

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**APPLICATION OF THE NEW MEXICO
OIL CONSERVATION DIVISION TO REPEAL
AND REPLACE RULE 19.15.29 NMAC; STATEWIDE.**

CASE NO. 15959

PRE-HEARING STATEMENT

Cardinal Laboratories submits this Pre-Hearing Statement for the above-referenced case pursuant to the rules of the Oil Conservation Commission.

APPEARANCES

APPLICANT

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

APPLICANT'S ATTORNEY

Keith Herrmann
Assistant General Counsel
New Mexico Energy Minerals and Natural
Resources Department
Keith.Herrmann@state.nm.us

INTERESTED PARTY

New Mexico Oil & Gas Association
P. O. Box 1864
Santa Fe, NM 87504

ATTORNEY

Michael Feldewert
P. O. Box 2208
Santa Fe, NM 87504-2208
mfeldewert@hollandhart.com

INTERESTED PARTY

Independent Petroleum Association
of New Mexico
P. O. Box 6101
Roswell, NM 88202

ATTORNEY

Gary W. Larson
218 Montezuma Avenue
Santa Fe, NM 8501
glarson@hinklelawfirm.com

STATEMENT OF THE CASE

Applicant the New Mexico Oil Conservation Division ("NMOCD" or "Division") seeks an order repealing and replacing the rule 19.15.29 NMAC, changing the name of the rule from "Release Notification" to "Releases" and for the further purpose of refining existing terms, defining new terms, clarifying the process for responding to releases of oil, gases, produced water, condensate, or oil field waste including regulated NORM, or other oil field related chemicals, contaminants or mixtures of those chemicals or contaminants that occur during drilling, producing, storing,

disposing, injecting, transporting, servicing, or processing and to establish reporting, site assessment, remediation, closure, variance and enforcement procedures.

Cardinal Laboratories (“Cardinal”) is an independent environmental testing laboratory that has been providing analytical services in New Mexico and West Texas since 1990. Cardinal is a NELAP (National Environmental Laboratory Accreditation Program) accredited laboratory through the State of Texas and is also drinking water certified through the States of New Mexico, Colorado and Texas.

Cardinal performs analysis for many different constituents, including several addressed in the current and proposed Rule 19.15.29: Chloride, Total Petroleum Hydrocarbon (TPH), BTEX (includes Benzene). One of the most common contaminants posing a risk to groundwater is Chloride. Currently and as proposed Rule 19.15.29.12 B 3 and Table I of Rule 19.15.29.12 identifies only EPA 300.0 as a method approved for analyzing Chloride in soil analysis, although by reference (“**”) Table I reflects “other test methods approved by the division” are also acceptable.

Standard Method 4500 Cl B for Chloride soil analysis has been routinely administratively approved by Division personnel over the past 25 years, the approximate number of years Cardinal has been using Standard Method 4500 Cl B for Chloride analysis in soil samples. Since Rule 19.15.29.12 does not expressly list Standard Method 4500 Cl B, the validity of Standard Method 4500 Cl B as an accepted method for Chloride analysis has at times been a source of confusion and delay in Cardinal’s processing and analysis of soil samples. Using Standard Method 4500 Cl B where that method has been used historically and in on-going monitoring projects will also provide more reliability in test results.

Cardinal respectfully requests that Rule 19.15.29.12 B 3 and Table I of Rule 19.15.29.12 be revised to expressly identify Standard Method 4500 Cl B as an approved method for Chloride analysis in soil samples, as follows (proposed revisions are in bold print and underlined):

a. Section 19.15.29.12 B 3

“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 or SM4500 Cl B. 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.”

b. Table I of 19.15.29.12

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 300.0 <u>or SM4500 Cl B</u>	600 mg/kg

	TPH	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 8015M	10 mg/kg
51 feet-100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	10,000 mg/kg
	TPH	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 or SM4500 Cl B	20,000 mg/kg
	TPH	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 8015M	10 mg/kg

Cardinal intends to present technical and non-technical evidence at hearing which establishes that these changes are in the best interest of clarifying the process for responding to releases of contaminants that occur in the several aspects of producing oil and gas, reducing waste of resources, and promoting efficient and timely reporting, site assessment, and remediation of releases.

