

Land Spreading Application
 Section 5, Item 3c Map
 Identification of Cells
 —
 Drilling Company, Inc.
 Lease Name: Thompson

Property Owner - Mike Miller
 5401 Madison Road
 Coldwater, KS 67029
 Comanche County
 SW1/4, S 24, T18S, R14W
 160 acres

N 4,117,375
 E 470,983
 orange stake along
 fence line

Adjacent property owner
 Bob Smith
 (pasture)
 SE 1/4, 23S, T18S, R14W

N 4,117,375
 E 468,343
 orange stake & pin

same property owner - no buffer necessary
 2640 feet

Property Line/Right of Way Line

Madison Road (county gravel road)

200' buffer from edge of property (fence line)

same property owner - no buffer necessary

2640 feet



Cell	Soil test Chloride (ppm)	Soils texture
1A	30	clay loam
1B	25	clay loam
1C	50	loam
1D	45	silty clay loam
2A	35	clay loam
2B	55	clay loam
2C	40	loam
2D	36	silty clay loam
3A	41	silty clay loam
3B	38	loam
3C	52	loam
3D	44	sandy clay loam
4A	38	silty clay loam
4B	51	clay loam
4C	45	loam
4D	55	sandy clay loam

N 4,114,735
 E 468,343
 fence post - orange
 paint

N 4,114,735
 E 470,983
 corner fence post

Survey by GPS
 UTM coordinates
 in meters
 NAD83 Zone 14

same property owner - no buffer necessary

Note:
 Each cell is 660' x 660' (10 acres)
 Soil samples taken from center
 No irrigation used on site (pasture)
 Incorporation not required
 At each sample location, depth of soil > 2 ft

N 4,114,735
 E 470,783
 orange stake

↑ North
 Date of map
 submittal:
 08-01-2012

survey coordinates by GPS

Imagery Date: 8/19/2010

Table 1a

Application to Land Spread Solid Waste Generated by Drilling Oil and Gas Wells
Calculations for loading rate, depth, and acreage
based upon chloride measurements of drilling waste

Applicant Input required - see yellow shaded cells and drop down boxes

Date: 08/01/12

KCC Land Approval Number: 145

License Number: 3333

Operator Name: Drilling Company, Inc.

Operator Contact Name: Bob Smith

Lease Name: Thomspson

Well Number: 150

API Number: 15-501-20130-03-00

Contractor for land spreading (if applicable): Land-Spreading Company, Inc.

Property Owner: Mike Miller

Property address or location description: 5401 Madison Road
Coldwater, KS 67029

Total land spreading acreage available: 160

County: Comanche

Incorporation NOT Required

Calculations:		Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6	Tank 7
Tank or Pit Number/Description:								
Drilling waste volume (indicate if units are gallons or barrels)	gallons	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Drilling waste chloride concentration (field or lab method):	ppm	4,000	5,000	12,000	1,500	3,000	3,333	9,500
Analysis by Field Method (1.2 safety factor)	ppm	4,800	6,000	14,400	1,800	3,600	4,000	11,400
Receiving soil chloride concentration	ppm	55	55	55	55	55	55	55
Irrigation water chloride concentration	ppm							
Irrigation water applied to the field in a year	inches							
Resulting Area, Depth, and Rate				No				No
Maximum Spreading Depth	inches	2.0	1.7		2.0	2.0	2.0	
Minimum Acreage Required	acres	0.4	0.4		0.4	0.4	0.4	
Maximum Rate of Spreading in Tons/Acre	tons per acre	301	255		301	301	301	
Maximum Rate of Spreading in Gallons/Acre	gallons/acre	54,305	45,889		54,305	54,305	54,305	
Maximum Rate of Spreading in Barrels/Acre	barrels/acre	1,293	1,093		1,293	1,293	1,293	
Record of Actual Land Spreading								
Acreage used		0.50	0.50		0.50	0.50	0.50	
Corresponding cell identification on the map		4D	4D		4D	4D	4D	
Date of land spreading		09/01/12	09/01/12		09/01/12	09/01/12	09/01/12	

Table 1a

Application to Land Spread Solid Waste Generated by Drilling Oil and Gas Wells
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Date: 08/01/12

KCC Land Approval Number: 145

License Number: 3333

Operator Name: Drilling Company, Inc.

Operator Contact Name: Bob Smith

Lease Name: Thomspson

Well Number: 150

API Number: 15-501-20130-03-00

Contractor for land spreading (if applicable): Land-Spreading Company, Inc.

Property Owner: Mike Miller

Property address or location description: 5401 Madison Road
Coldwater, KS 67029

Total land spreading acreage available: 160

County: Comanche

Incorporation NOT Required

Calculations:		Tank 8	Tank 9	Tank 10	Tank 11	Tank 12	Tank 13	Tank 14
Tank or Pit Number/Description:								
Drilling waste volume (indicate if units are gallons or barrels)	gallons	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Drilling waste chloride concentration (field or lab method):	ppm	7,000	2,500	1,250	1,900	6,000	6,500	1,200
Analysis by Field Method (1.2 safety factor)	ppm	8,400	3,000	1,500	2,280	7,200	7,800	1,440
Receiving soil chloride concentration	ppm	55	55	55	55	55	55	55
Irrigation water chloride concentration	ppm							
Irrigation water applied to the field in a year	inches							
Resulting Area, Depth, and Rate								
Maximum Spreading Depth	inches	1.2	2.0	2.0	2.0	1.4	1.3	2.0
Minimum Acreage Required	acres	0.6	0.4	0.4	0.4	0.5	0.6	0.4
Maximum Rate of Spreading in Tons/Acre	tons per acre	182	301	301	301	212	196	301
Maximum Rate of Spreading in Gallons/Acre	gallons/acre	32,778	54,305	54,305	54,305	38,240	35,299	54,305
Maximum Rate of Spreading in Barrels/Acre	barrels/acre	780	1,293	1,293	1,293	910	840	1,293
Record of Actual Land Spreading								
Acreage used		1.00	0.50	0.50	0.50	0.50	1.00	0.50
Corresponding cell identification on the map		4D						
Date of land spreading		09/01/12	09/01/12	09/01/12	09/01/12	09/02/12	09/02/12	09/02/12

