19.15.29 NMAC Repeal and Replace

OCC CASE 15959

OCD EXHIBIT 1

Presenters:

OCD Environmental Bureau Chief Jim Griswold – Mr. Griswold is the OCD Environmental Bureau Chief. He has more than ten years' experience at the OCD, including four years at his current position, in addition to being professionally involved in the characterization and remediation of soil and groundwater contamination since 1989, and the oil and gas industry in general since 1981.

OCD District 3 Staff Manager Brandon Powell – Mr. Powell has been with the OCD for more than twelve years. He began his career as an environmental specialist overseeing environmental releases and their remediation. In 2011, he was promoted to inspection and enforcement supervisor for OCD's District office in Aztec. In that position, he is involved in down-hole engineering and compliance with OCD rules. Mr. Powell has extensive experience applying OCD rules to all aspects of oil and gas development and has testified as an expert in previous rule makings, including the "pit rule" (both in 2008 & 2013) along with 19.15.34 NMAC regarding the reuse of produced water.

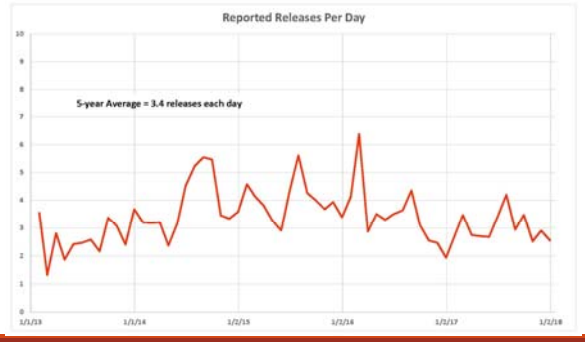
OCD Environmental Engineer Bradford Billings – Mr. Billings has been with the OCD for more than three years and has more than thirty years of experience in the delineation, characterization and remediation of soil, groundwater and surface water contamination, including more than ten years with oil and gas industry. He is a licensed well driller and Construction Industries Division certified contractor, and New Mexico Environment Department Certified Scientist and Corrective Action Program Manager in Texas.

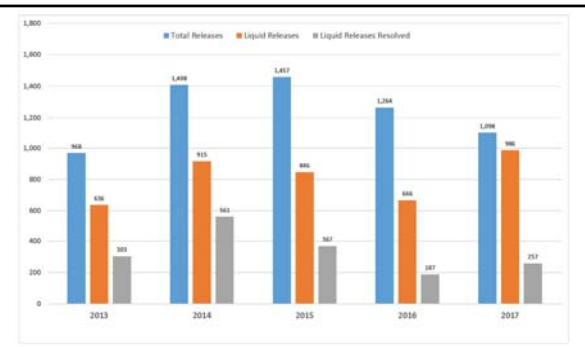
Current Rule

The current rule (19.15.29 NMAC) is entitled "*Release Notification*". It is less than 1-1/2 printed page and predominantly deals with reportable volumes, who is required to provide notice of a release, and the information required to be reported.

The section entitled "*Corrective Action*" (19.15.29.11 NMAC) is two sentences long; the first stating the responsible person shall clean up the release, and the second that the corrective action must be "*in accordance with a remediation plan submitted to and approved by the division…*"

If it appears that groundwater may have been affected, Part 29 refers one to Part 30 which very much mirrors the rules (20.6.2 NMAC) for groundwater cleanups provided under the Water Quality Act.





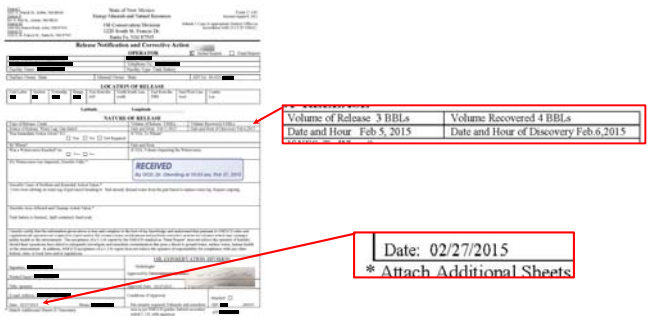
Deficiencies with Current Rule

- No guidance is provided by rule to the responsible party or to the Environmental Bureau as to what should be included in a corrective action plan;
- No cleanup standards for soil contamination;
- No deadlines for cleanup; and
- No explicit provisions for variances or enforcement.

