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BMP from Operating Agreement	BMP from Livingston Pad Form 2A
1. Maximum number of new wells to be drilled at Livingston Pad is 19 new wells	No BMP but p. 2 of form 2A indicates 19 wells will be drilled
2. Operator agrees to use the Liberty Quiet Fleet or comparable technology from an alternative vendor on all Well Sites	21. The Operator agrees to use the Liberty Quiet Fleet or comparable technology from an alternative vendor on all Well Site <u>for completion activities</u>
3. Operator agrees to build pipeline for the transport of oil, gas, and produced water from the Well Sites to the specifications set forth in Exhibit D and to utilize such pipelines at the Well Sites before the Production Phase commences. During the Completion Phase, the Operator will use pipelines for produced water for flowback to the maximum extent feasible. All fresh water shall be transported to the Well Sites by means other than by truck. The Operator's obligation to build and utilize such pipelines is subject to the City granting Operator all necessary right-of-way and the City issuing Operator the necessary Public/Private Improvement Permits. Operator shall be permitted to utilize temporary tanks during the drilling, flowback, workover, completion, hydraulic fracturing and maintenance operations. If requested by the City, Operator will conduct a risk analysis to identify potential risks associated with pipelines and the measures implemented that are intended to mitigate such risks.	No BMP, although BMP 7 and 29 state that oil, gas, and produced water will be transported through a pipeline gathering to a central gathering facility. Production will be piped to the central gathering system. If the CGF is not ready at the time of production, the wells will be temporarily shut in.
4. The Operator has completed an air modeling study that meets the standards requested by the City and such study has been conducted and indicates that emissions from the equipment proposed on the Well Sites meets EPA standards.	No BMP
5. The Operator shall comply with all applicable state and federal regulations in addition to the terms of this Agreements and the BMPs set forth in this Exhibit B. The City agrees that it will not impose any fine on the Operator for	No BMP

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<p>violation of this Agreement if the activity or condition that created the violation is also subject to regulation by the COGCC, and if the violation results in action taken by the COGCC against the Operator.</p>	
<p>6. Operator shall provide written notice to the City no less than 30 days prior to the commencement of the construction phase, drilling phase, completion phase, or any recompletion, re-drilling or plugging and abandonment of a new well.</p>	<p>No BMP</p>
<p>7. The City shall have the right to have the City's designated oil and gas inspector inspect the well sites, upon reasonable notice to the operator and the operator shall provide a safety escort to accompany the inspector. Reasonable notice may include notification by the inspector at the well site. If the inspector notifies the operator of any conditions that the inspector believes are out of compliance with this agreement, operator shall promptly address such conditions. If the operator disagrees with the findings of the inspector, the City and operator shall resolve the disagreement consistent with the provisions set forth in Section 22 of the Agreement.</p>	<p>No BMP</p>
<p>8. Operator shall utilize steel-rim berms around all permanent facility equipment at the well sites with sufficient capacity to contain 1.5 times the maximum volume of liquids that such facility will contain at any given time plus sufficient freeboard to prevent overflow. All berms and containment devices shall be inspected quarterly by the operator and maintained in good condition. No potential ignition sources shall be installed inside the secondary containment area unless the containment area encloses a fired vessel or such sources are rated in accordance with industry codes and standards. Secondary containment such as duck ponds or lined earthen berms for temporary tanks shall also be used.</p>	<p>18. Operator shall utilize steel-rim berms around all permanent facility equipment at the well sites with sufficient capacity to contain 1.5 times the maximum volume of liquids that such facility will contain at any given time plus sufficient freeboard to prevent overflow. All berms and containment devices shall be inspected quarterly by the operator and maintained in good condition. No potential ignition sources shall be installed inside the secondary containment area unless the containment area encloses a fired vessel or such sources are rated in accordance with industry codes and standards. Secondary containment such as duck ponds or lined earthen berms for temporary tanks shall also be used.</p>

