

Utilizing Consultants in COGCC Compliance

SPE Environmental Study Group



4.28.2009

Scope of Rules & Effective Dates



- **Scope of Rules:**
 - Rules apply to all development on:
 - ✦ Private,
 - ✦ State, and
 - ✦ Federal Lands
 - Does not apply to Indian lands
- **Effective Dates:**
 - **April 1, 2009:** Fee lands
 - **July 1, 2009:** Federal lands

COGCC Homepage: <http://cogcc.state.co.us/>

Colorado Oil and Gas Conservation Commission Home Page - Windows Internet Explorer

http://cogcc.state.co.us/

HOME

Colorado Oil and Gas Conservation Commission


A division of the Colorado Department of Natural Resources

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April 06, 2009

PUBLIC ANNOUNCEMENTS

[Final Amended Rules](#) 
Training, questions, answers and other materials on the new rules.

[David Neslin Appointed to Lead COGCC](#) *New*

[Notice of Rulemaking Emergency Hearing](#) *New*
Information on the upcoming April 14, 2009 emergency hearing to address the implementation of the new rules on federal lands.

[Notice of Rule Making Hearing Date Correction](#) *New*
Information on the upcoming May 07, 2009 hearing

[New Form 2A](#) (03/09/2009)
The Form 2A is now available for download

[New Look and Training Data](#) (03/09/2009)
The Final Rules page has been updated and the Permit Manual is available

[Form 36 Compliance Checklist](#) (03/04/2009)
REQUIRED FOR GARFIELD, MESA, SUMMIT AND RIO GRANDE

Internet 100%

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[COGCC Amended Rules](#) - The amended rules as written - effective May 1, 2009 on federal lands April 1, 2009 all other lands.

[COGCC Amended Rules Redline](#) - Shows the changes from the previous rules in red.

[Final Statement of Basis and Purpose](#) - Explains the basis and purpose of the amendments.

[Training Schedule](#) - COGCC presentations on the new rules.

[Training Agendas](#)

[Training Presentations](#) - Slideshows highlighting changes and new requirements

[Permitting Handbook](#) - COGCC staff has developed a permitting handbook that will serve as a reference to help operators understand how the amended permitting requirements will work and how to comply with them. Subsequent manuals on other aspects of the rules, such as pit requirements and Comprehensive Drilling Plans, are also being considered.

[Frequently Asked Questions](#) - Questions and answers regarding the amended rules

[COGCC Rule Making](#) - The written testimony, motions, exhibits, orders and other documents from the rulemaking process.

Submit a question:

<p>Email <input type="text"/></p> <p>If you want a response sent to you.</p> <p><input type="button" value="Submit question"/></p>	<input type="text"/>
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The COGCC staff will attempt to review and answer your question. Not all questions will appear on the Frequently Asked Question page. If you would like to ensure that you get a response within five business days, please enter your email address in the box provided.

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Frequently Asked Questions

[Final Amended Rules](#)

- [1. When can we expect to see the Compliance Checklist that is referenced in the new rules?](#)
- [2. How do I access the maps re: stream buffer zones per 317B?](#)
- [3. Per COGCC regulation 324A.e., it appears that the operator would be required to obtain...](#)
- [4. Where will the postings for the new Form 2A be located on the website? Will the Form...](#)
- [5. Under pit liner requirement rules, if a 40 mil liner is used what is the soil thickness...](#)
- [6. For the Reference Area portion of the permitting process, how large of an area is a ref...](#)
- [7. On Form 19, what is your definition of Ground Water Impacted Surface Wat...](#)
- [8. Where can I find the CDOW BMPs that are on this website according to COGCC rule 1202...](#)
- [9. The Form 2A expires in 3 years. I notice on the new form 2A that there is no line to p...](#)
- [10. form 2A/Form 2 - Since an approved Form 2A is good for 3 years, what will happen if the...](#)
- [11. Does the Form 2A need to be submitted on Federal and Indian lands?...](#)
- [12. What are the implications of the 300' stream buffer layer \(NOT the Rule 317b layer\) on...](#)

1. When can we expect to see the Compliance Checklist that is referenced in the new rules? We are trying to ensure our compliance with the new rules, but have no knowledge of what this checklist is or what it will entail.

The form 36 is now available on our website under the section FORMS

2. How do I access the maps re: stream buffer zones per 317B?

3. Per COGCC regulation 324A.e., it appears that the operator would be required to obtain a Certificate of Designation from the county in which each facility is located. Is this the case? Is a multiple site permit available that would address several individual pads and treatment facilities? thank you!!!

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4. Where will the postings for the new Form 2A be located on the website? Will the Form 2A - Oil and Gas Location Assessment be amended and available prior to April 1?

COGCC Regulation Format



- 100 – Definitions
- 200 – General Rules
- 300 – Drilling, Development, Production & Abandonment
- 400 – Unit Operations, Enhanced Recovery, Storage of Liquid Hydrocarbons
- 500 – Rules of Practice and Procedure
- 600 – Safety Regulations
- 700 – Financial Assurance
- 800 – Aesthetic and Noise Regulations
- 900 – Waste Management
- 1000 – Reclamation
- 1100 – Flowlines
- 1200 – Protection of Wildlife

Buys & Associates, Inc. Core Competencies



- **Regulatory Compliance and Acquisition Audits**
- **Biological/Ecological Studies & Surveys**
- **Agency Coordination & Consultation**
- **Permitting (Federal, State, County)**
- **GIS/CAD Mapping & Data Management Solutions**
- **Stormwater Management & Training**
- **Reclamation Monitoring & Noxious Weed Management**

Implementation Guidelines



- **Rule Applicability Categories:**
 - Regulations which apply to all O&G operations-
Comprehensive Regulations
 - Site Specific Regulations
 - Process Related Regulations (APDs & CDPs)
- **Step 1: Map locations, determine proximity to high density areas and overlay site specific GIS layers to determine rule applicability**
- **Step 2: Examine those practices currently in place and how they differ from new regulations**
- **Step 3: Develop a streamlined approach and schedule to implement new procedures**

Comprehensive O&G Regulations



Rule 205

Access to Records (Chemical Inventory)