Corrective Action Process

When a release is discovered, an operator should:

1. Eliminate the source of the release, secure the site, contain the release, recover free liquids;
2. Notify the OCD within the time required providing specific and accurate information;
3. Characterize the impact of the release;
4. Perform remediation; and
5. Obtain closure from OCD after demonstrating standards have been met.



Technical Workgroup

OCD – Four members from the Environmental Bureau, with periodic participation by the Division Director, and EMNRD Cabinet Secretary.

Surface Agencies – One member each from the BLM and State Land Office.

O&G Industry – Nine members involved in environmental response representing seven companies from both NMOGA and IPANM.

3rd Party Environmental Professionals – Three members representing three experienced firms, all doing work in the oil and gas sector.

Independent Facilitator

Workgroup met on a regular basis for more than a year with meetings in Santa Fe, Farmington, and Artesia, reaching a general consensus prior to rule replacement application.

Objectives of a Rule Replacement (1):

- To clarify definition of responsible party;
- To establish attainable deadlines for addressing releases;
- To confirm the situations under which a release must be reported;
- To provide guidance to operators to immediately begin corrective action;
- To expeditiously deal with releases that are contained and not posing an imminent risk to the environment;

Objectives of a Rule Replacement (2):

- To establish standardized means for characterization of environmental impacts;
- To provide specific and attainable requirements for releases that do not impact groundwater;
- To establish a process for deferring cleanups when warranted;
- To establish a procedure for obtaining a variance from standards; and
- Clearly directing the OCD in enforcement action when corrective action is not performed.

Definitions 19.15.29.7 NMAC

The highlighted text has been revised from the current definitions

"Major release" means:

(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more;
(2) an unauthorized release of a volume that:
  (a) results in a fire or a fire causes;
  (b) may with reasonable probability reach a watercourse;
  (c) may with reasonable probability endanger public health; or
  (d) substantially damages property or the environment;
(3) an unauthorized release of gases exceeding 500 MCF (thousand cubic feet); or
(4) a release of a volume that may with reasonable probability be detrimental to fresh water.

Definitions 19.15.29.7 NMAC continued

"Minor release" means an unauthorized release, which is not a major release and is a volume greater than 5 barrels but less than 25 barrels; or for gases, greater than 50 MCF but less than 500 MCF.

"Responsible Party" means the operator, as defined in 19.15.2 NMAC. Notwithstanding the foregoing, the division, in its sole discretion, may also consider a person causing the release, or controlling the location of the release as the responsible party.

- Intent: The OCD may consider other parties, however the OCD's interest is strictly remediation and restoration, and will generally avoid arbitrating fault.

"Wellstream" means the gas, oil, water, suspended constituents, or any combination thereof which comes from the wellbore.

Notification: 19.15.29.8 and 9 NMAC

The responsible party must notify the OCD of all major and minor releases using OCD Form C-141.

If a release occurs on state, federal, or tribal surface; a copy of the C-141 must also be submitted to the SLO, BLM, or tribal authority.

Major release – provide notice to OCD Environmental Bureau Chief and the appropriate OCD district office within 24 hours either verbally or by email with the available information required on a C-141, and provide written notice to the appropriate OCD district office within 15 days of release discovery using a properly completed C-141.

Minor release – provide written notice to the appropriate OCD district office within 15 days of release discovery using a properly completed C-141.

There are no reporting requirements for a release is less than 5 barrels of liquid or 50 MCF of gas.

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Release Notification and Corrective Action

OPERATOR

LOCATION OF RELEASE

NATURE OF RELEASE

OIL CONSERVATION DIVISION

Who?

Where?

What happened?

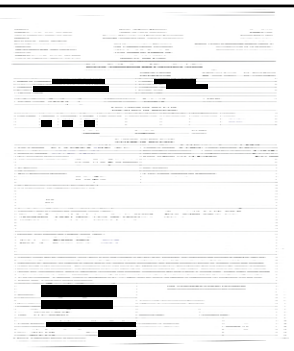
Initial Response: 19.15.29.10 NMAC

Developed to provide guidance and detail responsibilities of the Responsible Party to immediately commence corrective action, unless such actions create safety hazard(s) that would result in personal injury.

A. Source Elimination and Site Security:
   - Stop the release and limit access to the site as necessary to protect human health and the environment.