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<p>a. Permanent containment berms shall be constructed of steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation</p> <p>b. Secondary containment for tanks shall be constructed with a synthetic or engineered liner that contains all primary containment vessels and is mechanically connected to the steel ring to prevent leakage</p> <p>c. <u>For locations within 500 feet and up-gradient of a surface water body, tertiary containment, such as an earthen berm, is required around production facilities</u></p>	<p>a. Permanent containment berms shall be constructed of steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation</p> <p>b. Secondary containment for tanks shall be constructed with a synthetic or engineered liner that contains all primary containment vessels and is mechanically connected to the steel ring to prevent leakage</p> <p>c. <u>By request of the City and County of Broomfield, Extraction agrees to test pressure test flowlines according to the COGCC flowline rules bi-annually.</u></p>
<p>9. Wells shall be drilled, completed and operated using closed-loop pitless systems for containment and/or recycling of all drilling, completion, flowback and produced fluids. Operator shall recycle fluids to the maximum extent practicable, <u>with the understanding that Operator is limited in its ability to recycle all fluids, as doing so would necessitate the use of permanent tanks, which is otherwise prohibited by the terms of the Agreement, and result in the potential for additional emissions. Other than for irrigating landscape material, Operator shall not use City water for any of its oil and gas operations. Operator shall not store waste onsite for periods longer than 30 days.</u></p>	<p>37. Closed-Loop Pitless Systems for the Containment and/or Recycling of Drilling Fluids. Wells shall be drilled, completed and operated using closed-loop pitless systems for containment and/or recycling of all drilling, completion, flowback and produced fluids. Operator shall recycle fluids to the maximum extent practicable.</p>
<p>10. All new well equipment and all existing equipment at the well sites shall be anchored to the extent necessary to resist flotation, collapse, lateral movement, or subsidence <u>in compliance with applicable FEMA (as administered by this City) and COGCC rules and regulations. All guy line anchors left buried for future use shall be identified by a marker of</u></p>	<p>19. All new well equipment will be secured to the extent necessary to resist flotation collapse, lateral movement, or subsidence.</p> <p>20. <u>Base beams will be used and not guy line anchors.</u></p>

<u>bright color not less than 4 feet in height and not greater than one foot east of the guy line anchor.</u>	
11. No open burning shall occur on the site of any oil and gas operation.	No BMP
12. Traction chains from heavy equipment shall be removed before entering a City street.	No BMP
13. All fracturing chemicals must be disclosed to the City pursuant to the process set forth below before bringing on site. Prior to the bringing of such chemicals onto the property, the operator shall make available to the City, in table format, the name, Chemical Abstracts Service (CAS) number, storage, containment and disposal method for such chemicals to be used on the well sites, which the City may make available to the public as public records. Fracturing chemicals shall be uploaded onto the Frac Focus website within 60 days of the completion of fracturing operations. The operator shall not permanently store fracturing chemicals, flowback from hydraulic fracturing, or produced water in the City limits. Operator shall remove all hydraulic fracturing chemicals at the well site within 30 days following the completing of hydraulic fracturing at that well site. In addition to any substances not permitted to be used in accordance with state or federal rules or regulations in place from time to time, the following chemicals shall not be utilized in hydraulic fracturing fluid at the well site: [list of chemicals]	No BMP – in redlines COGCC says don't need BMP because have Rule 205A
14. Permanent facilities shall be painted in a uniform, non-contrasting, non-reflective color, to blend with the surrounding landscape and, with colors that match the land rather than the sky, consistent with COGCC regulations. If the City desires a specific color or colors, it shall notify the	No BMP

<p>operator of such color or colors prior to the pad construction of a well site and operator shall utilize such color or colors.</p>	
<p>15. The Operator has completed a site assessment and is not currently aware of any historical or cultural sites on the well sites. However, if a significant surface or sub-surface archaeological site is discovered during construction, the operator shall be responsible for immediately contacting the City to report the discovery. If any disturbance of a site deemed by the State Historic Preservation Office to be a historical or cultural resources occurs, the Operator shall be responsible for mitigating the disturbance to the historical or cultural property through a data recovery plan in consultation with the City's Historic Landmark Board and the State Historic Preservation Office, with copy to the City.</p>	<p>No BMP</p>
<p>16. Open-ended discharge valves on all storage tanks, pipelines and other containers within the Well Site shall be secured and shall not be accessible to the general public. Open-ended discharge valves within the Well Site shall be placed within the interior of the secondary containment area.</p>	<p>No BMP, although COGCC comments to redlines state that BMP 18 re containment addresses this</p>
<p>17. <u>Dust associated with on-site activities and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust emissions from access roads or the Well Sites to the extent practical given wind conditions.</u> No untreated produced water or other process fluids shall be used for dust suppression. <u>The operator will avoid creating dust or dust suppression activities within 300 feet of the ordinary high water mark of any waterbody, unless the dust suppressant is water. Material Safety Data Sheets for any chemical based dust suppressant, other than magnesium chloride, shall be submitted to the City prior to use. Operator must submit to</u></p>	<p>9. <u>Access roads...during construction and through the life of this location, operator will utilize watering, via water trucks, to control fugitive dust. Additionally, the access road will be constructed with aggregate road base material and recycled asphalt and vehicle speeds will be limited to 25 miles per hour to reduce dust.</u> No untreated produced water or other process fluids shall be used for dust suppression.</p> <p>17. <u>805.c. Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the used of speed restrictions, regular road maintenance, restriction of construction activity during high-wind</u></p>

