

**TABLE 1 - Dan A Hughes Company, San Francisco Creek #1, Rio Grande County; COGCC's Response to Public and LGD Comments; Form 2#400210265; Form 2A#400211669**

Summary of Issue	Number of References Within Comments	Public Comment Number(s)	Applicable Rule Citation(s)	Applicable COA(s)	COGCC Response
<b>General Water Quality</b> - General and non-specific concerns regarding water quality and this drilling operation as a potential threat to water quality.	31	3, 7, 8, 9, 10, 11, 13, 14, 15, 16, 19, 21, 22, 23, 26, 28, 29, 30, 31, 32, 34, 35, 36, 38, 40, 41, 42, 43, 45, 46, 47	317; 319; 324A; 906; 909; 910	WR6, WR7, WR8, WR9	COGCC drilling Rules (317) provide mandatory guidance on well installation and surface casing installation such that groundwater aquifers are protected. In this case, the COGCC Engineer's review of the drilling program resulted in a Condition of Approval (COA) that ensures that the well bore will have cement coverage from total depth to the surface. Additionally, COGCC has Rules in place to prevent adverse impacts to air, water and soil, including incorporation by reference of the Water Quality Control Commission water quality standards for waters of the state.
<b>Land Use (Residential)</b> - Specifically the incompatibility of drilling in a residential area	18	2, 3, 9, 19, 21, 22, 23, 29, 30, 38, 39, 40, 41, 42, 43, 45, 46, 47	600-series	R2, R3, R4, R5, R6, R8, R15, R16	The COGCC has safety Rules which govern the manner in which operations must be conducted in proximity to residences. Further, the COGCC has applied site-specific COAs to provide additional measures of protection to this residential area. However, issues concerning Dan A Hughes Company's right to conduct these operations within the San Francisco Creek Subdivision due to civil contracts and association restrictions are outside the mandate and purview of the COGCC. These are private civil matters which must be negotiated by the parties involved.
<b>Groundwater - Sensitive Area Determination and drinking water protection</b>	18	2, 3, 5, 8, 9, 11, 13, 14, 21, 22, 29, 32, 38, 40, 43, 45, 46, 47	317; 324A; 901; 906; 909; 910	WR4, WR5, WR6, WR8, WR9	<p>COGCC drilling Rules (317) provide mandatory guidance on well installation and surface casing installation such that groundwater aquifers are protected. In this case, the COGCC Engineer's review of the drilling program resulted in a COA that ensures that the well bore will have cement coverage from total depth to the surface. COGCC Waste Management Rules (900 series) require that operations in sensitive areas are conducted in a manner that is protective of water resources and ensure compliance with concentrations in COGCC Table 910-1 and Water Quality Control Commission standards. COGCC has determined the proposed location is in a sensitive area. The operator has indicated that a closed loop system will be used for drilling operations; however COGCC has applied COAs requiring that any pits, if constructed, must be lined. Production pits, if constructed, require a Pit Permit be approved by COGCC prior to use, generating an additional level of review specific to a production pit. Additionally, in accordance with Rule 303.d.(2)A., the addition of a drilling or production pit to the location would trigger the requirement for the submittal of an amended Form 2A, subject to comment, review and approval.</p> <p>A formal Sensitive Area Determination is made in accordance to COGCC Rule 901.e. which requires site-specific hydrogeologic data be collected. In lieu of requiring the collection of this data, COGCC staff has determined the location is in a sensitive area and is requiring operations be conducted as such including: closed loop drilling and several COAs addressing groundwater protection.</p>

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<b>Surface Water -</b> General surface water protection and the protection of the town water supply	16	2, 3, 8, 9, 10, 11, 21, 23, 35, 36, 40, 41, 42, 43, 46, 47	317B; 324A; 910; 906; 909; 910	WR1, WR2, WR3, WR7, WR8, WR9, GS3	COGCC Rule 317B addresses Drilling, Completion, Production and Storage Operations in Surface Water Supply Areas by specifying certain operating requirements depending on the distance of the proposed operations from the Surface Water Supply. The proposed Dan A. Hughes location is greater than ½ mile from a designated Public Water System as defined in Rule 317B.b. and therefore not subject to Rule 317B. In addition, the Town Ponds are located three miles west of the proposed Dan A. Hughes location and on the opposite side of a drainage divide. COGCC Waste Management Rules (900 series) require that operations in sensitive areas are conducted in a manner that is protective of water resources and ensure compliance with concentrations in COGCC Table 910-1 and Water Quality Control Commission standards. COGCC has determined the proposed location is in a sensitive area and applied COAs requiring secondary containment and the implementation of BMPs to prevent a release of any fluids associated with the drilling from impacting surface water, specifically San Francisco Creek, and its tributaries.
