OCD PROPOSED RULEMAKING

Defines exemptions up front

19.15.1.7 NMAC - DEFINITIONS

- Oil Field Waste
- Soils: adopted standard ASTM definition.
- Surface Waste Management Facilities
  - o Exempted drilling and workover pits
  - o Exempted remediation

OCD Exhibit 9 - Part 1
Case 13586
April 20, 2006

DEFINITIONS

Oil Field Waste shall mean waste generated in conjunction with the exploration for, production of, refining of, processing of, gathering of or transportation of, crude oil natural gas or carbon dioxide; waste generated during oil field service company operations; and waste generated from any oil field remediation or abatement activity *regardless of the date of the release.*

Oil field waste *does not include* certain waste not generally associated with oil and gas industry operations such as tires, appliances or ordinary garbage or refuse unless generated at a division-regulated facility, and does not include sewage, regardless of source.

DEFINITIONS

Non-Hazardous Waste *means non-exempt oil field waste that is not hazardous waste.*

Hazardous Waste *shall mean non-exempt waste that exceeds the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR part 261, subpart D, as amended.*

Special Note: *OCD does not have a special RCRA CESQG exemption.*

DEFINITIONS

Exempt Waste *shall mean oil field waste exempted from regulation as hazardous waste pursuant to Subtitle C of the federal Resource Conservations and Recovery Act (RCRA) and applicable regulations.*

Non-Exempt Waste *shall mean oil field waste not exempted from regulation as hazardous waste pursuant to Subtitle C of RCRA and applicable regulations.*

RULE 51

Transportation of Produced Water

- Maintains C-133s for transporting:
  - Produced water
  - Drilling fluids
  - Liquid oilfield waste
- Dropped proposal for including C-133s for solid waste because OCD determined that this requirement would be more appropriate in a waste tracking rule.

RULE 52

Waste Disposition

Specifies ***prohibited*** and ***authorized*** disposal and re-use of:

- produced water
- drilling fluids
- oil field waste

RULE 53

SURFACE WASTE MANAGEMENT FACILITIES

Rule 53 revamp

WHY?????

- Criticism from citizen's groups for lack of controls.
- Opposition from industry to regulation by guidelines.
- Improper use of landfarms.
- Landfills and pits have not used Best Demonstrated Available Technology (BDAT).

Rule 53 revamp goals

- Establish environmental protection rules that require Operators to use Best Management Practices (BMPs) and BDATs to achieve " *state-of-the art* " operations at surface waste management facilities.

- Normalize OCD rules with other state and federal agencies.

- Address and balance Environmental Justice, aesthetics, sensible waste management, sound science, and other relevant issues.

RULE 53 OVERVIEW

What is Rule 53?

Rule 53 specifies the requirements that operators of surface waste management facilities must follow to properly collect and store, reclaim or recycle, treat, and dispose of oil field wastes.

What is Rule 53?

Surface waste management facilities addressed by Rule 53 include:

- Landfills
- Commercial and centralized landfarms
- Small landfarms
- Oil treatment plants
- Evaporation, storage, and treatment ponds and below-grade tanks

What is Rule 53?

Commercial and centralized surface waste management facilities subject to Rule 53 will be large in size (up to 500 acres) and will handle large volumes of highly contaminated oil field waste.

What is Rule 53?

Oil field waste includes a large number of individual constituents in addition to a very large number of petroleum hydrocarbons.

EPA

Oil and Gas

ASSOCIATED WASTE STUDY

January 2000

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-4. *EPA 1992* Sampling Program: *Production Facility Tank Bottoms - General Chemistry Analytes*

Analyte	Units (solid)	Detects Per Total Analyzed	Maximum	Minimum	Units (aqueous)	Detects Per Total Analyzed	Single Sample Concentration
Acidity	NA	NA	*	*	mg/L CaCO3	1/1	99.6
pH	std. units	9/9	8.72	5.02	std. units	1/1	6.05
Carbon, total organic	mg/Kg	6/6	626,000	2,290	mg/L	1/1	657,000
Chloride	mg/Kg	6/6	83,900	5.50	mg/L	1/1	52,000
Corrosivity	mmpy	4/6	0.90	0.11	mmpy	0/1	*
Cyanide, Total	mg/Kg	2/9	0.733	0.419	mg/L	0/1	*
Flashpoint, closed cup	deg. F	4/8	210	>75	deg. F	1/1	190
Fluoride	mg/Kg	3/6	78	17.30	mg/L	0/1	*
Nitrogen, Nitrate+Nitrite	mg/Kg	2/6	13	10.5	mg/L	0/1	*
Oil & Grease, Total	mg/Kg	9/9	698,600	4,100	mg/L	1/1	603,000
Oil Content, percent	%	9/9	92.80	0.79	NA	NA	*
Oxygen Demand, Biochemcial 5-day Tot.	mg/Kg	6/6	219,480	291	mg/L	1/1	32,800
Oxygen Demand, Chemical	NA	NA	*	*	mg/L	1/1	380,050
Phenols	NA	NA	*	*	mg/L	1/1	1.358
Reactive Cyanide	mg/Kg	1/9	0.26	0.26	NA	NA	*
Reactive Sulfide	mg/Kg	3/9	120	53.50	NA	NA	*
Salinity	NA	NA	*	*	Salinity #	1/1	0.020
Solids, percent	%	3/3	78	30.80	NA	NA	*