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<p><u>the City a grading, drainage, dust mitigation and erosion plan in accordance with Section 37.</u></p>	<p><u>days, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers may be used. No untreated produced water or other process fluids shall be used for dust suppression.</u></p>
<p>18. <u>The drilling rigs used during the drilling phase and all permanent production equipment, such as compressors, motors and pump jacks, shall utilize electric line power in order to mitigate noise and to reduce emissions.</u></p>	<p>22. To provide long term noise mitigation at this location, all production equipment will be powered by electricity.</p> <p>25. <u>Electrified Drilling Rig – Extraction is working with United Power to supply sufficient electrical power for the drilling rig to drill the wells. Easements are being procured from the Landowners and the existing infrastructure is being upgraded in order to handle the larger electrical loads. While Extraction plan on drilling these wells on electrical power only, the rig will have diesel-powered generators in the event of an upset condition with the electrical supply from United Power. At that point, Extraction would use the diesel generators to power the rig until service from United Power was restored.</u></p>
<p>19. The Operator is required to complete a detailed Emergency Plan in accordance with the provisions of this Section, and <u>Operator shall pay for any reasonably necessary training and equipment of emergency response personnel specifically required due to the operations and contemplated by this Agreement, including any inventory of aqueous film forming foam (AFFF) required to be purchased from time to time so that sufficient quantities are on-hand to respond to emergencies on the well sites.</u> The City and North Metro Fire Rescue District shall not unreasonably withhold approval and shall approve the Emergency Plan within 30 days of submittal. The Emergency Plan shall be filed with the City and the North Metro Fire Rescue District and <u>updated on an</u></p>	<p>5. Extraction maintains a Tactical Response Plan (TRP), also at times referred to as the Emergency Response Plan, which is designed to provide Extraction employees and designated Emergency Response Team (ERT) members with the information necessary to respond to incidents in a safe, rapid, effective, and efficient manner. The TRP is kept at Extraction’s office and a copy is provided to the North Metro Fire Rescue District and the City. <u>Extraction will place the TRP summary card in strategic places on the facilities during specific operations and copies of the summary card is provided to the North Metro Fire Rescue District to be kept in the responding fire engines.</u></p> <p><u>Note: Without a copy of the Emergency Response Plan, can’t really</u></p>

<p><u>annual basis or as conditions change. The Emergency Plan shall include a notification system for potentially affected citizens and occupied buildings and an evacuation plan. The Emergency Plan shall consist of at least the following information: [listing a number of requirements]</u></p>	<p><u>tell how similar or different the BMPs are.</u></p>
<p>20. A. <u>In order to minimize degradation to air quality, operator agrees to the provisions set forth in this Section. Operator must eliminate, capture, or minimize all potentially harmful emissions and minimize dust associated with onsite activities and traffic on access roads pursuant to the terms of this Agreement. Operator shall comply with all applicable state and federal regulations including regulations promulgated by CDPHE, COGCC, and US EPA. To protect air quality, the following will be required:</u></p> <ul style="list-style-type: none"> a. <u>The use of electric equipment and line power as detailed in Section 18 [note: see BMP 18 for comparison].</u> b. <u>The use of Tier 2 and liquefied natural gas dual fuel hydraulic fracturing pumps. If Tier 4 pumps become commonly available, Operator will begin using Tier 4 fracturing pumps.</u> c. <u>Comply with traffic provisions set forth in Section 40 [note: see BMP 40 for comparison]. Limitations on truck traffic to and from site.</u> d. <u>Utilization of pipelines pursuant to Section 3 [note: see BMP 3 for comparison]</u> e. <u>Manufacture test or other data demonstrating hydrocarbon destruction or control efficiency that complies with design destruction efficiency of 98% or better</u> f. <u>The use of no-bleed continuous and intermittent</u> 	<p>In the redlines, COGCC says it cannot enforce BMP 20 and that is up to CDPHE, but I did find some BMPs that coincided with BMP 20:</p> <p>7. <u>Saleable gas will not be flared, it will be sent downline. For maintenance or upset conditions the use of a maintenance vessel and emission control devices will be utilized. Uncontrolled venting is prohibited other than where necessary for safety.</u></p> <p>15. <u>The location will be completely automated to monitor all production operations remotely. In the event that the facility is not operating under normal conditions, the automation system will immediately notify the operator. The automation system also has the ability to remotely perform an emergency shut down if necessary</u></p> <p>27. <u>The exhaust from all engines, motors, coolers, and other mechanized equipment shall be vented up or in a direction away from the nearest occupied building</u></p> <p>29. <u>Operator will bring a new oil, gas, and water pipelines, to send produced volumes immediately down the pipeline. No production will be flown to tanks at this location. Production will be piped to the central gathering system. If the CGF is not ready at the time of production, the wells will be temporarily shut in.</u></p> <p>37. <u>Closed-Loop Pitless Systems for the Containment and/or</u></p>