<b>Permit Errors</b>	14	1, 2, 6, 22, 28, 29, 38, 39, 40, 41, 42, 43, 45, 47	303	None	COGCC Rule 303 specifies the requirements for a Form 2 APD and Form 2A location assessment. Rule 303.g. and 303.i. grant the operator and the Director the ability to make revisions to the Form 2 and Form 2A during the review process. COGCC staff has authority to contact operators when additional information or clarifications are needed to conduct a complete review of the applications. This process continues during the open public comment period and as long as necessary to obtain sufficient information needed for the Director to make a decision as to whether to approve, conditionally approve, or deny an application. Significant changes to a permit application are documented by COGCC Staff in the comments on the permit or as attached correspondence as appropriate.
<b>Wildlife - Sensitive Wildlife Habitat (SWH)</b>	14	1, 2, 3, 9, 10, 11, 12, 22, 31, 36, 40, 42, 46, 47	306.c.; 1201; 1202; 1203; 1204; 1205	WR1, WR7, R15	COGCC Rule 306.c. provides for consultation with Colorado Parks and Wildlife (CPW). COGCC Rule 1201 requires that CPW consult with the COGCC, the surface owner, and the Bureau of Land Management (BLM) as necessary for oil and gas locations proposed in areas designated to be either sensitive wildlife habitat or restricted surface occupancy. The COGCC, CPW, BLM and Western Land Resources participated in onsite consultations on May 10, 2010, November 4, 2011, and April 18, 2012. Because this location requires a Federal APD with BLM, the CPW will continue to consult BLM to apply appropriate conditions necessary to adequately protect wildlife species potentially affected by the operations. The BLM and COGCC have entered into a Memorandum of Understanding that requires consultation between COGCC, BLM and CPW to ensure that necessary BMPs and/or COAs are enacted on both federal and state issued permits. The CPW will recommend appropriate BMPs to the Federal APD due to the presence of elk winter range and mule deer habitat and proximity of the location to cutthroat trout habitat and antelope habitat.
<b>Air Quality and Monitoring</b>	14	9, 10, 13, 21, 22, 28, 29, 30, 35, 40, 41, 42, 46, 47	324A; 805	WR1	COGCC Rule 324A prohibits degradation of the environment. Rule 32A.c. prohibits violation of any local, state or federal air quality law or permit. Rule 805 prohibits oil and gas equipment that emits greater than 5 tons / year from being closer than ¼ mile to a building unit (including schools, offices, and houses). Air quality sampling is will be conducted by the operator throughout the not technically or economically feasible for an exploratory well.

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<b>Water Allocation</b> - lack of available water for drilling and completion	12	2, 9, 22, 29, 32, 36, 38, 40, 43, 45, 46, 47		None	The Colorado Department of Natural Resources, Division of Water Resources (DWR) regulates the allocation of water resources in the state. COGCC does not regulate the purchase of water.
<b>Road and infrastructure impact</b>	11	2, 9, 10, 22, 29, 38, 41, 43, 45, 46, 47	334	R2, R3, R4, R5, R12, R15	COGCC has applied COAs to the Form 2A requiring the operator to adhere to several traffic restrictions, including consultation with local governmental requirements.
<b>Public Health</b>	10	7, 9, 21, 23, 29, 32, 39, 43, 46, 47	324A	R3, R6, R8, R9, R10, R11	COGCC rule 324A prohibits pollution of the environment in order to protect public health. In addition, COGCC has applied several COAs that require the operator implement dust suppression, traffic restrictions, noise control and fugitive light control.
<b>Baseline Sampling</b>	8	3, 9, 29, 38, 40, 43, 46, 47		WR7, WR8, WR9	COGCC has applied COAs to the Form 2A that require the operator to conduct baseline sampling and post drilling and completion sampling from surface water in tributaries to San Francisco Creek and from nearby water wells.