- 205(b)- must have MSDSs for Chemical Products brought to well site for use downhole (*implementation date: May 1, 2009*)
- 205(c)- Chemical Inventory
 - Operators must maintain Chemical Inventory by well site for **each** Chemical Product **used downhole or stored for such use** in amounts > 500 lbs in any quarterly reporting period (*implementation date: June 1, 2009*)
 - Must maintain Chemical Inventory by well site for **fuel** stored at well site during drilling, fracing, etc. in amounts > 500 lbs in any quarterly reporting period (*implementation date: June 1, 2009*)

Rule 205(c)

Chemical Product Reporting Threshold



- 500 pound threshold based on “cumulative maximum amount of Chemical Product present” during quarter;
 - Ex. Operator takes 200 lbs. of chemical X on site in month #1 and 300 lbs. of chemical X on site in month #3: 500 pound threshold has been reached
- **Chemical Inventory shall include:**
 - List of the chemical products (including Material Data Safety Sheets)
 - How much of the chemical product was used
 - How it was used
 - When it was used
- Inventories must be updated quarterly throughout the life of each well site
 - Quarterly reporting= 3 consecutive months

Rule 205(f)

Record Retention Requirements



- Operators are NOT required to submit reports
- Records must be maintained in easily retrievable format at local field office
- Upon request, records must be produced within 3 business days (except for information in response to emergency treatment- records provided ASAP)
- Records must be made available to the Commission or Director for inspection for the life of the well plus 5 years after P&A

Rule 210(d)

Signs & Markers (Tanks/Containers)



- All tanks > 10 BBLs to be labeled or *posted* with:
 - Name of operator
 - Emergency contact no.
 - Tank capacity
 - Tank contents
 - NFPA label
- *Implementation Date: September 1, 2009*

Rule 210(d)

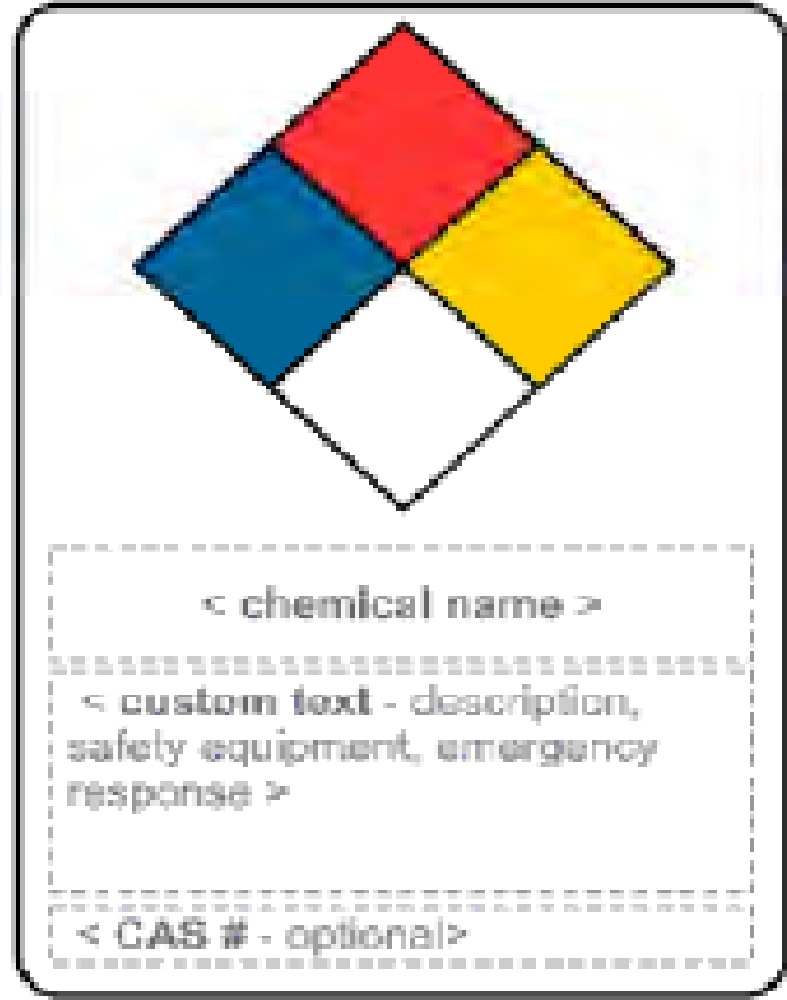
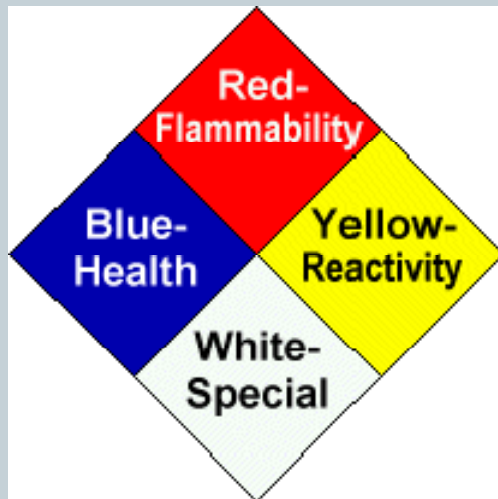
Signs & Markers (Tanks/Containers)



- **Containers storing hazardous material that is required to be placarded by DOT HMRs shall retain DOT-required placards and labels**
- ***Implementation Date: September 1, 2009***

Rule 210(d)

NFPA Hazard Diamond & Label



Rule 604

Safety Regulations- Oil & Gas Facilities



- **Stacks, vents, or other openings shall:**
 - Be equipped with screens or other equipment to prevent entry by wildlife (including migratory birds)

700-Series

Financial Assurance



- In general, operator required financial assurance requirements have increased
- Individual Wells
 - Financial assurance is increased from \$5,000 per well to \$20,000 per well for wells greater than 3,000 feet in total depth
- Statewide blanket financial assurance amount increased from thirty thousand to sixty thousand dollars (\$60,000)

Rule 907(b)

E&P Waste Management Records

- 907(b)(1)- E&P wastes to go to COGCC or CDPHE-approved facilities
 - Operators have a duty to ensure disposal facilities are properly permitted

- 907(b)(2)- Generators of E&P waste transported off-site shall maintain for no less than five years copies of:
 - *Each invoice, record, etc., necessary to document date, generator, transporter, pickup site, volume of waste, disposal facility; and*
 - *Disposal facility records shall be signed by transporter*

What are some examples of E&P wastes?