pneumatic devices. This can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process

- g. Any flare, auto ignition system, recorder, vapor recovery device or other equipment used to meet the hydrocarbon destruction or control efficiency requirement shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals
- h. No use of glycol dehydrators
- i. No use of dessicant gas processing dehydrators
- j. Year-round application of odor requirements pursuant to COGCC and CDPHE regulations [note: see BMP 48 comparison]
- k. Reduction or elimination of emissions of associated gas from hybrid gas-oil wells, including prohibition of uncontrolled venting
- l. BMPs during liquids unloading, including at least 90% emissions reduction when utilizing combustion and the installation of artificial lift or unloading through the separator where feasible
- m. Reduction or elimination of emissions from oil and gas pipeline maintenance activities such as pigging or blowdowns. [Lists a number of requirements for intentional venting]
- n. Compliance with dust suppression techniques set forth in Section 17 [note: see BMP 17 for comparison]
- o. Compliance with odor requirements set forth in Section 48 [note: see BMP 48 for comparison]

Recycling of Drilling Fluids. Wells shall be drilled, completed and operated using closed-loop pitless systems for containment and/or recycling of all drilling, completion, flowback and produced fluids. Operator shall recycle fluids to the maximum extent practicable.

<ul style="list-style-type: none">p. <u>Consolidation of product treatment and storage facilities within a Well Site.</u>q. <u>Centralization of compression facilities within a well site</u>r. Telemetric control and monitoring systems, including surveillance monitors to detect when pilot lights on control devices are extinguisheds. <u>Operator will comply with all CDPHE air permits and OSHA benzene requirements</u>t. Flaring shall be eliminated or minimized to the maximum extent practicableu. Exhaust from all engines, motors, coolers, and all other equipment must be vented up and away from <u>nearest residences</u>v. <u>Operator agrees to participate in natural gas STAR program</u>w. <u>Use of a pressure-suitable separator and VRU where applicable</u>x. <u>Pipeline infrastructure will be constructed prior to production phase</u>	
<p>20. B. Operator shall develop and maintain an acceptable LDAR program as required by CDPHE using modern leak detection technologies such as infrared cameras for equipment used on well sites. For the five year period beginning with the start of the drilling phase at the first well site, operator shall conduct quarterly IR camera monitoring of all equipment at the well sites. <u>When an IR camera is used, operator must retain an infrared image or video of all leaking components before and after repair. Such records must be maintained for two years and must be made available to the City upon request. Except when an emergency circumstance would necessitate an</u></p>	<p>28. Leak Detection Plan: Operator will monitor production facilities weekly at a minimum to a maximum of daily to identify fluid leaks, including, but not limited to, visually inspecting all wellheads and equipment. As part of Extraction’s LDAR program, all equipment including above ground flowlines and piping will be inspected quarterly with an infra-red camera for the first 5 years of production. [also mentioned in BMP 14]</p>

