

State of Colorado
Oil and Gas Conservation Commission

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09/15/2021

CUMULATIVE IMPACTS DATA IDENTIFICATION

Per Rule 303, this form and all required components and attachments will be submitted for any Oil and Gas Development Plan.

Form Type: ☒ OGD ☐ Partial 2B - Rule 803.b.(2).A UIC Conversion

OPERATOR INFORMATION

OGCC Operator Number: 10633	Contact Name and Telephone:
Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC	Name: Kathy Denzer
Address: 1801 CALIFORNIA STREET #2500	Phone: (720) 822-8083
City: DENVER State: CO Zip: 80202	Email: RegulatoryState@crestonepr.com

OIL & GAS DEVELOPMENT PLAN INFORMATION

Oil & Gas Development Plan Name: Blue 3-65 33-32-31

Oil & Gas Development Plan Docket #: Oil & Gas Development Plan ID #:

Docket Number

210900150

Data not required

☐ This OGD is included in a Comprehensive Area Plan. CAP ID #: _____

OIL & GAS LOCATION DATA

1 Oil & Gas Location Name: Blue Number: 3-65 33-32-31 Status: Proposed

OIL & GAS LOCATION INFORMATION

Form 2A Doc#: 402779501

Loc ID#: _____

Oil & Gas Location: QTRQTR: NWNW Sec: 34 Twp: 3S Rng: 65W Meridian: 6

Total number of wells planned: 7

Operations Duration

Estimated total number of weeks to construct this Oil & Gas Location: 10

Estimated total number of weeks to drill all planned wells for this Oil & Gas Location: 7

Number of planned drilling occupations to drill all planned wells for this Oil & Gas Location: 2

Estimated total number of weeks to complete all planned wells for this Oil & Gas Location: 15

Number of planned completions occupations to complete all planned wells for this Oil & Gas Location: 1

Will there be simultaneous drilling and completions operations occurring at this Oil & Gas Location? No

Estimated total number of months the Oil & Gas Location will be active, prior to abandonment and reclamation: 240

Noise Impacts

Provide a qualitative evaluation of the incremental adverse noise impacts to the surrounding receptors during the pre-production activities at this Oil & Gas Location.

Receptors of noise impacts during pre-production are industrial activities nearby, which is an asphalt plant, transient wildlife and motorists on Interstate 70 and Colfax Ave. The nearest residential building units are across Interstate 70 and will experience minimal impacts from noise due to ambient noise from the interstate and existing industrial activities. The noise during construction, drilling and completions should not increase the noise levels resulting in additional impacts.

Provide a qualitative evaluation of the incremental adverse noise impacts to the surrounding receptors during the production stage of this Oil & Gas Location.

The nearest residential building unit is across Interstate 70. Other surrounding receptors are all industrial in nature including an asphalt plant. Impacts from noise to the receptors will be minimal due to the ambient noise from Interstate 70 and the surrounding industrial operations.

Light Impacts

Provide a qualitative evaluation of the incremental adverse light impacts to the surrounding receptors during the pre-production activities at this Oil & Gas Location.

During pre-production phases, additional lighting from the construction, drilling and completions phases will be continuous and due to safety requirements. The nearby asphalt plant is not open to the public after 6pm nor do they have employees at the facility after 6 pm. Night work will not impact the business. A large berm will be constructed on the south of the pad. Therefore, light will not impact the residential building unit across Interstate 70 or the interstate itself.

Provide a qualitative evaluation of the incremental adverse light impacts to the surrounding receptors during the production stage of this Oil & Gas Location.

No permanent or temporary lighting is anticipated during production. Motorists on either Colfax Ave. or Interstate 70 will not be impacted by the light produced by the trucks entering the location to gather resources and inspect the location. Nor will these operations impact the nearby asphalt plant or residential building units that are across Interstate 70.

Odor Impacts

Provide a qualitative evaluation of the incremental adverse odor impacts to the surrounding receptors during the pre-production activities at this Oil & Gas Location.

Odor impacts will be minimal during pre-production based on the BMPs being utilized. The area is already industrial with an asphalt plant nearby and major roadways.

Provide a qualitative evaluation of the incremental adverse odor impacts to the surrounding receptors during the production stage of this Oil & Gas Location.

Odor impacts will be minimal to any receptors during the production stage. Odors will come from traffic to and from the location to remove resources and inspect the location.

WATER RESOURCES

☒ This Oil & Gas Location is listed as a sensitive area for water resources.

☒ This Oil & Gas Location is within 2,640 feet of a surface Water of the State.