N 4,115,395
E 470,123
yellow stake

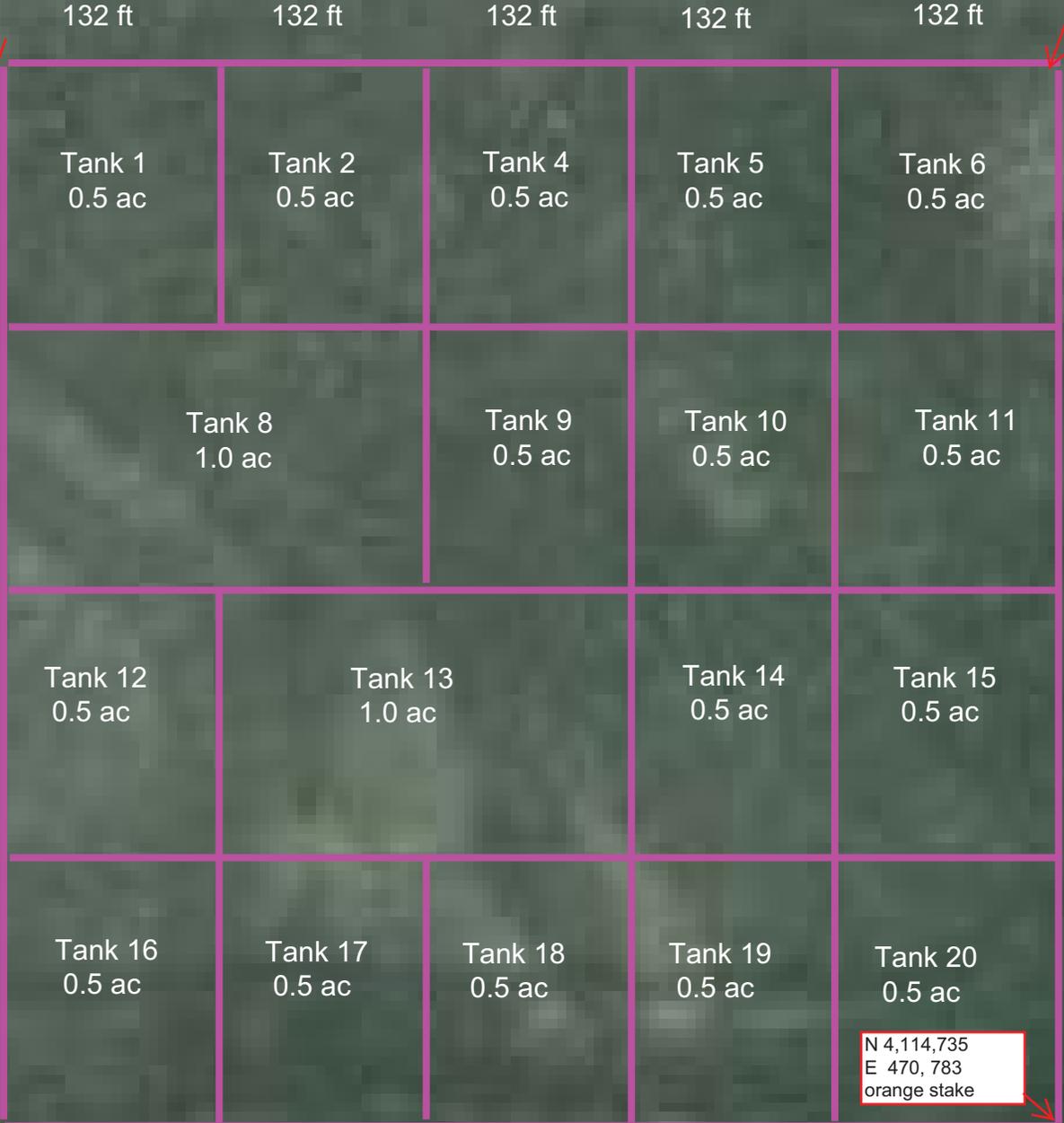
N 4,115,395
E 470,783
yellow stake

Land Spreading Application
Post Land Spreading Report
KCC Land Approval #145
Cell 4D
660 ft x 660 ft (10 ac)
See attached table of calculations
Well No. 150
Tanks 1-11 applied on 09-01-12
Tanks 12-20 applied on 09-02-12

Land Spreading Application
By Drilling Company, Inc.
Lease: Thompson
↑ North

Property at:
5401 Madison Road
Coldwater, KS 67029
Comanche County
SW 1/4, S 24, T18S, R14W

Madison Road (county gravel road)



165 ft

165 ft

165 ft

165 ft

660 feet

N 4,114,735
E 470, 783
orange stake

N 4,114,735
E 470,983
corner fence post

200 ft west of corner fencepost

N 4,114,735
E 470,123
yellow stake

660 feet
along fence line

survey coordinates by GPS UTM
coordinates in meters, NAD83, Zone 14
Note - no other cells used as of 09-02-12