

**SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
WELL GROUTING/ABANDONMENT FORM**

GROUTING _____

ABANDONMENT _____

Permit No. _____ Drilling Contractor _____ License No. _____

1/4 _____ 1/4 _____ SEC. _____ TWP. _____ RGE. _____ Latitude _____ Longitude _____

Data obtained from: GPS _____ or Map _____ or Survey _____; Datum NAD 27 _____ NAD 83 _____

Property Owner _____

Address of Well _____

County _____ QWIP No. _____ WUP No. _____

DID No. _____

WELL SPECIFICATIONS

T.D. of Well (to be verified by inspector) _____ Water Level _____

Casing: Double _____ or Single _____; Diameters _____; Depth _____; Measured _____, Estimated _____, Logged _____

Material: (check) Black Steel _____, Galv. _____, PVC _____, Other _____

Drill Method (check) Rotary _____, Cable Tool _____, Combination _____, Other _____

Was well information verified from driller's log? Yes _____ No _____ (Explain in comments)

Special Construction Stipulation? No _____ Yes _____, Stipulation No. _____ Was Special Condition met? Yes _____ No _____

Old Permit? No _____ Yes _____ Permit No. _____ Well Depth _____ Casing Depth _____ Diameter _____

(For public supply) Approved Public Supply Plan match location? Yes _____ No _____

(For 62-524) Yes _____ No _____ Well location same as surveyed location? Yes _____ No _____

GROUT SPECIFICATIONS AND INSPECTION

Date _____

BENTONITE INTERVAL

Type (check): chips _____, pellets/tablets _____; Size: 3/4 _____, 1/2 _____, 3/8 _____; Bentonite Slurry _____

Estimated Bags of Bentonite _____

Actual Bags of Bentonite _____

** Special additives _____

% of water with slurry _____

CEMENT INTERVAL

Cement Type (check): Type I _____ Type II _____ Type I / II _____

* Estimated No. of sacks _____ /yards _____

Actual No. of sacks _____ /yards _____

% Bentonite added _____

Gallons water per sack _____ /yard _____

Grout Method (types) _____

Total Time on Site _____

COMMENTS

____ Driller or _____ Contractor Signature _____ Date _____

Observer Signature _____ Date _____

Work was satisfactorily completed in accordance with 40D-3, F.A.C.? Yes _____ No _____ Water samples taken? Yes _____ No _____

Compliance Tracking No. _____

Authorized Signature _____ Date _____

(Not official unless signed by SWFWMD Supervisor or designated representative) LEG-R.041.00 (4/09) RULE 40D-3.531(5), F.A.C.

The following grouting techniques and procedures shall be adhered to. Failure to do so could jeopardize the approval of the well abandonment due to the grouting technique used.

1. The field representative should measure the annulus to insure that the 20 ft. (for top grouting) or the total depth of the casing is exact. If a tremie is introduced, then the annulus should be checked by rotating the tremie pipe clockwise around the casing.
2. The District representative must calculate a theoretical amount of cement needed prior to the beginning of the grouting operation.
3. The cement and water shall be mixed at a ratio of 5.2 to 5.5. gallons of water to one 94 lb. bag of Portland cement. No other mix will be accepted unless approved by the Well Permitting Manager.
4. Should the cement return to the surface with less than the acceptable amount, then the tremie pipe should be moved to clear the annulus.

The following table is the minimum acceptable amount of cement per ft. at 5.2 gallons of water per 94 lb. sack of cement (yields 8.82 gallons of slurry/sack) for neat cement slurry to be used in grouting wells. Table assumes no formation loss. Quantity actually used may be rounded up to the nearest 1/4 sack.

CEMENT ONLY (No Bentonite) TABLE			ANNULUS / ONE FT. INTERVAL			
Hole Diameter	Hole Volume Gallons/one ft.	Bags/one ft.	Casing Diameter	Hole Diameter	Hole Volume	Bags/one ft.
2"	.16	.02	2"	4"	.42	.05
3"	.37	.04	2"	5"	.79	.09
4"	.65	.07	2"	6"	1.24	.14
5"	1.02	.12	3"	5"	.52	.06
6"	1.47	.17	3"	6"	.97	.11
8"	2.61	.30	4"	8"	1.79	.20
10"	4.08	.46	4"	10"	3.25	.37
12"	5.87	.67	5"	10"	2.85	.32
14"	8.00	.91	6"	10"	2.29	.26
16"	10.44	1.18	8"	12"	2.84	.32
18"	13.22	1.50	10"	14"	3.28	.37
20"	16.32	1.85	10"	16"	5.73	.65
			12"	16"	3.81	.43
			12"	18"	6.59	.75
			16" (O.D.)	20"	5.88	.67

BENTONITE ADDITIVE TO CEMENT TABLE

Percent Bentonite	* Gallons of water/sack of cement	Slurry Yield gallons/sack of cement	** Multiply for sacks of Bentonite required	** Multiply for sacks of cement required
10	11.7	15.78	0.103	.56
8	10.4	14.36	0.092	.61
6	9.1	12.94	0.077	.68
4	7.8	11.59	0.057	.76
2	6.5	10.17	0.032	.87
0	5.2	8.82	0.000	1.00

* Gallons of water required per 94 lb. sack of cement when dry mixed with Bentonite.

** Multiply the theoretical number of (Cement Only Table) sacks required by the corresponding decimal values for the sacks of cement and Bentonite mixture desired. A dispersant may be added if slurry becomes difficult to pump.

DRY BENTONITE

One 50 lb. bag (granular/chips) is equivalent to approximately 5.5 gal. ($\pm 10\%$). In order to determine a theoretical estimate of number of bags required, determine total hole volume in gallons from the ACement Only Table@ and divide by 5.5 gal./bag to obtain the number of bags of dry (granular/chips) Bentonite.

EXAMPLE: 100 ft., 4 inch diameter hole - $100 \times .65 = 65$ gal, $65 \div 5.5 = 12$ bags dry Bentonite.

GROUT METHOD TYPES

Grout Methods (please check one): Tremie Dump Bailer Other

(Explain other) _____

