revegetation potential of disturbed soils is expected to be low to moderate under all the alternatives. While no biological crusts are mapped or known to exist within the ARPA, some crusts, if they do exist, may be damaged as a result of selecting any of the action alternatives.

Water Resources

Impacts to waterbodies with impairment or threats of impairment to the State of Wyoming's 303d list (Muddy Creek) are expected from the Proposed Action and Alternative D. Impacts to Muddy Creek under Alternative C would not likely be significant.

Salinity loading in run-off would increase above background conditions for the Proposed Action and Alternative D. Under Alternative C salt loads would be measurably higher but are not expected to be significant.

Under the Proposed Action and Alternative D changes in hydrologic function in wetlands would occur and indirect impacts could be significant. Direct impacts are expected to occur but not be significant. For Alternative C, direct and indirect impacts are not likely to be significant. Changes in streamflow characteristics would occur under any of the action alternatives and indirect effects could be significant.

For Proposed Action and Alternative D changes in geomorphology due to increased surface run-off, erosion, and increased sediment loads would occur in localized areas and cumulative impacts would be significant. Impacts are not likely to be significant under Alternative C. The Standard for Healthy Rangelands for water resources would continue to fail in areas due to indirect impacts and would be significant for any of the action alternatives

Groundwater

Under all of the action alternatives, impacts to wells, seeps and springs emanating from the upper Mesaverde Group are expected to be significant due to coalbed dewatering. In addition short-term reductions in flows to artesian wells are expected. Groundwater quality is not likely to be significantly diminished under any of the alternatives.

Range and Other Land Uses

Significant impacts from changes in animal unit months (AUMs), livestock mortality, and disturbance of livestock grazing operations and facilities are expected under the Proposed Action and Alternative D. Under Alternative C, impacts are expected to be somewhat reduced due to reduced surface disturbance and implementation of development protection measures.

Vegetation

Effects from increased erosion from roads on moderate to steep slopes and alkali sage communities prone to erosion would result in long-term loss of productivity with significant effects for the Proposed Action and Alternative D.

Indirect effects from erosion and altered run-off patterns from adjacent uplands would have significant impacts for riparian communities under the Proposed Action and Alternative D. Effects are not expected to be significant under Alternative C. Long-term loss of shrubs, including Wyoming and alkali sagebrush sites, is expected to have significant impacts under the Proposed Action and Alternative D. Reduced surface disturbance on federal lands and treatment of roads would result in lower impacts to vegetation and may not be significant if overall browse use rates remain at moderate levels under Alternative C.

For those aspen and mountain shrub communities that have failed Rangeland Health Standards, additional disturbance from development would exacerbate the failed standard, resulting in increased difficulty in meeting the Standard and corresponding significant effects.

The potential for the spread or new infestations of weeds on disturbed sites is high to very high, although impacts would not exceed the significance criteria for Alternative D and the Proposed Action. The possibility of reduced surface disturbance and utilization of development protection measures on federal lands could result in reduced spread and infestation of weeds under Alternative C.

Wildlife

For the Proposed Action and Alternative D, impacts on shrub-dependant songbird nesting habitats would be significant. Under Alternative C, impacts are not expected to be significant. Impacts to greater sage-grouse and Columbian sharp-tailed grouse would be significant under all the action alternatives. For big game, including mule deer and elk, significant effects are expected under all the action alternatives.

Impacts to threatened and endangered, proposed and candidate species, other sensitive species (other than greater sage-grouse and sharp-tailed grouse), and raptors are not expected to be significant under any of the action alternatives. Impacts to threatened and endangered fishes occurring downstream of the ARPA are not expected to occur. Significant impacts to BLM sensitive fishes are expected under the Proposed Action and Alternative D in Muddy Creek. Under Alternative C significant impacts are not expected.

Recreation

Under all the action alternatives displacement of wildlife and the loss of a naturally-appearing setting would make the ARPA less desirable for hunting or wildlife viewing. Visitors would be displaced and impacts would be significant. Impacts to scenery, noise, dust, and human activity would reduce the ARPA's desirability as a place to camp significantly under all the action alternatives.

Visual Resources

For pleasure driving and mountain biking, impacts would be significant for the Proposed Action and Alternative D. Impacts would not be significant under Alternative C. Management objectives for Visual Resource Management (VRM) Class III viewsheds would be exceeded under Alternative D and the Proposed Action. Management objectives would not be exceeded under Alternative C.

Cultural Resources

Impacts to cultural resources as a result of construction activities could impact an estimated 126 sites under all the action alternatives. Reduced visual impacts to settings, where they contribute to site eligibility for historic trails, is expected to be less under Alternative C compared to the Proposed Action and Alternative D.

