RENERGY

Farmer:	WISE 6.7
Site ID:	CLQ-01-03
First Year of Application	2016

Date of Application	
Season	Date
2016	4/5/2016

Facility Name:	Dovetail Energy
NPDES #:	1IN00305*AD
NANI Month/Year:	April-16

	Concentration (mg/kg) Dry Weight Basis	Concentration (lb/1000 gal) Liquid Application Basis	Pollutant Concentrations (monthly average limits) mg/kg	Ceiling Concentrations (maximum sample limits) mg/kg
Arsenic	10	0.0057	41	75
Cadmium	1	0.0006	39	85
Copper	381	0.2170	1500	4300
Lead	7	0.0040	300	840
Mercury	0.003	0.0000	17	57
Molybdenum	7	0.0040	N/A	75
Nickel	17	0.0097	420	420
Selenium	5	0.0028	100	100
Zinc	589	0.3355	2800	7500
Total Kjeldahl Nitrogen	109,000	62.0888	N/A	N/A
Ammonia Nitrogen	58,300	33.2090	N/A	N/A
Total Phosphorus	12,900	7.3481	N/A	N/A
Total Potassium	11,000	6.2658	N/A	N/A
Total Solids	6.83%			

Ton Conversion Factor	0.0005
Specific Weight (lb/gal)	8.34
Conversion to lb/ton	0.002
Conversion to lb/1000 gal	**0.000570**

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	Input (ppm)	lbs/1000 gal
TKN	109,000	***62.1***
Ammonia	58,300	***33.2***
Phosphorus	29,412	***16.8***
Potassium	13,200	***7.5***

Ton Conversion Factor	0.0005
Specific Weight (lb/gal)	8.34
Conversion to lb/ton	0.002
Percent Solids	6.83%
Conversion to lb/1000 gal	**0.000570**

Site Acreage:	6
Target Application Rate (gal/Acre)	10,000
Total Gallons Applied	60,500
Actual Application Rate (gal/Acre)	10,254
PAN (lbs/acre)	**429.37**
P (lbs/acre)	**171.80**
K (lbs/acre)	**77.10**
Total Dry Tons	**17.2**
Dry Ton per Acre	**2.9**

Plant Available Nitrogen

	lb/1000 gal
TKN	62.1
Ammonia	33.2
Organic	28.9

Surface Application*	
	lb/1000 gal
Ammonia	16.6
Organic**	8.7
PAN	**25.3**

*Assume 50% of Ammonia volatilizes during surface application

**Assume 30% of Organic Nitrogen is available for plant uptake

Injection***	
	lb/1000 gal
Ammonia	33.2
Organic	8.7
PAN	**41.9**

***For calculations assume 100% of ammonia is available for plant uptake. After application actual availability will be evaluated based on material's exposure to atmosphere after injection.

Estimation of availability will be no less than 85%.

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	Concentration (mg/kg) Dry Weight Basis	Concentration (lb/1000 gal) Liquid Application Basis
Arsenic	10	0.0057
Cadmium	1	0.0006
Copper	381	0.2170
Lead	7	0.0040
Mercury	0.003	0.0000
Molybdenum	7	0.0040
Nickel	17	0.0097
Selenium	5	0.0028
Zinc	589	0.3355
Total Solids	6.83%	

Ton Conversion Factor	0.0005
Specific Weight (lb/gal)	8.34
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Conversion to lb/1000 gal	**0.000570**

	Metals Loading lb/acre	Federal Site Lifetime Limits (lb/Acre)	Estimated Site Lifetime (years)
Arsenic	0.058	36.6	627
Cadmium	0.006	34.8	5958
Copper	2.225	1338.6	602
Lead	0.041	267.7	6547
Mercury	0.000	15.2	867426
Molybdenum	0.041	16.1	394
Nickel	0.099	374.8	3775
Selenium	0.029	89.2	3054
Zinc	3.440	2498.7	726

OEPA Applied Annual Metals Loading Records

Year of Application	Season of Application	NANI Used	Applied Arsenic (lbs/ac)	Applied Cadmium (lbs/ac)	Applied Copper (lbs/ac)	Applied Lead (lbs/ac)	Applied Mercury (lbs/ac)	Applied Molybdenum (lbs/ac)	Applied Nickel (lbs/ac)	Applied Selenium (lbs/ac)	Applied Zinc (lbs/ac)
2014	Spring	Mar-14	0.004	0.002	0.405	0.100	0.000	0.030	0.034	0.002	0.978
2015											
2016	Summer	16-Aug	0.058	0.006	2.225	0.041	0.000	0.041	0.099	0.029	3.440
2017											
2018											
2019											
2020											
2021											
2022											
To Date Metals Loading Sum (lbs/ac):			0.062	0.008	2.630	0.141	0.000	0.071	0.133	0.031	4.418
Remaining Metals Loading Capacity (lbs/ac):			36.538	34.792	1335.970	267.559	15.200	16.029	374.667	89.169	2494.282
Cummulative Metals Limit (lbs/ac):			36.60	34.80	1338.60	267.70	15.20	16.10	374.80	89.20	2498.70
Estimated Site Lifetime (Years):			626	5957	600	6544	867425	392	3773	3053	725

Farmer:	WISE 6.7	Facility Name:	Dovetail Energy
Site ID:	CLQ-01-03	NPDES #:	1IN00305*AD
First Year of Application	2016	NANI Month/Year:	March-14

	lbs/ac	$/ac	Total Savings
PAN	429.37	$ 236.16	$ 49,947.02
P2O5	171.80	$ 103.08	$ 21,800.99
K2O	77.10	$ 46.26	$ 9,784.21

Site Acreage	211.5
Savings per Acre	**$ 385.50**
Overall Savings	**$ 81,532.22**

Assumptions and Constants

$ per pound of N = $0.55
$ per pound of P = $0.60
$ per pound of K = $0.60