

FORM
2A

Rev
08/13

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

401234964

(RESUBMITTED)

Date Received:

Oil and Gas Location Assessment

☒ New Location ☐ Refile ☐ Amend Existing Location Location#: _____

This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

Expiration Date:

☐ This location assessment is included as part of a permit application.

CONSULTATION

- ☐ This location is included in a Comprehensive Drilling Plan. CDP # _____
- ☒ This location is in a sensitive wildlife habitat area.
- ☐ This location is in a wildlife restricted surface occupancy area.
- ☐ This location includes a Rule 306.d.(1)A.ii. variance request.

Operator

Operator Number: 10447

Name: URSA OPERATING COMPANY LLC

Address: 792 BUCKHORN DR

City: RIFLE State: CO Zip: 81650

Contact Information

Name: CARI MASCIOLI

Phone: (970) 284-3244

Fax: ()

email: cmascioli@ursaresources.com

RECLAMATION FINANCIAL ASSURANCE

- ☒ Plugging and Abandonment Bond Surety ID: 20120125 ☐ Gas Facility Surety ID: _____
- ☐ Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: BMC A Pad

Number: _____

County: GARFIELD

QuarterQuarter: SESE Section: 13 Township: 7S Range: 96W Meridian: 6 Ground Elevation: 5104

Define a single point as a location reference for the facility location. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 1173 feet FSL from North or South section line

234 feet FEL from East or West section line

Latitude: 39.433606 Longitude: -108.049666

PDOP Reading: 1.1 Date of Measurement: 11/01/2016

Instrument Operator's Name: HOFFMANN

RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID #

FORM 2A DOC #

FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells	25	Oil Tanks*		Condensate Tanks*	2	Water Tanks*	4	Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks		Separators*	24	Injection Pumps*	1	Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*		Electric Motors		Electric Generators*		Fuel Tanks*		LACT Unit*	
Dehydrator Units*		Vapor Recovery Unit*	1	VOC Combustor*	2	Flare*		Pigging Station*	1

OTHER FACILITIES*

Other Facility Type

Number

Injection Water Tanks	6
Power Transformer - Injection Pump	1
Pump House	1

Those facilities indicated by an asterisk () shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

25 buried 2-inch steel flowlines from wellheads to separators and to water and condensate tanks
One (1) buried 12-inch steel natural gas pipeline to connect with existing gas gathering network
One (1) buried 10-inch steel pipe with an internal poly liner water flowline

CONSTRUCTION

Date planned to commence construction: 01/20/2018

Size of disturbed area during construction in acres: 5.70

Estimated date that interim reclamation will begin: 05/01/2019

Size of location after interim reclamation in acres: 4.10

Estimated post-construction ground elevation: 5104

DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes

Is H₂S anticipated? No

Will salt sections be encountered during drilling: No

Will salt based mud (>15,000 ppm Cl) be used? No

Will oil based drilling fluids be used? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE

Drilling Fluids Disposal Method: Recycle/reuse

Cutting Disposal: OFFSITE

Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Please see attached Waste Management Plan.

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: _____ or Document Number: _____

Centralized E&P Waste Management Facility ID, if applicable: _____

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: BM Land Investments LLC

Phone: _____

Address: PO Box 6000

Fax: _____

Address: _____

Email: _____

City: Parachute State: CO Zip: 81635

Surface Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian

Check all that apply. The Surface Owner: ☒ is the mineral owner

☒ is committed to an oil and Gas Lease

☒ has signed the Oil and Gas Lease

☐ is the applicant

The Mineral Owner beneath this Oil and Gas Location is: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: Yes

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

Date of Rule 306 surface owner consultation 02/28/2017

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

Future Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	<u>265</u> Feet	<u>340</u> Feet
Building Unit:	<u>500</u> Feet	<u>340</u> Feet

INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b. (3)A.
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If

High Occupancy Building Unit:	1561 Feet	1513 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	609 Feet	498 Feet
Above Ground Utility:	416 Feet	285 Feet
Railroad:	4432 Feet	4597 Feet
Property Line:	156 Feet	86 Feet

nearest Building is a Building Unit, enter same distance for both.
 - Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.
 -For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- ☒ Buffer Zone
☒ Exception Zone
☒ Urban Mitigation Area

Does the UMA Facility meet the definition of a Large UMA Facility ☒ Yes ☐ No

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: 03/15/2017

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 03/30/2017

Pre-application Notifications (required if location is a Large UMA Facility)

Date of Rule 305A.a.(1)A Notice of intent to construct a Large UMA Facility to Local Government: 01/11/2017

Date of Rule 305A.a.(1)B Notice of intent to construct a Large UMA Facility to Surface Owner: 01/11/2017

Date of Rule 305.a.(3) Large UMA Facility Notice to Proximate Local Governments: 03/15/2017

Large UMA Facility Form 2A Process Initiation (check all that apply)

- ☒ Rule 305A.f.(1)A. Local Government and Operator have reached agreement regarding the siting of the Large UMA Facility (attach certification of Rule 305A compliance)
- ☐ Rule 305A.f.(1)B. Rule 305A.e exception claimed (if checked then a 305A exception must be checked on the Exceptions Tab)
- ☐ Rule 305A.f.(1)C. Local Government waived 305A procedures for this proposed location (attach waiver as evidence of Rule 305A compliance)
- ☐ Rule 305A.f.(1)D. The Local Government did not respond in writing within 30 days of receiving the notice of intent to construct (attach certification of Rule 305A compliance)
- ☒ Rule 305A.f.(1)E. The Local Government and Operator have engaged in consultation pursuant to Rule 305A.c. but have not reached agreement within 90 days of the 305A.a.(1)A. notice of intent to construct
- ☐ Rule 303.c.(1). Form 2A submittal is consistent with a Rule 216.f.(3) Comprehensive Drilling Plan or a Local Government comprehensive plan that specifies locations for oil and gas facilities. (attach Rule 303.c.(1) supporting documentation)

FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

- ☒ Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (onl or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*
- ☐ By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

PLEASE SEE ATTACHED ALTERNATIVES ANALYSIS.

SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 4 Arvada loam, 6 to 20 percent slopes

NRCS Map Unit Name: 34 Ildefonso stony loam, 25 to 45 percent slopes

NRCS Map Unit Name:

PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☐ NRCS or, ☒ field observation Date of observation: 09/14/2016

List individual species:

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- ☒ Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- ☐ Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- ☐ Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- ☐ Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- ☐ Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- ☐ Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- ☐ Alpine (above timberline)
- ☐ Other (describe):

WATER RESOURCES

Is this a sensitive area: ☐ No ☒ Yes

Distance to nearest

downgradient surface water feature: 0 Feet

water well: 903 Feet

Estimated depth to ground water at Oil and Gas Location 66 Feet

Basis for depth to groundwater and sensitive area determination:

Static water level from existing well (permit #9113515)

Is the location in a riparian area: ☒ No ☐ Yes

Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer No zone:

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: _____

Is the Location within a Floodplain? ☒ No ☐ Yes Floodplain Data Sources Reviewed (check all that apply)

☒ Federal (FEMA)

☐ State

☒ County

☐ Local

☐ Other _____

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

WILDLIFE

☒ This location is included in a Wildlife Mitigation Plan

☒ This location was subject to a pre-consultation meeting with CPW held on 04/27/2017

Operator Proposed Wildlife BMPs

No BMP

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

☒ Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area

☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)

☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)

☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)

☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

LARGE UMA FACILITY EXCEPTIONS

- ☐ 305A.e.(1)A. Local Government has currently opted out of Rule 305A notification and consultation processes
- ☐ 305A.e.(1)B. Pre-existing agreement with Local Government (attach copy of relevant provisions to 2A per Rule 303.b.(3)K).
- ☐ 305A.e.(1)C. Approved site specific development plan (attach copy of relevant portions of the plan and approval by the Local Government to Form 2A per Rule 303.b.(3)K)
- ☐ 305A.e.(1)D. Large UMA Facility is within an oil and gas operations area (attach copy of relevant portions of the plan and approval by the Local Government to Form 2A per Rule 303.b.(3)K).

RULE 502.b VARIANCE REQUEST

☒ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number 604.a.(1).i.

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

OPERATOR COMMENTS AND SUBMITTAL

Comments

- Ursa Respectfully requests expediated approval of this Form 2A once the public comment period has passed.
- LUMA Pre-application Notice was sent to the Garfield County LGD on 1/11/2017 and to the Proximate LGDs (Town of Parachute and Battlement Mesa Community) on 3/15/2017. Pre-Application Notice / Buffer Zone Notice was sent to building unit owners within 1000' of the location on 10/27/2017, certification attached.
- Ursa requests approval of a Rule 604.a.(1) A. exception location. Exception location waivers and request letter are attached.
- Ursa requests approval of 502.b Variance. Letter attached.
- As of 11/16/2017, The Board of County Commissioners for Garfield County have approved the Special Use Permit for the BMC A pad.

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.
Signed: _____ Date: _____ Email: cmascioli@ursaresources.com

Print Name: CARI MASCIOLI Title: REGULATORY TECH

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____ Director of COGCC _____ Date: _____

Conditions Of Approval

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

COA Type

Description

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Best Management Practices

No	BMP/COA Type	Description
1	Planning	<ul style="list-style-type: none"> • Ursa agrees and commits to a three year time frame which includes placing up to 24 natural gas wells into full production on the BMC A pad. This time frame will commence at the start of construction of a well pad. • Ursa conducts voluntary inspections and corrective actions of all locations at least monthly using a self-implemented checklist of key actions (including environmental) that require compliance with COGCC, Federal, and other state and county requirements. • Ursa will comply with CDPHE regulations regarding air permitting, compliance monitoring, inspections and reporting. All air sources will be assigned AIRS ID numbers by the CDPHE and tracked for compliance and reporting purposes. In addition, Ursa is required to track, monitor and report Greenhouse Gas (GHG) emissions to EPA annually. • Safety requirements and buffers as required by the COGCC 602, 603, and 606A and 606B Series Rules, among others, and the Office of Safety and Health Administration (OSHA) will be observed at all time. Daily safety briefings and Job Safety Assessments (JSA's) are routinely conducted in all phases of operations. In addition, Ursa employees a full-time safety manager to oversee all field contractors. • As part of the siting rationale and alternatives analysis, Ursa has developed a comprehensive fly-over tool allowing for view shed analysis from selected points of interest proximate to the pad location in an effort to better illustrate proposed operations impacts to the surrounding community. The fly-over tool for the BMC A pad can be accessed through this link: BMC A Pad – Production Phase: https://skfb.ly/6nX8S BMC A Pad – Drilling Phase: https://skfb.ly/6nWVr 604.c.(2)W. - Site specific measures • Ursa held a LUMA consultation site visit in February, 2017. The following BMPs have been adopted as a direct result of the LUMA consultation process and are included and site-specific mitigation measures: <p>Per request of Garfield County Vegetation Manager:</p> <ul style="list-style-type: none"> • Prior to delivery to site, equipment will be cleaned of soils and other materials remaining from previous construction sites. • Equipment and material handling will be done on established sites to reduce the area and extent of soil compaction. • Temporary disturbance will be kept to a minimum and will be in accordance with existing surface use agreements. • Ursa commits to use only weed free straw or mulch and weed-free wattles for sediment retention work. • Reclaimed areas will be stable and will be free from large rills and gullies, perceptible soil movement or head-cutting in drainages, slope instability on or adjacent to the reclaimed area • Cut slopes, fill slopes, soil stockpiles, and berms will be stabilized using appropriate reshaping and earthwork measures, including proper placement of soils and materials. • Topsoil will be salvaged from areas to be disturbed and managed for later use in reclamation. Topsoil stockpiles will be seeded to prevent erosion. • Ursa will provide advanced notice and community awareness to neighborhoods and meet with the neighborhood residents regarding schedule and activities, include local emergency response agencies (Fire/Police). (Operator may satisfy these public notification requirements through direct correspondence, Community Counts, publication in local newspapers, or through the Garfield County, Parachute, and Battlement Mesa Local Governmental Designees (LGDs)); • Ursa will post schedule changes at a location convenient to residents, as well as notifying local emergency response agencies (Fire/Police) of schedule changes; • notify all local emergency responders (Fire/Police) 7 days prior to mobilization in, rig up (MIRU); and • notify all homes within a ¼-mile radius 7 days prior to MIRU.

2	Community Outreach and Notification	<ul style="list-style-type: none"> • Ursa has a dedicated phone line to address complaints and responds 24 hours per day, 7 days a week. All complaints received by Ursa are documented, investigated, responded to immediately with appropriate corrective actions and communicated to the complainant, landowner, county LGD and appropriate state agency officials. Coordination with Kirby Wynn, Garfield County LGD, will be ongoing to ensure the effectiveness of our complaint management process. The following phone numbers and websites are available to the community members to report complaints: <ul style="list-style-type: none"> - Ursa complaint / 24 hr hotline: 970-620-2787 - Ursa emergency / 24 hotline: 855-625-9922 - Community Counts: 866-442-9034 - Garfield County (Kirby Wynn): 970-987-2557 - Colorado Oil & Gas Conservation Commission: http://cogcc.state.co.us/complaints.html#/complaints
3	Construction	<p>604.c.(2)N. - Control of fire hazards 604.c.(4)B.i. - Control of fire hazards</p> <ul style="list-style-type: none"> • All equipment will be grounded to prevent lightning strike hazards. Additionally, any material not in use that might constitute a fire hazard will be removed a minimum of 25 feet from the wellheads and production equipment. • Ursa will monitor wildfire potential daily during all construction, drilling, and completion operations at this Oil and Gas Location, and coordinate as necessary with the local fire department on Red Flag Days to ensure appropriate response to any fire emergencies.
4	Traffic control	<p>604.c.(2)D. - Traffic Plan / Emergency Response</p> <ul style="list-style-type: none"> • In consultation with Garfield County and the local emergency response agencies (Fire/police), Ursa has developed a site-specific Emergency Response Plan and Haul Route Map which is communicated to local emergency response agencies and stakeholders, as well as contractors performing work at the location. Prior to any oil and gas activities, including site construction, Ursa will update the site-specific Emergency Response Plan with current information; the plan will describe employee spill response and safety training, organizational structure, site specific response plan for spills and other emergency situations at this Oil and Gas Location, and preventative maintenance provisions. Operator will update the site specific plan annually and will be available to COGCC for review upon request. The preferred/primary haul route for this location is the Upper Route (I-70 exit 75). The Lower Route (I-70 exit 72) shall be a secondary route. • In consultation with Garfield County, Town of Parachute, Battlement Mesa Service Association, and emergency responders, Ursa will develop a traffic control plan which addresses all phases of activity at the site. The traffic control plan includes provisions describing: limiting site access; signage on local roads warning of increased truck traffic; flaggers and pilot vehicles; oil and gas related traffic restrictions (speed and routes); and coordination of heavy equipment movement and intense traffic periods to avoid peak times and school bus routes.
5	General Housekeeping	<ul style="list-style-type: none"> • Weeds will be managed in accordance COGCC Rule 1003.f. and 1004.e. as incorporated into Ursa's Noxious Weed plan; to include up to three treatments per year depending upon the species being managed and mapping as needed, throughout the life cycle of the location (construction – final reclamation). Additionally, Once construction begins, the Operator shall treat all List A, B, C noxious weeds within pad site perimeter and along access road according to Ursa's noxious weed management plan. This shall include up to three treatments annually by a licensed and certified herbicide applicator. <p>604.c.(2)P. - Removal of surface trash</p> <ul style="list-style-type: none"> • The location will be managed in accordance with COGCC 907 and 907A Rules, which are incorporated into Ursa's Waste Management Plan, which addresses both E&P and non-E&P waste, including those under the jurisdiction of the CDPHE and EPA. The plan, in combination with Ursa's Spill Prevention and Management Plan, minimizes the potential for any exploration and production wastes, chemicals, fluids, etc. from leaving the location, using BMPs including berms, barriers, and use of spill control materials.

6	Wildlife	<ul style="list-style-type: none"> • All separators/dehydrators and heater –treater equipment are outfitted with bird cones. • Ursa will operate in accordance with the Wildlife Mitigation Plan (signed with CPW in 2011) that allows for up to 15 well pads in the Battlement Mesa area (including within the PUD). Ursa has met with CPW to determine the appropriate BMP implementation and has completed all wildlife mitigation commitments required per the 2011 Wildlife Mitigation Plan in the Battlement Mesa area. • The Ursa BMC A, L and F Pad locations were provided to CPW and analyzed as part of the Antero (now Ursa) Battlement Mesa Wildlife Mitigation Plan (WMP). The terms and conditions agreed upon within the WMP document are still adequate to avoid, minimize, and mitigate any impacts to wildlife from the proposed actions. Agreed upon BMPs from the WMP document have been sent for inclusion as an attachment to the Form 2A permit and are listed below: <ol style="list-style-type: none"> 1. Closed loop (pitless) drilling systems. 2. Annual raptor and other bird surveys will be conducted in accordance with protocols provided by CPW. 3. Rig shift changes will take place when practical at 6am and 6pm and will utilize one (1) vehicle to minimize impacts to wildlife. 4. Development program is planned to include four phases as a means for mitigating wildlife impacts. These phases will be based on infrastructure construction schedules and will be coordinated with affected land owners, the Battlement Mesa Services Association (BMSA), local municipalities, Garfield County, COGCC, and CDPHE during the Comprehensive Drilling Plan and the Major Land Use Impact Review process. 5. Well pad location visits during the production phase of operations (post drilling and completion for all wells on a well pad location) will be restricted when/where possible to between the hours of 10am and 3pm to minimize impacts to wildlife unless operational concerns warrant pad visits outside this timeframe. 6. Buried water and gas pipelines will be utilized as means to reduce truck traffic and impacts to wildlife. 7. Restrict rig operation to no more than 2 rigs per section (or equivalent acreage) within the big-game seclusion areas during the winter. 8. Maintaining a ¼ mile no surface occupancy buffer around active bald eagle nests. 9. New pad construction not to exceed 3 acres of working surface. 10. Pad density not to exceed 1 pad per 160 acres. 11. Bury all gas and water pipelines adjacent to roads whenever possible. 12. A weed management plan will be developed and implemented to monitor and control noxious and invasive weeds. 13. Noxious weed control includes up to three treatments per year. 14. Existing weed infestations will be mapped prior to the development of each pad, access road and pipeline when practicable. 15. Antero (now Ursa) has completed all habitat restoration contributions contained within the WMP. 	
7	Material Handling and Spill Prevention	<p>604.c.(2)F. - Leak Detection Plan - Monitoring</p> <ul style="list-style-type: none"> • TANK MONITORING - Fluid Monitoring in tanks will be achieved through high level alarms installed in each tank with floating tank level gauges, including produced water tanks supporting injection operations. These gauges report remotely tank volumes via telemetry. This telemetry allows pumpers to have real time access to information and review levels on a daily basis. Pumpers also have the ability to program the wells to be shut in automatically in the event of pressure loss. Reference Ursa's Leak Detection and Flowline Management plan for specifics on inspections, testing, documentation, etc. • FLOWLINE TESTING / MONITORING - will be tested per COGCC 1100 regulations/1101 and 1102 guidance document updated February 25, 2016 and most recently May 2, 2017. <ul style="list-style-type: none"> - New flowlines will be pressure tested to manufactures recommended levels before put in to use. - Ursa will use SCADA to continuously monitor line pressures. Any fluctuations or drops in pressures that indicate a drop or rise in pressure will be closely monitored and will trigger immediate action including shutting in and scheduling repairs/replacements as necessary. <p>604.c.(2)F. - Leak Detection Plan - Maintenance</p> <ul style="list-style-type: none"> • MAINTENANCE - Corrective actions relating to the tanks or flowlines will have effected equipment repaired or replaced as necessary. If larger issues are identified, the repairs may require further attention and/or redesign. 	