What are non-E&P wastes?

Why does the designation matter?

Table 910-1: *Concentrations and Sampling for Soil & Groundwater*



- **Table 910-1 Standards are applicable to:**
 - Closure/reclamation of pits
 - Remediation of E&P waste spills and releases
 - Disposal/treatment of E&P waste
 - Investigation and remediation of soils and groundwater, and closure
- **Elevated standards for Non-Sensitive Areas are no longer applicable**
- **Table 910 Modifications**
 - Allowable concentrations were reduced (TPH in soil changed from 10,000 mg/kg to 500 mg/kg)
 - Expanded list of constituents including BTEX and other hydrocarbons

Table 910-1 Concentration Levels

Contaminant of Concern	Concentrations
Organic Compounds in Soil	
TPH (total volatile and extractable petroleum hydrocarbons)	500 mg/kg
Benzene	0.17 mg/kg ²
Toluene	85 mg/kg ²
Ethylbenzene	100 mg/kg ²
Xylenes (total)	175 mg/kg ²
Acenaphthene	1,000 mg/kg ²
Anthracene	1,000 mg/kg ²
Benzo(A)anthracene	0.22 mg/kg ²
Benzo(B)fluoranthene	0.22 mg/kg ²
Benzo(K)fluoranthene	2.2 mg/kg ²
Benzo(A)pyrene	0.022 mg/kg ²
Chrysene	22 mg/kg ²
Dibenzo(A,H)anthracene	0.022 mg/kg ²
Fluoranthene	1,000 mg/kg ²
Fluorene	1,000 mg/kg ²
Indeno(1,2,3,C,D)pyrene	0.22 mg/kg ²
Napthalene	23 mg/kg ²
Pyrene	1,000 mg/kg ²
Organic Compounds in Ground Water	
Benzene	5 µg/l ³
Toluene	560 to 1,000 µg/l ³
Ethylbenzene	700 µg/l ³
Xylenes (Total)	1,400 to 10,000 µg/l ^{3,4}
Inorganics in Soils	
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background
Sodium Adsorption Ratio (SAR)	<12 ⁵
pH	6-9
Inorganics in Ground Water	
Total Dissolved Solids (TDS)	<1.25 x background ³
Chlorides	<1.25 x background ³
Sulfates	<1.25 x background ³
Metals in Soils	
Arsenic	0.39 mg/kg ²
Barium (LDNR True Total Barium)	15,000 mg/kg ²
Boron (Hot Water Soluble)	2 mg/l ³
Cadmium	70 mg/kg ^{3,6}
Chromium (III)	120,000 mg/kg ²
Chromium (VI)	23 mg/kg ^{2,6}
Copper	3,100 mg/kg ²
Lead (inorganic)	400 mg/kg ²
Mercury	23 mg/kg ²
Nickel (soluble salts)	1,600 mg/kg ^{2,6}
Selenium	390 mg/kg ^{2,6}
Silver	390 mg/kg ²
Zinc	23,000 mg/kg ^{2,6}
Liquid Hydrocarbons in Soils and Ground Water	
Liquid hydrocarbons including condensate and oil	Below detection level

General Application of 900-Series *E&P Waste Management*



- New pit lining and secondary containment requirements apply to pits and secondary containment structures constructed on or after:
 - *April 1, 2009 (all other lands)*
 - *July 1, 2009 (federal lands)*

Which Pits Must Be Lined?



- All pits must be lined! But... lots of exceptions
- **Drilling Pits**
 - Exception: drilling pits need not be lined if they are low in hydrocarbon and chloride concentrations (less than 10,000 ppm TPH or 15,000 ppm chloride)

General Application of 900-Series *Closure of Drilling Pits*



- According to COGCC Amended Regulations a drilling pit “*shall mean those pits used during drilling operations and initial completion of a well*”
- Close drilling pits in accordance with Rule 1000 Series
- Drilling pit closure requirements under Rule 1003.d:
 - For pits on **crop land** or within **100-year floodplain**
 - ✦ Remove and dispose of waste-based bentonitic drilling fluids, except *de minimus* amounts, pursuant to Rule 900 Series
 - ✦ **Ensure soils meet Table 910-1 standards**
 - ✦ Close and reclaim pits no later than 3 months after conclusion of drilling and completion activities
 - For pits on **non-crop land**
 - ✦ Remove and dispose of all fluids pursuant to Rule 900 Series
 - ✦ **Ensure soils meet Table 910-1 standards**
 - ✦ Close and reclaim pits no later than 6 months after conclusion of drilling and completion activities, *weather permitting*

General Application of 900-Series *Disposal of Pit Liners*



- **Disposal of synthetic liners:**
 - Considered non-exempt solid waste
 - Must remove and dispose of synthetic liners at all closed pits, not just at pits on irrigated crop land
- **Disposal of constructed soil liners:**
 - Soil liner material can be removed, or left in place, ripped and mixed with native soils, but
 - Must meet Table 910-1 soil standards

Rule 906: Amended Spill *Reporting Requirements*



- **Must file Form 19 (Spill/Release Report):**
 - For spills/releases of E&P waste and produced fluid > 5 barrels, including within lined or unlined berms
 - For spills/releases of any size that impact or threaten to impact any waters of state, residential or occupied structure, livestock, or public byway
 - For spills/releases of any size that impact or threaten to impact any surface water supply areas
 - File within 10 days after discovery of reportable spill
- **Be aware of amended spill/release reporting deadlines**
- **Be aware of additional entities to notify for reportable spills**

Rule 906:

Secondary Containment Requirements

- **Secondary containment:**
 - Must be constructed around all tanks containing oil, condensate, or produced water > 3,500 ppm TDS (reduced from 10,000 ppm)
 - Must be sufficient to contain contents of largest single tank
 - Must have sufficient freeboard to contain precipitation
 - Must be “sufficiently impervious” to contain discharged material
 - More stringent requirements for High Density areas

Rule 805 (b) (2) (E)