<b>Traffic Safety</b>	8	9, 10, 22, 29, 38, 41, 46, 47		R3, R12	COGCC has applied a COA to the Form 2A requiring the operator adhere to traffic restrictions, including consultation with local government and the implementation of a traffic control plan.
<b>Public Safety</b>	8	9, 28, 29, 32, 39, 43, 46, 47	600	R2, R3, R12, R15	COGCC 600 Series Rules specify minimum safety requirements necessary to protect the public. COGCC has applied a COA to the Form 2A requiring the operator to develop a site-specific emergency response plan and to review the plan with local emergency responders. COGCC has applied a COA requiring an onsite safety officer be present.
<b>Waste Management</b>	8	9, 21, 29, 40, 41, 43, 46, 47	907	R13	COGCC Rule 907 defines acceptable methods for exploration and production waste management. If an operator believes the waste management methods allowed by Rule 907 are not practical for the operations, then the operator can formally propose and request approval of an alternate waste management method. COGCC has requested greater specificity of the operator for mud disposal. COGCC has applied a COA prohibiting the onsite treatment of E&P Waste at this location.
<b>Emergency Response</b>	8	2, 9, 22, 29, 43, 45, 46, 47	210.a.	R2, R4, GS1, GS2	COGCC has applied COAs requiring the operator to provide initial notice prior to commencing operations and notice of schedule changes to the public and to emergency responders. COGCC is requiring the operator to prepare and maintain an emergency response plan and requiring an onsite safety officer be present as described above. COGCC Rule 201.a. requires operators to maintain signage directing emergency crews to locations where drilling is taking place.
<b>Hydrogeology</b>	6	3, 14, 38, 40, 43, 47	303.d.; 317; 324A; 341	WR4, WR5, WR6, WR8, WR9, GS3	Rule 324A prohibits both significant adverse impacts to state waters and violations of state water quality standards and classifications. This prohibition is supplemented by Rule 341, which requires stimulation fluids to be confined to the objective formations during treatment, and by Rule 317, which mandates well construction, casing and cementing practices. Rule 303.d. provides for a review of the hydrogeologic setting during review of the Form 2A with the application of COAs including baseline and post-completions water sampling.

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<b>Noise</b>	6	9, 29, 40, 41, 46, 47	802	R6	Rule 802 defines statewide noise abatement requirements. COGCC is requiring the operator to institute engineering controls to reduce the sound impact to the neighborhood.
<b>Timing</b>	5	29, 38, 40, 43, 47	MOU among BML, USFA and COGCC	None	The BLM, as the permitting authority for federal minerals, will apply timing restrictions that BLM deems appropriate as determined during BLM review of the APD.
<b>Spills</b>	5	9, 23, 43, 46, 47	600-series; 900-series; 1000-series	WR1, WR3, GS4, GS5, GS9, GS10, GS11, GS12, GS13	COGCC Rules 906a and 906b discuss spills. <b>General.</b> Spills/releases of E&P waste, including produced fluids, shall be controlled and contained immediately upon discovery to protect the environment, public health, safety, and welfare, and wildlife resources. Impacts resulting from spills/releases shall be investigated and cleaned up as soon as practicable. The Director may require additional activities to prevent or mitigate threatened or actual significant adverse environmental impacts on any air, water, soil or biological resource, or to the extent necessary to ensure compliance with the concentration levels in Table 910-1, with consideration to WQCC ground water standards and classifications. <b>Reportable spills and reporting requirements for spills/releases.</b> Spills/releases of any size which impact or threaten to impact any waters of the state, residence or occupied structure, livestock, or public byway shall be reported on COGCC Spill/Release Report, Form 19, and shall also be verbally reported to the Director as soon as practicable, but not more than twenty-four (24) hours, after discovery.
<b>Geology</b>	4	3, 40, 43, 47	303.d.; 317; 324A; 341	WR4, WR5, WR6, WR7, WR8, WR9, GS3	Rule 324A prohibits both significant adverse impacts to state waters and violations of state water quality standards and classifications. This prohibition is supplemented by Rule 341, which requires stimulation fluids to be confined to the objective formations during treatment, and by Rule 317, which mandates well construction, casing and cementing practices. Rule 303.d. provides for a review of the hydrogeologic setting during review of the Form 2A with the application of COAs including baseline and post-completions water sampling.