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<p><u>immediate repair, operator must repair leaks as quickly as practicable. If more than 48 hours repair time is needed after a leak is discovered, an explanation of why more time is needed must be submitted to the City. Operator shall conduct continuous pressure monitoring to detect leaks. At least once per year, the Operator shall notify the City 5 business days prior to an LDAR inspection of its facilities to provide the City with the opportunity to observe the inspection.</u></p>	
<p>20. C. Ambient Air Sampling. The Operator shall conduct, as approved by the City, a specific ambient air quality test that includes: [test requirements].</p>	<p>No BMP</p>
<p>20. D. Air Quality Action Days. The Operator shall respond to air quality action day advisories posted by the CDPHE for the Front Range Area by implementing their suggested air emission reduction measures as feasible. [listing emission reduction measures]</p>	<p>No BMP</p>
<p>20. E. Compliance. The operator shall submit annual reports to the City certifying compliance with these air quality requirements [listed in BMP 20]</p>	<p>No BMP</p>
<p>21. Reduced Emission Completions (commonly known as Green Completions). At well sites operator shall employ reduced emission completions, also commonly known as green completions, which comply with federal and state requirements. In addition, operator shall comply with the following: [listing requirements]</p>	<p>26. Identical to BMP 21</p>
<p>22. The exhaust from all engines, motors, coolers, and other mechanized equipment shall be vented up or in a direction away from the nearest occupied building</p>	<p>27. Identical to BMP 22</p>
<p>23. <u>Permanent perimeter fencing shall be installed around production equipment unless such fencing is not required by</u></p>	<p>12. Site security will be maintained at all times. Location will be adequately fenced to restrict access by unauthorized persons.</p>

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<p><u>the Visual Mitigation Plan for a Well Site, and shall be secured. The main purpose of the fencing is to deter entrance by unauthorized people and a well site shall be properly secured prior to the commencement of drilling at the well site. The operator shall use visually interesting fencing when feasible, but the parties recognize there is a need for air circulation, and for the field personnel who regularly inspect the facilities to be able to identify visual operational deficiencies when driving by. Landscaping may be used for screening. If a chain link fence is required to achieve safety requirements set by the COGCC, then landscaping or other screening mechanisms shall be required that comply with the City's Land Use Code regulations and the operator's safety requirements.</u></p>	<p>The site will have gated access to keep unauthorized vehicles out and fencing will be placed around all production equipment.</p>
<p>24. all ground within 25 feet of any tank, or other structure containing flammable or combustible materials, shall be kept free of dry weeds, grass, or rubbish, and shall conform to COGCC 600 Series Safety Regulations or the applicable Fire Code.</p>	<p>1. Identical to BMP 24</p>
<p>25. Flares and combustion devices</p>	<p>No BMP regarding flares, but BMP 7 notes that saleable gas will not be flared</p> <p>In the redlines, COGCC says it cannot enforce BMP 25 and that is up to CDPHE</p>
<p>26. Water Quality Monitoring Plan</p>	<p>No BMP, in redlines COGCC says it has 318A and 609 to enforce</p>
<p>27. Operator shall implement the visual mitigation plan for a Well Site approved during the application process for such well site</p>	<p>No BMP</p>
<p>28. All permanent lighting or lighting higher than a perimeter wall must be downward facing. All bulbs must be fully shielded <u>to prevent light emissions above a horizontal plane</u></p>	<p>2. <u>803. Permanent lighting will be installed around the facility to allow both the operator and haulers to conduct safe operations at night.</u> All lights will be directed downward, inward and shielded so</p>