Pneumatic Devices



- **805 (b) (2) (E)- Pneumatic Devices Affected**
 - In instances when new, replaced or repaired...
 - Pneumatic devices are installed...
 - Low or no-bleed valves must be used...
 - When technically feasible
- **Replaced and Repaired are not defined**
- **This is really a gas conservation provision (as opposed to an odor control provision)**

Rule 341

Bradenhead Monitoring During Well Stimulation



- Bradenhead annulus pressure continuously monitored and recorded on all wells being stimulated
- If intermediate casing has been set, pressure in the annulus between intermediate and production casing must also be monitored and recorded
- Operator must keep all records and pressure charts *on file and available for inspection* for period of at least five years

Rule 341: *Bradenhead Monitoring Reporting Requirements*



- If bradenhead annulus pressure increases > 200 psig, operator must notify Director no later than 24-hours following
 - Operator must also submit Sundry Notice giving details and corrective action (*within 15 days of incident*)

Rule 805 (b) (3)

Well (Green) Completions

- **805 (b) (3) (A)- Green Completion Practices**
 - Mandated as an odor control practice
 - Required on oil and gas wells where “reservoir pressure, formation productivity and wellbore conditions” are likely to enable natural flow of gas to the surface in flammable concentrations at a rate of 500 MCF against an induced surface backpressure of 500 psig or sales line pressure, whichever is greater.
 - Not required for exploratory wells, or where not otherwise feasible.

Rule 805 (b) (3)

Well (Green) Completions



- **805(b)(3)(B)- Green Completion Practices shall include, but are not limited to:**
 - (i) Use of sand traps, surge vessels, separators and tanks as soon as practicable during flowback and cleanout operations to safely maximize resource recovery and minimize releases to the environment.
 - (ii) Directing well effluent to tanks or pits (where permitted) during flowback and cleanout operations...
 - Venting of non-flammable gas phase permitted for safety purposes until flammable gas is flowing

Rule 805 (b) (3)

Well (Green) Completions



- **805(b)(3)(B)(iv)- Closed-top tanks**
 - If safe and technically feasible, closed-top tanks shall:
 - ✦ Utilize backpressure systems exerting a minimum of 4 oz. of backpressure
 - ✦ To facilitate gathering and combustion of tank vapors.
 - Vent/backpressure valves, the combustor, lines to combustor and knock-outs shall be sized and maintained to safely accommodate *any* surges the system may encounter

Rule 805 (b) (3)

Well (Green) Completions



- **805(b)(3)(C)- Variance Procedure for Green Completions**
 - Operator may request variance from Director
 - ✦ If Operator believes practices not feasible due to well or field conditions or
 - ✦ Following them would endanger safety or personnel or the public

- **805 (b) (3) (D)- Infeasibility of Green Completion Practices**
 - Operators shall employ BMPs to reduce emissions, which *may* include:
 - ✦ Measures to minimize venting (considering safety)
 - ✦ Monitoring and recording time of emissions from flaring or venting

Rule 805 (c)

Fugitive Dust



- Operators shall employ practices for control of fugitive dust caused by their operations
- Practices shall include:
 - Vehicular speed restrictions
 - Road maintenance
 - Restricted construction during high-wind days
- Additional practices such as road surfacing, wind breaks and well automation (to reduce traffic) may be required, if feasible

Stormwater Management

Current CDPHE Requirements



- **Imposed under Colorado Discharge Permit System (CDPS) General Permit for Stormwater Discharges**
- **Cover construction activities only**
 - Excludes exploration, production, processing and transmission activities and facilities
- **Requires Stormwater Management Plans (SWMPs), Best Management Practices (BMPs), minimum inspection schedules, reporting**
- **Stormwater General Permit certification inactivated upon final stabilization**

Stormwater Management

New Rule 1002.f



- COGCC Stormwater management requirements extended to post-construction operations
- Applies to well pads, soil stock piles, access roads, tank batteries, compressor stations, and pipeline rights-of-way
- Two key requirements:
 - BMPs for all oil and gas locations for life of facility
 - Post-Construction Stormwater Program upon inactivation of CDPHE Stormwater General Permit certification, except for Tier 1 oil & gas locations

Stormwater Management

Best Management Practices



- Must maintain until abandonment and final reclamation of site under Rule 1004
- Must “minimize” erosion, transport of sediment to state waters, and site degradation associated with oil and gas operations
 - Not responsible for natural erosion beyond oil and gas location unless erosion intrudes on oil and gas site and impacts BMPs
- Types & timing of BMPs are at operator’s discretion (*based on site-specific conditions*)
- Operator discretion as to inspection schedule
- Must implement BMPs in accordance with good engineering practices

Stormwater Management

Effective Dates



- *April 1, 2009: All other lands*
- *July 1, 2009: Federal Land*
- **Post-construction Stormwater Plans: must be developed no later than CDPHE Stormwater General Permit coverage termination**

Site Specific Regulations



Site Specific Regulations



- Based on well status (i.e., existing or proposed) and the well location
- Extent of requirements can be determined through mapping exercises
 - Proximity to “areas of public interest” Rule 805 (b) (2)
 - ✦ Water Wells
 - ✦ Existing buildings (odor control)
 - High Density Areas Rule 603(b)
 - ✦ Berm Construction
 - Special Designation Areas
 - ✦ Public Water Systems *317B*
 - ✦ Sensitive Wildlife Habitat *1203*
 - ✦ Restricted Surface Occupancy *1205*

Rule 603

Drilling/Service Operations & High Density Areas

- **Rule 805 (b) (2)**
 - Field Installation of Control Devices
 - Additional Permit through CDPHE

- **603(e)(12): Berm Construction**
 - Berms/secondary containment constructed around crude oil, condensate, and produced water storage tanks sufficient to contain 150% of largest single tank.
 - No potential ignition sources installed inside containment area (unless area encloses fire vessel)

Site Specific Regulations



- **Rule 317B**
 - Additional Operating Requirements (i.e., pitless drilling, berms)
 - Water Sampling
 - Notification of Public Water Systems
 - Emergency Response Plans
- **1200 Series**
 - CDOW Consultation
 - Additional Operating Requirements

Legal Location



RULES SPECIFICALLY APPLICABLE TO LOCATIONS IN:

Garfield County

Mesa County

Gunnison County

Rio Blanco County

Rule 206

Reports (Compliance Checklist)



