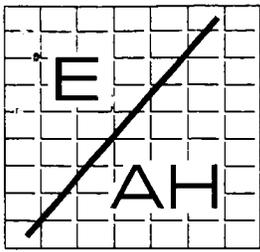


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LETTER TRANSMITTING COPIES OF WELL CONSTRUCTION LOGS AND WELL
DEVELOPMENT DATA FOR TWO MONITORING WELLS UNDER PERMIT HW-95-0035 CNC
CHARLESTON SC
9/20/1995
ENSAFE/ ALLEN AND HOSHALL



EnSafe / Allen & Hoshall

a joint venture for professional services

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September 20, 1995

Mr. Joe Bowers
Bureau of Solid and Hazardous Waste
Department of Health and Environmental Control
8901 Farrow Road
Columbia, SC 29203

Re: Submittal of Monitoring Well Logs

Dear Mr. Bowers:

On behalf of Naval Base Charleston, EnSafe/Allen and Hoshall is forwarding copies of the well construction logs and well development data for the two monitoring wells installed in accordance with well permit number HW-95-0035.

If you have any questions or if we can be of further assistance please do not hesitate to call.

Sincerely,
EnSafe/Allen & Hoshall
A Joint Venture in Professional Services

By: Todd Haverkost
Task Order Manager

enclosures

cc: Ralph Laney, NAVBASE Charleston

EnSafe/Allen & Hoshall

Monitoring Well NBCCGDC003

Project: Zone C-Naval Base Charleston

Coordinates: 2314323 E, 375759 W

Location: Charleston, SC

Surface Elevation: 22.0 feet msl

Started at 0810 on 8-10-95

TOC Elevation: 25.03 feet msl

Completed at 1400 on 8-10-95

Depth to Groundwater: 10.90 feet TOC Measured: 8-14-95

Drilling Method: 9.63" OD, 4.25" ID HSA with Shelby tube

Groundwater Elevation: 14.13 feet msl

Drilling Company: Soil Consultants, INC.

Total Well Depth: 19.5 feet bgs

Geologist: T. Kafka

Well Screen: 9 to 19 feet bgs

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)	WELL DIAGRAM
								Surface conditions: grassy field		
								Logged from cuttings		
								Clay, brown with black streaks, very fine sand, <5% gravel (pieces <0.5 cm dia.), minor silt.		
							CL	As above with slight plasticity (ropy cuttings), moist.		
5								Clay, gray-green, some very fine sand, increasing plasticity, moist.		
								Sand, tan, with grayish-black silt, trace of clay, increasing plasticity, moist.	8	
							SP	As above, increasing tan to orange in color, wet.		
10										
15			1	10						
								Clay, gray-green with very fine, well-sorted sand, fine grain shell hash, wet, "marsh clay".	5	
							OH			
20									2	

EnSafe/Allen & Hoshall

Monitoring Well NBCHGDH012

Project: Zone H-Naval Base Charleston

Coordinates: 2322897 E, 370825 W

Location: Charleston, SC

Surface Elevation: 8.7 feet msl

Started at 1140 on 8-9-95

TOC Elevation: 11.06 feet msl

Completed at 1640 on 8-9-95

Depth to Groundwater: 6.9 feet TOC Measured: 8-9-95

Drilling Method: 9.63" OD, 4.25" ID HSA with Shelby tube

Groundwater Elevation: 4.16 feet msl

Drilling Company: Soil Consultants, INC.