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<p><u>drawn from the bottom of the fixture. Prior to installation of permanent lighting on any facility, the operator agrees to submit to the City a lighting plan and the City shall communicate with the Operator any modifications to the plan that it deems appropriate and operator shall make such modifications if reasonable or required by law. [lighting plan requirements].</u> During the drilling and completion phases, consistent with applicable law, operator will construct a minimum 32 foot wall around as much of the perimeter of the well pads as operations allow to reduce light escaping from the site, unless shorter walls are mutually agreed to by the City and Operator on a site-specific basis.</p>	<p>light pollution is minimized. During the drilling and completion phases, consistent with applicable law, operator will construct a 32 foot perimeter wall surrounding well pads and operations area, as permitted, to reduce light escaping from the site.</p>
<p>29. Routine field maintenance of vehicles or mobile machinery shall not be performed within 300 feet of any water body. All fueling must occur over impervious material.</p>	<p>No BMP</p>
<p>30. The operator shall take all practicable measures to ensure that vehicles do not tract mud or debris onto City streets</p>	<p>No BMP</p>
<p>31. Noise mitigation measures shall be constructed along any edge of any well site if such edge is in proximity to residential development. The noise mitigation measures shall use the most current equipment to minimize noise impact during the drilling and completion phases, including those measures set forth in Sections 2 and 18. Operator shall comply with the sound limitation regulations set forth in COGCC 800 Series. <u>Operator shall not unload pipe between 8:00 p.m. and 7:00 a.m.</u> The Operator will complete a baseline noise mitigation study at each Well Site that demonstrates that noise is expected to be mitigated to the extent practicable and a copy will be provided to the City. <u>The operator shall address C scale noise/vibration through berming and other associated BMPs.</u> During the drilling and completion phases, the</p>	<p>21. Operator agrees to use Liberty Quiet Fleet or comparable technology on all well sites for completion activities.</p> <p>22. All production equipment will be powered by electricity. If needed, sound mitigation panels will be installed around the compressors during production operations to shield sensitive areas.</p> <p>23. 32-foot sound walls will be used during drilling and completion operations. Sound walls will be installed on the edges impacting nearest neighbors. Sound walls will wrap the pad except for the southwest corner.</p> <p>24. Baseline noise monitoring will be conducted prior to commencement of pad construction. Additional sound mitigation</p>

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<p>operator shall construct a perimeter wall and/or use hay bales to mitigate noise. If operator uses any engines that are not electrically operated, operator shall use quiet design mufflers or equivalent and shall use acoustically insulated housing or covers to enclose the engines. <u>The operator shall comply with all provisions of COGCC 802 on Noise Abatement with respect to the well sites, provided, however [specific requirements around residential/agricultural/rural zoned land]. During pad construction at well sites, operator agrees that noise levels shall not exceed those produced by the construction of a typical residential or commercial development.</u> All measurements considered for compliance with this Section 31 shall be taken by a third party contractor using industry standard equipment and practices.</p>	<p>measures will be considered and implemented pursuant to third party recommendations. All noise survey data will be made available to COGCC inspector upon request. <u>The operator shall continuously monitor noise and continuously collect and store noise readings with instruments placed between the oil and gas location and residential building units.</u> The operator shall conduct the monitoring and data collection during construction, drilling, and completions operations. This data shall be available to COGCC on tables or graphs within 48 hours of being requested by COGCC. <u>The Operator shall conduct a 72 hour baseline noise survey from a minimum of three points prior to the commencement of construction.</u></p>
<p>32. Any newly constructed or substantially modified flowlines on the Well Site shall be constructed and operated under the provisions of the COGCC 1100 series flow line regulations and any applicable surface use agreements with surface owners. Operator shall pressure test all flowlines following their construction. Operator will provide to the City all records required to be submitted to state agencies related to inspections, pressure testing, accidents, and other safety incidence related to flowlines at the Well Sites</p>	<p>In the redlines, COGCC says flowlines are addressed in 1101 pipeline regulation rules, but flowlines are mentioned a couple times in the Livingston BMPs:</p> <p>14. ...Annual flowline testing will also occur according to COGCC rules 1101 and 1102. Inspection and record retention of flowline testing will be in accordance per COGCC regulation. All records will be made available to the COGCC upon request.</p> <p>18. By request of the CCOB, Extraction agrees to test pressure test flowlines according to the COGCC flowline rules bi-annually.</p>
<p>33. All new flowlines and pipeline shall have the legal description recorded with the Clerk and Recorder of the City within 30 days of construction and abandonment</p>	<p>No BMP</p>
<p>34. All construction related debris shall be removed from the sit for proper disposal in a timely manner. The site shall be maintained free of debris and excess materials at all times</p>	<p>11. All construction related debris shall be removed from the sit for proper disposal in a timely manner. The site shall be maintained free of debris and excess materials at all times during operation. Operator</p>