PROPOSED EVIDENCE

CARDINAL LABORATORIES

WITNESSES

Celey Keene
Lab Director

EST. TIME

Approx. 40 min.

EXHIBITS

6

Ms. Keene is the Lab Director/Quality Manager/Owner for Cardinal Laboratories. She has more than 22 years of analytical laboratory experience as an Analyst Organic and Inorganic Technical Director, Lead Technical Director, Quality Manager and Lab Director. She received a Bachelor's in Chemistry from the University of Texas of the Permian Basin in 1998. Ms. Keene will provide testimony concerning the methodology used in Standard Method 4500 Cl B and EPA 300.0 in analyzing Chloride in soil samples, and a comparison of the two methods. Her

testimony, based on independent, quasi-independent and internal studies will confirm that (i) Standard Method 4500 Cl B and EPA 300.0 provide comparable data with negligible variances; and (ii) results of analyses are obtained more rapidly using the Standard Method 4500 Cl B.

WITNESS

EST. TIME

EXHIBITS

Jacob Miller
Technical Director

Approx. 15 min.

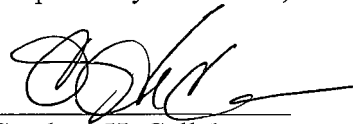
None

Mr. Miller is a Technical Director for Green Analytical Laboratories, a partner laboratory with Cardinal Laboratories. He has worked for Green Analytical Laboratories in Durango, Colorado for more than 10 years as Technical Director responsible for data review and method validation for all analyses performed by Green Analytical Laboratories, and has overseen EPA 300.0 analysis, including soil chloride extracts, for several years. Mr. Miller received a Bachelor of Science Degree from Fort Lewis College in 2006. Mr. Miller will provide testimony regarding the several additional steps required to perform the EPA 300.0 method for soil chloride analysis, problems associated with the EPA 300.0 in soil chloride analysis, identify probable basis for variances between the two methods, and confirm that Standard Method 4500 Cl B is more suitable than the EPA 300.0 method for testing Chloride in soil samples.

PROCEDURAL MATTERS

None at this time.

Respectfully submitted,



Candace H. Callahan
500 Don Gaspar Avenue
Santa Fe, New Mexico 87505
(505) 983-8545
ATTORNEY FOR CARDINAL LABORATORIES

Exhibit I

Quality Control Requirements Method Comparison of EPA 300 and SM4500 Cl B

Quality Control Parameter	EPA 300.0 QC Limits	SM4500 Cl B QC Limits
Initial and Continuing Calibration Verification (ICV/CCV)	90-110 % Recovery	90-110 % Recovery
Method Blank (MB)	< Reporting Limit	< Reporting limit
Blank Spike (BS)	85-115 % Recovery	80-120 % Recovery
Blank Spike Duplicate (BSD)	85-115 % Recovery $\leq$ 20 % RPD	80-120 % Recovery $\leq$ 20 % RPD
Sample Duplicate (DUP)*	Not Required	$\leq$ 20 % RPD
Sample Matrix Spike (MS)	80-120 % Recovery	80-120 % Recovery
Sample Matrix Spike Duplicate (MSD)*	80-120 % Recovery $\leq$ 20 % RPD	Not Required

*Sample RPD duplicate requirements can be met with either with a sample duplicate or a sample matrix spike duplicate.

Exhibit II

Independent Chloride Lab Results of SM4500 Cl B vs. EPA 300

Sample	Chloride mg/kg via EPA300	Chloride mg/kg via SM4500 Cl B	RPD
1	189	200	-5.66
2	426	440	-3.23
3	4540	4500	0.88
4	2	<10	0.00
5	1490	1580	-5.86

*Sample results were performed by Alamo Analytical Laboratories, an independent laboratory. Alamo Analytical is a NELAP certified laboratory through the State of Texas. Analyses were performed on a 1:10 DI water extraction. Chart representation titled "Independent Lab Study Data of EPA 300 vs. SM4500 Cl B."