<b>Reclamation</b>	4	29, 40, 42, 43	1003; 1004	R7, R14, WR1, WR2	COGCC Rules 1003 and 1004 set requirements for interim and final reclamation of oil and gas locations. COGCC is requiring the operator to begin interim reclamation immediately after well completion. Interim reclamation includes reducing the size of the oil and gas location, revegetation and continued maintenance to prevent erosion, chemical or produced oil and water releases, and weed infestation.
<b>Pit concerns - drilling pit or production pits</b>	3	29, 43, 47	303.d.; 902; 903; 904; 905	WR4, WR5	The operator has not requested to construct any pits on the location. The operator has indicated that a closed loop system will be used for drilling operations; however COGCC has applied COAs requiring that a closed loop system be implemented and no subgrade pits will be allowed. Production pits, if constructed, require a Pit Permit be approved by COGCC prior to use, generating an additional level of review specific to a production pit. Additionally, in accordance with Rule 303.d.(2)A., the addition of a drilling or production pit to the location would trigger the requirement for the submittal of an amended Form 2A, subject to comment, review and approval.

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<b>Jynnifer</b> - inadequate reclamation of former well sites	3	29, 41, 47	1003; 1004	R7, R14	COGCC Rules 1003 and 1004 require the operator to properly reclaim the location both during production and upon the plugging and abandonment of the well including the removal of all equipment and revegetation of the location. The operator will be held liable for reclamation of the location until the location passes a final inspection by COGCC.
<b>Lighting</b>	3	29, 41, 47	803	R8	Rule 803 defines statewide lighting abatement requirements. COGCC is requiring the operator to institute engineering controls, to the extent practicable, to reduce site lighting by directing lights downward and internally so as to avoid glare on public roads and building units within seven (700) hundred feet.
<b>Regulations</b>	2	28, 42	200-Series thru 1200-Series	None	The permits have been reviewed and they satisfy the current COGCC rules and regulations.
<b>Pollution</b> - general concerns	2	12, 42	324A; 906	WR1, WR2, WR3, GS4, GS5	COGCC rule 324A prohibits operators from creating significantly adverse environmental impacts. COGCC Rule 906 dictates how spills and releases must be reported and remediated.
<b>Archaeology</b>	2	3, 40		None	The minerals are federally owned. The BLM as the Federal permitting authority will conduct an archaeology review and apply appropriate conditions of approval to the Federal APD to protect archaeological resources.
<b>Dust Control</b>	2	41, 47	805	R17	COGCC Rule 805 requires the control of fugitive dust. COGCC has applied a COA requesting several measures that should be implemented to control fugitive dust.
<b>Stormwater Control</b>	1	11	1002.f.	WR1, WR2, WR3	CDPHE issues stormwater permits during the construction phase. COGCC Rules require the operator to develop a Post-Construction Stormwater Program upon the termination of the CDPHE stormwater permit. BMPs must be implemented and maintained until final reclamation is achieved.
<b>Chemical Inventory</b>	1	47	100-Series; 205.c.; 205.d.; 205.e.; 205.f.; 206.b.(1); 205A		Rule 205.c. states that operators shall maintain a Chemical Inventory by well site for each Chemical Product used downhole during drilling, completion, and workover operations, excluding hydraulic fracturing treatments, in an amount exceeding five hundred (500) pounds during any quarterly reporting period. Operators shall also maintain a chemical inventory by well site for fuel stored at the well site during drilling, completion, and workover operations, including hydraulic fracturing treatments, in an amount exceeding five hundred (500) pounds during any quarterly reporting period. Hydraulic fracturing chemicals are to be reported in accordance with Rule 205A. <b>HYDRAULIC FRACTURING CHEMICAL DISCLOSURE.</b>
<b>Comprehensive Drilling Plan</b>	1	29	216	None	Comprehensive Drilling Plans (CDP) are initiated by the operator. A CDP submittal for one exploratory well would be premature. If the operator determines that development of an oil and gas field is feasible, a CDP may be necessary at that time.