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-4. EPA 1992 Sampling Program: Production Facility Tank Bottoms - General Chemistry Analytes
(continued)

Analyte	Units (solid)	Detects Per Total Analyzed	Maximum	Minimum	Units (aqueous)	Detects Per Total Analyzed	Single Sample Concentration
Solids, Total Dissolved	NA	NA	*	*	mg/L	1/1	293,000
Solids, Total Suspended	NA	NA	*	*	mg/L	1/1	27,800
Specific Conductance	NA	NA	*	*	umhos/cm	NA	*
Sulfide	mg/Kg	4/6	519.4	111	mg/L	1/1	356

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-5. *EPA 1992* Sampling Program: Production Facility Tank Bottoms - Metals

Metals	Detects Per Total Analyzed	Maximum (µg/Kg)	Minimum (µg/Kg)	Detects Per Total Analyzed	Maximum (µg/L)	Minimum (µg/L)	Detects Per Total Analyzed	TCLP Maximum (µg/L)	TCLP Minimum (µg/L)
Aluminum	8/8	2,240,000	20,300	5/5	159,000	14,000	3/3	2,070	165
Antimony	0/8	*	*	1/5	229	229	1/3	43.2	43.2
Arsenic	8/8	166,000	470	5/5	500	7.3	3/3	59.8	2.3
Barium	8/8	2,910,000	1,500	5/5	816,000	895	3/3	5,220	1,670
Beryllium	7/8	390	110	2/5	19.7	19.6	1/3	1.6	1.6
Boron	6/8	25,800	3,700	2/5	19,900	4,850	3/3	1,610	850
Cadmium	6/8	2,000	320	5/5	425	78.2	1/3	7	7
Calcium	8/8	23,600,000	1,410,000	5/5	6,310,000	881,000	3/3	6,310,000	146,000
Chromium	8/8	71,000	1,700	5/5	19,900	1,400	2/3	13.4	10.5
Cobalt	5/8	6,900	1,100	3/5	402	76.4	0/3	*	*
Copper	8/8	309,000	4,000	5/5	18,800	3,610	1/3	18.4	18.4
Iron	8/8	27,800,000	2,010,000	5/5	2,610,000	556,000	3/3	73,000	4,980
Lead	8/8	892,000	9,100	5/5	62,800	1,930	2/3	420	50
Magnesium	8/8	3,490,000	392,000	5/5	1,290,000	22,600	3/3	18,200	5,800
Manganese	8/8	440,000	8,700	5/5	20,300	4,890	3/3	1,400	905
Mercury	2/8	850	460	5/5	48.5	0.22	0/3	*	*
Molybdenum	4/8	9,400	2,100	5/5	4,190	328	1/3	10.5	10.5
Nickel	6/8	315,000	8,800	5/5	4,980	678	2/3	89.3	73.8

(continued)

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-5. EPA 1992 Sampling Program: Production Facility Tank Bottoms - Metals
(continued)

Metals	Detects Per Total Analyzed	Maximum (µg/Kg)	Minimum (µg/Kg)	Detects Per Total Analyzed	Maximum (µg/L)	Minimum (µg/L)	Detects Per Total Analyzed	TCLP Maximum (µg/L)	TCLP Minimum (µg/L)
Selenium	4/8	2,300	760	3/5	297	19.8	1/3	33.3	33.3
Silver	0/8	*	*	2/5	22	10.5	0/3	*	*
Sodium	7/8	58,700,000	2,620,000	5/5	46,600,000	641,000	NA	*	*
Strontium	8/8	402,000	26,500	5/5	290,000	19,300	3/3	6,640	3,310
Sulfur	8/8	11,400,000	420,000	5/5	872,000	22,900	3/3	42,200	4,130
Thallium	4/8	1,700	280	1/5	3,470	3,470	1/3	26.4	26.4
Tin	5/8	17,100	2,900	4/5	586	189	0/3	*	*
Titanium	8/8	22,000	360	5/5	3,180	136	0/3	*	*
Vanadium	8/8	41,300	1,400	5/5	628	139	0/3	*	*
Yttrium	6/8	5,100	590	5/5	106	22.4	2/3	24.4	3.9
Zinc	8/8	3,020,000	20,400	5/5	150,000	4,140	3/3	2,950	567