B. Containment:
   - Commence measures to prevent migration of release and ensure it remains effectively contained.

C. Site Stabilization:
   - Recover any free liquids and properly recycle or dispose at a division-approved facility.



Site Assessment/Characterization: 19.15.29.11 NMAC

Following Initial Response and Notification, the Responsible Party must submit a Site Assessment/Characterization Report to the appropriate OCD District office within 90 days of DISCOVERY of the release. A time extension to submit the report may be granted for good cause as determined by the Division.

The Assessment/Characterization Report must include:

- Detailed and appropriately scaled site map;
- If not definitively known, a detailed assessment determining depth to groundwater;
- Distance to private and domestic water sources (wells or springs) within ½ mile of lateral extents of contamination, and the nearest significant watercourse; and
- Assessment of soil both vertically and horizontally for impacts of the release.

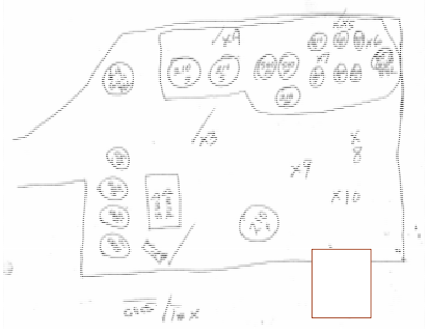
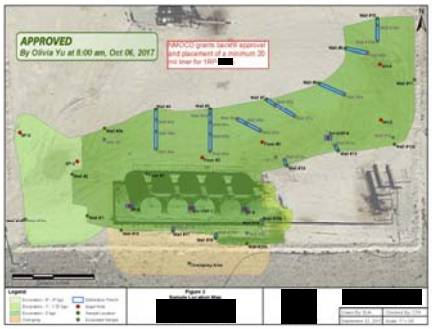
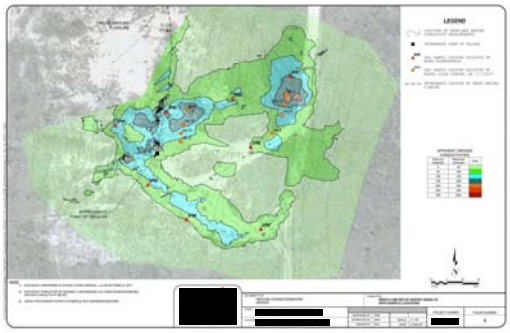


Figure 2: Area of Release at [redacted] Frac Pond – 50 bbls with 40 bbls recovered.





Site Assessment/Characterization: 19.15.29.11 NMAC continued

For releases into **lined containments**, the Responsible Party must demonstrate liner integrity after affected materials are removed and the affected area exposed for inspection.

- The Responsible Party must certify on Form C-141 that the liner is intact and had the ability to contain the release.
- The Responsible party must provide at least two business days' prior notification to the OCD District office, giving the OCD opportunity to witness the inspection.

Site Assessment/Characterization: 19.15.29.11 NMAC continued

If liner integrity cannot be demonstrated or the release was otherwise uncontained, the Responsible Party must then delineate the contamination horizontally and vertically using **Table 1** or other constituents as appropriate for the release following these accepted methods:

- National Resources Conservation Service Field Guide;
- EPA SW-846 (Physical/Chemical Test Methods for Evaluating Solid Waste);
- ASTM Method 4547 (Sampling Waste and Soils for Volatile Organic Compounds);
- EPA 600 (Methods of Chemical Analysis of Water and Waste); or
- Or other Division approved methods.

Table I
Closure Criteria for Soils Impacted By a Release

Depth below bottom of release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
≤ 50 feet	Chloride***	EPA 300.00	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
51 feet-100 feet	Chloride***	EPA 300.0	10,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
> 100 feet	Chloride***	EPA 300.0	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

*or other test methods approved by the division.
**Numerical limits or natural background level, whichever is greater.
***This applies to releases of produced water or other fluids which may contain chloride.

See OCD Exhibit 3 for revision

Site Assessment/Characterization: 19.15.29.11 NMAC continued

Exceptions to direct use of Table 1.