- **206(b)- Compliance Checklist** (*Form 36 available on COGCC website: <http://cogcc.state.co.us>*)
- **Required for facilities in Piceance Basin counties** (*Garfield, Mesa & Rio Blanco*)
 - Must complete and retain for each facility
 - Documents actions taken on on-site conditions that indicate compliance with specific requirements to minimize adverse impacts
 - **Implementation Date:** *Initial reports are due **August 15, 2009** for each facility and annually thereafter*

Rule 206

Reports (Compliance Checklist)



- **Form 36 demonstrates ongoing compliance with:**
 - Chemical Inventory Requirements
 - E&P Waste Management
 - Use of Earthen Pits
 - Odor Management
 - Public Water System Protection
 - Stormwater Management

- **Operator shall retain current Form 36 at local field office**

Click here to reset form

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 191, Denver, Colorado 80202 Phone: (303)594-2100 Fax: (303)594-2109



For COGCC Use Only

Note: All "No" or "N/A" answers require a written explanation attached to this form

Compliance Checklist

(REQUIRED FOR
GARFIELD, MESA, GUNNISON, & RIO BLANCO COUNTIES)

Operator Number: _____ Facility Name: _____
 Name: _____ Initials, API # Facility #: _____
 Facility Location: _____ (in accordance with Rule 215) Checklist Year: _____
 Lat: _____ Long: _____
 Ctr/Otr: _____ Sec: _____ Twp: _____ Rng: _____ Meridian: _____

Chemical Inventory Requirements (See Rule 205)

1 a. Has your business maintained a Chemical Inventory for each Chemical Product used downhole or stored for use downhole during drilling, completion and workover operations, including fracture stimulation, in an amount exceeding five hundred (500) pounds during any quarterly reporting period? Yes No N/A

1 b. Has your business maintained a Chemical Inventory for fuel stored during drilling, completion, and workover operations including fracture stimulation in an amount exceeding five hundred (500) pounds during any quarterly reporting period? Yes No N/A

2 a. Is your business updating the Chemical Inventory on a quarterly basis? Yes No N/A

2 b. Is your business maintaining the Chemical Inventory in a readily accessible form at your local field office? Yes No N/A

Exploration and Production Waste Management Requirements (See 600 & 900 Series Rules)

3 a. Is this facility a Centralized E&P Waste Management Facility? Yes No N/A

3 b. If yes, does the Centralized E&P Waste Management Facility have an approved COGCC permit (Form 28)? Yes No N/A

3 c. FACILITY NUMBER: _____

COGCC Approval Date: _____

4. Does this facility have a pit that requires an Earthen Pit Report/Permit, COGCC Form 15? Yes No N/A

COGCC Facility Number of Pit: _____

COGCC Approval Date: _____

Checklist Year: _____

5. Have you inspected the facility's pits? Yes No N/A

6. If the pits are lined has the lining been maintained in accordance with the manufacturer's specifications and good engineering practices (See Rule 904.b (2).)? Yes No N/A

7. Are all pits at this facility constructed, monitored, and operated to provide for a minimum of two (2) feet of freeboard at all times between the top of the pit wall at its point of lowest elevation and the fluid level of the pit? (See Rule 902.b.) Yes No N/A

8. What method of monitoring and maintaining freeboard is employed at this facility? (See Rule 902.b) _____

9. Have you inspected the facility's secondary containment structures and maintained them in good condition? (See Rule 603.e.12. or Rule 604.a.4.) Yes No N/A

Odor Management Requirements (See Rule 805) (REQUIRED FOR GARFIELD, MESA, OR RIO BLANCO COUNTIES)

10. Have you inspected all required odor control devices and determined that they are in good working order? Yes No N/A

Public Water System Protection (See Rule 317B)

11. Is your facility a drilling, completion, production and storage operation located within a buffer zone associated with a Surface Water Supply Area? Yes No N/A

12. If yes, has your facility implemented and maintained applicable best management practices and operating procedures? Yes No N/A

Stormwater Management Requirements (See Rule 1002.f)

13 a. Is there a CDPHE - WQCD Stormwater Construction Permit for this facility? Yes No N/A

13 b. Is there a Post Construction Stormwater Program for this facility? Yes No N/A

14. Have you inspected this facility in accordance with the established inspection schedule and determined that applicable BMPs are in place, and are maintained and operating properly? Yes No N/A

"I, the undersigned, as an authorized company representative, have personally examined this oil and gas facility and certify that to the best of my knowledge, the information contained in this form is accurate".

Signature of Authorized Company Representative

Printed Name

Title

Phone Number

Date: _____

Rule 303

Application for Permit to Drill (APD)