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-6. EPA 1992 Sampling Program: Production Facility Tank Bottoms - Volatile Organic Compounds

Compound	Detects Per Total Analyzed	Maximum (ug/Kg)	Minimum (ug/Kg)	Detects Per Total Analyzed	Single Sample Concentration TCLP (ug/L)
ACETONE	8/13	4,849,472	3,689	0/2	*
BENZENE	13/13	2,685,800	175	1/2	27
CARBON TETRACHLORIDE	2/13	121	34	0/2	*
CHLOROBENZENE	1/13	>20,000	>20,000	0/2	*
ETHYLBENZENE	13/13	2,384,350	1,716	1/2	26
METHYLENE CHLORIDE	1/13	816,300	816,300	0/2	*
M-XYLENE	13/13	3,096,700	15	1/2	14
O- + P-XYLENE	13/13	1,505,950	23	1/2	25
TOLUENE	13/13	3,562,700	2,134	1/2	56
4-METHYL-2-PENTANONE	4/13	120,156	36,580	0/2	*

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-7. EPA 1992 Sampling Program: Production Facility Tank Bottoms - Semivolatile Organic Compounds

Compound	Detects Per Total Analyzed	Maximum (ug/Kg)	Minimum (ug/Kg)	Detects Per Total Analyzed	Maximum (ug/L)	Minimum (ug/L)	Detects Per Total Analyzed	TCLP Maximum (ug/L)	TCLP Minimum (ug/L)
B-NAPHTHYLAMINE	1/10	1,820	1,820	0/3	*	*	0/2	*	*
BENZO(GHI)PERYLENE	1/10	698	698	0/3	*	*	0/2	*	*
BIPHENYL	3/10	16,088	7,046	0/3	*	*	1/2	11	11
BIS(2-ETHYLHEXYL)PHTHALATE	1/10	2,659	2,659	0/3	*	*	0/2	*	*
BUTYL BENZYL PHTHALATE	1/10	2,321	2,321	0/3	*	*	0/2	*	*
CHRYSENE	1/10	5,156	5,156	0/3	*	*	0/2	*	*
DIBENZOTHIOPHENE	1/10	24,270	24,270	0/3	*	*	0/2	*	*
DIBENZO(A,H)ANTHRACENE	1/10	3,304	3,304	0/3	*	*	0/2	*	*
DI-N-OCTYL PHTHALATE	1/10	10,600	10,600	0/3	*	*	0/2	*	*
FLUORENE	3/10	9,735	4,079	1/3	24,235	24,235	0/2	*	*
HEXACHLOROETHANE	1/10	418	418	0/3	*	*	0/2	*	*
NAPHTHALENE	5/10	268,370	9,777	0/3	*	*	2/2	136	30
N-DECANE (N-C10)	9/10	6,056,300	103,983	3/3	5,228,700	427,143	1/2	47	47
N-DOCOSANE (N-C22)	9/10	4,137,000	57,259	3/3	693,659	120,312	0/2	*	*
N-DODECANE (N-C12)	10/10	5,073,600	11,296	3/3	5,902,300	1,909,294	1/2	60	60
N-EICOSANE (N-C20)	8/10	3,238,900	178,960	3/3	755,800	137,175	1/2	11	11
N-HEXACOSANE (N-C26)	7/10	1,735,610	447	3/3	476,347	61,710	0/2	*	*
N-HEXADECANE (N-C16)	8/10	5,780,300	368,090	3/3	3,560,000	1,308,095	1/2	39	39
N-NITROSOMORPHOLINE	1/10	290,510	290,510	0/3	*	*	0/2	*	*

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-7. EPA 1992 Sampling Program: Production Facility Tank Bottoms - Semivolatile Organic Compounds
(continued)

