

**TABLE 1b. ODANA HILLS WATER QUALITY DATA: GROUNDWATER
2005 - 2006**

Constituent	Units	Groundwater																NR 140 Standards	
		MW - 2 1/27/2005	MW - 2 5/24/2005	MW - 2 8/25/2005	MW - 2 12/15/2005	MW - 801 5/3/2006	MW - 801 8/29/2006	MW - 802 5/3/2006	MW - 802 8/29/2006	MW - 803A 5/3/2006	MW - 803A 8/29/2006	MW - 803B 5/3/2006	MW - 803B 8/29/2006	MW - 804B 5/3/2006	MW - 804B 8/29/2006	MW - 804C 5/3/2006	MW - 804C 8/29/2006	ES	PAL
BOD-5 day	mg/L	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Total Coliform Bacteria		Positive	Positive	Negative	Negative	Negative	Positive	Positive	Positive	Positive	Positive	Negative	Negative	Negative	Positive	Negative	Negative	0	0
Coliform, fecal (MFCC)	col/100 ml	ND	ND	ND	ND	ND	[2.0]	ND	ND	ND	[2.0]	ND	ND	ND	ND	ND	ND		
E.coli by Enzymatic Substrate	MPN/100mls	Negative	Negative	ND	ND	ND	Negative	ND	Negative	ND	Negative	ND	Negative	ND	Negative	ND	Negative		
Chloride, as Cl (unfiltered)	mg/L																		
Chloride, (filtered)	mg/L	[4.0]	[3.6]	[3.5]	[4.3]	5.1	25	130	170	11	6.5	45	11	140	150	110	32	250	125
C.O.D. (unfiltered)	mg/L	[2.4]	ND	[3.2]	[2.9]	[3.2]	8.1	4.6	[3.0]	[4.1]	4.6	4.6	ND	13	[4.1]	4.6	[2.0]		
Iron, tot. as Fe by ICP-Trace	mg/L																		
Iron, dis. as Fe by ICP-Trace	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3	0.15
Manganese, tot. as Mn by ICP-Trace	µg/L																		
Manganese, dis. As Mn by ICP-Trace	µg/L	36	ND	[1.8]	ND	ND	ND	6.7	ND	ND	ND	55	12	[1.2]	ND	110	24	50	25
Sulfate, as SO4 (unfiltered)	mg/L																		
Sulfate, as SO4 (filtered)	mg/L	18	13	16	16	20	11	29	31	28	36	20	7.3	29	31	24	8.4	250	125
Zinc, tot. as Zn by ICP-Trace	µg/L																		
Zinc, dis. as Zn by ICP-Trace	µg/L	ND	[5.4]	[6.4]	[8.4]	ND	ND	12	ND	ND	ND	ND	ND	[7.4]	[6.0]	ND	ND	5000	2500
Alkalinity total as CaCO3 (unfiltered)	mg/L																		
Alkalinity total as CaCO3 (filtered)	mg/L	350	330	330	320	310	170	360	370	300	410	310	320	350	370	350	340		
Calcium, tot. as Ca by ICP-Trace (unfiltered)	mg/L																		
Calcium, dis. as Ca by ICP-Trace (filtered)	mg/L	85	76	ND ³	77	72	39	90	110	72	100	66	69	88	94	88	81		
Magnesium, tot. as Mg by ICP-Trace	mg/L																		
Magnesium, dis. as Mg by ICP-Trace	mg/L	37	37	37	38	38	18	40	48	36	49	35	36	42	45	41	35		
Potassium, tot. as K	mg/L																		
Potassium, dis. as K	mg/L	[0.85]	0.032	[6.2]	ND	[0.45]	[0.42]	[0.89]	[1.1]	[0.79]	[1.1]	5.6	[1.4]	1.5	1.9	1.5	1.4		
Sodium, tot. as Na	mg/L																		
Sodium, dis. as Na by ICP-Trace	mg/L	5.9	5.8	5.8	5.8	6.2	18	95	90	7.6	7.6	39	12	87	85	72	20		
Hardness, tot. as CaCO3 (unfiltered)	mg/L	410	260	340	360														
Hardness, tot. as CaCO3 (filtered)	mg/L	360	340	340	350	340	170	390	460	330	450	310	320	390	420	390	350		
Solids, tot. dis. (TDS)	mg/L	360	320	310	360	310	180	570	630	280	400	350	240	580	580	500	320		
Solids, tot. susp. (TSS)	mg/L	110	3	[1.0]	2.5	92	2	16	16	16	2	80	ND	11	4	19	6		
Nitrogen, ammonia as N (unfiltered)	mg/L																		
Nitrogen, ammonia as N (filtered)	mg/L	0.89	ND	ND	ND	[0.041]	[0.049]	ND	[0.056]	ND	[0.055]	ND	[0.048]	ND	[0.049]	ND	[0.058]		
Nitrogen, NO2 + NO3 as N (unfiltered)	mg/L																		
Nitrogen, NO2 + NO3 as N (filtered)	mg/L	1.4	0.42	1.1	1.3	2.8	0.088	3	3.4	1.3	0.96	2	0.85	2.2	2.3	2.4	0.72	10	2
Nitrogen, Kjeldahl as N (unfiltered)	mg/L																		
Nitrogen, Kjeldahl as N (filtered)	mg/L	[0.11]	[0.13]	ND	ND	[0.15]	[0.11]	[0.13]	[0.093]	[0.085]	[0.11]	[0.15]	ND	[0.14]	[0.16]	[0.093]	[0.083]		
Nitrogen, organic as N (unfiltered)	mg/L																		
Nitrogen, organic as N (filtered)	mg/L	ND	[0.13]	ND	ND	[0.11]	ND	[0.13]	ND	[0.085]	ND	[0.15]	ND	[0.14]	[0.11]	[0.093]	ND		