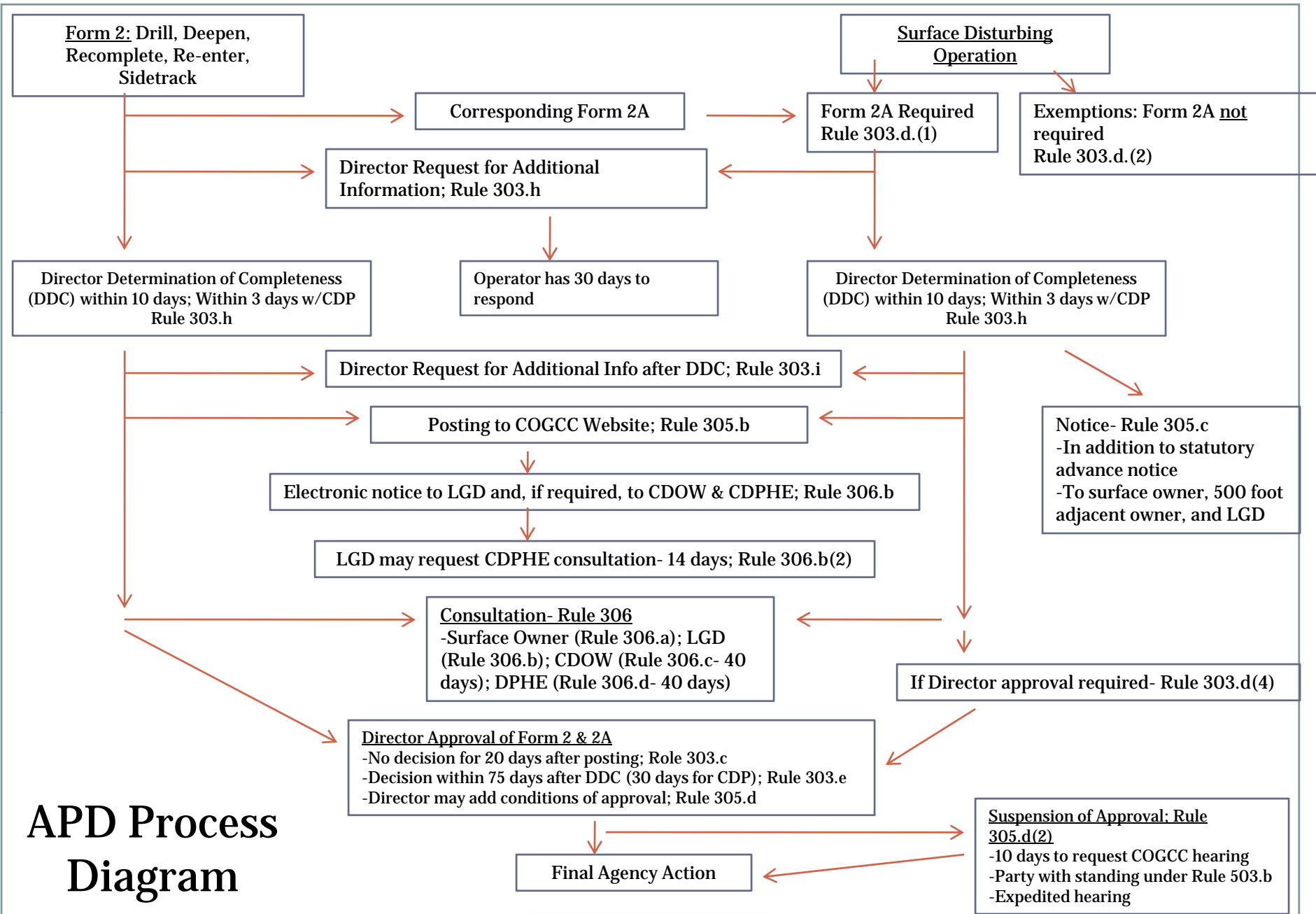
- **Form 2:**
 - Required to deepen, re-enter, recomplete, sidetrack or operate
 - ✦ Minimal changes from prior rules
 - ✦ Sidetracking has been added
 - Expiration: one year (no change)
 - Before commencing operations, operator must complete Form 2 & Form 2A
- **Form 2A:**
 - Oil & Gas Location Assessment (*greatly expanded from previous rules*)
 - Required for all proposed O&G locations unless covered by approved CDP
 - Expiration: 3 years

Form 2A

Filing Requirements/Exemptions



- **Filing required when:**
 - Form 2A must be submitted for any new oil and gas location, unless exempted
 - Includes modification/expansion of existing location beyond original disturbance area
- **Exemptions:**
 - Surface disturbance occurring at an existing oil and gas facility within originally disturbed area, other than drilling a new well or production pit
 - Oil and gas location covered by approved CDP and information substantially the same
 - Gathering lines
 - Seismic operations
 - Pipelines for oil, water, gas
 - Roads



APD Process Diagram

Form 2A

Information Requirements



- Over twenty-five data requirements in Form 2A

COGCC	Water Wells
Well Data	Known springs
Operator Name	Plugged Wells
Well Name	Known Sewers with Manholes
Well Number	Standing bodies of water
Well Staked Photograph facing North	Natural Channels
Well Staked Photograph facing East	Canals and Ditches
Well Staked Photograph facing South	Description of surfaces within 400ft radius of proposed locations
Well Staked Photograph facing West	Land Use - Residential, industrial/commercial, cropland, rangeland, forestry, recreation, wildlife habitat. (if red we will need 4 color photos during growing season of vegetation facing each cardinal direction.)
All Visible improvement within 400 ft of proposed locations (Well Buffer)	Reference Layers to Add
All Building/residences	Topo (Optional)
Publicly maintained roads and trails	NDIS
Above ground utility lines	Weld County- Fema 100yr floodplain
Railroads	Buffer
Pipelines	Improvements w/in 400ft around Wells
Mines	
Existing O & G Wells	
Injections wells	