Estimated depth to groundwater: 18

Estimated total planned on-location storage capacity of the Oil & Gas Location for:

	Number of Tanks	Total Volume (bbls)
Oil	<u>4</u>	<u>2000</u>
Condensate	<u>0</u>	<u>0</u>
Produced Water	<u>2</u>	<u>1000</u>
Other volumes of stored fluids, hydrocarbons, chemicals, or E&P Waste Fluids	<u>4</u>	<u>3000</u>

List, with volumes, the "Other" fluids planned to be stored on the Oil & Gas Location, including, but not limited to: hydrocarbons, chemicals, or E&P Waste fluids.

500-gal methanol
500-gal corrosion inhibitor
500-gal paraffin chemical
500-gal scavenger
2000-bbl oil
1000-bbl produced water

Potential Impacted Surface Water Resources

Provide the distance and direction of the contaminant migration pathway from the Oil & Gas Location to the nearest downstream riparian corridors, wetlands, and surface Waters of the State. Also provide an evaluation of the baseline condition of the nearest downstream riparian corridors, wetlands, and surface Waters of the State.
 Enter 2,640 for distances greater than 1/2-mile. Distances are measured along the migration pathway, not a straight line from the edge of the Oil & Gas Location.

	Distance	Direction	Evaluation of Baseline Condition
Riparian Corridor	5280	SW	Forested/shrub Riparian classified Rp1FO
Wetland	5280	E	Freshwater emergent wetland classified as PEM1Af.
Surface Waters of the State	1661	NW	Riverine habitat classified as R4SBA.

Potential Impacts to Public Water Resources
 Provide the distance, direction, and evaluation of potential impacts to the nearest Public Water System Intake. Enter 5,280 for distances greater than 1-mile.

	Distance	Direction	Evaluation of Baseline Condition
Public Water System Intake	5280	NE	There are no Public Water Sytem intakes within 1 mile of the proposed location.

Estimated Water Usage
 Provide the estimated total volumes of the following that are anticipated to be used during the drilling and completions stage of the Oil & Gas Location activity.

Water Source	Volume (bbls)		Volume (bbls)		Volume (bbls)		
Surface Water	0	Recycled Water (Produced Water)	0	Unspecified Source	0	Percentage Recycled Water	0 %
Ground Water	3524500	Recycled Water (non-Produced Water)	0	Total Water Usage	3524500		

If an unspecified water source is planned to be used, provide a description of the source.
 N/A

Evaluate the measures being taken to reduce freshwater use, including reusing and recycling produced water.
 Due to the limited amount of produced water from Crestone in this region, Crestone balanced the potential environmental, health, and safety risk from loading, unloading and treating produced water for use in completions activity against the benefit of water recycle. In addition, there are no sources of Regulation 84 reclaimed water north of I-70 for use in our completions operations.

ECOSYSTEM & WILDLIFE RESOURCES

List High Priority Habitats (HPH) that occur within one mile of the Oil & Gas Location and list the distance from working pad surface. If the location is partially or entirely within a HPH list the distance as '0' and provide the estimated acreage disturbance of that HPH by the location construction.

High Priority Habitat (HPH) Name:	Distance	Estimated Acreage Disturbed
Burrowing Owl Active Nest Site	3860	0

List total size of disturbed acreage and disturbed High Priority Habitat (HPH) area (in acres) during the Oil & Gas Location construction and after interim reclamation.

	Total Acreage (acres)	Total HPH Acreage (acres)	Provide any further information regarding the location's HPH disturbance.
Construction	13	0	No surfae disturbance will occur within an HPH
Post-interim Reclamation	9.3	0	

Provide the acreage of the existing land use types that occur within one mile of the Oil & Gas Location. Note: a circle with a one mile radius is approximately 2010 acres.

		Existing Acreage		Existing Acreage		Existing Acreage		Existing Acreage
Crop Land:	Irrigated	0	Non-Irrigated	2468	Conservation Reserve Program(CRP)	0		
Non-Crop Land:	Rangeland	0	Forestry	0	Recreation	0	Other	0
Subdivided:	Industrial	0	Commercial	0	Residential	2468		

If any land use is industrial, provide a description of the use or operation of the industrial facilities.
 N/A

If any land use is "Other", provide a description of the land use.

N/A

If any portion of the land use for the proposed oil and gas location includes Rangeland, Forestry, or Recreation, provide a list of the plant community or communities and estimated acreage disturbed for each:

	Estimated Disturbed Acreage		Estimated Disturbed Acreage		Estimated Disturbed Acreage		Estimated Disturbed Acreage
Disturbed Grassland	0	Shrub Land	0	Mountain Riparian	0	Wetland Aquatic	0
Native Grassland	0	Plains Riparian	0	Forest Land	0	Alpine	0

Provide a qualitative evaluation of incremental adverse impacts to ecosystems, including any plant communities, as a result of Oil and Gas Operations associated with the proposed Oil & Gas Location.