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Phosphorus, tot. as P	mg/L																			
Phosphorus, dis. react. as P	mg/L	ND	0.032	0.023	0.034	0.045	0.076	0.017	0.012	0.021	0.034	0.11	0.028	0.31	0.29	0.037	0.013			
Arsenic, tot. as AS by furnace AAS	µg/L																			
Arsenic, dis. As AS by furnace AAS	µg/L	ND	ND	ND	ND	ND	[1.0]	[0.67]	[0.89]	ND	[0.88]	[0.99]	[0.82]	[1.6]	ND	[1.2]	ND	10	1	
Cadmium, tot. as Cd by ICP-Trace	µg/L																			
Cadmium, dis. as Cd by ICP-Trace	µg/L	[0.27]	ND	ND	ND	ND	ND	ND	[0.38]	ND	ND	ND	ND	ND	ND	ND	ND	5	0.5	
Copper, tot. as Cu by ICP-Trace	µg/L																			
Copper, dis. as Cu by ICP-Trace	µg/L	ND	ND	[3.9]	[3.1]	ND	ND	[3.0]	ND	ND	[3.3]	ND	ND	ND	ND	ND	ND	1300	130	
Chromium, tot. as Cr by ICP-Trace	µg/L																			
Chromium, dis. as Cr by ICP-Trace	ug/L	2.5	3.5	3.5	3.5	[2.5]	ND	3.4	2.9	31	3.1	[2.8]	[1.3]	4.4	[2.5]	[1.8]	ND	100	10	
Lead, tot. as Pb by ICP-Trace	µg/L																			
Lead, dis. as Pb by ICP-Trace	µg/L	[1.4]	ND	ND	ND	[1.7]	ND	ND	ND	[2.2]	ND	ND	ND	[3.5]	ND	[1.6]	ND	15	1.5	
Mercury, tot. as Hg	µg/L																			
Mercury, dis. as Hg	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.2	
Nickel, tot. as Ni by ICP-Trace	µg/L																			
Nickel, dis. as Ni by ICP-Trace	µg/L	ND	ND	ND	ND	ND	ND	[1.3]	[1.3]	[0.99]	ND	[2.1]	ND	[1.8]	ND	[2.0]	ND	100	20	
Corrected Chlorophyll a	µg/l																			
Trichromatic chlorophyll a (Tc a)	µg/l																			
Trichromatic chlorophyll b (Tc b)	µg/l																			
Trichromatic chlorophyll c (Tc c)	µg/l																			
Nitrogen/Phosphorus Pesticides by EPA 8141																				
Acetochlor	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Atrazine	µg/L		ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3 ³	0.3 ³	
Desethylatrazine	µg/L		ND	ND	ND	ND	0.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Desisopropylatrazine	µg/L		ND	ND	ND	ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Alachlor	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.2	
Butylate	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	67	6.7	
Chlorpyrifos	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Cyanazine	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	0.1	
Diazinon	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Dimethenamid	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
EPTC	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	250	50	
Metolachlor	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	1.5	
Malathion	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Metribuzin	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	250	50	
Pendimethalin	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Prometon	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23	ND	ND	90	18	
Propazine	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Simazine	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	0.4	
Trifluralin	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.5	0.75	
Chlorinated Herbicides by EPA 8151																				
2,4-D	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	7	
Dicamba	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300	60	