Socioeconomics

Economic Effects. Economic impacts of natural gas development and production would be largely positive under the action alternatives. Based on the assumptions used for this assessment, natural gas development would enhance regional economic conditions and generate substantial local, state and federal tax and royalty revenues. Economic benefits would be similar for the Proposed Action and Alternatives D. Alternative C would likely result in reduced income and revenue from the gas. Drilling expenditures could be higher for individual wells under Alternative C than the Proposed Action and Alternative D, based on the various development protection measures that might apply on federal lands. Comments to the DEIS from the proponents assert that Alternative C may not be economically feasible and would not result in full development and extraction of the natural gas resource. Economic benefits to leaseholders would be less under Alternative C.

Direct expenditures for drilling/field development are anticipated to be $981 million, although Alternative C costs would likely be higher, depending on development protection measures. Economic impacts from drilling/field development are expected to be $1.25 billion with lesser income for Alternative C. For the Proposed Action and Alternative D, 578 average annual jobs are predicted. Under Alternative C, fewer jobs could occur from a corresponding reduction in well numbers. A total of $6.4 billion in total economic impacts related to production are expected for Alternative D and the Proposed Action. Less revenue could be realized under Alternative C. Impacts to other economic activities within the ARPA include the potential for reductions in the grazing, recreation, and hunting income from the Proposed Action and Alternative D, although disturbance limits may reduce negative effects on grazing and recreation activities. Alternative C is similarly expected to have a reduced impact on these activities.

Peak year drilling and production employment is predicted at 1,490 jobs for the Proposed Action and Alternative D. Peak year population impacts are estimated at about 1,100 people and peak year housing demand at 440 units for both alternatives. For Alternative C, effects would be reduced if less wells are drilled due to development protection measures or if the alternative proves to be uneconomic or to not fully remove the natural gas resource.

Local government facility and service demands are expected to be generally the same for all three action alternatives. Most local government facilities have excess capacity, while some services may need to expand to accommodate growth. County and special district revenue should be adequate to address development needs, but may lag at the time that development—related demand occurs. Municipalities which do not receive royalties, depletions, or similar mineral extraction revenues may not receive direct project related income in sufficient amounts of offset the costs of needed expansion in some cases.

Specific amounts of revenue anticipated are detailed in chapter 4, section 12. For all the various revenue sources, the Proposed Action and Alternative D are expected to have similar effects. Revenues under Alternative C are expected to be less, depending on the effects of development protection measures on the number of wells drilled and gas extracted.

Transportation

Specifics of increased traffic levels are detailed in chapter 4. Average annual daily travel levels would increase for Carbon County Road (CCR) 605N (20 Mile Road), CCR 608 (Wild Cow Road), CCR 501 (Cherry Grove Road), Interstate 80, WY 789, and WY 70 under the Proposed

Action and Alternative D. Increased traffic levels would be lower under Alternative C depending upon the impacts of development protection. Impacts to county roads would include additional maintenance costs, offset by increased property tax revenues from production, with the possibility of a lag time between the need for work and the realization of revenue. There is a history of cooperative action between the companies and the Carbon County Road and Bridge Department that may off-set this effect.

Health and Safety

The risk of industrial injuries would occur under all three action alternatives. If less wells are drilled under Alternative C, there would be a correspondingly reduced risk of hazards. The potential for hazardous material spills/exposure would be the same for the Proposed Action and Alternative D, and somewhat reduced under Alternative C.

Noise

For all alternatives, noise levels associated with drilling, field development, and operations activities may temporarily exceed the threshold USEPA average 24-hour noise level of 55 dBA at specific locations within the ARPA, but the lack of year-round occupied human residences and the low level of non project-related human occupation of the project area would result in minimal noise impacts to persons other than project employees. Although noise impacts associated with compression facilities would be long term in duration, these same factors, absence of human residences and low levels of human occupation, would result in minimal compression facility noise impacts. Noise levels would be similar for the Proposed Action and Alternatives C and D, except that noise disturbances would likely occur at fewer locations under Alternative C if resource protection measures resulted in fewer wells being drilled.

