

**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.

| <b>CEMENT ONLY (No Bentonite) TABLE</b> |                             |              | <b>ANNULUS / ONE FT. INTERVAL</b> |               |             |              |
|---|-----------------------------|--------------|-----------------------------------|---------------|-------------|--------------|
| 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. (±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 x .65 = 65. gal, 65.5 = 12 bags dry Bentonite.

**GROUT METHOD TYPES**

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

(Explain other) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_