Potential adverse impact to the ecosystem are anticipated to be minimal.

Soil Resources

List all soil map units that occur within the Oil & Gas Location and list the estimated total area (in acres) disturbance of each soil map unit.

NRCS Map Unit Name:	Estimated Disturbed Acreage
PIC Platner Loam 3 to 5%	6.3

PUBLIC WELFARE

☐ This Oil & Gas Location lies within a Disproportionately Impacted Community as defined in the 100-series rules.

Building Units within 1-mile

0'-2,000' 2,001'-5,280'

Total number of Residential Building Units:	0	324
Total Number of non-school AND non child care center High Occupancy Building Units:	0	0
Total number of School Facilities:	0	0
Total number of Child Care Centers:	0	0

Recreation and Scenic Value

List all State Parks, State Trust Lands, or State Wildlife Area within 1-mile of the Oil & Gas Location.

There are no State Parks, State Trust Lands, or State Wildlife Areas within 1-mile of the proposed location.

List all Designated Outdoor Activity Areas within 1-mile of the Oil & Gas Location.

There are no Designated Outdoor Activity Areas within 1-mile of the proposed location.

List all mapped trails that support any of the following recreational activities within 1-mile of the Oil & Gas Location: Hiking, Biking, Horseback Riding, Motorcycle Riding, ATV Riding, OHV, Nordic Skiing, Snowmobiling, or Snowshoeing.

There are no mapped trails that support the above activities within 1-mile of the proposed location.

AIR RESOURCES

Pre-Production Emissions

Complete the following chart based on the estimated total equipment emissions (in tons) for the Oil & Gas Location during the pre-production (construction, drilling, completions) stage for Criteria Pollutants by equipment type.

	NOx	CO	VOCs	Methane	Ethane	CO2	N2O
Process Heaters or Boilers	6.3	1.58	0.06	0.02	0	0	0.08
Storage Tanks	0	0.02	0.12	0.04	0.04	9.75	0
Venting or Blowdowns	0	0	0.56	1.18	0.41	0.04	0
Combustion Control Devices	0.2	0.89	1.64	3.43	1.2	362.27	0
Non-Road Internal Combustion Engines	192.35	131.99	23.67	1.07	0	26262	0.21
Drill Mud	0	0	1.6	3.35	1.17	0.12	0
Flowback or Completions	0.19	0.85	6.47	13.52	4.74	342.84	0
Loadout	0	0	0	0	0	0	0

Production Emissions

Complete the following chart based on the estimated full facility equipment emissions (in tons) for the Oil & Gas Location once the Oil & Gas Location has entered the production stage, for Criteria Pollutants. The table should be filled out based on ONE year of operation.

	NOx	CO	VOCs	Methane	Ethane	CO2	N2O
Stationary Engines or Turbines	10.3	20.61	7.21	8.31	3.55	3972.3	0.01
Process Heaters or Boilers	1.61	1.35	0.09	0.04	0.05	1932.35	0.04
Storage Tanks	0.29	1.31	25.4	0.05	2.98	690.07	0
Dehydration Units	0	0	0	0	0	0	0
Pneumatic Pumps	0	0	0	0	0	0	0
Pneumatic Controllers	0	0	0	0	0	0	0
Separators	0	0	0	0	0	0	0
Fugitives			0.33	0.83	0.29	0.12	
Venting or Blowdowns	0	0	3.76	13.4	4.74	4.09	0
Combustion Control Devices	0.09	0.04	1.9	0.34	0.12	35.83	0
Loadout	0	0	3.33	0.03	0.03	0	0
Non-Road Internal Combustion Engines	0	0	0	0	0	0	0
Well Bradenhead	0	0	0.31	64.9	22.74	2.28	0
Well Maintenance	0	0	3.52	7.36	2.58	25.81	0

Diesel Vehicle Road Miles

Complete the following chart for diesel vehicle road miles during each stage of oil and gas location operations.

During Construction: 87592

During Completions: 527888

During Drilling: 59500

During Interim Reclamation: 9000

During Production: 52000

PUBLIC HEALTH RESOURCES**Pre-Production Emissions**

Complete the following chart based on the estimated total equipment emissions (in lbs) for the Oil & Gas Location during the pre-production (construction, drilling, completions) stage for Hazardous Air Pollutants (HAP).