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SDWA Pesticides/Herbicides																					
Carbaryl	µg/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	960	192	
Glyphosate	µg/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
PAHs by EPA 8270C SIM																					
Acenaphthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND ⁷	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Acenaphthylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3000	600	
Benzo (a) anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Benzo (a) pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	0.02	
Benzo (b) fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	0.02	
Benzo (g,h,i) perylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Benzo (k) fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Chrysene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	0.02	
Dibenzo (a,h) anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	400	80	
Fluorene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	400	80	
Indeno (1,2,3-cd) pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Methyl-1-Naphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	[0.022]	ND		
Methyl-2-Naphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	[0.028]	ND	ND	ND	ND	[0.046]	ND		
Naphthalene	µg/L	[0.013]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	[0.052]	ND	ND	ND	ND	0.081	ND	40	8
Phenanthrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	250	50	
Field Parameters																					
pH	Std. Units		7.15	7.4	7.42	7.33	7.34	7.27	7.1	7.39	7.02	7.39	7.2	7.29	7.16	7.2	7.12				
Temperature	° C		12.25	10.7	10	11.2	16.8	13.2	12.6	11.9	12.8	10.6	12.5	13	12.4	10.5	11.8				
Dissolved Oxygen	mg/L		10.37			9	8.4	8.4	9.5	9.3	9.2	7.6	5	9	8.2	9.6	2.8				
Turbidity	NTU		10.8			21.7	0	44.2	25.6	6.55	1	57.6	2.68	2.55	0.68	24.2	3.68				
Conductivity	µS/cm		765	672	652	664	406	1148	1275	665	787	794	600	1242	1179	1077	691				
VOC's by EPA 8260																					
Non detect except for the following:																					
carbon tetrachloride	µg/L									[0.36]									5	0.5	
chloromethane	ug/L										[0.22]		[0.23]		[0.21]		[0.32]		3	0.3	
tetrachloroethene	µg/L												[0.18]	[0.20]					5	0.5	
methylene chloride	µg/L														[0.20] ⁶	[0.20] ⁶			5	0.5	

1. ND = Not detected. Values shown in brackets are greater than or equal to the Limit of Detection but less than the Limit of Quantitation and are within a region of "Less Certain Quantitation".
2. Samples were analyzed by Northern Lake Service, Inc., WDNr Laboratory ID No. 721026460, WDATCP Laboratory Certification No. 105-330, EPA Laboratory ID No. W100034. Samples collected on April 24, 2006 were analyzed by the Soil and Plant Analysis Laboratory.
3. Total chlorinated atrazine residues includes parent compound and following metabolites: 2-chloro-4-amino-6-isopropylamino-s-triazine (formerly deethylatrazine).
4. The complex calculations used to differentiate the various chlorophyll species magnify error at low concentrations and sometimes produce negative values, which are reported as 0.0 on this report.
5. Standard recovery was outside QC limits.
6. Trip Blank methylene chloride concentration was 0.49 ug/L.