604.c.(2)F. - Leak Detection Plan - Inspections

- TANK INSPECTIONS - will be formally inspected quarterly under the Spill Prevention Control and Countermeasures (SPCC) plan unless specific COAs warrant more frequent inspections. Ursa contractor performs regulatory required FLIR inspections with frequencies determined by throughput volumes. Tanks are also visually inspected daily by the lease operator (pumper) and contract water haulers, who have been trained on identifying corrective actions on tanks/flowlines. Reference Ursa's SPCC, Storage Tank Emissions Monitoring (STEM) and Leak Detection and Flowline Management Plans for inspection and location specifics.

- FLOWLINE INSPECTIONS - will be inspected per COGCC 1100 regulations/1101 and 1102 guidance document updated February 25, 2016 and most recent May 2, 2017.

- Daily site visits are made by lease operators (aka pumpers) to the well pad for maintenance issues including leaks and spill potential

- Periodic site inspections will be conducted by 3rd party environmental contractors to look for any signs of leaks and or potential leaks.

- FLIR surveys are used to identify any leaks coming from the flowlines on a regular basis.

- According to Ursa's STEM Management Plan onsite inspections will also conducted to check for leaks.

- New flowlines will be pressure tested to manufactures recommended levels before put in to use.

- Ursa will use SCADA to continuously monitor line pressures. Any fluctuations or drops in pressures that indicate a drop or rise in pressure will be closely monitored and will trigger immediate action including shutting in and scheduling repairs/replacements as necessary.

- Ursa will conduct daily visual inspections of equipment for leaks and equipment problems from start of construction through 14 days after date of first production. All equipment deficiencies will be corrected immediately or as soon as practical (all identified problems and corrections/repairs will be documented and records will be maintained in the operator's office). Timely inspections will continue during the production phase (see previous BMP).

604.c.(4)B.ii. - Leak Detection, repair, reporting and record keeping

- Spill prevention and response are addressed in Ursa's Spill Prevention and Management Plan which includes training of employees and contractors personnel on at least an annual basis. Spill response includes notifications, reporting, response actions, remediation and corrective actions. The spill criteria in Ursa's plan requires that waste be properly classified as E&P or non-E&P wastes. For E&P waste, all spills greater than 1 barrel (outside containment) or greater than 5 barrels (inside containment) will be reported to the COGCC using a Form 19. Should remediation be required, a Form 27 will be submitted as well. Spills related to non-E&P waste will be managed in accordance with CDPHE and EPA regulations depending on the volume spilled. As a BMP, Ursa tracks and cleans up all spills, including those that are not reportable.

- Operator shall comply with the CDPHE regulations and air quality permit conditions for emission controls considering technically and economically feasible BMPs. All facilities onsite shall be subjected to an instrument-based leak detection and repair (LDAR) inspection at least monthly during drilling and completion and quarterly during production. If a leak over 10,000 ppm hydrocarbons is discovered, the first attempt to repair the leak shall be made as soon as reasonably possible and in accordance with state law.

- High level alarms will be installed on production tanks and injection tanks.

- Appropriate heavy equipment (e.g., a backhoe, front end loader) will be staged at the location during all drilling and completion operations so that any emergency diversions or pits to contain spills can be built immediately upon discovery; or to quickly build additional earthen berms in the event of a spill outside of containment.

- All Ursa and contractor personnel working at the location during drilling and completion operations will be trained on COGCC requirements for spill response and reporting (documentation of this training will be maintained in the operator's office/onsite trailer). Ursa will hold and document weekly meetings during drilling and completion operations to refresh all personnel onsite regarding response and reporting requirements and staff responsibilities during spill events.

- Ursa's spill response trailer will be on location 24 hours a day, 7 days a week during construction, drilling, and completion operations to facilitate a timely response to any spills that may occur. If the spill response trailer is not onsite, it will be available within

		<p>15 minutes during production operations.</p> <ul style="list-style-type: none"> • UIC - Operator will perform SPCC inspections combined with the pumper's daily inspections to monitor tanks and secondary containment capacity. Operator will temporarily shut in all production wells on the pad in the event of any upset condition. 	
8	Dust control	<p>604.c.(2)S. - Access roads</p> <ul style="list-style-type: none"> • The pad and access road will be graveled to reduce fugitive dust and maintained as required by COGCC rules through all phase of operations. In addition, Operator will have water trucks onsite for dust abatement during construction. Water and other dust suppressants are used as required, dependent upon the level of activity, moisture conditions, etc. throughout all phases of operations. Ursa commits to ensuring truckloads of dirt, sand, aggregate materials, drilling cuttings, and similar materials are covered to reduce dust and PM emissions during transport. The access road will be constructed and maintained to prevent sediment migration from the access road to nearby surface water or any drainages or ditches leading to surface water. • Remote monitoring and telemetry will be used to optimize truck trips and reduce resultant fugitive dust to the extent practical. 	
9	Construction	<ul style="list-style-type: none"> • A truck loading and metering system that allows loading without opening thief hatches will be installed, pursuant to COGCC Rule 604.c.(4).B.v. • Ursa will utilize only welded connections for all buried flowlines. Ursa will bed and partially backfill flowlines on the pad with non-native backfill to eliminate the corrosive soil concern. • Ursa will provide temporary engineering controls to prevent uncontrolled public access during drilling and completion activities. Site security will be maintained during production. • Ursa will use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location. • The construction of the BMC A Pad shall be limited to the hours of 7:00AM to 7:00PM, with the exception of emergencies and episodic events beyond Ursa's control. <p>604.c.(2)E.i. - Multi-well Pads 604.c.(2)V. - Development from existing well pads</p> <ul style="list-style-type: none"> • Drilling multiple wells from the BMC A pad location using directional drilling will be implemented to minimize the need for additional well pads; reducing potential environmental impacts including habitat loss and fragmentation, noise, traffic concerns, and related impacts to air, land and water. The initial plan by Antero consisted of 14 well pads to access the minerals beneath the BM PUD which will now be accessed by consolidating the wells on 4-5 total pads within the BM PUD, including the BMC A Pad. • Access road will be maintained as an all-weather access route for operator and emergency response. Accumulations of snow that prevent or limit access to the location will be removed within 24 hours or as soon as conditions allow after a weather event. The road will be timely maintained to prevent ruts, potholes and other damage. <p>604.c.(2)G. - Berm construction (Buffer Zone) 604.c.(3)B.i.-iv. - Berm construction (Exception Zone)</p> <ul style="list-style-type: none"> • All containment is constructed of steel rings with an engineered impervious liner and are sized to hold 150% of the volume of the largest single tank in the secondary containment, including produced water tanks supporting injection operations. No more than 2 condensate tanks will be located within a single berm. The main sediment/stormwater trap will act as tertiary containment in the event of a catastrophic spill that escapes primary containment, secondary containment and travels across the entire pad and enters into our stormwater controls. Ursa will install electronic level monitoring within the secondary containment for production facilities that will shut in all of the wells on the pad and any produced water pipelines leading to or leaving from the well pad to prevent an upset tank release from overflowing the containment device. <p>604.c.(2)R. - Tank specifications</p> <ul style="list-style-type: none"> • 14 604.c.(2)R. - Tank specifications - All production tanks and tanks used for completions activities will be installed, labeled, contained, operated, and decommissioned in accordance with NFPA Code 30 (2008 Revision) and Ursa's SPCC/Containment Plan, which is required by EPA regulations (40 CFR 112). The plan, in combination with Ursa's Spill Prevention and Management plan, addresses COGCC 600 and 900 Series Rules, among others, regarding the management of tanks. Records will be maintained in accordance with Rule 604.c.(2)R. <p>604.c.(4)B.iii. - Automated well shut-in control</p> <ul style="list-style-type: none"> • All wells on the BMC A pad will be equipped with remote monitoring / telemetry 	

		<p>system setup to allow for automated shut-in controls in the event of an emergency. Ursa will equip all condensate and produced water storage tanks with an electronic level monitoring device that automatically shuts in all wells on the pad to prevent overfilling or during an upset condition, such as a leak or a fire. Produced water pipelines will be manned at all times while in operation. In the event of an upset condition, all pumps will be shut down immediately by trained personnel onsite.</p> <ul style="list-style-type: none"> • UIC - Ursa will utilize suitable containment devices for all required chemicals, hazardous materials, and injection equipment (pumps) used onsite during the operation of the injection well. • UIC - Ursa will equip all produced water storage tanks associated with the injection well with an electronic level monitoring device that automatically shuts in all flow to the injection tanks to prevent overfilling or during an upset condition, such as a leak or a fire. Produced water pipelines coming from other well pads will be manned and monitored at all times while fluid is flowing through them or the pipelines will be equipped with automatic shut down capability. In the event of an upset condition, all pumps will be shut down immediately by trained personnel onsite. • UIC - Ursa will construct the secondary containment for the injection well tanks to have a capacity of 150 percent of the largest tank in the containment area. The construction and lining of the secondary containment structures/areas shall be installed according to API standards and manufacturer's specifications. 	
10	Noise mitigation	<ul style="list-style-type: none"> • In order to evaluate ambient/baseline noise levels at the BMC "A" Pad, operator will conduct a minimum 72 hour baseline noise survey from a minimum of three points prior to the commencement of construction. • Operator will perform continuous sound monitoring surveys during construction, drilling, and completion activities with data collection instruments placed as mutually agreed to with the Garfield County LGD and COGCC and will be located to between the Oil and Gas Location and the residential Building Units. Ursa will have a documented process for responding to sound levels that exceed COGCC sound limits and must provide continuous sound monitoring data to COGCC on tables or graphs within 48 hours of COGCC's request. Ursa will have a documented process for managing data collection instrumentation in intermittent or occasional events of downtime outside the Operator's Control. • Volume of the sound generated: Every use shall be so operated that the volume of sound inherently and recurrently generated does not exceed 70 dB(A) from 7:00 AM to 7:00 PM and 65 dB(A) from 7:00 PM to 7:00 AM, measured 350 feet from the edge of the pad. As set forth in COGCC Regulation 802(b), the noise levels shall be subject to an increase by 10 dB(A) for a period not to exceed 15 minutes in any one (1) hour period and cannot exceed 65 dB(A) for shrill or periodic impulsive noise. Complaint protocols shall be governed by COGCC Rule 802(c). <p>604.c.(2)A. - Noise</p> <ul style="list-style-type: none"> • Lighting, noise, odors, dust and related nuisances are managed in accordance with COGCC 600 and 802, 803, 804 and 805 Series Rules, and in accordance with Ursa policies, procedures and checklists. Additional noise monitoring above and beyond COGCC regulations may be conducted by Ursa on a voluntary basis. If conditions warrant further mitigation at the time of operations, Ursa will request approval as necessary from the COGCC to implement additional measures. 	
11	Odor mitigation	<p>604.c.(2)C. - Green Completions – Emission Control Systems</p> <ul style="list-style-type: none"> • Combustor controls will be used to mitigate odors from production tanks. Ursa will perform inspections at minimum on a monthly basis to ensure potential emissions sources are properly managed. In addition, Ursa's pumper crew inspects each location on a daily basis. Emission control devices (including the most current VOC destruction and capture technology) will be installed on all permanent condensate/oil and produced water storage tanks, regardless of the potential to emit. • Combustor controls will be used to mitigate odors from production tanks. Ursa will perform inspections at minimum on a monthly basis to ensure potential emissions sources are properly managed. In addition, Ursa's pumper crew inspects each location on a daily basis. Emission control devices (including the most current VOC destruction and capture technology) will be installed on all permanent condensate/oil and produced water storage tanks, regardless of the potential to emit. • Air quality and odor control equipment used during flowback operations will be utilized until the flow rate from all wells is within the design parameters of the permanent/long term separation equipment. Following removal of flowback air quality and odor control equipment, the permanent/long term separation equipment will not be bypassed during production operations. 	

12	Drilling/Completion Operations	<ul style="list-style-type: none"> • All lighting, except as demonstrated for safety reasons, shall be directed inward and downward and be shaded in order to prevent direct reflection on adjacent property and residences in the area. LED lights will be used when possible and practical. Workers will be advised when moving light plants to ensure that the light is focused directly on the work being done. Most lighting will be below the sound wall. Drilling mast lighting that is above the sound wall will be downcast and/or shielded to reduce fugitive light outside sound wall and well pad. Safety considerations will take precedence. • Well completion activity shall be limited to occurring between 7:00AM and 7:00PM. Once the wells are in production, vehicle trips to the pad shall be limited to the hours of 7:00AM to 7:00PM, with the exception of emergencies and episodic events beyond Ursa's control. • Well completion activity shall be limited to occurring between 7:00AM and 7:00PM. Once the wells are in production, vehicle trips to the pad shall be limited to the hours of 7:00AM to 7:00PM, with the exception of emergencies and episodic events beyond Ursa's control. • Well completion activity shall be limited to occurring between 7:00AM and 7:00PM. Once the wells are in production, vehicle trips to the pad shall be limited to the hours of 7:00AM to 7:00PM, with the exception of emergencies and episodic events beyond Ursa's control. <p>604.c.(2)B.i. - Closed Loop Drilling Systems – Pit Restrictions</p> <ul style="list-style-type: none"> • A closed-loop (pitless) drilling system will be used. No diesel/oil-based drilling mud (OBM) or high chloride/TDS-based drilling mud (salt-SBM) will be used at this Oil and Gas Location. The moisture content of water/bentonite-based mud (WBM) generated cuttings managed onsite will be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts as indicated on the Form 2A. <p>604.c.(2)B.ii-v. - Closed Loop Drilling Systems – Pit Restrictions</p> <ul style="list-style-type: none"> • No stimulation, flowback or fresh water storage pits will be constructed for the BMC A pad location. <p>604.c.(2)C.i. - Green Completions – Emission Control Systems</p> <ul style="list-style-type: none"> • Green completions will be used for this well. Salable quality gas will be immediately routed to the sales line or shut in and conserved. <p>604.c.(2)C.ii. - Green Completions – Emission Control Systems</p> <p>604.c.(4)B.iv. - Venting</p> <ul style="list-style-type: none"> • Ursa commits to zero venting / flaring of gas upon completion and flowback of these wells except during upset or emergency conditions only. If plans change and venting / flaring during completion and flowback operations becomes necessary, Ursa will obtain COGCC approval prior to venting / flaring when required in accordance with the Venting / Flaring NTO Policy and Rule 912.a. Ursa will have production facilities and pipelines, including the natural gas sales line, in place prior to flowing back oil or gas from any wells on the pad. Wells will be shut in at "gas cut" if sales line is not yet available. <p>604.c.(2)C.iii.aa. - Green Completions – Emission Control Systems</p> <ul style="list-style-type: none"> • Flowback equipment is sized to accommodate a minimum of 1.5 times the largest flowback volume of gas experienced in a ten (10) mile radius. <p>604.c.(2)C.iii.bb. - Green Completions – Emission Control Systems</p> <ul style="list-style-type: none"> • Flowback tanks will employ valves and porting available to divert gas to temporary equipment or to permanent flaring and oxidizing equipment. Open flares will not be used during flowback operations. Flowback and stimulation fluids will be sent to a closed system capable of containing and managing vapors, fumes, or gases under pressure. Open top tanks will not be used to capture, contain, or store flowback fluid. Flowback fluid containment and storage vessels will be located in an area sufficiently impervious to prevent migration of any spilled or released material into groundwater. <p>604.c.(2)C.iii.cc. - Green Completions – Emission Control Systems</p> <ul style="list-style-type: none"> • Flowback tanks will be equipped with auxiliary fuel with sufficient supply and heat to sustain combustion or oxidation of the gas mixture when the mixture includes non-combustible gases. <p>604.c.(2)H.ii. - Blowout preventer equipment ("BOPE")</p> <ul style="list-style-type: none"> • BOPE will meet minimum requirements per Rule 604.c.(2)H.ii. The person with Well Control Certification or Director approved training present during drilling will be identified using the sign-in sheet and training certifications will be available upon request by COGCC. <p>604.c.(2)I. - BOPE testing for drilling operations</p> <ul style="list-style-type: none"> • BOPE testing will be completed in accordance with Rule 604.c.(2)I. <p>604.c.(2)J.i. - BOPE for well servicing operations</p> <ul style="list-style-type: none"> • Adequate blowout prevention equipment will be used on all well servicing operations. This prevention equipment will be rated to pressures of 5000 psi.
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		<p>604.c.(2)J.ii. - BOPE for well servicing operations</p> <ul style="list-style-type: none"> • Backup stabbing valves will be used on well servicing operations during reverse circulation. Valves will be pressure tested in accordance with Rule 604.c.(2)J.ii prior to being put into use. Ursa will keep valve pressure testing results on file for a minimum of one year and provide test results to COGCC upon request. <p>604.c.(2)K. - Pit level indicators</p> <ul style="list-style-type: none"> • Tank level indicators will be installed on all tanks associated with the drilling rig. No stimulation, flowback or freshwater storage pits will be constructed. <p>604.c.(2)L. - Drill stem tests</p> <ul style="list-style-type: none"> • Ursa does not plan to conduct drill stem tests. If plans change and drill stem tests are required, Ursa will notify COGCC via Form 4 prior to completing the test. <p>604.c.(2)O. - Loadlines</p> <ul style="list-style-type: none"> • All loadlines will be capped. The loadline ports will be located inside of the tank containment berms and will have sumps in place in the event of small drips or spills. <p>604.c.(4)B.vi. - Proppant</p> <ul style="list-style-type: none"> • Ursa plans to utilize "proppant-less" fracture stimulation. Should Ursa plans change to utilize silica proppant during completion of wells on the BMC A pad, silica proppant shall be utilized only with silica dust controls including dustless silos, sand boxes, or equivalent vacuum technology. Ursa will notify COGCC via Form 4 prior to using or changing proppant materials. • In order to minimize surface disturbance and community impact in the Battlement Mesa area, Ursa plans to utilize the following locations for the temporary staging of frac tanks to support completion operations on this location: B&V, BMC A, BMC B, BMC D, BMC L, Monument Ridge B, Monument Ridge, Speakman A, Tompkins, Watson Ranch, Watson Ranch B and Yater. • Open top tanks will not be utilized for storage of any fluids other than freshwater and water based drilling fluids.
13	Final Reclamation	<p>604.c.(2)T. - Well site cleared</p> <ul style="list-style-type: none"> • Within 90 days of plugging and abandonment, the well site will be cleared of all non-essential equipment, trash, and debris. The landscaping will remain at the discretion of the landowner, subject to COGCC Reclamation Unit variance requirements. <p>604.c.(2)U. - Identification of plugged and abandoned wells</p> <ul style="list-style-type: none"> • Upon plugging and abandonment, the location of the wellbore will be marked per Rule 319.a.(5)

Total: 13 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2108194	CDPHE CONSULTATION LETTER
2108216	BATTLEMENT MESA METRO DISTRICT LGD COMMENTS: 9-8-17
401234964	FORM 2A SUBMITTED
401443511	FORM 2A SUBMITTED
401443512	FORM 2A REJECTED
401488186	HYDROLOGY MAP
401488194	LOCATION DRAWING
401488209	VARIANCE REQUEST
401488219	LOCATION PICTURES
401488220	EQUIPMENT LIST
401488224	NRCS MAP UNIT DESC
401488226	CONST. LAYOUT DRAWINGS
401488227	FACILITY LAYOUT DRAWING
401488228	WASTE MANAGEMENT PLAN
401488238	RULE 305A CERTIFICATION OF COMPLIANCE
401488239	PRE-APPLICATION NOTIFICATION CERTIFICATION
401488242	EXCEPTION LOC WAIVERS
401488245	SITING RATIONALE
401488247	MULTI-WELL PLAN
401488250	PROPOSED BMPS
401488251	EXCEPTION LOC REQUEST
401488253	OTHER
401488256	SURFACE AGRMT/SURETY
401488268	ACCESS ROAD MAP
401488269	REFERENCE AREA MAP
401488271	REFERENCE AREA PICTURES

Total Attach: 26 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

Public Comments

The following comments were provided by members of the public and were considered during the technical review of this application.