Compound	Detects Per Total Analyzed	Maximum (ug/Kg)	Minimum (ug/Kg)	Detects Per Total Analyzed	Maximum (ug/L)	Minimum (ug/L)	Detects Per Total Analyzed	TCLP Maximum (ug/L)	TCLP Minimum (ug/L)
N-OCTACOSANE (N-C28)	6/10	1,000,260	525	3/3	1,011,170	175,857	0/2	*	*
N-OCTADECANE (N-C18)	7/10	5,013,100	>153,800	3/3	1,303,429	170,574	1/2	10	10
N-TETRACOSANE (N-C24)	8/10	2,398,500	60,012	3/3	507,247	161,246	0/2	*	*
N-TETRADECANE (N-C14)	9/10	5,496,900	1,962	3/3	5,596,200	1,798,143	1/2	18	18
N-TRIACONTANE (N-C30)	6/10	597,690	1,010	3/3	1,083,350	133,714	0/2	*	*
P-CRESOL	0/10	*	*	0/3	*	*	1/2	17	17
P-CYMENE	5/10	301,970	8,957	2/3	230,750	74,555	1/2	11	11
PENTACHLOROPHENOL	1/10	1,890	1,890	0/3	*	*	0/2	*	*
PHENANTHRENE	6/10	147,590	8,042	2/3	165,518	71,282	0/2	*	*
PHENOL	1/10	68	68	0/3	*	*	0/2	*	*
1-METHYLFLUORENE	6/10	572,030	26,651	1/3	149,963	149,963	1/2	15	15
1-METHYLPHENANTHRENE	7/10	653,520	15,337	1/3	215,187	215,187	0/2	*	*
1,4-DICHLOROBENZENE	1/10	351	351	0/3	*	*	0/2	*	*
2-ISOPROPYLNAPHTHALENE	4/10	2,522,310	4,924	0/3	*	*	1/2	230,840	230,840
2-METHYLNAPHTHALENE	9/10	809,230	21,914	2/3	485,765	278,429	2/2	39	36
2,4-DIMETHYLPHENOL	1/10	30	30	0/3	*	*	0/2	*	*
3,6-DIMETHYLPHENANTHRENE	2/10	709,070	454,050	1/3	289,130	289,130	0/2	*	*
4-AMINOBIPHENYL	1/10	119,423	119,423	0/3	*	*	0/2	*	*

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-8.
EPA 1992 Sampling Program: Production Facility Tank Bottoms - Radionuclides

Radionuclide	Detects Per Total Analyzed	Maximum (pCi/g)	Minimum (pCi/g)	Detects Per Total Analyzed	Maximum (pCi/L)	Minimum (pCi/L)
GROSS ALPHA	5/6	51.4	0.0	2/2	19.1	12.8
GROSS BETA	6/6	33.9	1.1	2/2	27.4	15.5
LEAD 210	2/4	4.7	0.0	2/2	1.3	1.2
RADIUM 226	5/6	3.1	0.0	2/2	1.2	1.0
RADIUM 228	5/6	1.9	0.0	1/2	0.3	0.3

Associated Waste Report:
Crude Oil Tank Bottoms and Oily Debris (U.S. EPA, January 2000)
Table D-9.
EPA 1992 Sampling Program: Reclamation Facility Tank Bottoms - General Chemistry Analytes

Analyte	Units (solid)	Detects Per Total Analyzed	Maximum	Minimum
pH	std. units	4/4	8.60	5.53
Carbon, total organic	mg/Kg	2/2	847,000	273,000
Chloride	mg/Kg	2/2	16,987	2,686
Corrosivity	mmpy	2/2	0.70	0.12
Cyanide, Total	mg/Kg	3/4	2.910	0.144
Flashpoint, closed cup	deg. F	3/4	>210	90
Fluoride	mg/Kg	2/2	188	75.9
Nitrogen, Nitrate+Nitrite	mg/Kg	1/1	9.03	9
Oil & Grease, Total	mg/Kg	4/4	684,124	114,287
Oil Content, percent	%	4/4	90.1	24.2
Oxygen Demand, Biochemcial 5-day Tot.	mg/Kg	2/2	20,924	9,152
Reactive Sulfide	mg/Kg	1/4	165.7	165.7
Solids, percent	%	2/2	69.3	64.9
Sulfide	mg/Kg	2/2	521.2	176.7

Associated Waste Report:
Completion and Workover Wastes (U.S. EPA, January 2000)
TABLE 2-15. EPA 1992 Sampling Program:
Workover and Completion - Detected General Chemistry Analytes