	BEN	TOL	ETH	XYL	NHE	TMP	H2S	FDE	MET	HAP
Process Heaters or Boilers	0	4	0	0	0	0	0	38	0	43
Storage Tanks	0	0	0	0	0	0	0	0	0	0
Venting or Blowdowns	2	1	0	1	0	0	0	0	0	4
Combustion Control Devices	5	4	0	2	40	0	0	0	0	51
Non-Road Internal Combustion Engines	251	92	0	63	0	0	0	69	0	475
Drill Mud	5	4	0	2	39	0	0	0	0	50
Flowback or Completions	18	16	1	7	158	0	0	0	0	200
Loadout	0	0	0	0	0	0	0	0	0	0

Production Emissions

Complete the following chart based on the estimated total equipment emissions (in lbs) for the Oil & Gas Location once the Oil & Gas Location has entered the production stage, for Hazardous Air Pollutants (HAP). The table should be filled out based on ONE year of operation.

	BEN	TOL	ETH	XYL	NHE	TMP	H2S	FDE	MET	HAP
Stationary Engines or Turbines	114	40	2	14	0	0	0	1481	221	1872
Process Heaters or Boilers	0	0	0	0	58	0	0	2	0	61
Storage Tanks	274	194	21	63	1586	31	0	0	0	2167
Dehydration Units	0	0	0	0	0	0	0	0	0	0
Pneumatic Pumps	0	0	0	0	0	0	0	0	0	0
Pneumatic Controllers	0	0	0	0	0	0	0	0	0	0
Separators	0	0	0	0	0	0	0	0	0	0

Fugitives	4	4	0	2	8	0	0	0	0	17
Venting or Blowdowns	123	126	4	74	57	0	0	0	0	385
Combustion Control Devices	160	42	2	2	1001	0	0	0	0	1207
Non-Road Internal Combustion Engines	0	0	0	0	0	0	0	0	0	0
Loadout	12	0	0	0	102	0	0	0	0	114
Well Bradenhead	87	76	5	32	760	0	0	0	0	960
Well Maintenance	10	9	1	4	86	0	0	0	0	109

Provide a qualitative evaluation of any potential acute or chronic, short- or long-term incremental impacts to public health as a result of the estimated total pre-production hazardous air pollutant emissions.

Real-time and analytical data from the CTEH study indicate no adverse health risks to nearby communities, including sensitive individuals, from cumulative exposures to VOCs that may be emitted at levels expected to cause acute adverse health effects. The CTEH study was conducted at operations that will be nearly identical to the Blue 3-65 33-32-31 OGD. The conclusions above were based on a quantitative in-depth study of Crestone specific operations. Based on these measurements/conclusions and the fact that the Blue 3-65 33-32-31 OGD has nearly identical or better BMPs in place there are no expected short- or long-term incremental impacts to public health as a result of the estimated total hazardous air pollutant emissions during the pre-production phase of this Oil and Gas Location.

Provide a qualitative evaluation of any potential acute or chronic, short- or long-term incremental impacts to public health as a result of the estimated annual production hazardous air pollutant emissions.

The compounds that may be emitted during any or all operations that CTEH has studied are not expected to cause any short-term adverse health effects to nearby residents, including sensitive populations. Real-time data indicate no adverse health risks to nearby communities, including sensitive individuals, from exposures to VOCs, H₂S or PM that may be emitted from operational phases at the various Crestone well pads. Analytical air sampling detections for each analyte were below their acute health guideline value established by the federal Agency for Toxic Substances and Disease Registry (ATSDR). The CTEH study was conducted at operations that will be nearly identical to the Blue 3-65 33-32-31 OGD. The conclusions above were based on a quantitative in-depth study of Crestone specific operations. Based on these measurements/conclusions and the fact that the Blue 3-65 33-32-31 OGD has nearly identical or better BMPs in place there are no expected short- or long-term incremental impacts to public health as a result of the estimated total hazardous air pollutant emissions during the pre-production phase of this Oil and Gas Location.

Dust Impacts

The following are the estimated number of truck trips traveling on or off the Oil & Gas Location.

Total	During Construction	During Drilling	During Completions	During Interim Reclamation	During Production
Monthly	280	2480	4175	130	1419
Annual	700	5580	12525	205	17033

Estimated total pounds (lbs) of proppant to be used during completions activities. 1680000
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Provide the type of proppant(s) that are planned to be used during completions activities.

40/70 mesh, 100 mesh, 200 mesh

Provide an evaluation of the proposed proppant management system that will be used to minimize dust during completions activities, including the estimated amount of silica dust that will leave the Oil & Gas Location.

Utilize box system that has built in dust mitigation. Exposure limit testing by contractor indicates that no silica dust is expected to migrate off location during normal operations and weather conditions.