Role of the Consultant

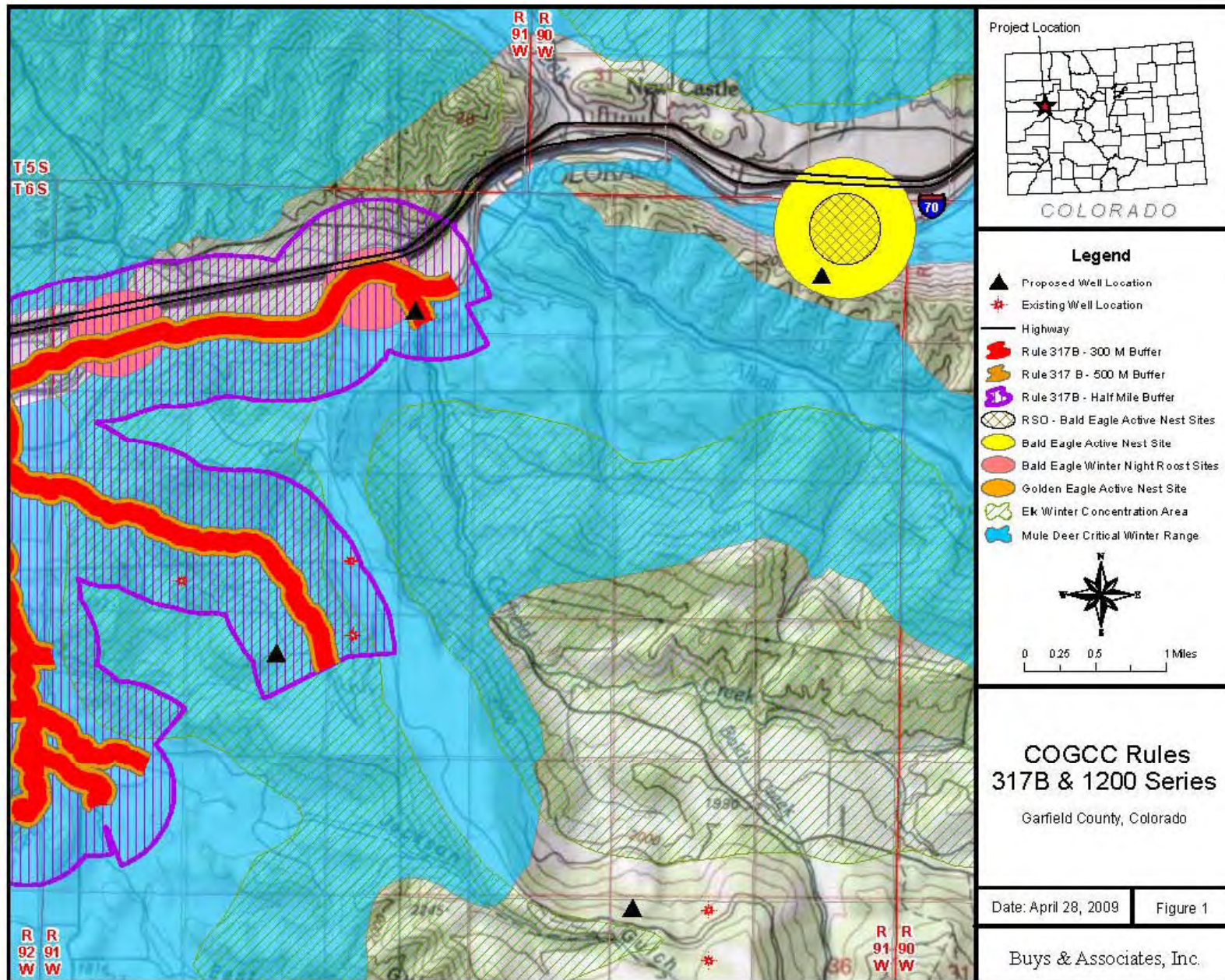


- Preliminary GIS mapping to determine requirements
- Development of databases that can be used to track data collection
- Formulate strategies for collecting data in the most efficient manner
- Can perform both in-house data collection and GIS mapping as well as field data collection
- Guide operators in agency consultations
- Complete and file necessary permits
- Track permit reviews and approvals

Hypothetical Development Plan



- **Begin by mapping existing/proposed locations and overlay with GIS special designation layers**
- **Determine if locations are affected by:**
 - Areas of Public Interest
 - Public Water Systems
 - Sensitive Wildlife Habitat
 - Restricted Surface Occupancy



Database Development

- Development of operator or field specific database
- Electronic data forms are developed to ensure that all necessary data is being collected
- Database can be sorted by well and can be used to track compliance over time (i.e., monthly, annually, etc.)



Example Electronic Data Form



Buy's & Associates Reclamation and Weed Survey Data Sheet
Rock Springs Field Office

Background Information

Project Name _____ Reporting Year _____

Well Name and Field _____ API# _____

WYWW (O&G Lease or ROW) _____

Project Type (Well, Access Road, Pipeline) _____

Location (Legal Location) _____

Construction/Spud Date _____ Well Completion/P&A Date _____

Earthwork Completion Date _____ Earthwork Contractor Name _____

Soil Preparation, Ripping Depth, etc _____

Soil Information _____

Seeding Dates _____ Seeding Contractor Name _____

Preparation Methods (Disc, Harrow, Depths, etc) _____

Seeding Method (Drill, Broadcast, Depths, etc) _____

Copy of Certified Seed Tags Submitted: Yes / No Other _____

Actual Seeding Rate (Lbs/Acre) PLS: _____ Area Seeded (Acres or Sq Ft): _____

Supplemental Seeding Information: _____

Soil Amendments Used _____

Erosion Control (Mulch, Netting, Tackifier, etc) _____

Methods Used to Exclude Livestock _____

Methods Used to Collect Additional Moisture _____

Weed Contractor Name _____ Contractor License # _____

Treatment Dates _____ Type (Chemical, Mechanical, etc) _____

Weeds Treated _____

Chemicals Used and Application Rates _____

Area Treated (Acres or Sq Ft) _____

Additional Notes:

1 of 2

Buy's & Associates Reclamation and Weed Survey Data Sheet
Rock Springs Field Office

Field Information

Project Name _____ Reporting Year _____

Well Name and Field _____ API# _____

WYWW (O&G Lease or ROW) _____

Project Type (Well, Access Road, Pipeline) _____

Location (Legal Location) _____

Surveyor Name(s) _____ Date _____

Surrounding/Existing Vegetation _____

Time After Seeding (# growing seasons) _____

Reclamation Status: Temporary Interim Final Other _____

Reserve Pit Closed: Yes / No Pad Size Reduced: Yes / No

Area Reshaped: Yes / No Reseeded: Yes / No

Reclamation Area Fenced: Yes / No Fence Effective: Yes / No _____

Evidence of Disturbance/Vegetation Utilization _____

Evidence of Grazing Pressure (wildlife versus livestock) _____

Evidence of Erosion: None Sheet Gullying Rill Headcutting Other _____

Total % Ground Cover (of reclaimed area) _____ (of entire site) _____

Desirable Species % Cover (of reclaimed area) _____ (of entire site) _____

Undesirable/Noxious Species % Cover (of reclaimed area) _____ (of entire site) _____

Desirable Species Vigorous: Yes / No Other/Notes _____

Shrubs and approximate heights _____

Species List (desirable and undesirable, dominant species) _____

Reclamation Category: Monitor-Unacceptable / Monitor-At Risk / Acceptable / Reclamation Complete

GPS Initial Disturbance Photos from center of well (facing N, E, S, W)

GPS Current Disturbance Photos of Quadrats in Reclamation Area

Notes/Recommendations:

2 of 2

Strategic Planning

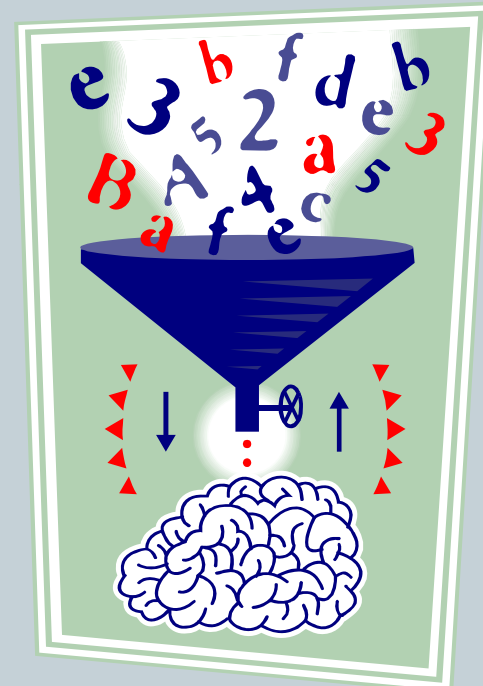


- **What? – BMP Inspections, Water Sampling, Signage, etc.**
- **Who? – Engineer, Hydrologist, Biologist**
- **When? – Meet compliance deadlines, Minimize # of visits**



Data Collection

- GIS Staff
- Resource Specialists
 - Engineers
 - Hydrologists
 - Biologists
- Cross-trained
 - Regulatory Inspections (SPCC)
 - Stormwater Inspections
 - Water Sampling
 - Reclamation and Weed Monitoring
 - Wildlife Surveys



Consultation with CDOW

Purpose & Requirements



- Determine whether COAs are necessary to minimize adverse impacts
- Required if proposed locations fall within Sensitive Wildlife Habitat or Restricted Surface Occupancy areas

Consultation with CDOW

Procedure & Timeline



- **Consultation Procedure- Operator shall provide:**
 - Description of operations, including location
 - Affected wildlife resources
 - What provisions of 1200-Series rules are impacted
 - Proposed mitigation/best management practices for wildlife resource
 - Any other relevant information on operations

Wildlife

Sensitive Wildlife Habitat



- **Operating Requirements in Sensitive Wildlife Habitat:**
 - During pipeline construction for open trenches (5+ days and 5+ feet in width), installation of wildlife crossovers and escape ramps on well defined game trails (minimum of ¼ mile intervals)
 - Inform & educate employees and contractors on wildlife conservation
 - Consolidate new facilities to minimize wildlife impact
 - Minimize rig mobilization and demobilization
 - Minimize surface disturbance by consolidating pipeline right-of-way and road corridors
 - Treat waste water pits with Bti or alternative action to control mosquito larvae

Wildlife

Sensitive Wildlife Habitat



- **Operating Requirements in Sensitive Wildlife Habitat (cont.)**
 - Use wildlife appropriate seed mixes
 - Mow or brushhog vegetation, where appropriate
 - Post speed limits and caution signs and limit access to oil and gas access roads (where approved by surface owners)
 - Use wildlife-appropriate fencing where acceptable
 - Use topographic features and vegetative screening to create seclusion areas
 - Use remote monitoring of well production to the extent practicable
 - Reduce traffic associated with transporting drilling water and produced liquids through use of pipelines, tanks or other measures

Wildlife

Restricted Surface Occupancy (RSO)



- **Operating Requirements in RSO Areas:**
 - Operators shall avoid RSO areas to the maximum extent technically and economically feasible
 - New ground disturbing activities are to be avoided in RSO areas (including construction, drilling and completion, non-emergency workovers, and pipeline installation).
 - Production and routine maintenance, emergency operations, reclamation activities, or habitat improvements are not prohibited in RSOs
 - These requirements (Rule 1205) are not applicable until January 1, 2010, for proposed locations in RSOs where the operator has in good faith initiated and is diligently pursuing consultation on the proposed location prior to May 1, 2009 on Federal land and April 1, 2009 on fee land.

Consultation with CDOW

Outcome & Exceptions



- **Results of Consultation:**
 - CDOW may make written recommendations on conditions of approval necessary to minimize impacts to wildlife resources
 - All parties should agree to conditions of approval
 - Affected surface owner must give consent to permit-specific conditions of approval
- **Consultation is NOT required under the following conditions:**
 - Previously approved CDOW wildlife mitigation plan
 - Species not in fact present (determined by wildlife survey(s))
 - New well would involve a one-time increase of surface disturbance less than one acre
 - Director approved variance
 - CDOW waives consultation requirement

Advantage of Utilizing Consultants for Consultation



- Have established relationships with CDOW personnel
- Allows operators mitigation to be presented by representative possessing biological credentials
- Provides a mediator between the agency and operator

Completing, Filing, and Tracking Permits



- All necessary data is collected
- Data is collected cost effectively
- Permits are filed on time
- Status can be easily tracked

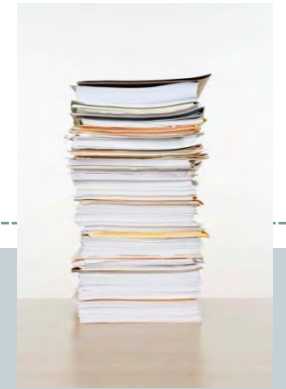


Comprehensive Drilling Plan



Rule 216

Comprehensive Drilling Plans (CDPs)



- **Incentives to operator:**

- If the information provided in the CDP is equivalent to that required by the Form 2A and the operator does not seek variance outside of the CDP, no Form 2A is required
- Expedited process for APDs
 - ✦ Approval within 30 days of completeness determination (as opposed to COGCC's current approval time of 75 days)

- **Duration**

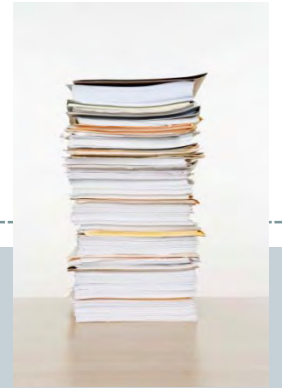
- CDPs are valid for *6 years*

- **Modifications**

- Accepted CDP may be modified through the same process as the original CDP

Rule 216

Comprehensive Drilling Plans (CDPs)



- **CDPs are similar in nature to EAs or GAPs**
- **Strategic Planning by B&A Engineers and Resource Specialists**
 - Prepare drilling plans that meet operational goals of the proponent;
 - Utilize knowledge of the resource specialists to develop drilling schedules and operational plans that minimize impacts to resources;
 - Design project specific Best Management Practices and Applicant Committed Environmental Protection Measures that help protect resources and streamline agency consultation