Independent Lab Study Data of EPA 300 vs. SM4500 Cl B

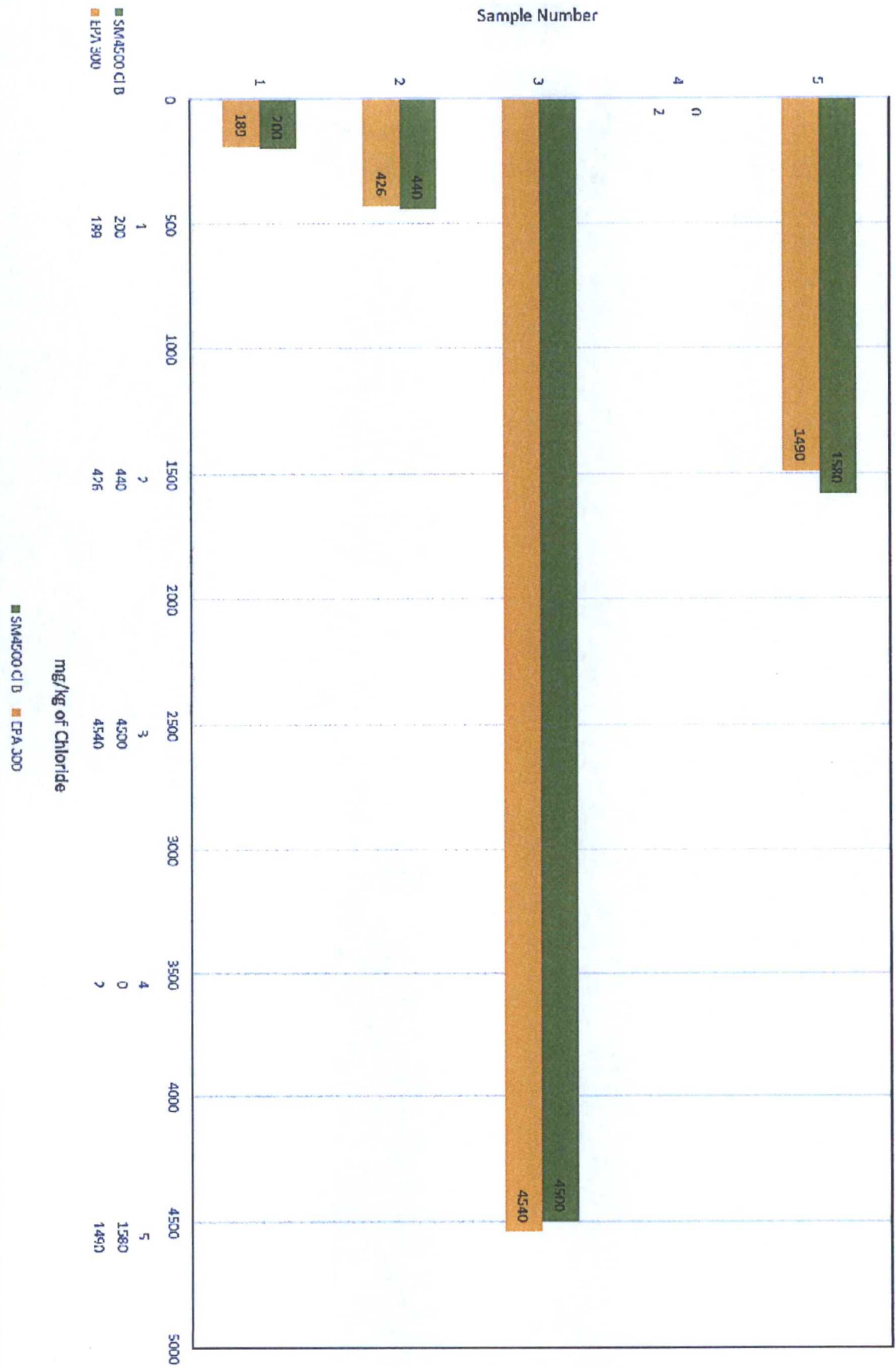


Exhibit III

Low Level Chloride Comparison Data for EPA 300 vs. SM4500 Cl B

Sample	Chloride mg/kg via EPA300	Chloride mg/kg via SM4500	RPD
1	76.7	128	-50.12
2	26.7	64	-82.25
3	27	48	-56.00
4	12.4	32	-88.29
5	19.9	48	-82.77
6	92.5	128	-32.20
7	17.4	32	-59.11
8	13.3	32	-82.56
9	11.8	16	-30.22
10	17.9	32	-56.51
11	41.9	64	-41.74
12	38.5	64	-49.76
13	24.1	32	-28.16
14	48.7	80	-48.64
15	44.3	96	-73.70
16	23	32	-32.73
17	40.2	64	-45.68
18	66.4	96	-36.45
19	92.8	128	-31.88
20	51	80	-44.27
21	12.4	32	-88.29
22	55.7	80	-35.81
23	75.1	96	-24.43
24	38.3	64	-50.24
25	35.6	48	-29.67

Most variation between the two methods appears under 100 mg/kg of chlorides. This is because of the difference in sensitivities of the two methods, homogeneity of soils, and the different extraction factors (1:10 vs 1:4).

Exhibit IV

Semi-Independent Study Comparison of EPA300 vs SM4500 Cl B

Sample	Chloride mg/kg via EPA300	Chloride mg/kg via SM4500	% RPD Of EPA 300 vs. SM4500	BS/BSD % REC EPA 300	BS/BSD % REC 4500Cl B
1	5.54	<16	0.0	100/98.9	104/104
2	405	368	9.6	100/98.9	104/104
3	15	<16	0.0	100/98.9	104/104