No. Comment

Comment Date

1 Eleanor Nelson
35 Locust Way, Battlement Mesa
Parachute, CO 81635
970-285-9806
August 17, 2017
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver CO80203
Subject: COGCC Public Comments for BMC-A Pad Application (2A #401234964) and Injection Well (Form 31 #401298823) Permits – Ursa Operating Company, LLC
Dear Commissioners:
Overview: Attempts to stop any extraction activities within the Battlement Mesa PUD in Garfield County -- however credible they may be -- have been unpersuasive to the COGCC and approvals have already been granted for two questionable pad sites -- the BMC-B and BMC-D pads. While further attempts on my part to request denial of applications would probably be just as futile, I will still try to convince you that pad siting within residential communities is irresponsible, unless the setback requirements are followed and waivers are not allowed.
Neutrality: I am now determined to remain neutral about these BMC-A Pad applications for the following reason: The Governor created a Task Force in 2014 on "Cooperative Strategies Regarding State and Local Regulation of OG Development". His number-one directive was to "Focus on benefitting oil and gas development in the state's economy". So, where does this leave people who are impacted by the final rulings but feel that many of those recommendations fall short in their protections concerning multi-well drilling operations near and within communities?
I am going to sound like a broken record until the COGCC places more importance on responsible siting of OG operations, despite what a Surface Use Agreement may specify. Safety and mitigations should be of primary importance. I asked for this consideration during a public comment period before the Commission on July 19, 2016, when the Battlement Mesa B Pad was under review, yet the application was subsequently approved by both the COGCC and the Garfield County Board of County Commissioners and the BMC-B and BMC-D Pads are now undergoing the drilling process. I bring this up now because Ursa Operating Company's Phase II applications have now been submitted for COGCC approval.
I did not have any concerns regarding the BMC-L or BMC-F applications, because Ursa has been accommodative regarding siting. Now that the BMC-A Pad, pipeline and injection well have been submitted for COGCC approval, I do have some requests based on my first-hand experience with the BMC-B Pad with the hope that it will provide you with some insight as to the impact irresponsible siting has on residents.
Rationale: My home is situated on a ridge overlooking the BMC-B Pad 200' below. While my home is within the 1,000' buffer zone, I am not considered a "stakeholder". I have been living with the consequences of gas drilling up close and personal but have tried to keep an open mind while weighing the impacts. I do understand the benefits derived from the extraction industry and have reluctantly accepted their disturbance, but I am respectfully asking for more stringent Best Management Practices (BMPs) and Conditions of Approval (COAs) when you review the subject applications as well as others when they impact residential communities such as mine. I am not alone in asking for this as evidenced by the heated public comments during the COGCC meetings of 7/24/17 and 5/1/17. The people of Colorado are really angry about the impact the industry has on the state, especially when it advances full throttle into their communities. If we continue to be ignored by our governor, the COGCC, and our county representatives, the best hope we have for the time being is to ask for better BMPs and COAs -- and for the Governor's Task Force to reconvene. So much of the rulemaking is for the benefit of the industry rather than for protection of the people affected.
Evolution: Please bear in mind that when the Surface Use Agreement between Exxon and Battlement Mesa Partners was signed many years ago, the rule was one well per pad for 160 acres, then subsequently changed to one well per pad per 40 acres. After Exxon abandoned the community, it was sold and marketed as a "retirement community". If current technology was available back then, I doubt that the National Association of Realtors or any Chamber of Commerce would have endorsed the sale of lots to unsuspecting buyers who would welcome this type of activity within their residential community. Both have strict Code of Ethics policies. The Centennial State has evolved into the "Extraction State".
The PUD may be considered a bedroom community for extraction industry workers and suppliers, but

08/17/2017

the industry itself is not supposed to be at the core of our residential development. No drilling activities are short-term in nature, so please consider all the cumulative impacts. Ask yourselves "What can we do to make this industrial activity less horrible for the people most impacted"? Please consider the following comments when reviewing the applications.

Objectivity: Many residents of the Battlement Mesa PUD encourage drilling operations because they are financially dependent on the surface owner, the COGCC or Garfield County – either directly through employment or indirectly through services they provide. But I will continue to speak up for the rights of those of us who built or purchased homes in what we were led to believe was a "retirement community" because it is the one principled and ethical thing I can still do to try and protect our property values. People want assurances that they can sell their homes at fair market values – not distressed sales. You are in the position to seek protection of our quality of life and our investment. Recognizing the influx of younger people into Battlement Mesa who may be reliant on the industry, I have decided to maintain a neutral position on these applications because (1) I lack the expertise to analyze the science behind the site selection for the pad itself, the pipeline and an injection well and (2) the Oil and Gas Conservation Act does not recognize the people who may be impacted. We are at the mercy of the COGCC and Garfield County experts to ensure our safety. If there is any doubt whatsoever in your minds that our health and safety are not being adequately protected, then irresponsible siting is definitely an issue you have an obligation to address. Maybe some locations are just too complex for mineral extraction. If not, please prove me wrong.

My Appeal- If you can approve -- and improve -- extraction processes within residential communities by hearing from those of us who are impacted by these industrialized operations, then I ask that the COGCC (and Garfield County Commissioners) impose some additional stringent and enforceable BMPs and COAs beyond those that were approved for the BMC-B Pad. Here are a few for your consideration:

?Pad Size- The BMC A Pad will cover a surface area of only 2.74 acres to allow for natural gas extraction from 24 wells plus one an injection well. After experiencing the activities at the larger BMC-B Pad, this small size would appear questionable because vehicles and equipment need more space to maneuver. Ursa admits there is not enough space on the BMC-A Pad to accommodate the drill rig and completions process simultaneously, so they will be drilling in a "series of events". The BMC-A Pad site is directly southwest of the existing BMC-B Pad, meaning that a 750' road extension beyond the existing River Bluff Road will have to be prepared to provide access to the pad, and then graveled over to prevent mud from being carried onto paved roads. That means more truck traffic and construction noise if and when the BMC-A Pad is underway.

?Pipeline- Two pipelines approximately 1,855 feet in length, will be co-located within the same easement, beginning at the BMC-A Pad and connecting with one at the BMC-B Pad. One is for natural gas and the other is a water line. Even though this work typically moves along quickly, traffic, noise and fugitive dust will still be issues.

?Injection wells- Please carefully scrutinize this application. Ursa contends that "potential future well pads in the Battlement Mesa Field could send water to the proposed facility. Delivery of fluids could come from several of Ursa's well pads". (See Pg. 3 of the BMC- A Injection Well Project Description). That would total ten other well pads – including eight that are outside of the PUD boundaries. Several of these already have their own injection wells. Since an injection well will remain until the end of production – perhaps twenty years and operating 24 hours a day – is this acceptable? The daily fluid injection rates are anticipated to range from zero to 5000/bbls a day. This is the first I have heard that these outside well pads could also be sending produced water to the BMC-A pad site, but Ursa confirmed this during their August 16th Community Meeting. A large pump house will be placed at this site on a permanent basis – during the production life of the wells.

Centralized injection well facilities outside of residential communities should be pursued. I will leave that topic to the environmental, geological and regulatory experts to provide their expertise so that the COGCC, the Garfield County Commissioners, (and I) are much better informed as to their safety. Residents should not have to decide on whether they want increased truck traffic or an injection well. Neither is desirable in a residential community and it would not be a decision we would be allowed to make anyway.

?Noise / Hours of Operation- Why must the residents of the Battlement Mesa PUD be relegated to some sort of "social experiment" status by enabling the industry to drill wherever they want just because they have the legal right to extract minerals? My home is jokingly referred to as "ground zero". It overlooks a 40'-high sound wall around the BMC-B Pad – the tallest in Colorado – yet it is the equivalent of putting a Band-Aid on a major incision. Noise is still an issue and wearing earplugs outdoors during the day and all night long during drilling activities is hardly a deterrent. There should not be any 24-hour operations within residential communities. The Surface Use Agreement allows drilling to occur 24 hours a day and this includes access to the injection well. Even lowering the acceptable decibel levels most likely will not help because of the topography of the area trapping noise or redirecting it. The sound wall below my home acts as an amphitheater, directing noise upward. While my situation may be unique, acceptable decibel levels should still be lowered because of the continuous noise caused by the combination of construction, truck traffic, pipeline work and

<p>drilling.If the noise is loud during these operations, then fracking noise will be intolerable and never fall within acceptable decibel levels.Ursa has stated that it may install a sound wall with the belief that noise will be buffered by the hillside to the east.A sound wall has a double purpose beyond mitigating noise. It is also a means of containing fugitive dust during construction and high-wind events.</p> <p>?Setbacks and Waivers– Allow no waivers to setback rules.Because the surface owner(s) waived the setback requirements that are affecting our home, we are the ones in the test tube being examined to see how far a drilling operation can push the limits before an impacted resident cries foul.Even though the BMC-A pad site is classified as an LUMA, there are seven occupied mobile homes within the Exception Zone setback, and six of them have executed waivers. Others may be incentivized if their properties fall under the required setbacks, but such waivers can adversely affect and demoralize the whole community.</p> <p>?Interim Reclamation- The visual damage will have to be tolerated while construction is underway.Once completed, a drill operator should be required to restore the areas through creative landscaping at the site itself or to collaborate with neighboring residents to establish necessary screening on their individual properties to block the offending view of the drill pad. The BMC-B pad COAs did not have any landscape screening requirements.Just seeing the area is insufficient.For the BMC-A Pad, I suggest planting trees along the shorter northern and eastern elevations to conceal the industrial nature of the operations.Residents should not have to wait until final reclamation decades into the future.There should not be an exemption to this COA when it potentially affects the ability for homeowners to sell their homes.</p> <p>?Mitigations- Consider some of the things that you could negotiate with the property owner, operator, and mineral rights owners to make drilling less impactful. Just because a surface owner is financially incentivized to allow drilling to occur on his property, this is an affront to the adjacent residents most affected by this action.“Adjacent” does not strictly mean “attached” or “adjoining”.It also means “neighboring”, “nearby”, or “close”.You should employ more judgment when it impacts homes within close and visual proximity to pads. Please send your scouts out to look at the intended sites from the perspective of the people most impacted and listen to their concerns before you simply put your stamp of approval on an application.No one – from the surface owner, operator, Garfield County, the COGCC, the Battlement Mesa Service Association, or members of our own Oil Gas Committee -- ever reached out to us to make any effort to find out what the potential impacts might be when the BMC-B pad was under review. What we have here is a major failure to communicate.Please demonstrate respect for impacted people when reviewing future applications.</p> <p>?Exceptions – Create an “Exceptions to Rules”category.All drill sites are not the same.Topography differs and weather conditions are factors.A hard and fast setback measurement rule should be flexible enough to determine that some sites are just not ideal.A mineral owner and a surface owner should be able to grasp this concept.</p> <p>?Community Outreach and Notification- The COGCC does not receive all complaints.Some go to the operator directly or through Community Counts.While they may quickly address the complaint and log it, none are publicly recorded online in the same manner as the COGCC.I want the same transparency and accountability from the County.</p> <p>OG locations and injection wells should be sited far away from places where people live. Please listen to us, hear our concerns, and finally take a position in support of Battlement Mesa residents while balancing the special interests of the mineral owner(s), Ursa, the County and the State.Regular citizens may not have standing with the COGCC, but our local governments do.Analyze the applications from our perspective while considering this and all future OG drilling applications within residential communities.Even though the industry and state say we have no standing in the application process, please demonstrate through your actions and thoughtful COAs that we actually do.</p> <p>As a final request, please discourage COGCC staff from referring to the Battlement Mesa PUD as being “in the gas patch”.That is truly offensive.</p> <p>Thank you for your consideration of these comments.</p> <p>Respectfully, Eleanor Nelson</p>	
<p>2 I support the Phase II URSA plans for the Battlement Mesa PUD submitted to Garfield County for the BMC A pad and the proposed injection well on BMC Pad A:</p> <p>BMC A Pad – The proposed location for the BMC A Pad located by the Battlement Mesa Metro District facilities, up against the hill will place the pad so that it is not visible to the majority of the Battlement Mesa residents.The proposed pipeline to connect the BMC A gas wells to the gathering line is a minimal distance from the Phase I BMC B Pad, thus causing minimal disturbance to the area. This pad also includes some of the proposed gas wells originally proposed from the Park Rec Pad that was eliminated, again reducing disturbance to Battlement Mesa. The Phase I and Phase II plans include four injection wells. One of the Injection wells is a proposed for the A Pad.The location of the A Pad injection well is below the water intake area for Battlement Mesa drinking water and is proposed to be nearly 2000 feet from the Colorado River. The use of these injection wells will significantly reduce the amount of truck traffic within the community.</p>	<p>08/24/2017</p>

3	THESE COMMENTS HAD TO BE SENT VIA EMAIL BECAUSE, DESPITE REPEATED ATTEMPTS, THE COGCC WEB-BASED COMMENT SITE WOULD NOT ACCEPT COMMENTS OVER THREE PAGES.	08/27/2017
4	<p>August 27, 2017 TO: John Noto, COGCC Oil and Gas Location Assessment Supervisor Email: john.noto@state.co.us Dave Kubezcko, Western Location Specialist Email: dave.kubezcko@state.co.us Kent Kuster, Oil and Gas Liaison, CDPHE Email: kent.kuster@state.co.us RE: Comment on Form 2A # 401234964 - Ursa A Pad</p> <p>Dear COGCC,</p> <p>Battlement Concerned Citizens, Grand Valley Citizens Alliance, and Western Colorado Congress (collectively, "the Community Groups") submit the following comments on Ursa Operating Company's A Pad within the Battlement Mesa PUD. The A Pad is proposed to include 24 wells and one injection well. If approved it would contain production facilities that are as close as 340 feet to a home, within 500 feet of eight homes, and within 1,000 feet of 51 homes. It is 150 feet from the Battlement Mesa water treatment plant. Ursa has once again pushed the envelope of what is acceptable and has proposed the worst well location since the new oil and gas rules were adopted in 2008. In this case, Ursa has pushed too far. The Ursa proposal is far too close to homes and does not meet COGCC rules and regulations for the following reasons:</p> <ol style="list-style-type: none"> 1. The COGCC may not permit a location that it knows will harm public health, safety, or welfare 2. Ursa's Pad A proposal does not meet COGCC's minimum setback standards of 500 feet. 3. Ursa failed to send adequate notice to Building Unit owners as required by Rules 305.a, 305.c., 306.e.; and 604.a(1)A.ii. 4. The waivers signed by Building Unit owners may not be valid because it appears the waivers were not knowingly and intelligently made 5. The Ursa proposal may be in violation of environmental justice laws. 6. Ursa has not provided an adequate alternative location analysis that requires the wells to be located "as far as possible" from homes. 7. Ursa has disregarded its requirement to "consult" with Garfield County. Garfield County was very clear with Ursa. Garfield County stated that it could not make a decision without an application and a hearing before the Garfield County Commissioners. Accordingly, we are still in the 90 day consultation period. 8. The proposal contains an injection well that is needlessly threatening a residential area and Battlement Mesa's water treatment plant and clean water supply. 9. Proposal threatens air quality for nearby Battlement Mesa residents 10. Ursa has not offered BMPs to mitigate the impacts to the maximum extent achievable. <p>For these reasons, described in greater detail below, the Community Groups urge the COGCC to deny the proposed A Pad location and injection well.</p> <p>DISCUSSION</p> <p>1. The COGCC may not permit a location that it knows will harm public health, safety, or welfare. The proposed oil and gas development on A Pad will negatively affect public health, safety, and welfare and the environment and therefore must be denied. The COGCC's mandate is to foster the balanced development of oil and gas resources in the state in a manner consistent with protection of public health, safety, and welfare including the protection of the environment and wildlife resources. As was decided in the recent Colorado Court of Appeals case, <i>Martinez v. COGCC</i>, the COGCC's mandate to protect public health and welfare "does not indicate a balancing test but a condition that must be fulfilled." Because Ursa's A Pad proposal will negatively affect public health safety and welfare, and those affects cannot be entirely mitigated, the proposal must be denied.</p> <p>Impacts to neighboring residents in Tamarisk Village will include nuisance-levels of noise and odors. The nuisance created cannot be entirely eliminated or mitigated. The proposed 24 wells and one injection well and associated tanks and other production equipment will be less than 500 feet from seven or more homes. Over the past two years of operation, Ursa has had difficulty in reducing nuisance noise and odors on its well sites near the PUD – that were much farther away from homes than this proposed well site. The complaint log from the COGCC website shows Ursa has been the subject of 25 complaints over the last two years. Several people complained of noxious fumes. One stated that the odors were so bad they prevented her from using her swamp cooler. Many residents have complained of sleep deprivation – one stating that even earplugs could not protect her from the noise.</p> <p>Garfield County Local Government Designee, Kirby Wynn, has admitted that controlling all oil and gas nuisances to adjacent residents is impossible. In his comments on the Ursa B and D Pads, Wynn wrote,</p> <p>Given the close proximity of numerous residences to the proposed BMC B and BMC D pads, there is</p>	08/27/2017

	<p>a much higher potential for residents to experience significant and more frequent noise, odor and light impacts than has been observed in more remote areas of Garfield County. Based on the applicant-supplied materials, there are numerous residences within 500-1,000 feet of the proposed well pads. By comparison, in many parts of Garfield County including the Battlement Mesa area, various operators utilizing the latest BMPs and mitigation technologies, have intermittently and significantly impacted residents with noise, odor and light issues at much greater distances between well pads and residences than are proposed by this applicant.</p> <p>Wynn went on to state that nuisance to nearby residents may be inevitable.</p> <p>“Resident concerns about noise impacts will be challenging if not impossible to fully prevent during drilling and completions. It will likely be a matter of trying to minimize the severity and frequency of noise impacts than to fully mitigate them... especially impactful db(C) range noise is not adequately addressed in the current rules according to COGCC staff. Noise in this range can cause noticeable vibrations that can cause significant nuisance impacts to nearby residents.”</p> <p>It is becoming widely understood that C-scale noise is very difficult for the oil and gas industry to mitigate. Ursa does not even propose to control C-scale noise. Ursa's sound study only provides an analysis of A-scale noise. One must assume that Ursa has no intention of attempting to control C-scale noise.</p> <p>The proposal is also less than 150 feet from the Battlement Mesa Water Treatment Plant and approximately 1,000 feet from the Colorado River. The potential impacts to water quality are discussed in the injection well section below.</p> <p>2. Ursa's Pad A proposal does not meet COGCC's minimum setback standards of 500 feet.</p> <p>The Pad A application does not meet COGCC's 500-foot setback requirement and it has not secured waivers from all homeowners within 500 feet. The COGCC Rule 604.a(1) states...</p> <p>(1) Exception Zone Setback. No Well or Production Facility shall be located five hundred (500) feet or less from a Building Unit except as provided in Rules 604.a.(1) A and B, and 604.b.</p> <p>A. Urban Mitigation Areas. The Director shall not approve a Form 2A or associated Form 2 proposing to locate a Well or a Production Facility within an Exception Zone Setback in an Urban Mitigation Area unless:</p> <ul style="list-style-type: none"> i. the Operator submits a waiver from each Building Unit Owner within five hundred (500) feet of the proposed Oil and Gas Location with the Form 2A or associated Form 2, or obtains a variance pursuant to Rule 502; and ii. the Operator certifies it has complied with Rules 305.a, 305.c., and 306.e.; and iii. the Form 2A or Form 2 contains conditions of approval related to site specific mitigation measures sufficient to eliminate, minimize or mitigate potential adverse impacts to public health, safety, welfare, the environment, and wildlife to the maximum extent technically feasible and economically practicable; or iv. the Oil and Gas Location is approved as part of a Comprehensive Drilling Plan pursuant to Rule 216. <p>As stated in the rule, the only way an operator may place an oil and gas well or production facility within 500 feet of a Building Unit (home) is by 1) submitting a waiver from each Building Unit owner within 500 feet of the proposed oil and gas location or 2) obtaining a variance pursuant to Rule 502. Therefore, in order to have the application even considered by the COGCC, Ursa must get waivers from each homeowner or request a variance. According to their own location drawing (Doc #401302616), there are eleven mobile home lots within 500 feet of the location – seven that are currently occupied with mobile homes. Ursa only has waivers from five of the seven homeowners that are within 500 feet of the proposed A Pad. See Garfield County Assessors records attached as Exhibit 3.</p> <p>Comparing Ursa's exception location waivers (Doc# 401302926) with information available from the Garfield County Assessor's office indicates that Ursa has failed to get waivers from two homeowners: Mirta Gabriel Rivera and RHP Properties. Ursa admits in its Exception Location Request to Rule 604.a.(1).A. Doc # 401302987) that a waiver was not obtained for a trailer that they considered “uninhabitable and unoccupied”. Even if that description is accurate, it does not excuse Ursa from the requirement to obtain waivers from every Building Unit owner within the exception area. COGCC 604.a(1)A. A Residential Building Unit is defined as “a building or structure designed for use as a place of residency by a person, a family, or families. The term includes manufactured, mobile, and modular homes, except to the extent that any such manufactured, mobile, or modular home is intended for temporary occupancy or for business purposes.” Nowhere does the definition state that the building must be occupied. Because Ursa does not have waivers from every homeowner, and has not requested a variance, the proposal cannot be approved by the COGCC.</p> <p>Figure 1. Google Earth Map showing eleven properties that are within 500 feet of the proposed facilities on Pad A.</p>	
5	<p>3. Ursa failed to send adequate notice to Building Unit owners as required by Rules 305.a, 305.c., 306.e.; and 604.a(1)A.ii.</p> <p>The application should be immediately denied because Ursa failed to adequately notice building unit</p>	08/27/2017

owners in the exception and buffer zones as required by Rules 305.a, 305.c., 306.e.; and 604.a(1) A.ii..The notice requirements of Rules 305.a, 305.c., 306.e.; and 604.a(1)A.ii. are fundamental.These Rules ensure residents receive notice as to what is going to occur to their neighborhood, how to engage in discussions with the operator, and how to comment on the issue with the decision maker.If these rules are not followed, the people who are potentially most impacted will have been denied their due process.