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<p>during operation. Operator shall not burn or bury debris at any time on the well sites.</p>	<p>shall not burn or bury debris at any time on the well sites. <u>Maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately and legally disposed of as applicable.</u></p>
<p>35. All equipment used for drilling, re-completion and maintenance of the facility shall be removed from the site within 30 days of completion of the work, weather condition permitting, unless otherwise agreed to by the surface owner. Permanent storage of removable equipment on Well Sites shall not be allowed.</p>	<p>11. site will have unused equipment...removed immediately</p>
<p>36. Plugged and Decommissioned Well Testing. Prior to and following the fracturing of any new well, operator shall assess the integrity of plugged and decommissioned wells or removed from use and dry, or removed from use within ¼ mile of the projected track of the borehole of the proposed new well. This shall include: [listing requirements].</p>	<p>No BMP, in redlines COGCC says it cannot enforce</p>
<p>37. All oil and gas operations at the Well Sites shall comply with the City's stormwater control regulations, including the submission of an erosion control report and plan</p>	<p>13. Implement and maintain BMPs to control stormwater runoff in a manner than minimizes erosion, transport of sediment offsite, and site degradation. <u>Co-locate flowlines and/or gathering lines whenever feasible, and mitigate any erosion problems that arise due to the construction of any gathering lines. Location will be covered under Extraction's field wide permit, number COR03MO13. Typical stormwater BMPs installed include a diversion ditch and berm with sediment traps and installation of wattles where necessary. Please see the attached Stormwater BMP drawings.</u></p>
<p>38. Temporary access roads associated with oil and gas shall be reclaimed and revegetated to the original state within a reasonable amount of time, taking into account planting seasons, or as directed by the landowner in a Surface Use Agreement and subject to applicable COGCC variances.</p>	<p>No specific BMP, although BMP 39 requires interim reclamation of surface area to pre-existing conditions</p>

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Operator must control erosion while access roads are in use.	
39. Trailers	No BMPs regarding the use of trailers
40. Transportation and Circulation. Operator will comply with all transportation and circulation requirements in the City Land Use Code as may be reasonably required by the City's traffic engineer and will comply with all applicable hazardous material regulations. The operator will submit a traffic plan to the City that includes detailed descriptions of all proposed access routes for equipment, water, sand, waste fluids, solids, waste solids, mixed waste, and all other material to be hauled on the public streets and roads of the City. The operator will obtain necessary access permits. The traffic plan shall include the following: [listing requirements].	<p>9. <u>The access road will be constructed to accommodate local emergency vehicles. The road will be maintained for access at all times. Traffic will be routed to minimize local interruption.</u></p> <p>10. A traffic plan is required by the CCOB and shall be coordinated with the local jurisdiction prior to commencement of move in and rig up. Any subsequent modification to the traffic plan must be coordinated with the local jurisdiction.</p>
41. Wastewater and Waste Management. The operator must submit a waste management plan that complies with the following: [listing requirements]	No BMP, although the operator submitted a waste management plan. Redlines state COGCC cannot enforce city requirements
42. Operator agrees to comply with the applicable state regulations concerning the sources of water used in the Drilling Phase and Completions Phase. The operator shall notify the City, upon its request, of the sources of water to be used at well sites during the drilling phase and completion phase and will provide the City with an estimate of the volumes of water to be utilized, with such estimates subject to change. All water volumes actually used by the operator shall be reported to the State of Colorado.	No BMP
43. Operator shall be responsible for ongoing noxious weed control at the well sites and along access roads per City or other applicable agency regulations	No BMP regarding ongoing weed control, but BMP 39, interim reclamation, states that operator shall reclaim disturbed areas to be returned to pre-existing conditions as best as possible with control of all noxious weeds.
44. Operator agrees to provide insurance as set forth in Ex. G	No BMP
45. The Operator shall drill no injection wells in Broomfield.	No BMP

46. Alternative site analysis	No BMP
47. Operator shall operate and maintain all equipment pursuant to manufacturer specifications consistent with technological limitations and reasonable and customary maintenance practices	No BMP
48. Odor emitting from Well Sites must be controlled. Operator to prevent odors from oil and gas operations by proactively addressing and, to the extent possible, resolving complaints filed by impacted members of the community, in coordination with City public health staff. Operator must use a filtration system or additives to the drilling and fracturing fluids to minimize odors. Operator is prohibited from masking odors from any oil and gas facility site by using masking fragrances	<p>30. 805. Oil and gas facilities and equipment shall be operated in such a manner that odors do not constitute a nuisance or hazard to the public welfare. <u>Extraction will use a mud cooling system to control the release of odors within the drilling and fracturing fluids.</u> Odor preventing additives will be on site for use if and when needed. <u>Extraction will use a base fluid that will decrease the measurable BTEX and aromatic properties by than 50% of regular diesel.</u> Operator is prohibited from masking odors from any oil and gas facility site by using masking fragrances.</p>
49. Operator must submit an oil and gas site reclamation plan and reclaim a well site not later than 6 months after plugging and abandoning the last new well at such well site, weather and planting season permitting.	<p>BMP 41 is identical</p> <p>Also, BMP 40 states that <u>within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. Identification of plugged and abandoned wells will be identified pursuant to 319.a(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument.</u></p>
50. Operator must equip the bradenhead access to the annulus between the production and the surface casing, as well as any intermediate casing, with a fitting to allow safe and convenient determinations of pressure and fluid flow. Valves used for annular pressure monitoring shall remain exposed and not buried to allow for visual inspection. The operator shall take bradenhead pressure readings as required by the COGCC	BMP 31 is identical
51. Any accident or natural event involving a fire, explosion or	No BMP