EXISTING OIL & GAS

Total number of oil & gas locations within 1-mile of the Oil & Gas Location:

	Total Number of Locations		Total Number of Wells
Active, built	5	Active, built	30
Permitted by COGCC, unbuilt	0	Permitted by COGCC, unbuilt	0
Permitted by Relevant Local Government & not COGCC, unbuilt	0	Proposed	0
Proposed	0	Plugged and Abandoned	1

Total acreage disturbance during construction of the active and proposed oil & gas locations within 1-mile of the proposed Oil & Gas Location: 56

Source for acreage total:

☐ Field Observation/Measurement

☒ COGCC Location Files

☐ Aerial PhotosOther

☐ Other

If "Other" is selected, please describe the source use to determine the acreage total for construction disturbance of the active and proposed oil & gas locations within 1-mile of the proposed Oil & Gas Location.

Total permitted capacity of on-location storage (in number of pits and tanks) of the active and proposed oil & gas locations within 1-mile of the Oil & Gas Location :
NOTE: providing the existing number of pits and tanks on surrounding existing locations is optional.

Source for storage totals:	Permitted Onsite Storage Capacity		Existing Onsite Storage Capacity	
<input type="checkbox"/> Field Observation/Measurement	Oil	47	24	
<input checked="" type="checkbox"/> COGCC Location Files	Condensate	0	0	
<input checked="" type="checkbox"/> Aerial PhotosOther	Produced Water	24	7	
<input type="checkbox"/> Other	Pits	0	0	

If "Other" is selected, please describe the source use to determine the tank totals for the active and proposed oil & gas locations within 1-mile of the proposed Oil & Gas Location.

OIL & GAS DEVELOPMENT PLAN-SCALE DATA

List High Priority Habitats (HPH) that are estimated be disturbed by the construction of new roads, including access roads, pipelines, and utilities for this OGDG, along with the estimated disturbed acreage of each HPH.

No HPH Identified

List the total estimated of disturbed acreage and the total disturbed High Priority Habitat (HPH) area (in acres) during construction and the acreage that will remain disturbed after interim reclamation of the following for the entire OGDG:

	Construction			Post-interim Reclamation	
	Total Acreage (acres)	Total HPH Acreage (acres)		Total Acreage (acres)	Total HPH Acreage (acres)
New roads, including access roads	0	0	New roads, including access roads	1.77	0
Pipelines	0	0	Pipelines	0	0
Utilities	0	0	Utilities	0	0

Provide any further information regarding the HPH disturbance from the construction of new roads, including access roads, pipelines, and utilities for this OGDG.

No HPH will be disturbed.

Number of miles of the existing lease road that are planned to be used to access these location(s): 0

BENEFICIAL IMPACT INFORMATION

Equipment and Facility Removal

Total number of existing wells that are planned to be plugged and abandoned as part of this OGDG: 0

Total number of existing locations that are planned to be closed and undergo final reclamation as part of this OGDG: 0

Total number of acres that are planned to be reclaimed through the closing of existing locations: 0

Total number of tanks planned to be removed from existing locations through the approval of this OGDG:

Oil Tanks: 0
Condensate Tanks: 0
Produced Water Tanks: 0

Total number of existing pits that are planned to be closed and undergo final reclamation as part of this OGDG: 0

Estimated number of vehicle trips that are planned to be prevented from the above mentioned facility closures and equipment upgrades (on an annual basis): 0

Provide a qualitative evaluation of any incremental beneficial impacts to the surrounding community directly and indirectly from this OGDG.

There are no incremental beneficial impact to the surrounding community.

Provide a qualitative evaluation of any incremental beneficial impacts to the surrounding wildlife and ecosystems directly and indirectly from this OGDG.

There are no incremental beneficial impact to the surrounding wildlife and ecosystem.

MITIGATION INFORMATION

No Mitigation Measures Listed

OPERATOR COMMENTS AND SUBMITTAL

Print Name: Andrea Gross

Title: Permit Agent

Email: agross@upstreampm.com

Date: 09/15/2021

Based on the information provided herein, this Cumulative Impacts Data Identification Form 2B complies with COGCC Rules and is hereby accepted into the Cumulative Impacts Data Evaluation Repository (CIDER database).
Contact OGLA Staff for consultation.

COGCC Approved: _____ **Director of COGCC** Date: _____

Attachment Check List

Att Doc Num

Name

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Total Attach: 0 Files

General Comments

User Group

Comment

Comment Date

OGLA	As part of the Completeness review, OGLA staff have identified issues with this Form 2B and have returned it to DRAFT status for the operator to address.	10/15/2021
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Total: 1 comment(s)