The applicable standards include:

Rule 305.a (2) Exception Zone and Buffer Zone Setback Notice to the Surface Owner and Building Unit Owners. For Oil and Gas Locations proposed within the Exception Zone or Buffer Zone Setback, Operators shall notify the Surface Owner and the owners of all Building Units that a permit to conduct Oil and Gas Operations is being sought. The Operator may rely on the county assessor tax records to identify the persons entitled to receive the Notice. Notice shall include the following:

A.The Operator's contact information;

B.The location and a general description of the proposed Well or Oil and Gas Facilities;

C.The anticipated date operations will commence (by calendar quarter and year);

D.The Local Governmental Designee's (LGD) contact information;

E.Notice that the Building Unit owner may request a meeting to discuss the proposed operations by contacting the LGD or the Operator; and

F.A "Notice of Comment Period" will be sent pursuant to Rule 305.c. when the public comment period commences.

305.c. Completeness determination and comment period notifications. Upon receipt of a completeness determination from the Director, an Operator shall notify the persons specified herein of their opportunity to meet with the Operator pursuant to Rule 306 and submit written comments about the proposed Oil and Gas Location to the Director, the LGD, and the Operator, and shall provide information about the Oil and Gas Location as follows:

(1)Oil and Gas Location Assessment Notice ("OGLA Notice").

A.Parties to be noticed:

i.Surface Owners;

ii.Owners of all Building Units within the Exception Zone Setback; and

iii.Owners of surface property within five hundred (500) feet of the proposed Oil and Gas Location, for proposed Oil and Gas Locations not subject to Rule 318A or 318B.

The operator may rely on the tax records of the assessor for the county in which the affected lands are located to identify the persons entitled to receive the OGLA Notice.

B.The OGLA Notice shall be delivered by hand; certified mail, return-receipt requested; electronic mail, return receipt requested; or by other delivery service with receipt confirmation unless an alternative method of notice is pre-approved by the Director.

C.The OGLA Notice shall include:

i.The Form 2A itself (without attachments);

ii.A copy of the information required under Rule 303.b.(3).C, 303.b.(3).D, 303.b.(3).F, and 303.b (3).J.i.;

iii.The COGCC's information sheet on hydraulic fracturing treatments except where hydraulic fracturing treatments are not going to be applied to the well in question;

iv.Instructions on how Building Unit owners can contact their Local Governmental Designee;

v. An invitation to meet with the Operator before Oil and Gas Operations commence on the proposed Oil and Gas Location;

vi. An invitation to provide written comments to the LGD, the Operator and to the Director regarding the proposed Oil and Gas Operations, including comments regarding the mitigation measures or Best Management Practices to be used at the Oil and Gas Location.

306.e. Meetings with Building Unit Owners Within a Buffer Zone Setback.

(1) Meetings with Building Unit Owners. An Operator shall be available to meet with Building Unit owners who received an OGLA Notice or a Buffer Zone Notice pursuant to Rule 305.c. and requested a meeting regarding the proposed Oil and Gas Location. Operators shall also be available to meet with such Building Unit owners if requested to do so by the Local Governmental Designee and such meetings shall comply with Rule 306.b.(3). Such informational meetings may be held on an individual basis, in small groups, or in larger community meetings.

(2) Information provided by operator. When meeting with Building Unit owners or their appointed agent (s) pursuant to subsection (1), above, the Operator shall provide the following information: the date construction is anticipated to begin; the anticipated duration of pad construction, drilling and completion activities; the types of equipment anticipated to be present on the Location; and the operator's interim and final reclamation obligation. In addition, the Operator shall present a description and diagram of the proposed Oil and Gas Location that includes the dimensions of the Location and the anticipated layout of production or injection facilities, pipelines, roads and any other areas to be used for oil and gas operations. The Operator and Building Unit owners shall be encouraged to discuss potential concerns associated with Oil and Gas Operations, such as security, noise, light, odors, dust, and traffic, and shall provide information on proposed or recommended Best Management Practices or mitigation measures to eliminate, minimize or mitigate those issues.

(3) Waiver. The Building Unit owner or agent may waive, permanently or otherwise, the foregoing meeting requirements. Any such waiver shall be in writing, signed by the owner or agent, and shall be submitted by the Building Unit owner or agent to the operator and the Director.

(4) Mitigation Measures. Operators will consider all legitimate concerns related to public health, safety, and welfare raised during informational meetings or in written comments and, in consultation with the Director and Local Governmental Designee if the LGD so requests, will add relevant and appropriate Best Management Practices or mitigation measures as Conditions of Approval into the Form 2A and any associated Form 2s.

(5) Operator Certification. The Director shall not approve a Form 2A, Oil and Gas Location Assessment, until the operator certifies it has complied with the meeting requirements of this Rule 306.e.

As is clearly stated in its application. Ursa has FAILED to meet these requirements. In its Rule 305.a.

(2) Certification – (Doc # 401302664), Ursa states that the pre-application was only sent to six addresses – those of the landowners. Ursa's actions are in clear violation of the requirement to send the notice to all Building Unit owners within the exception and buffer zones. What Ursa seems to have misunderstood is that most of the residents of Tamarisk Village are Building Unit owners. That is, they own their mobile home units. The failure to adequately notice those who are immediately affected by this proposal is fatal to the application.

4. The waivers signed by Building Unit owners may not be valid because it appears the waivers were not knowingly and intelligently made

Since Ursa failed to send building unit owners the information required in Rules 305.a, 305.c., 306.e.; and 604.a(1)A.ii., the waivers are invalid. When waiving the right to a hearing, due process requires that the waiver be voluntarily and knowingly and intelligently made. In this case, Ursa would have had to request a variance hearing if they did not receive waivers. The grant of a waivers signed could not have been made knowingly if Ursa did not provide the notice required in Rules 305.a, 305.c., 306.e.; and 604.a(1)A.ii.

From Ursa's application, it appears that the only information given to Building Unit owners was the following paragraph from the waiver itself:

Rule 604.a.(1) allows for the waiver of this setback requirement by the encroached upon surface owner. Ursa has an executed surface use agreement in place with the surface owner of the parcel on

which the BMC A pad is located. This surface use agreement pre-dates the setback requirements and expressly defines the area in which we are able to operate the proposed wells and associated production facilities. As the encroached upon surface owner, Ursa requests the execution of the waiver language below to allow the BMC A Pad wells (at 512 from mobile home) and associated production facilities (at 352 from mobile home) to be permitted as proposed. Please sign and date both originals of this letter, keeping one for your files and returning one to the undersigned. Thank you for your time and consideration in this matter.

In this paragraph, Ursa appears to want to mislead surface owners by indicating that, since the surface use agreement pre-dates the setback requirements, the waiver is simply a formality that they are required to sign. That is not true. Rule 604.a.(1) requires that they either receive a waiver from all Building Unit owners or they have to request a variance before the COGCC.

The waiver form itself appears to be the only information Ursa sent these Building Unit owners. Building Unit owners had no way of knowing the extent of what Ursa was proposing or their rights to comment on the proposal. Without being given information about the project, or the rights they were being asked to waive, the waiver could not have been made knowingly or intelligently.

5. The Ursa proposal may be in violation of environmental justice laws

This proposal appears to be targeting a low income neighborhood in Garfield County and may run afoul of federal environmental justice laws. The US Environmental Protection Agency defines "environmental justice" as follows:

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.

Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.

Meaningful involvement means:

- People have an opportunity to participate in decisions about activities that may affect their environment and/or health
- The public's contribution can influence the regulatory agency's decision
- Community concerns will be considered in the decision making process
- Decision makers will seek out and facilitate the involvement of those potentially affected

In this case, the location for the proposed injection well and related facilities is within 500 feet of a low income housing subdivision known as Tamarisk Village. On its website, Battlement Mesa Company advertises Tamarisk Village with the following statement:

"Owners in Tamarisk Village belong to the Battlement Mesa Service Association, (BMSA, the master HOA), thus owners can purchase here knowing that, like all of the Battlement Mesa PUD, the community is covenant protected."

Battlement Mesa Company is promising potential home-owners or renters a "covenant protected community" with one hand, while at the same time working to allow industrial land uses with the other.

Because Ursa failed to send the notice and information required in Rules 305.a, 305.c., 306.e.; and 604.a(1)A.ii., all Building Unit owners within 1,000 feet of the proposed location were not given the opportunity to "participate in the decision about activities that may affect their environment and/or health."

The Community Groups hope that the COGCC will reject Ursa's request to receive an exception to the setback rules and require Ursa to go through the variance process. In order to "seek out and facilitate those potentially affected", the Community Groups request that the variance hearing be held in Battlement Mesa.

6. Ursa has not provided an adequate alternative location analysis that requires the wells to be located

“as far as possible” from homes.

The Community Groups strongly encourage the COGCC to require an adequate alternative location analysis from Ursa. Pad A should be relocated because state law requires that the oil and gas facilities be sited as “far as possible” from existing homes pursuant to COGCC Rules 305A b.; 604c.(2)E. and 604.c(4).

COGCC Rule 305A b. states, “A Notice of Intent to Construct a Large UMA Facility shall include...(2) A description of the siting rationale for proposing to locate the facility within the Urban Mitigation Area, including a description of other sites considered and the reasons such alternate sites were rejected;”

COGCC Rule 604c.(2)E. states,

i. Where technologically feasible and economically practicable, operators shall consolidate wells to create multi-well pads, including shared locations with other operators. Multi-well production facilities shall be located as far as possible from Building Units.

COGCC Rule 604.c(4) states,

(4) Large UMA Facilities. Large UMA Facilities should be built as far as possible from existing building units and operated using the best available technology to avoid or minimize adverse impacts to adjoining land uses. To achieve this objective, the Director will require a combination of best management practices and required mitigation measures, and may also impose site specific conditions of approval related to operational and technical aspects of a proposed Large UMA Facility.

In the “Alternatives Analysis” that was submitted with the application, Ursa Resources states that it is limited to the locations in its original Surface Use agreement with Battlement Mesa Corporation and must use Pad A despite the fact it is less than 500 feet of seven homes and 1,000 feet of 51 homes. That is simply not true. The regulations do not require the operator to locate oil and gas facilities as far as possible from Building Units subject to the constraints of the surface use agreement. Ursa is required to provide an analysis that will look at all possible locations that could reach the minerals and provide some explanation as to why those alternative locations were not acceptable.

An accident in January near Hudson, Colorado sprayed 28,000 gallons of oil, gas, and drilling waste water onto surrounding land. Mist from the blowout hit an area 2,000 feet long and 1,000 feet wide. If the blow-out had occurred on Pad A it could have seriously affected nearby residents as well as the Battlement Mesa water supply.

We encourage the COGCC to determine if the A Pad location is as far as possible from homes by compelling Ursa to prepare an “alternative location analysis” that looks outside of the false constraints of Ursa’s Surface Use Agreement with the Battlement Mesa Corporation. The alternative location analysis will determine if alternative locations, farther from homes, are technologically feasible or economically practicable.

7. Ursa has disregarded its requirement to “consult” with Garfield County. Garfield County was very clear with Ursa. Garfield County stated that it could not make a decision without an application and a hearing before the Garfield County Commissioners.

The Large UMA regulations, passed in February of 2016, were designed to give relevant local governments some additional time to “consult” when a large oil and gas facility was proposed within an Urban Mitigation Area. This consultation must be negotiated in good faith and in whatever form the local government requests.

As stated in the Statement of Basis and Purpose for these rules,

Thus, if a local government determines it can only come to agreement with the operator on the siting of a proposed Large UMA Facility by conducting its full land use planning and approval process, the Commission intends that the operator will engage in and complete that process in good faith.

In this case, Ursa is proposing Pad A which will be a Large UMA facility. Garfield County staff and the Garfield Board of County Commissioners has informed Ursa that it cannot agree to Pad A location without going through Garfield County’s Special Use Permit process. Garfield County has made it clear that it’s preferred form of “consultation” is the Special Use Permit process. The 90-day consult period should therefore run until October -90 days after Ursa’s application was submitted to Garfield

	<p>County.</p> <p>The Community Groups believe that Garfield County should have been given 90 days to process the Ursa permit prior to the COGCC accepting Ursa's Form 2A application. The Community Groups hope that the COGCC Director will allow additional public comment, pursuant to Rule 305.d(3), once Garfield County has submitted its conditions of approval.</p>	
6	<p>8. The proposal contains an injection well that is needlessly threatening a residential area and Battlement Mesa's water treatment plant and clean water supply.</p> <p>By this time, it is well understood by the entire community that hydraulic fracturing and produced water contains dangerous chemicals that can make humans sick if they are ingested in even small amounts. Ursa's Vice President Don Simpson's recent quote in the media that there would be "no chemicals" in the injected waste water is simply not true. As required by state law, Ursa has reported the chemicals it has used in its hydraulic fracturing operations on the website Frac Focus. Ursa's Frac Focus reports show it has been using very dangerous chemicals in its hydraulic fracturing operations. Numerous scientific journal articles that describe the threat those chemicals pose to drinking water, as well as the petrochemicals and other pollutants in "produced water," are summarized and attached to these comments as Exhibit 4.</p> <p>Protection of water quality is one of the most important roles of any local government. State law allows municipalities to designate a watershed protection area and to regulate uses in the area that may degrade drinking water. More than 40 local municipalities have municipal watershed protection ordinances.</p> <p>Water quality protection is also an issue that local governments throughout Garfield County have taken very seriously. For example, in January 2013, five communities including the Town of New Castle, the Town of Silt, the City of Rifle, the Town of Parachute, Apple Tree Mobile Home Park, and Mountain Shadows subdivision, finalized work on a plan to protect water quality. The final plan, called, "Source Water Protection for the Colorado River Partnership" took nearly two years to complete. In the plan, the communities mapped their watersheds and identified the greatest threats to water quality. The first two threats to water quality identified in the report were the possibility of spilling of hydraulic fracturing fluid and the spilling or release of produced water from oil and gas development. The plan also creates a "Drinking Water Supply Protection Area". Zone 1 or the "primary zone" within the Drinking Water Supply Protection Area is considered the most sensitive because it is the area closest to the water source – a 1,000 foot band on either side of the Colorado River.</p> <p>In this case, Ursa is proposing to place its injection well and produced water tanks 1,063 feet from the Colorado River and immediately adjacent to Battlement Mesa's water intake. See map below. Placing one of the greatest threats to water quality immediately adjacent to Battlement Mesa's water treatment plant is reckless.</p> <p>The Community Groups are not necessarily opposed to waste water being transported by pipeline to an injection well. However, the current proposal is not compatible with adjacent residential land uses and creates an unjustifiable risk to the public drinking water supply and therefore should be denied.</p> <p>Figure 2. Google Map showing that a channel of the Colorado River is just over 1,000 feet from the proposed Pad A rather than over 2,000 feet as claimed by Ursa.</p> <p>A. Injection facility's threat to a residential area and public drinking water is unnecessary</p> <p>In a letter to Garfield County about the injection well location on B Pad, environmental specialist Kent Kuster, on behalf of the Colorado Department of Public Health and Environment (CDPHE), stated that "There are options available when determining a location for a Class II injection well and the Department believes Class II injection wells should not be located in Urban Mitigation Areas." Kuster recommended that Garfield County deny the permit on the injection well and associated storage tanks on the B Pad. The letter stated that injection wells inside residential areas and in close proximity to the drinking water intake "create(s) an unnecessary long-term risk for a spill or release to potentially impact the public water supply". CDPHE's position was that, 1) the waste water injected at the site poses a contamination risk to Battlement Mesa's drinking water supply, 2) an injection facility would present a long-term risk from a spill or release, 3) this risk is completely unnecessary because there are alternative locations that could be used for an injection well that would not pose as great a risk to public drinking water.</p> <p>The Community Groups agree that the risk posed by Ursa's proposal to place an injection well</p>	08/27/2017

immediately adjacent to homes and the Battlement Mesa water treatment plant is completely unnecessary. The Community Groups are not opposed to an injection well. However, they are very opposed to an injection well immediately adjacent to homes and the water treatment plant. There is just no good reason to locate an injection well and associated tanks within 500 feet of seven homes and 1,000 feet of 51 homes. The industry has the ability to pipe water to a location, outside the PUD, that would be far more appropriate for an injection well.

It appears that Ursa's purpose in locating the injection well on the A Pad is because it is cheaper and more convenient. Ursa would like to have the B and D pad water piped to the A Pad by gravity - without the need for pumps. Ursa has not given any indication, in this application or in its public comments, that it has even considered the threat its proposed injection facility would pose to public health.

Ursa should be required to look first to a legal location – outside of the PUD and at least 500 feet from a home – before proposing to place a waste injection well inside the Battlement Mesa PUD. As stated in CDPHE's comment letter, because injection wells can be located anywhere, they certainly should not be located within residential areas.

The COGCC is under no obligation to honor a surface use agreement between two private parties. There is no need to place Battlement Mesa's water supply at risk if other locations, farther from the water supply and outside of the PUD, are available. The entire region is geologically suitable for injection disposal wells. An adequate alternative location analysis, as required in a LUMA and within 1,000 feet of homes pursuant to COGCC Rules 305A b.; 604c.(2)E. and 604.c(4). would determine that there are hundreds of locations in the area that are available for injection wells that would pose far less risk to residents, public water supplies, and the Colorado River.