Analyte	Units	Detects Per Total Analyzed	Maximum	Minimum
Acidity	mg/L CaCO3	3/5	4,120	1,350
pH	std. units	6/6	6.63	3.61
Carbon, total organic	mg/L	4/5	546,400	94
Chloride	mg/L	5/5	157,000	14,426
Corrosivity	mmpy	2/5	1.75	0.09
Cyanide, Total	mg/L	1/7	0.052	0.052
Flashpoint, closed cup	deg. F	5/6	210	98
Fluoride	mg/L	3/5	2.25	0.65
Nitrogen, ammonia	mg/L	4/5	742	12.266
Nitrogen, Nitrate+Nitrite	mg/L	3/5	2.130	0.572
Oil & Grease, Total	mg/L	6/6	18,200	15
Oxygen Demand, Biochemcial 5-day Tot.	mg/L	5/5	17,000	125
Oxygen Demand, Chemical	mg/L	5/5	38,275	475
Phenols	mg/L	5/6	1.53	0.097
Salinity	Salinity #	5/5	160.66	26.84
Solids, Total Dissolved	mg/L	5/5	368,880	19,380
Solids, Total Suspended	mg/L	5/5	14,000	65.5
Specific Conductance	umhos/cm	2/2	44,600	37,700
Sulfate	mg/L	5/5	1,692	212
Sulfide	mg/L	3/5	31.1	5.3

Associated Waste Report:
Completion and Workover Wastes (U.S. EPA, January 2000)
TABLE 2-16. EPA 1992 Sampling Program: Workover and Completion - Detected Metals

Metal	Detects Per Total Analyzed	Maximum (µg/L)	Minimum (µg/L)
Aluminum	6/7	13,100	202
Antimony	2/7	148	100
Arsenic	4/7	693	15
Barium	7/7	3,360	66.5
Beryllium	4/7	25.1	4.7
Boron	6/7	45,200	4,840
Cadmium	7/7	82.3	7.6
Calcium	7/7	28,000,000	9,060
Chromium	6/7	1,320	48
Cobalt	2/7	46.5	40.9
Copper	6/7	6,070	6.8
Iron	7/7	1,140,000	7,190
Lead	2/7	6,880	907
Magnesium	7/7	13,500,000	875
Manganese	7/7	18,800	187
Mercury	1/7	6	6
Molybdenum	4/7	285	48.3
Nickel	5/7	510	38.9
Selenium	3/7	139	30.4
Silver	1/7	8	8
Sodium	7/7	45,200,000	33,900
Strontium	7/7	343,000	104
Sulfur	7/7	646,000	58,300
Thallium	1/7	67.3	67.3
Tin	3/7	291	135
Titanium	4/7	283	17.7
Vanadium	5/7	4,850	90.1
Yttrium	3/7	131	8.4
Zinc	6/7	3,610	7.3

Associated Waste Report:
Completion and Workover Wastes (U.S. EPA, January 2000)
TABLE 2-17. EPA 1992 Sampling Program: Workover and Completion - Detected Volatile Organic Compounds

Compound	AQUEOUS			SOLID	
	Detects Per Total Analyzed	Maximum (µg/L)	Minimum (µg/L)	Detects Per Total Analyzed	Single Sample Concentration (µg/Kg)
ACETONE	3/6	13,508	273	1/1	99,419
BENZENE	6/6	14,194	477	1/1	>20,000
ETHYLBENZENE	6/6	3,597	154	1/1	>20,000
METHYL CHLORIDE (CHLOROMETHANE)	1/6	57	57	1/1	ND
METHYL ETHYL KETONE (2-BUTANONE)	2/6	115	81	1/1	ND
METHYLENE CHLORIDE	1/6	24	24	1/1	ND
M-XYLENE	6/6	3,490	335	1/1	671,567
O- + P-XYLENE	6/6	2,670	161	1/1	671,567
TETRACHLOROETHYLENE	1/6	69	69	1/1	ND
TOLUENE	6/6	14,166	298	1/1	>20,000
4-METHYL-2-PENTANONE	3/6	5,862	193	1/1	ND

Associated Waste Report:
Completion and Workover Wastes (U.S. EPA, January 2000)
TABLE 2-18. EPA 1992 Sampling Program: Workover and Completion - Detected Semivolatile Organic Compounds