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<p>detonation shall be reported to the City within 24 hours. This report shall include such specifics, to the extent available: [listing specifics]</p>	
<p>52. Operator must notify the City of any spill of any material on permeable ground on the Well Sites that has a reportable spill quantity under law. The operator will also provide the city with a copy of any self-reporting submissions that operator provides to the COGCC due to any spills at the well sites</p>	<p>No BMP about spill reporting, although BMPs 14, 15, and 16 have a number spill prevention BMPs</p> <p>In redlines COGCC states that it has a spill prevention program and cannot enforce City requirements</p>
<p>53. Operator will conduct bradenhead monitoring on the new wells in accordance with COGCC rules</p>	<p>BMP 32 is identical</p>
<p>54. Except as specifically provided elsewhere in the Agreement, all variances, waivers, exceptions, and similar modifications require written approval from the City, such approval not to be unreasonably withheld, conditioned, or delayed</p>	<p>No BMP</p>
<p>55. As part of operator’s application to the City, Operator agrees to provide a risk management plan, which will include the identification of potential risks, methods of risk avoidance and controls that implement techniques to prevent accidents and losses and reduce the impact or cost after the occurrence of identified potential events</p>	<p>No BMP</p>
<p>56. An automated safety system, governed by safety devices and a programmable logic computer, will be installed at the well sites. The automated safety system shall include the installation, monitoring and remote control of a Surface Safety Valve (“SSV”) among many other engineered measures and devices that are implemented to greatly reduce or eliminate the potential for a well event. All new wells will have a SSV installed prior to the commencement of the Production Phase connected to the production tubing at the surface. The SSV will be equipped to operate remotely via</p>	<p>16. An automated safety system, governed by safety devices and a programmable logic computer, will be installed at the well sites. The automated safety system shall include the installation, monitoring and remote control of a Surface Safety Valve (“SSV”) among many other engineered measures and devices that are implemented to greatly reduce or eliminate the potential for a well event. All new wells will have a SSV installed prior to the commencement of the Production Phase connected to the production tubing at the surface. The SSV will be equipped to operate remotely via the automated safety protective system, which monitors multiple flowing pressures</p>

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<p>the automated safety protective system, which monitors multiple flowing pressures and rates which have predetermined maximum and/or minimum threshold values programmed and will remotely shut the well in should certain upset conditions be detected. Additionally, the automated safety system provides the ability to remotely shut-in wells on demand through operator remote intervention. The SSV will have documented quarterly testing to ensure functionality. <u>The practice of utilizing automated safety protective systems, including SSVs, exceeds the current State regulations and requirements for wells operated within Colorado.</u></p>	<p>and rates which have predetermined maximum and/or minimum threshold values programmed and will remotely shut the well in should certain upset conditions be detected. Additionally, the automated safety system provides the ability to remotely shut-in wells on demand through operator remote intervention. The SSV will have documented quarterly testing to ensure functionality.</p>
<p>57. Operator shall utilize the additional mitigation measures of berms, bales, and/or sound walls at one or more of the locations set forth in Exhibit I if so requested by the City in writing. The particular measure(s) employed at any such location shall be as determined by mutual agreement between the City and Operator.</p>	<p>23. 32-foot sound walls will be used during drilling and completion operations. Sound walls will be installed on the edges impacting nearest neighbors. Sound walls will wrap the pad except for the southwest corner.</p>
	<p>Livingston BMPs that are not in the OA BMPS: 3, 4, 6, 8, 33, 34, 35, 36, 38</p>