B. The chemicals in the waste water injected at the site pose a contamination risk to Battlement Mesa's drinking water supply

The proposed injection well adjacent to Battlement Mesa Metro District's water plant presents an unnecessary risk to Battlement Mesa's drinking water supply. The injection well will dispose of "produced water" from the B, D and A pads and potentially from other well locations in the area. "Produced water" is a general term used to refer to water that flows from oil and gas wells, which may include hydraulic fracturing fluids as well as natural waters from the formation. The chemicals used in hydraulic fracturing fluid and the naturally occurring organic and inorganic compounds that are mobilized from the formation during drilling and hydraulic fracturing activity pose very real threats to public drinking water supplies.

i. Chemicals from Hydraulic Fracturing Fluid

"Flowback" is a type of produced water, and refers to fluids containing predominantly hydraulic fracturing fluids that return to the surface after the pressure on a well is initially released. Flowback and produced water are generally stored in open air impoundments or storage containers at the well site, and may be recycled, treated for reuse, or disposed of in underground injection wells.

Hydraulic fracturing in the Piceance Basin takes approximately 800,000 to 2 million gallons of hydraulic fracturing fluid for a tight sand gas well. Chemicals in the hydraulic fracturing fluid include gelling agents, breakers, surfactants, corrosion inhibitors, and others, which are used as additives in hydraulic fracturing fluids. This mixture of chemical additives and chemicals from the formation may return to the surface in flowback and produced water from the well.

While less than fifty chemicals are typically used for the hydraulic fracturing of a single well, there are approximately 1173 different chemicals used by industry across the United States. The United States Environmental Protection Agency (EPA) identified 1173 chemicals associated with hydraulic fracturing fluids, flowback, or produced water, of which 1026 (87%) lack chronic oral toxicity values for human health assessments. This lack of toxicity values is not unique to the hydraulic fracturing industry; in fact, there are estimated to be tens of thousands of chemicals in industrial use that have not undergone significant toxicological evaluation.

Of the hydraulic fracturing chemicals that have been sufficiently studied, many have been linked to adverse human health outcomes, including reproductive/developmental impacts, neurotoxicity, and carcinogenicity. Contact with hydraulic fracturing chemicals, or their products, can cause harm to the endocrine system with negative outcomes to the sexual organs.

Ursa Resources president Don Simpson, recently was quoted in the local media that only water and

“no chemicals” would be injected at the facility. That is patently untrue. As Don Simpson knows well, the hydraulic fracturing process uses large amounts of chemicals that are a part of the waste water from oil and gas development. Despite Simpson’s statements to the contrary, Ursa, or its oil field services subcontractors such as Halliburton, also uses chemicals that are known to be harmful to human health.

COGCC Rule 205A requires operators to disclose hydraulic fracturing chemicals in the chemical registry database Frac Focus. Using Ursa’s own reports on the Frac Focus database, members of the Community Groups conducted a cursory review of the chemicals used in Ursa’s wells in the Battlement Mesa area and in other locations in Garfield County. The Ursa Frac Focus reports reviewed were for the Watson B Pad, the Yater Pad, Thompkins Pad, and Monument Ridge B Pads (all located around the Battlement Mesa PUD boundary). The Frac Focus records list 24 chemicals Ursa used in the process of developing wells on these pads. The Frac Focus records are attached as Exhibit 6.

Community Group members then compared Ursa’s Frac Focus reports to the TEDX Health Effects Database Spreadsheet. The TEDX data was also published in a peer-reviewed paper, Natural Gas Operations from a Public Health Perspective. Please see Exhibit 7 for a table and written summary of chemicals used in Ursa’s well sites near Battlement Mesa. TEDX staff reviewed the attached report for accuracy. Citations are available for research documenting these effects.

Ten of the 24 chemicals used by Ursa are on record in The Endocrine Disruption Exchange’s health effects database and are suspected of causing adverse health effects on various human and ecological systems. However, as stated earlier, no information on a health effect for a particular chemical does not mean it is safe, it only means that it has not been tested for health effects to date. Nine of the 24 chemicals are listed “proprietary” – protecting them from disclosure under trade secret law.

The Frac Focus records also show that Ursa uses 4-6 products of various chemical combinations supplied by companies such as Halliburton and Multi-Chem. The Frac Focus records state that the ingredients “are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets” for these products. The Community Group members reviewed the MSDS sheets (Attached as Exhibit 8) for the products disclosed in the Frac Focus records and found that two of these products, Barzan and Fr-6 are known as hazardous, can cause adverse reactions in human systems, and that they specifically should be prevented from “from entering sewers, waterways, or low areas.” Even though some of these products are listed as non-hazardous on the MSDS sheets, it does not mean they are safe. The Cal-web II MSDS states ingredients are non-hazardous but the MSDS specifically lists toxicity information for that product as well.

These are only a sampling of the Frac Focus records for four pads. Overall, Ursa has 184 records from Garfield County in Frac Focus, showing that they use well-recognized hazardous chemicals including 2-BE, formaldehyde, acetaldehyde, xylene, petroleum distillates, trimethylbenzenes, all with known potential health effects. Frac Focus data for another Ursa well pad in Silt, the Mclin B6 pad list a greater number of chemicals including formaldehyde and many other chemicals suspected of causing cancer.

Four of the chemicals used on the Mclin B6 pad, naphthalene, 2-Butoxyethanol, 2-Ethylhexanol, and Dimethyl formamide were identified as four of the 15 “chemicals of concern” to water quality in a 2015 University of Colorado study. The study chose the 15 “chemicals of concern” based on the chemicals’ toxicity, mobility, persistence and frequency of use that made them particularly threatening to drinking water sources. Many of the chemicals Ursa is using pose a threat to water quality in parts per billion. Even small quantities of the chemicals can pollute a public water supply.

ii. Chemicals from the Formation

The chemicals in hydraulic fracturing fluids that return as flowback are not the only threat produced water poses to drinking water. Other chemicals, such as naturally occurring organic and inorganic compounds, may be mobilized from the formation during drilling and hydraulic fracturing activity. This mixture of chemical additives and chemicals from the formation may return to the surface in flowback and produced water from the well. The produced water from oil and gas development are known to carry high levels of saline and total dissolved solids. This may include toxic substances such as heavy metals, volatile organic compounds (e.g., BTEX, benzene, toluene, ethylbenzene, xylenes), semivolatile organic compounds, and/or radioactive materials. An increased cancer risk may be associated with produced water from hydraulic fracturing activity, as it opens up new pathways for exposure to these naturally occurring and carcinogenic compounds. Water pollution from metals is

	<p>also a serious problem as they are taken up readily in the digestive tract and exhibit harmful effects on many tissues.</p> <p>Another recent study found that produced water not only contains fracturing additives, and formation chemicals, but also intended and unintended “transformation products” generated during the process. Nontoxic chemicals were found to have reacted with other chemicals and converted to problematic products.</p> <p>iii. An injection facility presents a long-term risk from a spill or release</p> <p>If the injection well zoning is approved, spills, unintended releases, and other accidents will pose a continuing threat to Battlement Mesa’s water supply. Several recent studies have found that even one spill was enough to impact long-term water quality and fish health downstream. Two recent studies investigated an injection facility near a stream in West Virginia. Water samples were collected from a background site in the area and upstream and downstream of the disposal facility. The results were that high levels of endocrine disrupting chemicals were found downstream of the injection site that are known to result in adverse health effects in aquatic organisms and other animals. Streambed microbial diversity was also lower below an oil and gas waste injection plant in West Virginia, and water downstream from this site had higher endocrine-disrupting activities than reference water. The researchers concluded that the activities at the disposal facility were negatively impacting stream and altering the biogeochemistry of nearby ecosystems.</p> <p>Another study of a produced water release from a leaking pipeline into the Blacktail Creek in North Dakota found lasting impacts to fish and water quality for over 25 miles. The results of that study suggest that chemicals from hydraulic fracturing fluids and formation chemicals incorporate into the sediment – causing a longer-term impact to water quality.</p> <p>It goes without saying, that if the water is dangerous for fish and other aquatic organisms, it could have health implications for human beings as well. Produced water spills have been found to contaminate ground water sources with benzene. Benzene is a petrochemical that is found in the gas-producing formations in Garfield County and is known to cause cancer in humans.</p> <p>Ursa has had more than its share of spills and releases in Garfield County. According to the COGCC, Ursa had 28 reportable spills since April 2013. (See Exhibit 9). Ursa’s spills were the result of malfunctioning equipment, human error and, in one case, vandalism. Some of the releases were from leaking water tanks that may have been releasing produced water for years.</p> <p>One Ursa spill was estimated at 257 barrels (10,800 gallons) at the Monument Ridge / Watson Ranch produced water receiving facility. On the COGCC Form 19 spill report (Attached as Exhibit 10), Ursa reported that on the evening of August 18, 2014, the high water alarms apparently malfunctioned allowing the produced water to overflow the tanks and the secondary containment berms surrounding the tanks. The spill was found to have contaminated ground water.</p> <p>Injection facilities have also been the locations of recent fires and explosions due to lightning strikes. Two injection facilities were destroyed by lightning strikes in the past year alone – even though at least one was equipped with lightening protection systems. The resulting fires consumed the produced water tanks. (See Exhibit 11).</p> <p>Spills and releases resulting from human error or malfunctioning equipment (as well as fires and explosions) are an ongoing threat to produced water storage site and injection facility. These facilities should only be approved in locations that will not present a threat to public health, safety and welfare. Placing an injection facility directly upstream from a community’s water intake would be an irresponsible and unnecessary threat to public health and safety.</p>	
7	<p>9. Proposal threatens air quality for nearby Battlement Mesa residents</p> <p>Produced water storage tanks contain many chemicals, including hydrocarbons that are naturally-occurring in the gas producing formation. Tanks are known to emit methane and volatile organic compounds. The Colorado Department of Public Health and Environment estimates emission factors for produced water tanks just as they do for condensate and oil storage tanks. The emission factors include volatile organic compounds as well as benzene - a known carcinogen.</p> <p>10. Ursa has not offered BMPs to mitigate the impacts to the maximum extent achievable</p> <p>If the A Pad is approved, the COGCC should, at minimum, require all conditions of approval that were required by both Garfield County and the COGCC for the B and D Pads. The 604 rules require the operator to use best available technologies and best management practices to mitigate impacts to adjacent communities to the greatest extent achievable.</p>	08/27/2017

Applicable standards

604. SETBACK AND MITIGATION MEASURES FOR OIL AND GAS FACILITIES, DRILLING, AND WELL SERVICING OPERATIONS

a. Setbacks. Effective August 1, 2013:

(1)Exception Zone Setback. No Well or Production Facility shall be located five hundred (500) feet or less from a Building Unit except as provided in Rules 604.a.(1) A and B, and 604.b.

A.Urban Mitigation Areas. The Director shall not approve a Form 2A or associated Form 2 proposing to locate a Well or a Production Facility within an Exception Zone Setback in an Urban Mitigation Area unless:

i.the Operator submits a waiver from each Building Unit Owner within five hundred (500) feet of the proposed Oil and Gas Location with the Form 2A or associated Form 2, or obtains a variance pursuant to Rule 502; and

ii.the Operator certifies it has complied with Rules 305.a, 305.c., and 306.e.; and

iii.the Form 2A or Form 2 contains conditions of approval related to site specific mitigation measures sufficient to eliminate, minimize or mitigate potential adverse impacts to public health, safety, welfare, the environment, and wildlife to the maximum extent technically feasible and economically practicable; or

iv.the Oil and Gas Location is approved as part of a Comprehensive Drilling Plan pursuant to Rule 216.

604.c.(4) Large UMA Facilities. Large UMA Facilities should be built as far as possible from existing building units and operated using the best available technology to avoid or minimize adverse impacts to adjoining land uses. To achieve this objective, the Director will require a combination of best management practices and required mitigation measures, and may also impose site specific conditions of approval related to operational and technical aspects of a proposed Large UMA Facility.

A.All Rule 604.c.(3) Exception Zone Setback mitigation measures are required for all Large UMA Facilities, regardless of whether the Large UMA Facility is located in the Buffer Zone or the Exception Zone

B.Required Best Management Practices. A Form 2A for a Large UMA Facility will not be approved until best management practices addressing all of the following have been incorporated into the Oil and Gas Location Assessment permit.

i.Fire, explosion, chemical, and toxic emission hazards, including lightning strike hazards.

ii.Fluid leak detection, repair, reporting, and record keeping for all above and below ground on-site fluid handling, storage, and transportation equipment.

iii.Automated well shut in control measures to prevent gas venting during emission control system failures or other upset conditions.

iv.Zero flaring or venting of gas upon completion of flowback, excepting upset or emergency conditions, or with prior written approval from the Director for necessary maintenance operations.

v.Storage tank pressure and fluid management.

vi.Proppant dust control.

C.Site Specific Mitigation Measures. In addition to the requirements of subsections A. and B. of this Rule 604.c.(4), the Director may impose site-specific conditions of approval to ensure that anticipated impacts are mitigated to the maximum extent achievable. The following non-exclusive list illustrates types of potential impacts the Director may evaluate, and for which site-specific conditions of approval may be required:

i.Noise;

ii.Ground and surface water protection;

iii.Visual impacts associated with placement of wells or production equipment; and

iv.Remote stimulation operations.

D.In considering the need for site-specific mitigation measures, the Director will consider and give substantial deference to mitigation measures or best management practices agreed to by the operator and local government with land use authority.

To better protect a residential area that is already extremely impacted, and to add consistency that will eliminate public and operator confusion, all locations within the Battlement Mesa PUD should be subjected to the same standards required for the B and D pads. The requirements for B pad are included as Exhibit 12 and are made part of these comments.

The need for increased health and safety measures within a residential area should be self-evident.In a residential area, health and safety should be of supreme concern to the operator and the COGCC. Noise, odors, and safety conditions of approval from B and D Pads are highlighted below as well as additional best practices and best available technologies that should be required at the A Pad location.

Health and Safety

The following health and safety requirements were placed on the B and D pads but have not been offered as Best Management Practices (BMPs) by Ursa in its state of county permit applications.All of the following should therefore be required conditions of approval.

* PLN 2 - (1) Provide advanced notice and community awareness to neighborhoods and meet with

the neighborhood residents regarding schedule and activities, include local emergency response agencies (Fire/Police). Operator may satisfy these public notification requirements through direct correspondence, Community Counts, publication in local newspapers, or through the Garfield County, Parachute, and Battlement Mesa Local Governmental Designees (LGDs).; (2) post schedule changes at a location convenient to residents, as well as notifying local emergency response agencies (Fire/Police) of schedule changes; (3) notify all local emergency responders (Fire/Police) 7 days prior to mobilization in, rig up (MIRU); and (4) notify all homes within a ¼-mile radius 7 days prior to MIRU.

* CON 4 - Operator will provide temporary engineering controls to prevent uncontrolled public access during drilling and completion activities. Site security must be maintained during production.

* CON 6 - Operator must equip all condensate and produced water storage tanks with an electronic level monitoring device that automatically shuts in all wells on the pad to prevent overfilling or during an upset condition, such as a leak or a fire. Produced water pipelines will be manned at all times while in operation. In the event of an upset condition, all pumps will be shut down immediately by trained personnel onsite.

* CON 7 - A truck loading and metering system that allows loading without opening thief hatches must be installed, pursuant to COGCC Rule 604.c.(4).B.v.

* CON 8 - Operator must install electronic level monitoring within the secondary containment for production facilities that will shut in all of the wells on the pad and any produced water pipelines leading to or leaving from the well pad to prevent an upset tank release from overflowing the containment device.

* CON 9 - Operator must use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location.

* CON 10 - Operator must utilize only welded connections for all buried flowlines. Operator must bed and partially backfill flowlines on the pad with non-native backfill to eliminate the corrosive soil concern.

* DC 4 - All Operator and contractor personnel working at the location during drilling and completion operations must be trained on COGCC requirements for spill response and reporting (documentation of this training will be maintained in the operator's office/onsite trailer). Operator will hold and document weekly meetings during drilling and completion operations to refresh all personnel onsite regarding response and reporting requirements and staff responsibilities during spill events.

* DC 5 - Operator will conduct daily inspections of equipment for leaks and equipment problems. All equipment deficiencies must be corrected immediately or as soon as practical (all identified problems and corrections/repairs will be documented and records will be maintained in the operator's office/onsite trailer). Daily monitoring can end 14 days after first date of production; however, timely inspections should continue during the production phase.

* DC 13 - Operator must monitor wildfire potential daily during all construction, drilling, and completion operations at this Oil and Gas Location, and coordinate as necessary with the local fire department on Red Flag Days to ensure appropriate response to any fire emergencies.

Air Quality and Odor Complaints

The following BMPs have been offered by Ursa in its Form 2A to address air quality concerns:

"All facilities onsite shall be subjected to an instrument-based leak detection and repair (LDAR) inspection at least monthly during drilling and completion and quarterly during production." Form 2A, Page 10.

The Community Groups support this requirement so long as it is clear that is requiring protections beyond current regulations. CDPHE Regulation 7 allows fewer inspections as production numbers decline. Requiring at least quarterly LDAR inspections, regardless of production, would be appropriate since the location is in a residential area.

The Community Groups suggest adding this language to the BMP: "Quarterly inspections will be conducted at this location, regardless of the potential to emit, until the location is plugged and abandoned."

"If a leak over 10,000 ppm hydrocarbons is discovered, the first attempt to repair the leak shall be made as soon as reasonably possible and in accordance with state law." Form 2A, Page 10.

This BMP should clarify that large leaks (over 10,000 ppm hydrocarbons) will not be allowed to continue for more than 24 hours.

The following statement should be added, "If a leak over 10,000 ppm hydrocarbon cannot be repaired within 24 hours, the well will be shut in until repairs can be made."

Odor complaints have been pervasive in Battlement Mesa. Ursa often describes odors as "temporary annoyances" and has stated publicly that "just because it smells bad, it does not mean it will hurt you." However resident experiences beg to differ. Results from well pad "episodic" events have ranged from persisting eye irritation to unbearable odors inside a home. As a solution, Ursa has offered to put people up in a motel until the event is over. Battlement Mesa residents would rather be able to live in their homes without fearing for their health. What is needed and expected is that extreme and prolonged discomfort will be avoided.

The following Conditions of Approval from B and D Pads should be applied in this case as well.