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FINAL EIS

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List of Acronyms/Abbreviations

LIST OF ACRONYMS/ABBREVIATIONS

^{o}F	Degrees Fahrenheit
µeq/L	microequivalents per liter
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
µmhos/cm	micromhos per centimeter
AADT	annual average daily traffic
ACEC	Area of Critical Environmental Concern
ac-ft/yr	acre feet per year
ACHP	Advisory Council on Historic Preservation
ACOE	U.S. Army Corps of Engineers
AEPC	Anadarko E & P Company, LP
AIRFA	American Indian Religious Freedom Act of 1978
AJE	annual job equivalents
AML	appropriate management level
amsl	above mean sea level
ANC	acid neutralizing capacity
ANS	artificial nesting structures
AO	Authorized Officer
APD	Application for Permit to Drill
APE	area of potential effect
APLIC	Avian Power Line Interaction Committee
AQRV	Air Quality Related Values
ARNG	Atlantic Rim Natural Gas Project
ARPA	Atlantic Rim Project Area
ARS	Air Resource Specialists
ATT	*Artemisia tridenata ssp. tridentata (*basin big sagebrush)
ATV	All-terrain vehicle
ATVII	*Artemisia tridentata ssp. vaseyana* and *Artemisia tridentata ssp. pauciflora* (mountain big sagebrush)
ATW	*Artemisia tridentata ssp. Wyomingesis* (Wyoming big sagebrush)
AUM	animal unit month
BA	Biological Assessment
BACT	Best Available Control Technology
bbl	barrel
BBS	Breeding Bird Survey

LIST OF ACRONYMS/ABBREVIATIONS

bcf	billion cubic feet
bcf/mile^2	billion cubic feet per square mile
BCLLC	Blankenship Consulting, LLC
BLM	Bureau of Land Management
BMP	Best management practice
B.P.	before present
bpd	barrels per day
bwpd	barrels of water per day
CAAQS	California Ambient Air Quality Standards
$CaCO_3$	calcium carbonate
CASTNET	Clean Air Status and Trends Network
CBNG	coal bed natural gas
CCR	Carbon County Road
CCSD	Carbon County School District
CDNST	Continental Divide National Scenic Trail
CD/WII	Continental Divide/Wamsutter II
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIA	cumulative impact analysis
CIRA	Cooperative Institute for Research in the Atmosphere
CO	carbon monoxide
COA	condition of approval
COE	Corps of Engineers
CR	County Road
CRBSCF	Colorado River Basin Salinity Control Forum
CREG	Consensus Revenue Estimating Group
CRM	Coordinated Resource Management
CRP	Conservation Reserve Program
CSU	controlled surface use
CWA	Clean Water Act
CWIN	crucial winter
CWRRI	Colorado Water Resources Research Institute
CWYL	crucial winter/yearlong

DAT	deposition analysis thresholds
dBA	decibel
DEIS	Draft Environmental Impact Statement
DEM	Digital elevation model
DOI	Department of the Interior
DOT	Department of Transportation
DPM	Development protection measures
dv	deciview
EA	Environmental Assessment
EIA	Energy Information Agency
EIS	environmental impact statement
EMT	emergency medical technician
EO	Executive Order
ESA	Endangered Species Act of 1973
FCR	Fire Cracked Rock
FEIS	Final Environmental Impact Statement
FLAG	Federal Land Managers' Air Quality Related Values Workgroup
FLPMA	Federal Land Policy and Management Act of 1976
ft	feet
FY	fiscal year
gal	gallons
GDRA	Great Divide Resource Area
GIS	geographic information system
GLEES	Glacier Lakes Ecosystem Experiment Site
gpd	gallons per day
gpd/ft	gallons per day per foot
gpd/ft^2	gallons per day per square foot
gpm	gallons per minute
GPS	Global Positioning System
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HAP	Hazardous Air Pollutants
HMA	herd management area
HSI	Hydro-Search, Inc.
HUC	hydrologic unit code
HWA	Hayden-Wing Associates

I-80	Interstate 80
IDP	interim exploration drilling program
IDT	interdisciplinary team
IMPLAN	impact analysis for planning
IMPROVE	Interagency Monitoring of PROtected Visual Environments
JTU	Jackson turbidity units
kg/ha-yr	kilograms per hectare per year
km	kilometers
KMDA	known mineral deposit area
LAC	level of acceptable change
lb	pound(s)
LMWL	Local meteoric water line
LOC	levels of concern
LOP	life-of-project
LOS	level of service
LSRCD	Little Snake River Conservation District
LSRV	Little Snake River Valley
MA	Management Area
MCF	thousand cubic feet
meq/L	milliequivalents per liter
MEI	maximally-exposed-individual
mg/L	milligrams per liter
mi^2	Square mile
mL	micro liter
MLE	most-likely-exposure
MMCF	million cubic feet
mmcfd	million cubic feet per day
MOA	Memorandum of Agreement
MODFLOW	Three Dimensional Finite Difference Modular Groundwater Flow Model
MOU	Memorandum of Understanding
mph	miles per hour
MSDS	Material Safety Data Sheet
MSUP	Master Service Use Plan