4	50.6	64	-23.4	100/98.9	104/104
5	2690	2560	5.0	100/98.9	104/104
6	64	63.1	1.4	100/98.9	104/104
7	170	192	-12.2	100/98.9	104/108
8	128000	111000	14.2	100/98.9	108/104
9	21500	16000	29.3	100/98.9	108/104
10	39000	36800	5.8	97.8/96.2	108/104
11	20400	22800	-11.1	97.8/96.2	108/104
12	15000	12600	17.4	97.8/96.2	108/104
13	22400	21800	2.7	97.8/96.2	108/104
14	18700	18200	2.7	97.8/96.2	108/104
15	14300	12800	11.1	97.8/96.2	108/104
16	22000	20200	8.5	97.8/96.2	108/104
17	13700	10800	23.7	97.8/96.2	108/104
18	1410	1360	3.6	97.8/96.2	108/104
19	2730	2840	-3.9	97.8/96.2	108/104
20	1370	1310	4.5	97.8/96.2	108/104
21	2870	2560	11.42	97.8/96.2	108/104
22	1230	1250	-1.61	97.8/96.2	108/104
23	21200	22800	-7.27	97.8/96.2	108/104
24	10500	11000	-4.65	97.8/96.2	108/104
25	25700	26000	-1.16	100/98.9	108/108
26	13200	9200	35.71	100/98.9	108/108
27	10700	10000	6.76	100/98.9	108/108
28	4930	4400	11.36	100/98.9	108/108
29	14100	10800	26.51	100/98.9	108/108
30	6310	5520	13.36	100/98.9	108/108

%RPD = Relative Percent Difference

BS = Blank Spike

BSD = Blank Spike Duplicate

%REC = Percent Recovery

EPA 300 performed by NELAP accredited Permian Basin Environmental Laboratory. SM4500 Cl B performed by Cardinal Laboratories.