* CON 6 - Operator must equip all condensate and produced water storage tanks with an electronic

<p>level monitoring device that automatically shuts in all wells on the pad to prevent overfilling or during an upset condition, such as a leak or a fire. Produced water pipelines will be manned at all times while in operation. In the event of an upset condition, all pumps will be shut down immediately by trained personnel onsite.</p> <p>* CON 7 - A truck loading and metering system that allows loading without opening thief hatches must be installed, pursuant to COGCC Rule 604.c.(4).B.v.</p> <p>* CON 8 - Operator must install electronic level monitoring within the secondary containment for production facilities that will shut in all of the wells on the pad and any produced water pipelines leading to or leaving from the well pad to prevent an upset tank release from overflowing the containment device.</p> <p>* CON 9 - Operator must use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location.</p> <p>* DC 3 - A closed loop system must be implemented during drilling. No diesel/oil-based drilling mud (OBM) or high chloride/TDS-based drilling mud (salt-SBM) may be used at this Oil and Gas Location. The moisture content of water/bentonite-based mud (WBM) generated cuttings managed onsite must be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts as indicated on the Form 2A.</p> <p>* DC 11 - Flares (such as TCI's portable flare with high combustion rate, low noise, and low visibility flare) will be utilized and will have appropriate VOC emission controls.</p> <p>* DC 12 - Operator must install emission control devices (including the most current VOC destruction and capture technology) on all permanent condensate/oil and produced water storage tanks, regardless of the potential to emit. Operator must conduct monthly infrared camera or Method 21 inspections on the well pad.</p> <p>* DC 14 - Flowback and stimulation fluids must be sent to a closed system capable of containing and managing vapors, fumes, or gases under pressure. Open top tanks may not be used to capture, contain, or store flowback fluid. Flowback fluid containment and storage vessels must be located in an area sufficiently impervious to prevent migration of any spilled or released material into groundwater.</p> <p>* DC 15 - Air quality and odor controls will be implemented and will include the following: 1) the flowback stream must be routed from the wellhead to a series of separation units, consisting of an initial horizontal-type separator to remove sand or proppant; then to a vertical-type separator (a "four-phase" separator capable of removing and segregating (sand/proppant, condensate/oil, produced water, and natural gas), and then to another vertical-type separator (a "three-phase" separator capable of segregating condensate/oil, produced water, and methane); 2) any oil or condensate captured during the separation process will be sent to a tank with emissions controls; 3) from this point, the salable gas captured during the separation process will be sent to the sales line; 4) the produced water stream will then be sent to a series of sealed flowback tanks (closed top / closed hatches), where any additional, non-salable gas, will be sent to a temporary, fully enclosed flare or permanent VOC combustor; 5) frac fluids/flowback storage tank hatches must be closed and latched; 6) daily odor monitoring should be conducted during well completions using a Nasal Ranger, or COGCC approved equivalent, to monitor compliance with detectable odor limits in Colorado Regulation 2, documentation of such monitoring must be maintained and made available to COGCC or CDPHE upon request; and 7) maintain a portable meteorological weather station during well drilling and completion operations, that includes a data logger to archive wind speed/direction, temperature, and humidity; 8) Data must be kept on file by the Operator and provided to COGCC or CDPHE upon request.</p>	
<p>8 Nuisance: Noise</p> <p>Noise has been the subject of repeated complaints from people living as far as 2,000 ft from the existing Ursa pads. Noise complaints from Ursa's B V pad just across the Colorado River are ongoing. (See Exhibit 1). Ursa's noise mitigation study does not mention C-scale noise – even though C-scale noise is the cause of most nuisance complaints at Ursa's existing pads. Ursa is currently not planning to use any sound walls at its Pad A location.</p> <p>Ursa is required to use "best available technologies" because it is proposing A Pad within a Large Urban Mitigation Area. There are new sound wall technologies that have been able to reduce C-scale noise by 20 dBs. If effective, these new sound walls should be required at all Ursa well pad locations within the Battlement Mesa PUD.</p> <p>Erie's recent "Operator Agreement" with Encana Corporation also set a new best management standard for Colorado and should be required in this case. The COGCC should afford the residents of Battlement Mesa the same protections the Town of Erie provided its residents.</p> <p>Noise Mitigation Measures. Operator shall prepare and implement a noise mitigation plan. The noise mitigation plan shall detail the reasonably practicable efforts to be used to reduce db(A) scale noise level for operations subject to the light industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) to sixty (60) db(A) and to reduce the noise level for operations subject to the industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) five (5) db(A) below the maximum level permitted by those Regulations. As set forth in COGCC Regulation 802.b, the noise levels shall be subject to increase for a period not to exceed fifteen (15) minutes in any one (1)</p>	<p>08/27/2017</p>

<p>hour period and reduction for periodic, impulsive or shrill noises.</p> <p>The following Conditions of Approval from the B and D pads should also be added in this case to address noise concerns.</p> <ul style="list-style-type: none"> * PLN 6 - In order to evaluate ambient/baseline noise levels at the BMC "B" Pad, operator must conduct a minimum 72 hour baseline noise survey from a minimum of three points prior to the commencement of construction. * CON 9 - Operator must use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location. * DC 1 - Operator must perform continuous sound monitoring surveys during construction, drilling, and completion activities with data collection instruments placed as mutually agreed to with the Garfield County LGD and COGCC and will be located to the east-southeast between the Oil and Gas Location and the residential Building Units. The operator must have a documented process for responding to sound levels that exceed COGCC sound limits and must provide continuous sound monitoring data to COGCC on tables or graphs within 48 hours of <p>Addressing Complaints.</p> <p>Ursa has proposed the following BMP in its form 2As for the L and A Pads:</p> <p>"Ursa has a dedicated phone line to address complaints 24 hours a day, seven days a week...All complaints received by Ursa are documented, investigated, responded to immediately with appropriate corrective actions and communicated to the complainant, landowner, county LGD and appropriate state agency officials."Form 2A, Page 8.</p> <p>As required under the B and D Pad location approvals, the Ursa complaint system is already active.Battlement Mesa residents appreciate having a dedicated phone line for complaints but do not believe that the Ursa complaint system is in communication with the COGCC.Battlement Mesa residents' experience is that their complaints to Ursa are not forwarded to county and state officials.Residents deserve transparency to understand what is happening in their community and how their comments are being addressed.</p> <p>This BMP should include, "All complaints received and investigated by Ursa will be published online in the same manner as COGCC's complaint process or sent to the COGCC as formal complaints."</p> <p>Hours of Operation</p> <p>Ursa has offered the following best management practices in its Form 2As submitted to the COGCC:</p> <p>"Construction shall be limited to the hours of 7:00 AM to 7:00 PM., with the exception of episodic events...." Form 2A, Page 11.</p> <p>"Well completion activity shall be limited to occurring between 7:00AM and 7:00PM.Once the wells are in production, vehicle trips to the pad shall be limited to the hours of 7:00AM to 7:00PM, with the exception of emergencies and episodic events beyond Ursa's control." Form 2A, Page 12.</p> <p>The Community Groups appreciate that Ursa has proposed to limit its hours of operation for construction, completion and vehicle trips.Since the A Pad has been proposed in a residential area, the Community Groups requests that all Ursa's activities be limited to the hours of 7:00 AM to 7:00 PM.This should include drilling operations and pipeline construction and installation.</p> <p>CONCLUSION</p> <p>As seen in the COGCC map below, Battlement Mesa residents have been forced to endure more wells in close proximity to their homes and neighborhoods than any residential area in Colorado.Ursa and Battlement Mesa Land Investments proposal to place 24 gas wells and an injection well less than 500-feet from seven homes and less than 1,000 feet from 51 homes is unreasonable and unjustified.The A Pad proposal, and the injection well, pose an unnecessary risk to the Tamarisk Village neighborhood less than 300 feet away and should be denied pursuant to COGCC Rules and regulations described above.</p> <p>Sincerely, Dave Devanney Battlement Concerned Citizen Leslie Robinson Grand Valley Citizens Alliance Matthew Sura Attorney for BCC, GVCA and WCC</p> <p>Figure 3.COGCC Map showing the hundreds of wells that have been drilled in the area of Battlement Mesa.</p>	<p>08/27/2017</p>
<p>9 The A Pad is proposed in Battlement Mesa adjacent to Tamarisk Village. The location for this proposed pad is bad; it is 500 feet from homes and this breaks with the COGCC's own setback rules. This proposed pad is within 1,000 feet of over 22 homes qualifying it to be considered as an Urban Mitigation District. Stricter guidelines apply. There is no mitigation for a bad location, with so many wells so close to a large number of homes. Distance is the best protection against both nuisance and</p>	<p>08/27/2017</p>

	<p>potential emissions. URSA's pad and equipment should be moved further from people's homes. URSA has provided a weak "alternative location analysis" in the state applications; as a resident, I maintain that these minerals could be accessed outside our PUD with current drilling technology and higher drilling angles. If this pad is allowed so close to homes, URSA must do everything possible to protect the health and safety of residents. This means that according to the newly revised rules, URSA should be required to regularly evaluate and employ the "best management technology" available to lessen impacts on residents, including any new technology developed in the past year. Timing limitations should be applied to more than just completions. All disruptive activities such as construction of pipelines and their installation, and other drill pad infrastructure should be limited to the hours of 7 am to 7 pm. URSA should be held accountable for keeping noise levels below COGCC standards, not as a voluntary activity, but as a requirement.</p> <p>The COGCC should deny URSA's request to place an injection well on the A Pad. Toxic waste injection wells do not belong in residential neighborhoods or so close to the Colorado River. If this A Pad is approved, after two to three years of drilling there will be 24 gas wells and one injection well, and 12 water and condensate tanks, all within 500 to 1,000 feet of 25 homes. All outdoor storage facilities for fuel, raw materials and products, shall be enclosed by a fence or wall adequate to conceal such facilities from adjacent properties. It is documented that waste injection wells and their associated waste tanks are known sources of toxic air emissions—including cancer-causing benzene. COGCC must deny the placement of an injection well on the A Pad within the boundaries of a residential community. It is a bad location for an injection well!</p> <p>Many residents of Battlement Mesa have already experienced impacts from noise, odor and lights from current development and continue to be impacted, whether or not a complaint was filed. URSA must provide a plan on how to address these impacts for permanent solutions for the community rather than treat them as isolated incidents. COGCC should include all applicable conditions of approval and best management practices COGCC and Garfield County included for the B and D Pads.</p> <p>I welcome your comments and questions. 71 River View Place</p>	
10	<p>There are so many safety issues associated with this particular site at Battlement Mesa, due to the operators unwillingness to consider a less dangerous location nearby, that any accidents that happen will be malfeasance and surely could be prosecuted. There are no developers to blame here as all housing, and Battlement infrastructure, is in place, and it will be Ursas monetary liability when some part of the messy heavily industrial process fails. {Not to mention the possibility of human harm} This will not be hidden under the rug like many spills and other infractions which are only reported when time has passed, and they are lately discovered. I urge you to reconsider your location. I cant imagine who takes your insurance risk, and I would think they too would urge a different location. Are lawsuits the price of business?</p>	08/27/2017
11	<p>I object to locating an injection well on Drilling Pad A at the southeast side of the Battlement Mesa Water Treatment facility property for several reasons: Injection wells can catch on fire, injection wells frequently have fluid migrations and significant leaks, and an injection well next to a water treatment plant violates the Colorado Department of Public Health's rule on locating water treatment facilities. This injection well would be within a P.U.D. Residential District.</p> <p>I found several examples of injection wells that burn. In April 2015, Greeley firefighters extinguished an injection well blaze in which the tanks became airborne. Near Hammon, Oklahoma, an injection well exploded in June of 2015. A salt water disposal well near Boyd, Texas burned. The website texassharon.com has several reports of injection well fires. The website has an article titled How does saltwater burn?...for seven hours.</p> <p>The website Propublica.org (injection-wells-the poison-beneath-us) reports that in Texas, 2,300 class 2 injection wells failed in 2010 and that one out of three wells had a violation.</p> <p>Colorado Primary Drinking Water Regulations (5 CCR 1002-11) rule 11.4(2) on siting requirements state that waterworks must avoid being located at a site which: Is subject to a significant risk from earthquakes, floods, fires or other disasters which could cause a breakdown of the public water system or a portion of the public water system.</p>	08/27/2017
12	<p>Dear Commissioners:</p> <p>The proposed A L pads constitute yet more invasions into our community and in proximity to multiple homes. The pads with multiple wells and related activities constitute heavy industry that is incompatible with residential property. Their associated health hazards and nuisances should not be allowed in densely populated areas like Battlement Mesa. It is particularly galling when the natural gas can otherwise be accessed from further away.</p> <p>Even more disturbing, is that a toxic waste facility is being entertained inside the community when access to resources is not even a factor. These facilities can be located anywhere and still serve their intended purpose. Please protect our residents and insist that these facilities be located outside our planned community.</p>	08/27/2017

13	<p>The COGCC should deny Ursa's request to place an injection well on the A Pad and thus within the PUD boundaries.</p> <p>Ursa has provided an "alternative location analysis" in the state applications showing that these minerals could be accessed outside of the PUD with current drilling technology and higher drilling angles. Toxic Injection wells do not belong in residential areas or so close to the Colorado River.</p>	08/27/2017
14	<p>Dear Commissioners,</p> <p>I am writing to comment on Ursa's Battlement Mesa Phase II application now under consideration. First and foremost, the COGCC must deny Ursa's request to place an injection well on the A Pad and thus within the PUD boundaries. The CDPHE and the Garfield County community development staff, as well as GarCo citizens, agree that toxic injection wells do not belong in residential areas or so close to the Colorado River.</p> <p>Even though Ursa has provided an "alternative location analysis," Battlement Mesa resident and PE Bob Arrington has submitted documents to the COGCC which show that these minerals could be accessed outside of the PUD with current drilling technology and higher drilling angles.</p> <p>The A pad in particular has setback issues. The closest home will be less than 500 feet from the proposed location and there will be over 25 homes within 1,000 feet of the location. As proposed, the L pad will be located within 1,000 feet of more than 25 homes. These setbacks would be in violation of COGCC's setback regulations.</p> <p>There is no mitigating a bad location and so many wells so close to a large number of homes is simply a bad location. Distance is the best protection against constant nuisance and emissions. Ursa's equipment should be moved as far from residents' homes as possible.</p> <p>The COGCC should include all applicable conditions of approval and best management practices that the COGCC and Garfield County required on B and D pads. According to newly revised rules, Ursa should be required to regularly evaluate and employ the "best available technology" available to lessen impacts on residents, including any new technology available from the past year. Due to the close proximity of these well pads to homes, Ursa must go beyond expectations to protect the health of residents.</p> <p>To protect air quality, Ursa must be required to:</p> <ul style="list-style-type: none"> • use technologies with at last 95% efficiency on tanks that emit over 2 tons of volatile organic compounds per year; • commit to repair detected leaks within 24 hours of discovery or shut down the well; • use Ward Diesel No Smoke filters on all diesel equipment on Battlement Mesa well sites. <p>In addition, the results of site specific air monitors should be publicly available and reported to the BOCC on a regular basis, including specificity about the frequency of reporting results.</p> <p>Ursa must be required to keep noise levels below COGCC standards.</p> <p>A curfew must be applied to all drilling activity, including completions. All disruptive activities such as pipeline construction and installation of pipelines and other drill pad infrastructure should be limited to the hours between 7:00 a.m. and 7:00 p.m.</p> <p>All outdoor storage facilities for fuel, raw materials and products must be enclosed by a fence or wall adequate to conceal such facilities from adjacent property.</p> <p>Currently Ursa treats noise and odors as isolated incidents, which puts the burden on residents to track down location, identify noise and/or odor, and then report the complaint. Ursa must be required to provide a plan on how to address known impacts from noise and odors as well as permanent solutions for the residents. Any and all complaints received and investigated by Ursa should be published online in the same manner as COGCC's complaint process. Residents deserve transparency to understand what is happening in their community and how their comments are being addressed.</p> <p>When it comes time for reclamation, Ursa must establish re-vegetation on disturbed sites; and Battlement Mesa Company should be required to supply irrigation water to maintain vegetation and ground cover.</p> <p>The best way for the COGCC to restore the trust of Colorado citizens is to steadfastly protect public health, safety, welfare, and our environment and hold oil gas operators accountable for the strictest conditions of approval and best management practices.</p> <p>Thank you for your attention.</p>	08/27/2017
15	<p>Please do not grant or allow more permits for drilling in the Battlement Mesa area. We need to consider air quality and water purity for all the residents there and in the surrounding area. The air is already tremendously compromised. The health of our valley and its residents is priority and should hold focus in all decision making and policy.</p>	08/27/2017
16	<p>To the drilling company:</p> <p>Your intention to drill in an occupied residential location is probably illegal but definitely immoral, inconsiderate, thoughtless and above all, dangerous to a settled community. Clearly money is your only consideration as you plan to just damn the folks who live there, many of whom will have to</p>	08/27/2017

	<p>abandon their homes. For you, cheaper, nearer a highway, better bottom line may be acceptable but your unconscionable pursuit of this project at Battlement Mesa marks a new low in the mining business. Shame on you! Go drill where you wont be ruining the lives of the citizens of this great nation, theres plenty of room to do that. Battlement Mesa is SETTLED; do not drill there, period. Do not drill within 5 miles of the nearest house! Above all stop making a bad name for yourselves!</p>	
17	<p>Below is a copy of the comments that BCC and GVCA have submitted to Garfield County on the A Pad. We would like them to be on record for the COGCCs consideration as well.</p> <p>Due to limitations to this e-planning software, we are submitting it in multiple parts. Below is Part 1.</p> <p>Battlement Concerned Citizens (BCC), Grand Valley Citizens Alliance (GVCA) and Western Colorado Congress (WCC) (collectively, "the Community Groups") submit the following comments on Battlement Mesa Land Investments LLC Phase II oil and gas operations within the Battlement Mesa PUD which include the A Pad, the waste water injection well on A Pad, and the L Pad. The community groups are opposed to all oil and gas development within the Battlement Mesa PUD because it is an incompatible land use. However, the Community Groups are focusing these comments on the two most egregious proposals: the A pad and the A Pad injection well.</p> <p>To be clear, it is actually an oil and gas company, Ursa Resources, that is behind this proposal.</p> <p>Ursa's efforts to place a new gas well pad and a waste water injection well within 500 feet of numerous homes and immediately adjacent to Battlement Mesa's water treatment plant is callous and reckless. The A Pad proposal would be less than 500 feet from several homes – closer than allowed by state law. The A Pad proposal, and the injection well proposed on that location, is also out of compliance with the Garfield County regulations because it is incompatible with adjacent residential land uses and the Battlement Mesa water treatment plant and will cause a nuisance to neighboring residents. The Community Groups urge the Garfield County staff and Planning Commission to recommend denial of the A Pad location and the injection well.</p> <p>APPLICABLE STANDARDS</p> <p>Because Ursa and Battlement Mesa Land Investments has decided to drill oil and gas wells within the Battlement Mesa PUD, they will be subject to the land use requirements in place at the time of the creation of the PUD as well as a "Major Impact Review" procedures found in the existing regulations. Garfield County regulations relevant to siting requirements include the following:</p> <p>(1982 Code) 1982 Garfield County Zoning Code</p> <p>Section 5.03.07 1) The applicant for a permit for industrial operations shall prepare and submit to the Planning Director two (2) copies of an impact statement on the proposed use prescribing its location, scope, design and construction schedule, including an explanation of its operational characteristics.... The impact statement shall show that the use shall be designed and operated in compliance with all applicable laws and regulations of the County, State and Federal Governments, and will not have a significant adverse effect upon:</p> <p>(b) Use of adjacent land through generation of vapor, dust, smoke, noise, glare or vibration, or other [emanations];</p> <p>Section 5.03.07 (3) Sufficient distances shall separate such use from abutting property which might otherwise be damaged by operations of the proposed uses;</p> <p>Section 5.03.08: Industrial Performance Standards: All industrial operations in Garfield County shall comply with applicable County, State, and Federal regulations regulating water, air and noise pollution and shall not be conducted in a manner constituting a public nuisance or hazard. Operations shall be conducted in such a manner as to minimize heat, dust, smoke, vibration, glare and odor and all other undesirable environmental effects beyond the boundaries of the property in which such uses are located, in accord with the following standards:</p> <p>Section 5.03.08 (4) Emission of heat, glare, radiation and fumes: every use shall be so operated that it does not emit heat, glare, radiation or fumes which substantially interfere with the existing use of adjoining property or which constitutes a public nuisance or hazard. Flaring of gases, aircraft warning signals, reflective painting of storage tanks, or other such operations which may be required by law as safety or air pollution control measures shall be exempted from this provision;</p>	08/27/2017