For releases outside of a lined containment and where depth to water is 51 feet to 100 ft, the Responsible Party must delineate the vertical extent of the release to the greater of 600 mg/kg chloride or background if:

- the release contains produced water with chloride concentrations >10,000 mg/L. If the Responsible Party wishes to contend otherwise, it must provide representative sample results; and
- the release is of an unknown quantity or >200 barrels of unrecovered produced water.

Site Assessment/Characterization: 19.15.29.11 NMAC continued

- At least two soil samples for laboratory analysis from each borehole or sample point must be collected (highest observed contamination and deepest depth assessed).
- Field screening methods (headspace, field titrations, electrical conductivity surveys, etc.) are allowed, but must be clearly defined in reporting.
- Copies of field notes associated with sampling and copies of actual laboratory analysis and chain of custody documentation must be provided.

Site Assessment/Characterization: 19.15.29.11 NMAC continued

If a release of oil field related chemicals not included in Table I occurs, and does not include fluids from the Wellstream, the standards for remediation shall be:

- If contaminants appear on RCRA's Hazardous Constituent List, Table I of 40 C.F.R. 261.24 (b), the maximum concentration allowed therein.
- If not listed in 40 C.F.R. 261.24, but identified in the NMED's *Risk Assessment Guidance for Site Investigations and Remediation Vols. I and II*, the Division will determine the appropriate assessment volume and remediation must occur accordingly.
- If not listed in 40 C.F.R. 261.24 or the NMED Guidance, the Division and Responsible Party will work together to determine an appropriate level of remediation.

Site Assessment/Characterization: 19.15.29.11 NMAC continued

- Unless the characterization report includes completed remedial efforts, it must include a proposed remediation plan with timelines for beginning and finishing the work.
- If the Division determines more information is needed, it may request as such but the request must be specific, in writing, and provided to the Responsible Party within 30 days or receipt of the characterization or remediation report.
- The Responsible Party has 14 days to respond. If Responsible Party disagrees with the request, it may either consult with the Division, or apply for a hearing within 30 days.

Remediation and Closure: 19.15.29.12 NMAC

Sources of standards in 19.15.29.12 NMAC:

- 19.15.17 NMAC (The Pit Rule)
- 19.15.34 NMAC (The Produced Water Recycling Rule)
  - Using previously adopted standards provides consistency and predictability within the rules.
  - There are additional provisions within 19.15.29.12 NMAC which allow for additional protections and mitigations due to the unpredictable nature of releases.

"The responsible party must remediate all releases regardless of volume." 19.15.29.12(A) NMAC

- This language was included to ensure all releases, even ones below the reportable limits, are addressed and do not accumulate creating larger issues.

Table I
Closure Criteria for Soils Impacted By a Release

Depth below bottom of release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
≤ 50 feet	Chloride***	EPA 300.00	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
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	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

*or other test methods approved by the division.
**Numerical limits or natural background level, whichever is greater.
***This applies to releases of produced water or other fluids which may contain chloride.

See exhibit# ____ for revision

Remediation and Closure: 19.15.29.12 NMAC continued

The Responsible Party must complete work detailed in a Division-approved remediation plan within 90 days. 19.15.29.12(B) NMAC.

Remediation plan requirements pursuant to 19.15.29.12 (B)(1):

- Results from site characterization;
- Scaled sitemap showing delineation points;
- Estimated volume of material to be remediated;
- Remediation method; and
- Proposed schedule for remediation.

Remediation and Closure: 19.15.29.12 NMAC continued

On-Site Remediation and Deferment:

- 19.15.29.12(B)(2) NMAC addresses remediation required for releases on specified sites;
- This section is also intended to consider the deferment of remediation in areas which would cause greater risks than the cleanup, e.g. around wellheads, transmission lines and large product tanks;
- Remediations will not be deferred indefinitely;
- Deferments will not be granted if the release creates an imminent risk to human health, the environment, or groundwater; and
- Deferments are not intended to apply to large remediations that may be passed on to subsequent operators or to the state in the event of an orphaned well

See OCD Exhibit 3 for proposed revision to 19.15.29.12(B)(2) NMAC.

Remediation and Closure: 19.15.29.12 NMAC continued

Off-Site Remediation – 19.15.29.12(B)(3) NMAC

The responsible party shall remediate the impacted surface area of a release not occurring on a lined, bermed or otherwise contained exploration, development, production or storage site to meet the standards of Table I of 19.15.29.12 NMAC and contain a minimum of four feet of non-waste material containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0. The soil cover must include a top layer which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.