N	nitrogen
n/a	not applicable
NAAQS	National Ambient Air Quality Standards
NADP	National Acid Deposition Program
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NARCS	National Applied Resource Sciences Center
ND	non-detect
NEIC	National Earthquake Information Center
NEP	National Energy Policy
NEPA	National Environmental Policy Act
NGPC	Nebraska Game and Parks Commission
NHPA	National Historic Preservation Act
NM	not measured
NOA	Notice of Availability
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPC	National Petroleum Council
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	National Resources Conservation Service
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
NSR	New Source Review
NTN	National Trends Network
NTU	normal turbidity unit
NWI	National Wetland Inventory
O_3	ozone
OHV	off-highway vehicles
OSHA	Occupational Safety and Health Administration
OUT	non-use areas
P & A	plugged & abandoned
PA	Programmatic Agreement
PAH	polynuclear aromatic hydrocarbons
PCA	Portland Cement Association
pCi/L	picocuries per liter
PEDCO	Petroleum Development Corporation
PFC	Proper Functioning Condition

pH	measure of acidity or alkalinity
PLS	pure live seed
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
POD	plan of development
POM	polycyclic organic matter
PRBP	Powder River Basin Oil & Gas Development Project
PSD	Prevention of Significant Deterioration
psi	pound per square inch
RCRA	Resource Conservation and Recovery Act
RfC	reference concentration for chronic inhalation
RFD	reasonably foreseeable development
RFFA	reasonably foreseeable future activities
RFO	Rawlins Field Office
REL	reference exposure limit
RIP	Recovery Implementation Plant
RMG	Reservoir Management Group
RMP	Resource Management Plan
RMPPA	Resource Management Plan Planning Area
ROD	Record of Decision
ROW	right-of-way
RPM	Reactive Plume Model
RV	recreational vehicle
S	sulfur
SAR	sodium absorption ratio
SARA	Superfund Amendments and Reauthorization
scf	standard cubic feet
SCCA	South Central Conservation Area
SCS	Soil Conservation Service
SEO	State Engineer's Office
SHPO	State Historic Preservation Office
SMA	Special Management Area
SMOW	an international standard used for oxygen and hydrogen isotopic analysis
SO_2	sulfur dioxide
SO_4	sulfate
SPCC	Spill Prevention Control and Countermeasures
sq.mi.	square mile

SSF	spring/summer/fall
s.u.	standard units
SUP	Surface Use Plan
SVR	standard visual range
SWPPP	Storm Water Pollution Prevention Plan
SWR	severe winter relief areas
TCF	trillion cubic feet
TCP	traditional cultural properties
TDS	total dissolved solids
TEC&SC	threatened, endangered, candidate, and other species of concern
TSS	total suspended solids
TU	Tritium Unit
UGBMA	Upland Game Bird Management Area
UGMA	Upland Game Management Area
UND	undefined areas
UNK	unknown
USDA	United States Department of Agriculture
USDA-FS	United States Department of Agriculture Forest Service
USDA-SCS	United States Department of Agriculture, Soil Conservation Office
USDI	United States Department of the Interior
USDI-BLM	United States Department of the Interior, Bureau of Land Management
USDI-FWS	United States Department of the Interior, Fish and Wildlife Service
USDL-BLS	United States Department of Labor, Bureau of Labor Statistics
USDOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
USGS	United State Geological Survey
UW	University of Wyoming
VOC	volatile organic compounds
VRM	Visual Resource Management
WAAQS	Wyoming Ambient Air Quality Standards
WAS	Western Archaeological Services
WDAI	Wyoming Department of Administration and Information
WDE	Wyoming Department of Employment
WDEA	Wyoming Division of Economic Analysis
WDEQ	Wyoming Department of Environmental Quality
WDEQ-AQD	Wyoming Department of Environmental Quality – Air Quality Division

WDEQ-WQD	Wyoming Department of Environmental Quality – Water Quality Division
WDOR	Wyoming Department of Revenue
WGFD	Wyoming Game and Fish Department
WGS	Wyoming Geological Survey
WHDP	Wyoming Housing Database Partnership
WHMA	Wildlife Habitat Management Area
WIN	winter
WOGCC	Wyoming Oil and Gas Conservation Commission
WOS	Wildlife Observation System
WRCC	Western Regional Climate Center
WRDS	Water Resource Data Center
WRES	Warren Resources Incorporated
WRS	Wyoming Revised Statutes
WS	Wyoming Statutes
WSLUC	Wyoming State Land Use Commission
WTA	Wyoming Taxpayers Association
WWC	WWC Engineering
WY	Wyoming State Highway
WYDOT	Wyoming Department of Transportation
WYL	winter/yearlong
WYNDD	Wyoming Natural Diversity Database
WYPDES	Wyoming Pollutant Discharge Elimination System
yr	year