	<p>(2013 Code) Current Garfield County Land Use and Development Code</p> <p>7-103. COMPATIBILITY.</p> <p>The nature, scale, and intensity of the proposed use are compatible with adjacent land uses.</p> <p>7-301. COMPATIBLE DESIGN.</p> <p>The design of development associated with the land use change shall be compatible with the existing character of adjacent uses.</p>	
18	<p>Below is a continuation of BCC and GVCAs comments on A Pad.</p> <p>PAD A APPLICATION</p> <p>MIPA-05-17-8551</p> <p>1.Proposal is in violation of the 2013 Land Use and Development Code and will create a public nuisance in violation of the 1983 Zoning Code</p> <p>The A Pad location should be denied by Garfield County because it is in violation of several sections of the current 2013 Land Use and Development Code as well as the 1983 Zoning Code.</p> <p>The current Garfield County Land Use and Development Code requires new uses to be compatible with the character and uses on adjacent lands. The proposal for a large-scale oil and gas development site to be drilled and hydraulically fractured within the Battlement Mesa PUD is incompatible with adjacent residential uses within the PUD and should therefore be denied.</p> <p>The 1982 Zoning Code states that the proposed use may not cause a nuisance on adjacent lands.It is clear and well-documented that the proposed oil and gas development will create a nuisance for residents in the adjacent Tamarisk Village.Over the past two years of operation, Ursa has had difficulty in reducing nuisance noise and odors on its well sites near the PUD.The complaint log from the COGCC website shows Ursa has been the subject of 25 complaints over the last two years.Several people complained of noxious fumes.One stated that the odors were so bad they prevented her from using her swamp cooler.Many residents have complained of sleep deprivation – one even stating that earplugs did not protect her from the noise.</p> <p>Garfield County Local Government Designee, Kirby Wynn, has admitted that controlling all nuisance to adjacent residents is impossible.In his comments on the Ursa B and D Pads, Wynn wrote,</p> <p>Given the close proximity of numerous residences to the proposed BMC B and BMC D pads, there is a much higher potential for residents to experience significant and more frequent noise, odor and light impacts than has been observed in more remote areas of Garfield County. Based on the applicant-supplied materials, there are numerous residences within 500-1,000 feet of the proposed well pads. By comparison, in many parts of Garfield County including the Battlement Mesa area, various operators utilizing the latest BMPs and mitigation technologies, have intermittently and significantly impacted residents with noise, odor and light issues at much greater distances between well pads and residences than are proposed by this applicant.</p> <p>Wynn went on to admit that,</p> <p>“Resident concerns about noise impacts will be challenging if not impossible to fully prevent during drilling and completions. It will likely be a matter of trying to minimize the severity and frequency of noise impacts than to fully mitigate them... especially impactful db(C) range noise is not adequately addressed in the current rules according to COGCC staff. Noise in this range can cause noticeable vibrations that can cause significant nuisance impacts to nearby residents.”</p> <p>It is becoming widely understood that C-scale noise is very difficult for the oil and gas industry to mitigate. Ursa does not even propose to control C-scale noise.Ursa’s sound study only provides an analysis of A-scale noise.</p> <p>Since it is understood that noise will cause a nuisance, and the nuisance cannot be adequately mitigated, Garfield County should conclude that the proposal does not meet the requirements of the 2013 Land Use and Development Code for compatibility (§§7-103, 7-301) and fails to meet Section 5.03.08 of the 1983 Zoning Code which prohibits land uses that will create a public nuisance.</p>	08/27/2017

2.Proposal is in violation of state setback requirements and is not a “sufficient distance” from adjacent land uses.

The Pad A application (MIPA-05-17-8551) is a multi-well facility that is proposed within 500 feet of multiple homes.Because of its proximity to homes within Tamarisk Village, Pad A poses a greater threat to public health, safety and welfare than any oil and gas location proposed in Colorado in the last five years.

Since 2012, the minimum state setback for new wells and production facilities to homes has been 500 feet.As can be seen in Figure 1, there are 10 lots closer than 500 feet from oil and gas production facilities on the A Pad.In order to have the application even considered by the COGCC, Ursa must get waivers from each homeowner or request a variance.Ursa only has waivers from six of the seven homeowners that are within 500 feet of the proposed A Pad and it has not requested a variance.The proposal therefore cannot be approved by the COGCC.

The 1982 Garfield County Zoning Code (“1982 Code”) requires that Ursa prepare an impact statement that will demonstrate that the proposal is “in compliance with all applicable laws and regulations of the County, State and Federal Governments...” 1978 Code 5.03.07(1).Because the proposal is not in compliance with state law, Garfield County should deny the application.

Finally, the 1983 Zoning Code requires that “sufficient distance” shall separate the industrial uses from other areas that can be damaged from that use.In this case, in 2012 the COGCC has established at minimum 500-foot setback to be sufficient distance to “protect the safety and welfare of the general public from environmental and nuisance impacts resulting from oil and gas development in Colorado, including spills, odors, noise, dust, and lighting.”

Garfield County does not have a setback for oil and gas facilities from homes and has made no findings that should refute the COGCC’s determination that at least a 500 foot setback is necessary to protect public safety and welfare from oil and gas nuisance impacts.Garfield County should deny the Pad A location based on the fact that there is not sufficient distance between the industrial oil and gas use and the residential Tamarisk Village.

3.New alternative location analysis should be required

The Community Groups strongly encourage the Community Development Director to request an alternative location analysis from Ursa before proceeding with a public hearing on this application.

The 1982 Garfield County Zoning Code (“1982 Code”) requires that the applicant prepare an impact statement that will demonstrate that the proposal is “in compliance with all applicable laws and regulations of the County, State and Federal Governments...”1982 Code 5.03.07(1).

One or both of the proposed locations within the PUD should be relocated because state law requires that the oil and gas facilities be sited as “far as possible” from existing homes.

COGCC Rule 604c.(2)E. states,

i.Where technologically feasible and economically practicable, operators shall consolidate wells to create multi-well pads, including shared locations with other operators. Multi-well production facilities shall be located as far as possible from Building Units.

The applicant in this case is the Battlement Mesa Land Investments.In the “Alternatives Analysis” that was submitted with the application, Ursa Resources states that it is limited to the locations in its original Surface Use agreement with Battlement Mesa Corporation (a parent organization of Battlement Mesa Land Investments) and must use Pad A despite the fact it is less than 500 feet of seven homes and 1,000 feet of 51 homes.That is simply not true.Battlement Mesa Land Investments is the applicant in this case and, if it believes every leased acre must be accessed by a gas well, then it can and should offer alternative locations that are not dangerously close to homes.

We encourage the Planning Commissioners to determine if the location is as far as possible from homes by compelling Ursa to prepare an “alternative location analysis” that looks outside of the false constraints of Ursa’s Surface Use agreement with Battlement Mesa Corporation.The alternative location analysis will determine if alternative locations, farther from homes, are technologically feasible or economically practicable.

	<p>Because of the tremendous technological advances in the past two decades, directional drilling is economically feasible and therefore, drilling outside of the PUD should be required. In fact, other operators in the immediate area routinely drill wells directionally for over 3,500 feet. The widely-used technology of directional drilling should eliminate the need for one or both of the pads proposed within the PUD.</p> <p>Garfield County will not be setting a precedent with this request. Throughout the state, there have been several proposed multi-well locations that have been moved after being required to provide an alternative location analysis. Some local governments are now routinely requiring an alternative location analysis as a prerequisite for being able to go through the local permitting process.</p> <p>Battlement Mesa Land Investments has not offered alternative locations that are “as far as possible” from homes, will not create a public nuisance, and are not illegally close to homes. Garfield County is within its right to deny the Pad A location based on all these factors and request an examination of alternative locations that would at least meet COGCC 500-foot setback requirements.</p> <p>4. Proposal may run afoul of environmental justice laws</p> <p>The US Environmental Protection Agency defines “environmental justice” as follows:</p> <p>Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.</p> <p>Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.</p> <p>Meaningful involvement means:</p> <ul style="list-style-type: none"> • People have an opportunity to participate in decisions about activities that may affect their environment and/or health • The public's contribution can influence the regulatory agency's decision • Community concerns will be considered in the decision making process • Decision makers will seek out and facilitate the involvement of those potentially affected <p>In this case, the location for the proposed injection well and related facilities is within 500 feet of a low income housing subdivision known as Tamarisk Village. On its website, Battlement Mesa Company advertises Tamarisk Village with the following statement:</p> <p>“Owners in Tamarisk Village belong to the Battlement Mesa Service Association, (BMSA, the master HOA), thus owners can purchase here knowing that, like all of the Battlement Mesa PUD, the community is covenant protected.”</p> <p>Battlement Mesa Company is promising potential home-owners or renters a “covenant protected community” with one hand, while at the same time working to change the PUD zoning and those same covenant protections with the other.</p>	
19	<p>Below is a continuation of BCC and GVCAs comments on A Pad.</p> <p>INJECTION WELL APPLICATION</p> <p>MIPA-05-17-8549</p> <p>Even if the Pad A location is approved, the proposal to place an injection well on Pad A should be denied by the Garfield County Planning Commission and the Board of County Commissioners. By this time, it is well understood by the entire community that hydraulic fracturing and produced water contains dangerous chemicals that can make humans sick if they are ingested in even small amounts. Ursa's Vice President Don Simpson recent quote in the media that there would be “no chemicals” in the injected waste water is simply not true. As required by state law, Ursa has reported the chemicals it has used in its hydraulic fracturing operations on the website Frac Focus. Ursa's Frac Focus reports show it has been using very dangerous chemicals in its hydraulic fracturing</p>	08/27/2017

	<p>operations. Numerous scientific journal articles that describe the threat those chemicals pose to drinking water, as well as the petrochemicals and other pollutants in “produced water,” are summarized and attached to these comments as Exhibit 1.</p> <p>What makes this proposal different than the proposal to allow the drilling of gas wells on Pad A, is that an injection well does not fall under the same state preemption law that governs oil and gas decisions. As COGCC Matt Lepore reiterated to the Garfield County Commissioners several times during a public hearing on September 19, 2016, “There is not a mineral right associated with the injection permit. So, if the County does not approve the site for this well then that decision has primacy.” As stated by Commissioner Tom Jankovsky when he voted to deny the zoning change to allow injection wells within the PUD, “There are not property rights for injection wells.”</p> <p>Protection of water quality is one of the most important roles of any local government. State law allows municipalities to designate a watershed protection area and to regulate uses in the area that may degrade drinking water. More than 40 local municipalities have municipal watershed protection ordinances.</p> <p>Water quality protection is also an issue that local governments throughout Garfield County have taken very seriously. For example, in January 2013, five communities including the Town of New Castle, the Town of Silt, the City of Rifle, the Town of Parachute, Apple Tree Mobile Home Park, and Mountain Shadows subdivision, finalized work on a plan to protect water quality. The final plan, called, “Source Water Protection for the Colorado River Partnership” took nearly two years to complete. In the plan, the communities mapped their watersheds and identified the greatest threats to water quality. The first two threats to water quality identified in the report were the possibility of spilling of hydraulic fracturing fluid and the spilling or release of produced water from oil and gas development. The plan also creates a “Drinking Water Supply Protection Area”. Zone 1 or the “primary zone” within the Drinking Water Supply Protection Area is considered the most sensitive because it is the area closest to the water source – a 1,000 foot band on either side of the Colorado River.</p> <p>In this case, the oil and gas company Ursa, through an investment group called the Battlement Mesa Company and its subsidiaries, Battlement Mesa Partners, LLC and Battlement</p> <p>Mesa Land Investments, LLC, is proposing to place its injection well and produced water tanks 1,063 feet from the Colorado River and immediately adjacent to Battlement Mesa’s water intake. See map below. Placing one of the greatest threats to water quality immediately upstream from Battlement Mesa’s water intake is reckless. Unincorporated Battlement Mesa does not have a town council. It must depend on you, the Garfield County government, to protect its water quality.</p> <p>The Community Groups are not necessarily opposed to waste water being transported by pipeline to an injection well. However, the current proposal is not compatible with adjacent residential land uses and creates an unjustifiable risk to the public drinking water supply and therefore must be denied.</p> <p>1. Injection facility’s threat to public drinking water is an incompatible use</p> <p>In his letter dated January 12, 2017, environmental specialist Kent Kuster, on behalf of the Colorado Department of Public Health and Environment (CDPHE), recommended that Garfield County deny the permit on the injection well and associated storage tanks on the B Pad. The letter stated that injection wells inside residential areas and in close proximity to the drinking water intake “create(s) an unnecessary long-term risk for a spill or release to potentially impact the public water supply”. CDPHE’s position is that 1) the waste water injected at the site poses a contamination risk to Battlement Mesa’s drinking water supply 2) an injection facility would present a long-term risk from a spill or release, 3) this risk is completely unnecessary because there are alternative locations that could be used for an injection well that would not pose as great a risk to public drinking water.</p> <p>An accident in January near Hudson, Colorado sprayed 28,000 gallons of oil, gas, and drilling waste water onto surrounding land. Mist from the blowout hit an area 2,000 feet long and 1,000 feet wide. If the blow-out had occurred on Pad A it would have seriously affected the Battlement Mesa water supply. There is no need to place Battlement Mesa’s water supply at risk if other locations, farther from the water supply and outside of the PUD, are available.</p>	
20	<p>Below is a continuation of BCC and GVCAs comments on A Pad</p> <p>2. The waste water injected at the site poses a contamination risk to Battlement Mesa’s drinking water supply</p>	08/27/2017

As stated by the CDPHE, the proposed injection well adjacent to Battlement Mesa Metro District's water plant presents an unnecessary and unacceptable risk to Battlement Mesa's drinking water supply. The injection well will dispose of "produced water" from the B, D and A pads and potentially from other well locations in the area. "Produced water" is a general term used to refer to water that flows from oil and gas wells, which may include hydraulic fracturing fluids as well as natural waters from the formation. The chemicals used in hydraulic fracturing fluid and the naturally occurring organic and inorganic compounds that are mobilized from the formation during drilling and hydraulic fracturing activity pose very real threats to public drinking water supplies.

a. Chemicals from Hydraulic Fracturing Fluid

"Flowback" is a type of produced water, and refers to fluids containing predominantly hydraulic fracturing fluids that return to the surface after the pressure on a well is initially released. Flowback and produced water are generally stored in open air impoundments or storage containers at the well site, and may be recycled, treated for reuse, or disposed of in underground injection wells.

Hydraulic fracturing in the Piceance Basin takes approximately 800,000 to 2 million gallons of hydraulic fracturing fluid for a tight sand gas well. Chemicals in the hydraulic fracturing fluid include gelling agents, breakers, surfactants, corrosion inhibitors, and others, which are used as additives in hydraulic fracturing fluids. This mixture of chemical additives and chemicals from the formation may return to the surface in flowback and produced water from the well.

While less than fifty chemicals are typically used for the hydraulic fracturing of a single well, there are approximately 1173 different chemicals used by industry across the United States. The United States Environmental Protection Agency (EPA) identified 1173 chemicals associated with hydraulic fracturing fluids, flowback, or produced water, of which 1026 (87%) lack chronic oral toxicity values for human health assessments. This lack of toxicity values is not unique to the hydraulic fracturing industry; in fact, there are estimated to be tens of thousands of chemicals in industrial use that have not undergone significant toxicological evaluation.

Of the hydraulic fracturing chemicals that have been sufficiently studied, many have been linked to adverse human health outcomes, including reproductive/developmental impacts, neurotoxicity, and carcinogenicity. Contact with hydraulic fracturing chemicals, or their products, can cause harm to the endocrine system with negative outcomes to the sexual organs.

Ursa Resources president Don Simpson, recently was quoted in the local media that only water and "no chemicals" would be injected at the facility. That is patently untrue. As Don Simpson knows well, the hydraulic fracturing process uses large amounts of chemicals that are a part of the waste water from oil and gas development. Despite Simpson's statements to the contrary, Ursa, or its oil field services subcontractors such as Halliburton, also uses chemicals that are known to be harmful to human health.

COGCC Rule 205A requires operators to disclose hydraulic fracturing chemicals in the chemical registry database Frac Focus. Using Ursa's own reports on the Frac Focus database, members of the Community Groups conducted a cursory review of the chemicals used in Ursa's wells in the Battlement Mesa area and in other locations in Garfield County. The Ursa Frac Focus reports reviewed were for the Watson B Pad, the Yater Pad, Thompkins Pad, and Monument Ridge B Pads (all located around the Battlement Mesa PUD boundary). The Frac Focus records list 24 chemicals Ursa used in the process of developing wells on these pads. The Frac Focus records are attached as Exhibit 4.

Community group members then compared Ursa's Frac Focus reports to the TEDX Health Effects Database Spreadsheet. The TEDX data was also published in a peer-reviewed paper, Natural Gas Operations from a Public Health Perspective. Please see Exhibit 5 for a table and written summary of chemicals used in Ursa's well sites near Battlement Mesa. TEDX staff reviewed the attached report for accuracy. Citations are available for research documenting these effects.

Ten of the 24 chemicals used by Ursa are on record in The Endocrine Disruption Exchange's health effects database and are suspected of causing adverse health effects on various human and ecological systems. However, as stated earlier, no information on a health effect for a particular chemical does not mean it is safe, it only means that it has not been tested for health effects to date. Nine of the 24 chemicals are listed "proprietary" – protecting them from disclosure under trade secret law.

The Frac Focus records also show that Ursa uses 4-6 products of various chemical combinations

supplied by companies such as Halliburton and Multi-Chem. The Frac Focus records state that the ingredients “are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets” for these products. The community group members reviewed the MSDS sheets (Attached as Exhibit 6) for the products disclosed in the Frac Focus records and found that two of these products, Barzan and Fr-6 are known as hazardous, can cause adverse reactions in human systems, and that they specifically should be prevented from “from entering sewers, waterways, or low areas.” Even though some of these products are listed as non-hazardous on the MSDS sheets, it does not mean they are safe. The Cal-web II MSDS states ingredients are non-hazardous but the MSDS specifically lists toxicity information for that product as well.

These are only a sampling of the Frac Focus records for four pads. Overall, Ursa has 184 records from Garfield County in Frac Focus, showing that they use well-recognized hazardous chemicals including 2-BE, formaldehyde, acetaldehyde, xylene, petroleum distillates, trimethylbenzenes, all with known potential health effects. Frac Focus data for another Ursa well pad in Silt, the Mclin B6 pad list a greater number of chemicals including formaldehyde and many other chemicals suspected of causing cancer. (See Table - Attachment 5).

Four of the chemicals used on the Mclin B6 pad, naphthalene, 2-Butoxyethanol, 2-Ethylhexanol, and Dimethyl formamide were identified as four of the 15 “chemicals of concern” to water quality in a 2015 University of Colorado study. The study chose the 15 “chemicals of concern” based on the chemicals’ toxicity, mobility, persistence and frequency of use that made them particularly threatening to drinking water sources. Many of the chemicals Ursa is using pose a threat to water quality in parts per billion. Even small quantities of the chemicals can pollute a public water supply.

b. Chemicals from the Formation

The chemicals in hydraulic fracturing fluids that return as flowback are not the only threat produced water poses to drinking water. Other chemicals, such as naturally occurring organic and inorganic compounds, may be mobilized from the formation during drilling and hydraulic fracturing activity. This mixture of chemical additives and chemicals from the formation may return to the surface in flowback and produced water from the well. The produced water from oil and gas development are known to carry high levels of saline and total dissolved solids. This may include toxic substances such as heavy metals, volatile organic compounds (e.g., BTEX, benzene, toluene, ethylbenzene, xylenes), semivolatile organic compounds, and/or radioactive materials. An increased cancer risk may be associated with produced water from hydraulic fracturing activity, as it opens up new pathways for exposure to these naturally occurring and carcinogenic compounds. Water pollution from metals is also a serious problem as they are taken up readily in the digestive tract and exhibit harmful effects on many tissues.