Exhibit V

Internal Method Comparison Between EPA 300 and SM4500 Cl B

Sample	Chloride mg/kg via EPA300	Chloride mg/kg via SM4500	RPD	BS/BSD REC 300	BS/BSD REC 4500
1	<10	<16	0.00	92.7/93.6	104/104
2	291	256	12.80	92.7/93.6	104/104
3	<50	32	0.00	92.7/93.6	104/104
4	648	576	11.76	92.7/93.6	104/104
5	1190	1376	-14.50	92.7/93.6	104/104
6	13.4	16	-17.69	93.6/94.6	104/108
7	15.2	<16	0.00	93.6/94.6	104/108
8	27300	26800	1.85	93.6/94.6	104/108
9	1080	1088	-0.74	95.5/95.6	108/108
10	574	624	-8.35	95.5/95.6	108/108
11	701	656	6.63	95.5/95.6	108/108
12	53.3	64	-18.24	95.5/95.6	108/108
13	6250	6000	4.08	95.5/95.6	108/108
14	67.5	64	5.32	94.3/93.8	104/108
15	68.3	64	6.50	94.3/93.8	104/108
16	243	272	-11.26	94.3/93.8	104/108
17	108	128	-16.95	94.3/93.8	104/108
18	92.2	96	-4.04	94.3/93.8	104/108
19	103	128	-21.65	94.3/93.8	108/104
20	227	240	-5.57	92.8/93.0	100/108
21	306	352	-13.98	92.8/93.0	100/108
22	455	544	-17.82	92.8/93.0	100/108
23	500	528	-5.45	92.8/93.0	100/108
24	218	272	-22.04	92.8/93.0	100/108
25	2760	2599	6.01	97.7/98.5	100/108
26	474	512	-7.71	97.7/98.5	100/108
27	495	544	-9.43	92.3/91.8	112/108
28	920	816	11.98	92.3/91.8	112/104
29	292	320	-9.15	92.3/91.8	104/104
30	211	256	-19.27	93/93.3	104/108
31	4030	4320	-6.95	90.9/91.4	108/104
32	2120	2520	-17.24	90.9/91.4	108/104
33	1610	1630	-1.23	90.9/91.4	108/104
34	4740	4560	3.87	90.9/91.4	108/104
35	850	944	-10.48	90.9/91.4	108/104
36	758	848	-11.21	90.9/91.4	108/104

%RPD = Relative Percent Difference

BSD = Blank Spike Duplicate

BS = Blank Spike

%REC = Percent Recovery

EPA 300 analysis by Green Analytical Laboratories. SM4500 Cl B analysis by Cardinal Laboratories.

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



July 24, 2008

MEMORANDUM

Clarification of analytical test method, EPA Method 300.1, for chloride in regards to 19.15.36 NMAC and 19.15.17 NMAC.

On June 16, 2008 a new regulation regarding the permitting, design and construction, operations and closure of pits, closed-loop systems, below-grade tanks, and sumps, 19.15.17 NMAC, went into effect. On February 14, 2007 the new surface waste management regulation, 19.15.36 NMAC, also went into effect. Each of these rules, 19.15.17 NMAC and 19.15.36 NMAC, established EPA test methods for chlorides.

The Oil Conservation Division (OCD) has received several inquiries regarding implementation of EPA Method 300.1 for chloride, as specified in the above referenced rules. In order to address these inquiries and to provide clarification to operators and laboratories, OCD wishes to identify the following test methods as "other approved methods" that OCD will considered acceptable in lieu of EPA Method 300.1, as specified in 19.15.17 NMAC and 19.15.36 NMAC:

EPA Method 300.0 (extraction utilizing deionized water)
Standard Method 4500B

If you have any questions regarding this matter, please contact Brad A. Jones of my staff at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark E. Fesmire", is written over a horizontal line.

Mark E. Fesmire
Director, Oil Conservation Division

MF/baj

cc: Daniel Sanchez, Enforcement & Compliance Manager, OCD, Santa Fe, NM
Wayne Price, Bureau Chief, Environmental Bureau, OCD, Santa Fe, NM
Chris Williams, District Supervisor, District I, OCD, Hobbs, NM
Tim Gum, District Supervisor, District II, OCD, Artesia, NM
Charlie Perrin, District Supervisor, District III, OCD, Aztec, NM
Ed Martin, District Supervisor, District IV, OCD, Santa Fe, NM
Brad A. Jones, Environmental Engineer, OCD, Santa Fe, NM

Oil Conservation Division * 1220 South St. Francis Drive
* Santa Fe, New Mexico 87505

* Phone: (505) 476-3440 * Fax (505) 476-3462 * <http://www.emnrd.state.nm.us>

