Gandy Corporation Proposed SWD Well – Albacore 25 COM #1

Hydrology

The Ogallala formation is the principal source of groundwater in the vicinity of this proposed SWD site. There are no useable quality drinking water zones below the Wolfcamp formation.

Information from the NM WAIDS website shows a number of samples from Section 25, T16S, R35E. The Ogallala is 42 to 84 deep in this area. The closest Ogallala water samples were taken from a well located in Section 26. Three samples taken in 1979, 1984 and 1990 show slightly increasing chloride concentrations of 50, 55 and 65 mg/l respectively during that 11-year time frame. A fresh water well on the Eidson Ranch, within ½ mile of the proposed disposal site, was sampled and analyzed on 12-15-2008. The chloride content was 104 mg/l and TDS 553 mg/l. There is no apparent contamination of the freshwater in the area.

Water samples/analysis from Devonian, Permo-Penn and Abo formation produced waters are included with this application. These are representative of the type waters that will be transported to this commercial facility for disposal. None of the waters exhibit scaling tendencies for any problematic minerals other than calcite (CaCO3), which is acid soluble.

The NM WAIDS website was used to mix various representative water samples and determine the scaling tendencies using the Stiff-Davis method. Three mixes were evaluated: Devonian/Abo, Devonian/Permo-Penn and Permo-Penn/Abo; all at a volume ratio of 1:1. All of the water mixing calculations shows no problematic scaling tendencies from the injectant into the Albacore 25 SWD well. The slight scaling tendency for calcite can be eradicated with periodic acid treatments.

Based on the available geologic and engineering data we find no evidence of open faults or any other hydrologic connection between the intended disposal zone and any underground sources of drinking water.



New Mexico Office of the State Engineer POD Reports and Downloads

POD Reports and Downloads
Township: 16S Range: 35E Sections: 25
NAD27 X: Y: Zone: Search Radius:
County: Basin: Number: Suffix:
Owner Name: (First) (Last) C Non-Domestic C Domestic © All
POD / Surface Data Report Avg Depth to Water Report Water Column Report
Clear Form iWATERS Menu Help
X DEPTH TO FRESH WATTER
AVERAGE DEPTH OF WATER REPORT 12/05/2008 (Depth Water in Feet)
Bsn Tws Rng Sec Zone X Y Wells Min Max Avg
L 16S 35E 25 6 42 84 54
Frord Count: 6



* OGALLALA QUALITY*











Water Samples for Sect 26 Township 16 South Range 35 East Formation **OGALLALA**

Instructions:

The number represents the number of water samples of certain well. Click the number if you want to download the data.

3 records are available.

	# of samples	S			Formation	Date	Chlorides (mg/L)	Location (qtr/qtr)	DEPTH
	<u>1</u> sample	26 .	16S	35E	OGALLALA	10/4/1979	50	16S.35E.26.21111	76 FT
· □	<u>1</u> sample	26	16S	35E	OGALLALA	9/19/1984	55	16S.35E.26.21111	74
	<u>1</u> sample	26	16S	35E	OGALLALA	7/17/1990	65	16S.35E.26.21111	76

☐ SELECT/DESELECT ALL

Submit







FRESH WATER WELL SAMPLE

PHONE (575) 390-2326 . 101 E. MARLAND . HOBBS. NM 6K240

ANALYTICAL RESULTS FOR GANDY CORPORATION ATTN: DONNY COLLINS PO BOX 2440 LOVINGTON, NM 88280 FAX TO: (575) 396-0787

Receiving Date: 12/16/06
Reporting Date: 12/16/06
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Sampling Date: NOT GIVEN
Sample Type: WATER
Sample Condition: BITACT
Sample Condition: BITACT
Analyzed By: MiL
Analyzed By: TR

A CONTRACTOR OF STATE	wisiased par (K							
LAB NUMBER SAMPLE ID	(myrl.)	Ca (mg/L)	Mig (mg/L)	K (mg/L)	Conductivity (# Stant)	T-Akasiniy (mgCaCChA)		
ANALYSIS DATE:	12/18/08	12/16/08	12/16/08	12/16/08	12/15/08	12/15/06		
H16516-1 BRINE WATER WESSELFHALE. H18518-2 FRESH WATER	104,000	1,080	5,130	3,440	370,000	80		
	71	101	15.6	2.3	850	240		
Windowll - Close prosinity to				p e reger mar p me 2: 41 hanning enter et de la color	- The second sec	Special and the second		
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Quality Control	NR	45.1	61.0	2.83	1,421	NR		
Trus Viside QC	NR	50.0	50.0	3.00	1,413	NR		
X RECORDS	PAN HOLDEN	96.2	102	95,9	101	NR		
Relativo Percent Difference	NR	<0.1	<0.1	3.6	1.0	NR		
METHORS:	PROGRAMMAN SERVICE SERVICES	500-Ca-05	SOO MO E	8049	120.1	310.1		
	CI	SO4	COs	HCC03	рH	TOS		
	(rngAL)	(mg/L)	(mg/L)	(mg/L)	(5.11.)	(mga/L)		
ANALYSIS DATE:	12/16/09	12/16/08	12/15/08	12/15/08	12/15/08	12/15/08		
H16516-1 BRINE WATER	176,000	5,870	O	110	6.35	309,000		
H16916-2 FRESH WATER	104	64.6	0	293	7.55	553		
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Cherifes Marant

Quality Control

True Value QC

Relative Percent Difference

% Recovery

METHODS

Date 12-17-23

7.06

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150.1

NR

MIX

MR

NR

160.1

1000

1000

100

40.7

310.1

NR

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NR

NR

310.1

PLEASE NOTE: Lieutility and Damagee. Certified's isolity and obsert's accuse remedy in any point sital is, whether bused in contract or lost, shall be limited to the amount paid by client for analyses. All dama, proving targe for neighbours and any other course whatesever shall be desired waived unless made in witing and accepted by Cardinal within thiny (30) days after completion of the analyses of services and instructions. Durings and acceptance of analyses of services of services and instructions, but and the services of services is serviced in the above-stated reasons or observate except in full with written approximate.

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