Another recent study found that produced water not only contains fracturing additives, and formation chemicals, but also intended and unintended “transformation products” generated during the process. Nontoxic chemicals were found to have reacted with other chemicals and converted to problematic products.

c. An injection facility presents a long-term risk from a spill or release

If the injection well zoning is approved, spills, unintended releases, and other accidents will pose a continuing threat to Battlement Mesa’s water supply. Several recent studies have found that even one spill was enough to impact long-term water quality and fish health downstream. Two recent studies investigated an injection facility near a stream in West Virginia. Water samples were collected from a background site in the area and upstream and downstream of the disposal facility. The results were that high levels of endocrine disrupting chemicals were found downstream of the injection site that are known to result in adverse health effects in aquatic organisms and other animals. Streambed microbial diversity was also lower below an oil and gas waste injection plant in West Virginia, and water downstream from this site had higher endocrine-disrupting activities than reference water. The researchers concluded that the activities at the disposal facility were negatively impacting stream and altering the biogeochemistry of nearby ecosystems.

Another study of a produced water release from a leaking pipeline into the Blacktail Creek in North Dakota found lasting impacts to fish and water quality for over 25 miles. The results of that study suggest that chemicals from hydraulic fracturing fluids and formation chemicals incorporate into the sediment – causing a longer-term impact to water quality.

It goes without saying, that if the water is dangerous for fish and other aquatic organisms, it could have health implications for human beings as well. Produced water spills have been found to

contaminate ground water sources with benzene. Benzene is a petrochemical that is found in the gas-producing formations in Garfield County and is known to cause cancer in humans.

Ursa has had more than its share of spills and releases in Garfield County. According to the COGCC, Ursa had 28 reportable spills since April 2013. (See Exhibit 7). Ursa's spills were the result of malfunctioning equipment, human error and, in one case, vandalism. Some of the releases were from leaking water tanks that may have been releasing produced water for years.

One Ursa spill was estimated at 257 barrels (10,800 gallons) at the Monument Ridge / Watson Ranch produced water receiving facility. On the COGCC Form 19 spill report (Attached as Exhibit 8), Ursa reported that on the evening of August 18, 2014, the high water alarms apparently malfunctioned allowing the produced water to overflow the tanks and the secondary containment berms surrounding the tanks. The spill was found to have contaminated ground water.

Injection facilities have also been the locations of recent fires and explosions due to lightning strikes. Two injection facilities were destroyed by lightning strikes in the past year alone – even though at least one was equipped with lightning protection systems. The resulting fires consumed the produced water tanks. (See Exhibit 9).

Spills and releases resulting from human error or malfunctioning equipment (as well as fires and explosions) are an ongoing threat to produced water storage site and injection facility. These facilities should only be approved in locations that will not present a threat to public health, safety and welfare. Placing an injection facility directly upstream from a community's water intake would be an irresponsible and unnecessary threat to public health and safety.

3. Proposal threatens air quality for nearby Battlement Mesa residents

Produced water storage tanks contain many chemicals, including hydrocarbons that are naturally-occurring in the gas producing formation. Tanks are known to emit methane and volatile organic compounds. The Colorado Department of Public Health and Environment estimates emission factors for produced water tanks just as they do for condensate and oil storage tanks. The emission factors include volatile organic compounds as well as benzene - a known carcinogen.

4. There are alternative locations that could be used for an injection well.

The risk posed by Ursa's proposal to place an injection well upstream from Battlement Mesa's water intake and immediately adjacent to homes is completely unnecessary. In a recent letter to Garfield County, the Colorado Department of Health stated that "There are options available when determining a location for a Class II injection well and the Department believes Class II injection wells should not be located in Urban Mitigation Areas." That is the position of the Community Groups. The Community Groups are not opposed to an injection well. However, they are very opposed to an injection well immediately adjacent to homes and the water treatment plant. There is just no good reason to locate an injection well and 16 tanks within 500 feet of seven homes and 1,000 feet of 51 homes. The industry has the ability to pipe water to a location, outside the PUD, that would be far more appropriate for an injection well.

It appears that Ursa's purpose in locating the injection well on the A Pad is because it is cheaper and more convenient. Ursa would like to have the B and D pad water piped to the A Pad by gravity - without the need for pumps. Ursa has not given any indication, in this application or in its public comments, that it has even considered the threat its proposed injection facility would pose to public health.

Ursa should be required to look first to a legal location – outside of the PUD and at least 500 feet from a home – before proposing to place a waste injection well inside the Battlement Mesa PUD. As stated in CDPHE's comment letter, because injection wells can be located anywhere, they certainly should not be located within residential areas. Bob Arrington has suggested several alternative locations for injection wells – including locations that have already been approved by the COGCC.

Attached as Exhibit 10 is a map of those properties owned by the applicants: Battlement Mesa Company and its subsidiaries, Battlement Mesa Partners and LLC and Battlement Mesa Land Investments, LLC. Battlement Mesa Company has considerable holdings downstream from the Battlement Mesa Water treatment plant and further from homes that would be far more appropriate for an injection well.

The Community Groups also believe that permanent underground disposal may not be the best use

	<p>of limited water resources on the Western Slope. A recent study found that, in Garfield County, the industry recycles approximately 96% of its flowback water. It appears that Ursa's practice of disposing of its produced water is the exception not the rule.</p> <p>It has been a long practice of Williams Production and now WPX to recycle and re-use its produced water for its hydraulic fracturing operations. WPX claims to recycle 100% of its water. As the efficiency and cost of water treatment improves, use of oil and gas produced water is being considered for maintaining stream flows, crop irrigation, and even for domestic use.</p> <p>Ursa appears to be far behind the times when it comes to recycling and re-using water. Garfield County should require Ursa to investigate water treatment options prior to allowing it to inject its wastewater within the Battlement Mesa PUD.</p>	
21	<p>REQUESTED CONDITIONS OF APPROVAL</p> <p>If either of the L or A Pads are approved, Garfield County should require all conditions of approval that were required by both Garfield County and the COGCC for the B and D Pads. To better protect a residential area that is already extremely impacted, and to add consistency that will eliminate public and operator confusion, all locations within the Battlement Mesa PUD should be subjected to the same standards required for the B and D pads. The requirements for B pad are included as Exhibit 1 and are made part of these comments.</p> <p>The need for increased health and safety measures within a residential area should be self-evident. In a residential area, health and safety should be of supreme concern to the operator and the COGCC. Noise, odors, and safety conditions of approval from B and D Pads are highlighted below as well as additional best practices and best available technologies that should be required at L and A Pad locations.</p> <p>Health and Safety</p> <p>The following health and safety requirements were placed on the B and D pads but have not been offered as Best Management Practices (BMPs) by Ursa in its state of county permit applications. All of the following should therefore be required conditions of approval in the event Garfield County decides to approve wither L or A Pad locations.</p> <p>* PLN 2 - (1) Provide advanced notice and community awareness to neighborhoods and meet with the neighborhood residents regarding schedule and activities, include local emergency response agencies (Fire/Police). Operator may satisfy these public notification requirements through direct correspondence, Community Counts, publication in local newspapers, or through the Garfield County, Parachute, and Battlement Mesa Local Governmental Designees (LGDs); (2) post schedule changes at a location convenient to residents, as well as notifying local emergency response agencies (Fire/Police) of schedule changes; (3) notify all local emergency responders (Fire/Police) 7 days prior to mobilization in, rig up (MIRU); and (4) notify all homes within a ¼-mile radius 7 days prior to MIRU.</p> <p>* CON 4 - Operator will provide temporary engineering controls to prevent uncontrolled public access during drilling and completion activities. Site security must be maintained during production.</p> <p>* CON 6 - Operator must equip all condensate and produced water storage tanks with an electronic level monitoring device that automatically shuts in all wells on the pad to prevent overfilling or during an upset condition, such as a leak or a fire. Produced water pipelines will be manned at all times while in operation. In the event of an upset condition, all pumps will be shut down immediately by trained personnel onsite.</p> <p>* CON 7 - A truck loading and metering system that allows loading without opening thief hatches must be installed, pursuant to COGCC Rule 604.c.(4).B.v.</p> <p>* CON 8 - Operator must install electronic level monitoring within the secondary containment for production facilities that will shut in all of the wells on the pad and any produced water pipelines leading to or leaving from the well pad to prevent an upset tank release from overflowing the containment device.</p> <p>* CON 9 - Operator must use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location.</p> <p>* CON 10 - Operator must utilize only welded connections for all buried flowlines. Operator must bed and partially backfill flowlines on the pad with non-native backfill to eliminate the corrosive soil concern.</p> <p>* DC 4 - All Operator and contractor personnel working at the location during drilling and completion operations must be trained on COGCC requirements for spill response and reporting (documentation of this training will be maintained in the operator's office/onsite trailer). Operator will hold and document weekly meetings during drilling and completion operations to refresh all personnel onsite regarding response and reporting requirements and staff responsibilities during spill events.</p> <p>* DC 5 - Operator will conduct daily inspections of equipment for leaks and equipment problems. All equipment deficiencies must be corrected immediately or as soon as practical (all identified problems</p>	08/27/2017

	<p>and corrections/repairs will be documented and records will be maintained in the operator's office/onsite trailer). Daily monitoring can end 14 days after first date of production; however, timely inspections should continue during the production phase.</p> <p>* DC 13 - Operator must monitor wildfire potential daily during all construction, drilling, and completion operations at this Oil and Gas Location, and coordinate as necessary with the local fire department on Red Flag Days to ensure appropriate response to any fire emergencies.</p>	
22	<p>Below is a continuation of BCC and GVCAs comments on A Pad</p> <p>Air Quality and Odor Complaints</p> <p>The following BMPs have been offered by Ursa in its Form 2A to address air quality concerns: "All facilities onsite shall be subjected to an instrument-based leak detection and repair (LDAR) inspection at least monthly during drilling and completion and quarterly during production." Form 2A, Page 10.</p> <p>The Community Groups support this requirement so long as it is clear that is requiring protections beyond current regulations. CDPHE Regulation 7 allows fewer inspections as production numbers decline. Requiring at least quarterly LDAR inspections, regardless of production, would be appropriate since the location is in a residential area.</p> <p>The Community Groups suggest adding this language to the BMP: "Quarterly inspections will be conducted at this location, regardless of the potential to emit, until the location is plugged and abandoned."</p> <p>"If a leak over 10,000 ppm hydrocarbons is discovered, the first attempt to repair the leak shall be made as soon as reasonably possible and in accordance with state law." Form 2A, Page 10.</p> <p>This BMP should clarify that large leaks (over 10,000 ppm hydrocarbons) will not be allowed to continue for more than 24 hours.</p> <p>The following statement should be added, "If a leak over 10,000 ppm hydrocarbon cannot be repaired within 24 hours, the well will be shut in until repairs can be made."</p> <p>Odor complaints have been pervasive in Battlement Mesa. Ursa often describes odors as "temporary annoyances" and has stated publicly that "just because it smells bad, it does not mean it will hurt you." However resident experiences beg to differ. Results from well pad "episodic" events have ranged from persisting eye irritation to unbearable odors inside a home. As a solution, Ursa has offered to put people up in a motel until the event is over. Battlement Mesa residents would rather be able to live in their homes without fearing for their health. What is needed and expected is that extreme and prolonged discomfort will be avoided.</p> <p>The following Conditions of Approval from B and D Pads should be applied in this case as well.</p> <p>* CON 6 - Operator must equip all condensate and produced water storage tanks with an electronic level monitoring device that automatically shuts in all wells on the pad to prevent overfilling or during an upset condition, such as a leak or a fire. Produced water pipelines will be manned at all times while in operation. In the event of an upset condition, all pumps will be shut down immediately by trained personnel onsite.</p> <p>* CON 7 - A truck loading and metering system that allows loading without opening thief hatches must be installed, pursuant to COGCC Rule 604.c.(4).B.v.</p> <p>* CON 8 - Operator must install electronic level monitoring within the secondary containment for production facilities that will shut in all of the wells on the pad and any produced water pipelines leading to or leaving from the well pad to prevent an upset tank release from overflowing the containment device.</p> <p>* CON 9 - Operator must use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location.</p> <p>* DC 3 - A closed loop system must be implemented during drilling. No diesel/oil-based drilling mud (OBM) or high chloride/TDS-based drilling mud (salt-SBM) may be used at this Oil and Gas Location. The moisture content of water/bentonite-based mud (WBM) generated cuttings managed onsite must be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts as indicated on the Form 2A.</p> <p>* DC 11 - Flares (such as TCI's portable flare with high combustion rate, low noise, and low visibility flare) will be utilized and will have appropriate VOC emission controls.</p> <p>* DC 12 - Operator must install emission control devices (including the most current VOC destruction and capture technology) on all permanent condensate/oil and produced water storage tanks, regardless of the potential to emit. Operator must conduct monthly infrared camera or Method 21 inspections on the well pad.</p> <p>* DC 14 - Flowback and stimulation fluids must be sent to a closed system capable of containing and managing vapors, fumes, or gases under pressure. Open top tanks may not be used to capture, contain, or store flowback fluid. Flowback fluid containment and storage vessels must be located in an area sufficiently impervious to prevent migration of any spilled or released material into groundwater.</p> <p>* DC 15 - Air quality and odor controls will be implemented and will include the following: 1) the flowback stream must be routed from the wellhead to a series of separation units, consisting of an</p>	08/27/2017

	<p>initial horizontal-type separator to remove sand or proppant; then to a vertical-type separator (a “four-phase” separator capable of removing and segregating (sand/proppant, condensate/oil, produced water, and natural gas), and then to another vertical-type separator (a “three-phase” separator capable of segregating condensate/oil, produced water, and methane); 2) any oil or condensate captured during the separation process will be sent to a tank with emissions controls; 3) from this point, the salable gas captured during the separation process will be sent to the sales line; 4) the produced water stream will then be sent to a series of sealed flowback tanks (closed top / closed hatches), where any additional, non-salable gas, will be sent to a temporary, fully enclosed flare or permanent VOC combustor; 5) frac fluids/flowback storage tank hatches must be closed and latched; 6) daily odor monitoring should be conducted during well completions using a Nasal Ranger, or COGCC approved equivalent, to monitor compliance with detectable odor limits in Colorado Regulation 2, documentation of such monitoring must be maintained and made available to COGCC or CDPHE upon request; and 7) maintain a portable meteorological weather station during well drilling and completion operations, that includes a data logger to archive wind speed/direction, temperature, and humidity; 8) Data must be kept on file by the Operator and provided to COGCC or CDPHE upon request.</p> <p>Nuisance: Noise</p> <p>Noise has been the subject of repeated complaints from people living as far as 2,000 ft from the existing Ursa pads. Noise complaints from Ursa’s B V pad just across the Colorado River are ongoing.(See Exhibit 2).</p> <p>Because Ursa is drilling within a Large Urban Mitigation Area it is required to use “best available technologies.” Erie’s recent “Operator Agreement” with Encana Corp. set a new best management standard for Colorado and should be required in this case.</p> <p>Noise Mitigation Measures.Operator shall prepare and implement a noise mitigation plan. The noise mitigation plan shall detail the reasonably practicable efforts to be used to reduce db(A) scale noise level for operations subject to the light industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) to sixty (60) db(A) and to reduce the noise level for operations subject to the industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) five (5) db(A) below the maximum level permitted by those Regulations. As set forth in COGCC Regulation 802.b, the noise levels shall be subject to increase for a period not to exceed fifteen (15) minutes in any one (1) hour period and reduction for periodic, impulsive or shrill noises.</p> <p>Garfield County should afford the residents of Battlement Mesa the same protections the Town of Erie provided its residents.</p> <p>There are also new sound wall technologies that have been able to reduce C-scale noise by 20 dBs. Ursa is currently not planning to use any sound walls at it’s Pad A location.If effective, these new sound walls should be required at all Ursa well pad locations within the Battlement Mesa PUD.</p> <p>The following Conditions of Approval from the B and D pads should also be added in this case to address noise concerns.</p> <ul style="list-style-type: none"> * PLN 6 - In order to evaluate ambient/baseline noise levels at the BMC “B” Pad, operator must conduct a minimum 72 hour baseline noise survey from a minimum of three points prior to the commencement of construction. * CON 9 - Operator must use electric grid power or solar power to power all permanent Production Facilities and pumps on this Oil and Gas Location. * DC 1 - Operator must perform continuous sound monitoring surveys during construction, drilling, and completion activities with data collection instruments placed as mutually agreed to with the Garfield County LGD and COGCC and will be located to the east-southeast between the Oil and Gas Location and the residential Building Units. The operator must have a documented process for responding to sound levels that exceed COGCC sound limits and must provide continuous sound monitoring data to COGCC on tables or graphs within 48 hours of 	
23	<p>Below is a continuation of BCC and GVCAs comments on A Pad</p> <p>Addressing Complaints.</p> <p>Ursa has proposed the following BMP in its form 2As for the L and A Pads:</p> <p>“Ursa has a dedicated phone line to address complaints 24 hours a day, seven days a week. All complaints received by Ursa are documented, investigated, responded to immediately with appropriate corrective actions and communicated to the complainant, landowner, county LGD and appropriate state agency officials.”Form 2A, Page 8.</p> <p>As required under the B and D Pad location approvals, the Ursa complaint system is already active. Battlement Mesa residents appreciate having a dedicated phone line for complaints but do not believe that the Ursa complaint system is in communication with the COGCC.Battlement Mesa residents’ experience is that their complaints to Ursa are not forwarded to county and state officials.Residents deserve transparency to understand what is happening in their community and how their comments are being addressed.</p>	08/27/2017

<p>This BMP should include, "All complaints received and investigated by Ursa will be published online in the same manner as COGCC's complaint process or sent to the COGCC as formal complaints."</p> <p>Hours of Operation Ursa has offered the following best management practices in its Form 2As submitted to the COGCC: "Construction shall be limited to the hours of 7:00 AM to 7:00 PM., with the exception of episodic events...." Form 2A, Page 11. "Well completion activity shall be limited to occurring between 7:00AM and 7:00PM. Once the wells are in production, vehicle trips to the pad shall be limited to the hours of 7:00AM to 7:00PM, with the exception of emergencies and episodic events beyond Ursa's control." Form 2A, Page 12.</p> <p>The Community Groups appreciate that Ursa has limited its hours of operation for construction, completion and vehicle trips. Since the L Pad and A Pad have been proposed in a residential area, the Community Groups requests that all Ursa's activities be limited to the hours of 7:00 AM to 7:00 PM. This should include drilling operations and pipeline construction and installation.</p> <p>Ursa's BMPs allow for "episodic events" when construction or vehicle trips may have to continue after 7:00PM. The community would ask for the same courtesy. With adequate advance notice, Ursa should be willing to suspend operations during the day to accommodate special events (i.e. weddings, funerals, etc.) at the nearby Grace Bible Church.</p> <p>CONCLUSION</p> <p>As seen in the COGCC map below, Battlement Mesa residents have been forced to endure more wells in close proximity to their homes and neighborhoods than any residential area in Colorado. Ursa and Battlement Mesa Land Investments proposal to place 24 gas wells and an injection well less than 500-feet from seven homes and less than 1,000 feet from 51 homes is unreasonable and unjustified. The A Pad proposal, and the injection well, are incompatible with the Tamarisk Village neighborhood less than 300 feet away and should be denied pursuant to the Garfield County Land Use and Development Code. The proposed drilling and hydraulic fracturing will create a nuisance to adjacent residential properties and therefor is not in compliance with the 1983 Zoning Code. The A Pad as well as the proposed injection well should be denied.</p> <p>Sincerely, Dave Devanney Battlement Concerned Citizens Leslie Robinson Grand Valley Citizens Alliance Matthew Sura Attorney for BCC, GVCA and WCC</p>	
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Total: 23 comment(s)