Compound	SOLID			AQUEOUS		
	Detects Per Total Analyzed	Maximum (µg/Kg)	Minimum (µg/Kg)	Detects Per Total Analyzed	Maximum (µg/L)	Minimum (µg/L)
BENZOIC ACID	2/4	8,707	7,995	0/3	*	*
BENZYL ALCOHOL	2/4	5,958	5,244	0/3	*	*
BIS(2-ETHYLHEXYL)PHTHALATE	1/4	381	381	0/3	*	*
DIBENZOFURAN	1/4	1,809	1,809	2/3	138	136
DIBENZOTHIOPHENE	1/4	5,666	5,666	1/3	222	222
FLUORENE	1/4	1,041	1,041	1/3	123	123
HEXANOIC ACID	1/4	1,289	1,289	0/3	*	*
NAPHTHALENE	4/4	33,050	4,379	1/3	1,050	1,050
N-DECANE (N-C10)	3/4	117,824	10,054	2/3	161,455	550
N-DOCOSANE (N-C22)	3/4	42,716	2,779	3/3	121,990	237
N-DODECANE (N-C12)	3/4	2,382,160	13,700	2/3	430,966	1,152
N-EICOSANE (N-C20)	2/4	7,402	2,951	2/3	125,332	451
N-HEXACOSANE (N-C26)	4/4	3,939,260	1,677	3/3	67,777	173
N-HEXADECANE (N-C16)	3/4	4,398,800	8,944	2/3	360,469	808
N-OCTACOSANE (N-C28)	4/4	255,672	1,844	2/3	30,457	422
N-OCTADECANE (N-C18)	4/4	3,183,400	3,573	3/3	337,028	281
N-TETRACOSANE (N-C24)	4/4	2,731,600	2,227	3/3	82,292	312
N-TETRADECANE (N-C14)	4/4	4,036,000	3,998	3/3	538,421	513

What does Rule 53 not address?

Rule 53 does **not** address in-situ remediation of spills and releases. Spills and releases are addressed by Rules 116 and 19. Rule 53.H does allow for one on-site "small landfarm" per operator per lease.

What is Rule 53?

The goal of Rule 53 is to protect human health and the environment by ensuring through sensible waste management practices (*i.e.;* BMPs) that operators will prevent pollution by ensuring that no new releases of oil field waste occur as a result of the operations of surface waste management facilities.

Sensible Waste Management

Sensible waste management begins with "good housekeeping." Prudent operators design E&P facilities and processes to minimize potential environmental threats and legal liabilities. EPA promotes sensible waste management practices through a number of joint efforts with organizations such as API, individual states, and the Interstate Oil and Gas Compact Commission (IOGCC). The following waste management suggestions have been compiled from publications produced by these organizations as well as from literature available from industry trade associations, trade journals, and EPA.

What is Rule 53?

OCD determined that Sensible Waste Management could best be achieved by requiring industry to follow specified Best Management Plans (BMPs) using the Best Demonstrated Available Technology (BDAT) while still allowing the opportunity for waivers and exemptions under appropriate circumstances.

What is Rule 53?

Rule 53 is also designed to strike a balance between the operator's need for practicability and the OCD's need for enforceability.

What is Rule 53?

OCD based Rule 53 on Rule 711, but also intentionally "borrowed" from sister agencies such as NMED's Solid Waste, Ground Water Quality, and Hazardous Waste Bureaus because of similar waste streams, technology, administrative issues such as permitting requirements, and environmental concerns such as protection of ground water.

What is Rule 53?

Rule 53 BMPs for surface waste management facilities address proper waste management issues, such as waste segregation, characterization, storage, recycling, treatment, and disposal.

Subsection A: Definitions

- Added several key definitions
  - *e.g.*, landfarm, landfill, liners, lift, cell, major modifications

Subsection B: Permit Required

- Permit required for Landfarms and Landfills
- Special exemption for small landfarms (<1400 yd^3)
- Same 711 exemption for small liquid facilities (<500 bbls)

Subsection C: Permitting requirements, application, public notice and financial assurance

- All new facilities covered
- Existing facilities that have Major Modifications covered
- Applications will be made on form C-137
- Engineering designs, certified by a registered professional engineer are required
- Closure plan required

Subsection C:

Public Notice required for New, Major Modifications and Renewals.

- Notify landowners within one mile
- Publish in statewide newspaper
- Contact interested parties
- Administrative approvals are possible
- Interested persons may request a hearing

Subsection C:
Financial Assurance Required:

Existing commercial facilities:	$ 250,000 (max)
New commercial facilities:	$ Actual Closure Cost
Major modifications:	$ Actual Closure Cost
Centralized facilities:	$25,000 or $50,000 Blanket
Small landfarms:	Exempt

Subsection C:

Financial Assurance Continued:

Types of Financial Assurance Allowed:

- surety bonds
- letters of credit
- cash accounts

Financial Assurance may be reviewed – 5 years

Forfeiture of financial assurance allowed with proper notice and hearing

Subsection D: Permit approval, denial, revocation, suspension, modification and transfer

- 10 year terms
- OCD may revoke, suspend or impose additional operating conditions or limitations on a permit at any time, for good cause
- Operator shall not transfer a permit without the division's prior written approval

Subsection E: Siting and operational requirements applicable to all permitted facilities

Siting restrictions:

- Where ground water is less than 50 feet
- Within 200 feet of any watercourse, lakebed, sinkhole or playa
- Within a wellhead protection area or 100-year floodplain
- Within 500 feet of any wetland
- Within the area overlying any subsurface mine
- Within 500 feet from the nearest permanent residence, school, hospital, institution or church in existence at the time of initial application

Operational requirements:

- 500 acres maximum size
- No free liquids in Landfarm/Landfills
- No RCRA Hazardous Waste allowed
- C-138s will no longer require OCD approval
- Operator must maintain records
- Non-oil field waste not allowed except in emergencies
- Protects migratory birds
- Stormwater controls
- Comprehensive Contingency Plan required

Operational requirements (cont.):

- Signs
- Maintenance and Inspection plan
- Spill plan
- Gas Plan
- Training Program

Subsection F: Landfills

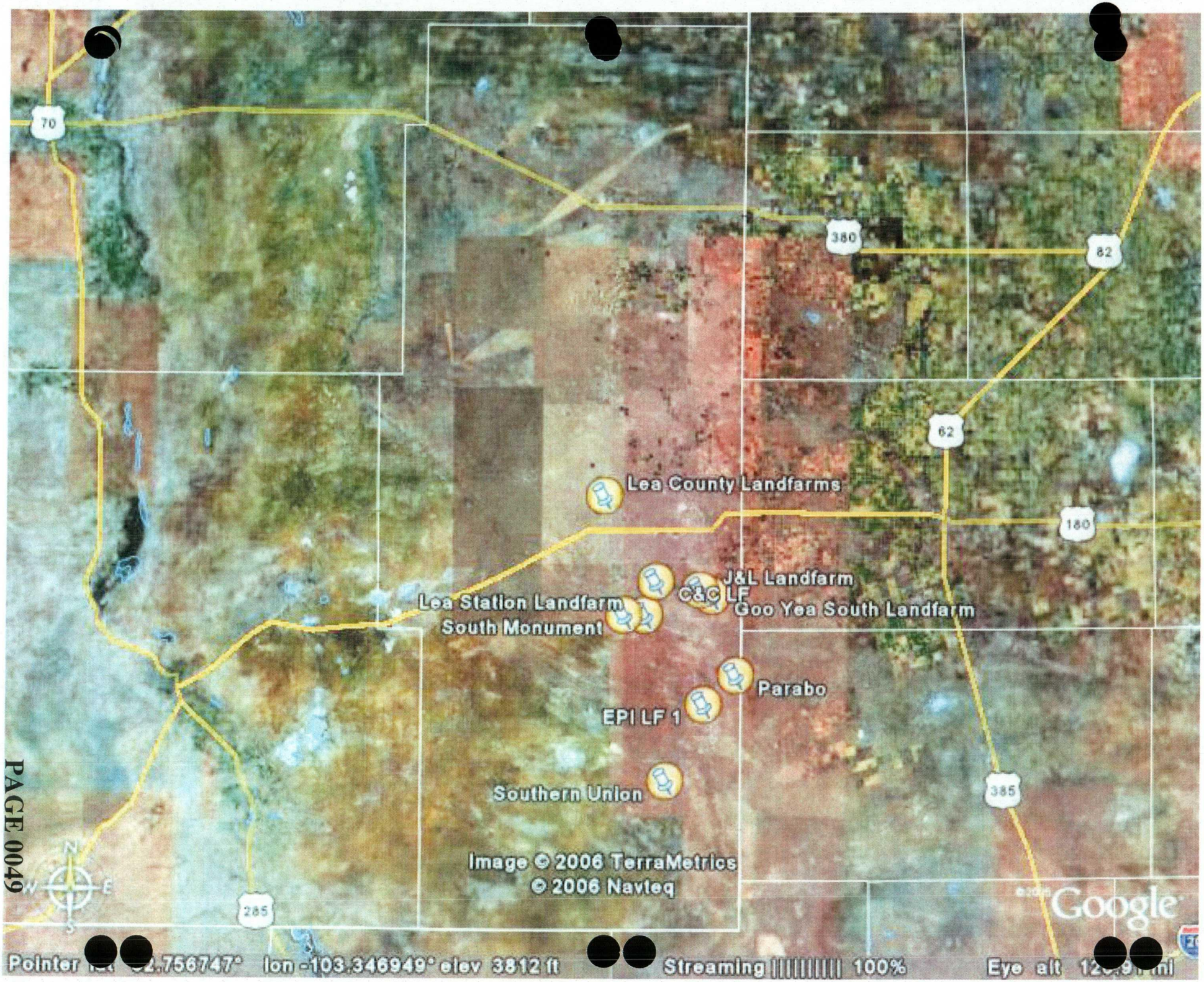
- Fences required
- Fire safety, control odors and litter
- Active cover
- Ground Water Plan required, if applicable
- Prescriptive design for landfills
  - Triple liner system when ground water >50 <100 feet
  - Double liner system when ground water >100 feet
  - Leachate collection and detection required

Subsection F: Landfills (cont.)