Remediation and Closure: 19.15.29.12 NMAC continued

The most stringent standards of Table I will apply in other cases if the release is near:

- A river or significant watercourse;
- A lakebed, sinkhole or playa lake;
- A house, school, hospital or church;
- A private or domestic fresh water well or spring;
- Municipal boundaries;
- A sub-surface mine;
- An unstable area; or
- Within the 100 year flood plain.

These setbacks are defined and consistent with 19.15.17 NMAC.

Remediation and Closure: 19.15.29.12 NMAC continued

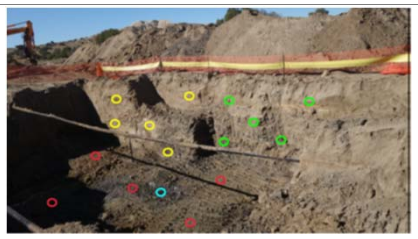
19.15.29.12(C) NMAC - provides clear expectations regarding sampling.

<u>This section accomplishes three major items</u>

1. It allows the Division the opportunity to witness sampling if possible due to the notification requirement.
2. It sets a reasonable minimum sampling protocol based on square footage which can be easily calculated. This provides protection while also providing consistency to the operator and the Division.
3. It allows the for sampling plans to be tailored for a specific site if conditions warrant.

Example of sampling using composite samples

Example of sampling using composite samples and grab samples



Example of an area requiring a grab sample

This wall appears clean and consistent therefore the onsite inspector may approve a sample area larger than 200 sq. ft.

Remediation and Closure: 19.15.29.12 NMAC continued

A closure report must be submitted within 90 days of remediation plan approval. The Division has 60 days to review and approve, or deny the report.

Closure report requirements:

- Scaled site map with sampling diagram;
- Photographs of site prior to backfilling;
- Laboratory analysis of final sampling; and
- Narrative of all remedial activities.

This allows the Responsible Party and the Division to close the site in a reasonable time period.

Restoration, Reclamation, and Re-Vegetation: 19.15.29.13 NMAC

A. The Responsible Party must substantially restore the impacted surface area(s) to the condition that existed for the area(s) prior to the release. Specifics for the requirement are detailed in Rule re-write.

B. Areas reasonably needed for production operations/drilling operations must be compacted, covered, paved or otherwise stabilized and maintained to minimize dust and erosion, to a practicable extent.

C. The Responsible Party must construct soil cover to sites existing grade to prevent ponding and erosion of the cover material(s).

D. The Responsible Party shall reclaim all areas disturbed by the remediation and closure, excepting area(s) reasonably needed for production operations/subsequent drilling operations, as early and as nearly as practicable to their original condition or their final land use and then maintain those areas to control dust and minimize erosion. Various specifics are detailed in the Rule re-write.

Restoration, Reclamation, and Re-Vegetation: 19.15.29.13 NMAC continued

E. All surface restoration, reclamation and re-vegetation obligations imposed by federal agencies, state agencies, or tribal lands managed or owned by those agencies supersede these provisions herein and govern the obligations of any responsible party to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health, and the environment.

Variances: 19.15.29.14 NMAC

- There are no explicit provisions for variances in the current rule.
- It is proposed that variances are to be filed with the appropriate OCD District office and include an explanation as to why a variance is needed and how the variance will be equally protective of the environment.
- No variance can be implemented without OCD approval.
- The OCD has 60 days to approve or deny a variance request. If denied, a reason for the denial must be provided. If no action is taken in 60 days, the request is deemed denied. The Responsible Party may request a hearing on a denial and provide notice to the surface owner.

Enforcement: 19.15.29.15 NMAC

- The current rule contains no specific enforcement requirements.
- The proposed rule specifically requires compliance by the Responsible Party.
- If a Responsible Party is out of compliance, there can either be an adjudicatory hearing or a compliance order can be negotiated.
- The Director can deny any permit, including a drilling permit, the responsible party may have if they are out of compliance.

Transitional Provisions: 19.15.29.16 NMAC

- Responsible Parties with approved plans for corrective action (investigation or remediation) as of the effective date of the proposed rule do not need to submit revised plans.
- Those without approved plans, but who have ongoing corrective actions in the field as of the effective date, must submit revised plans with timelines within 90 days.
- Any new releases discovered after the proposed rules effective date must comply with the new rule.