- Top cover design may be either prescriptive or performance based
- Liner specifications - 30 mil PVC or 60 mil HDPE
- Installation requirements
- Seam requirements
- Soil base requirements

Subsection G: Landfarms

- **Only soils and drill cuttings predominantly contaminated by petroleum hydrocarbon**
- **No tank bottoms (exceptions permitted if justified)**
- **No liquids**
- ***Chlorides < 1000 mg/kg***
- **Setback requirements**
- **Stormwater controls**
- **Operating requirements**
- **Treatment and Vadose Zone Monitoring Required**
- ***New relaxed additional lift standards (100 to 2500 mg/kg)***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Lea County Landfarms
J&L Landfarm
C&C LF
Goo Yea South Landfarm
Lea Station Landfarm
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Image © 2006 TerraMetrics
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Eye alt 15273 ft


J&L Landfarm
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C&C LF
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Pointer lat 32.605527° lon -103.241482° elev 3556 ft
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Eye alt 14626 ft


Lea Station Landfarm
© 2006 Navteq
Image © 2006 DigitalGlobe
Pointer lat [redacted] lon -103.261810° elev 3504 ft [redacted] Streaming 100% Eye alt [redacted]


South Monument
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© 2006 Navteq
Image © 2006 DigitalGlobe
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Pointer lat 32.549612° lon -103.304024° elev 3543 ft
Streaming 100%
Eye alt 13116 ft

Subsection G: Landfarms (cont.)

- No size limit for cells
- New Numerical Closure Standards (WQCC Sec. 3103):
  - Benzene 0.2 mg/kg
  - BTEX 50 mg/kg
  - TPH* 1000 mg/kg
    - GRO+DRO 500 mg/kg
    - TEPH (418.1*) 1000 mg/kg
  - Metal standards
  - Other WQCC Section 3103 constituents standards

New "Environmentally Acceptable Bioremediation Endpoint" Allowed

- For TPH closure standards only
- Detailed operations plan required
- Because bioremediation is not appropriate for all oilfield waste, 80 % reduction in TPH required
- Statistical demonstration required

Subsection H: Small Landfarms

"Small landfarms" are centralized facilities that:

- Treat 1400 cubic yards or less, and remain active for less than 3 years
- Operator will register small landfarm with OCD
- Provide proof of landowner approval
- Operate only one active facility per operator per lease
- Meet the siting requirements of Rules 53.E(1) and (2)
- Sign required

Subsection H: Small Landfarms (cont.)

- Accept only exempt, oil field-contaminated soils (excluding drill cuttings), generated as a result of accidental releases
- Meets waste management standards specified in Rule 53.G
- Provide certain application information required in Rule 53.C(1)
- Less stringent closure performance standards

Subsection I: Ponds

- Engineering design by registered professional engineer
- Double liners with leak detection required
- Liner specifications
  - 30 mil PVC or 60 mil HDPE
  - Construction standards
  - Seam standards
- 10 acre-ft maximum size
- RCRA non-hazardous waste only
- Fencing and netting required
- Closure required within 6 months of cessation of operations

Subsection J: Closure and post-closure

- Operator notifies OCD within 60 days of closure
- OCD has 60 days to inspect and approve closure
- Operator may request hearing for closure
- Re-vegetation required
- Part of financial assurance can be held for post-closure
- Facility closure may be initiated by the division
- Closure standards for:
  - Treating plants - remove equipment, can re-use if cleaned
  - Landfill – Post-closure of 30 years
  - Landfarms & Ponds – Post-closure time 3 years

Subsection K: Exceptions and waivers

- May be granted if Operator demonstrates that exception and waiver provide equivalent protection of fresh water, public health, safety and the environment and:
  - The exception or waiver is incorporated in the permit
  - Rule 53 authorizes OCD to grant the exception or waiver or
  - The exception or waiver is granted after public notice and opportunity to request a hearing

Subsection L: Transitional provisions

- Generally "Grandfathers" existing facilities, except for:
  - Operational, waste acceptance, and closure requirements specified in Rule 53.
  - Any major modification of an existing facility
  - New landfarm cells at an existing facility must conform to the design and construction specifications specified in Rule 53.