Total Well Depth: 12.2 feet bgs

Geologist: T. Kafka

Well Screen: 2 to 12 feet bgs

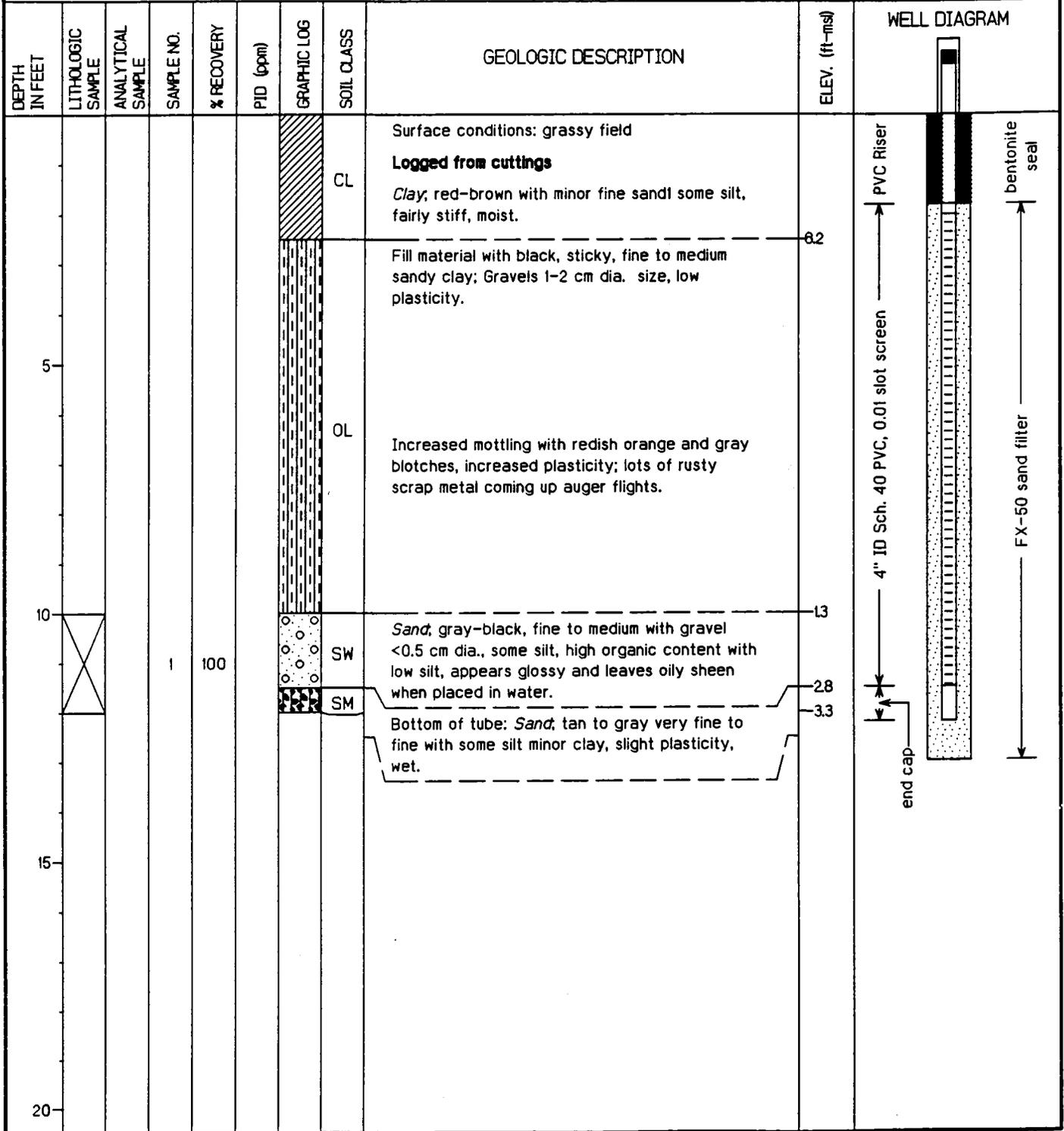


Figure 6-1 Groundwater Sampling Form

Groundwater Sampling		Sample ID: _____								
PROJECT NAME: <u>Naval Base Charleston</u>		JOB NO: <u>2900-08500</u> DATE: <u>8-14-95</u>								
WELL NO.: <u>NBCHGDH012</u>		LOCATION: <u>Zone H</u>								
WEATHER CONDITIONS: _____		AMBIENT TEMP: _____								
REVIEWED BY: <u>T. Kafka</u>		PERSONNEL: <u>T. Kafka, T. Temple, SCI crew</u>								
PURGING DEVICE Type device? <u>PVC hand pump</u> How was the device decontaminated? <u>per CSAP</u> How was the line decontaminated? <u>per CSAP</u> Which well was previously purged? <u>None</u>	SAMPLING DEVICE Type device? _____ How was the device decontaminated? _____ How was the line decontaminated? _____ Which well was previously sampled? _____									
INITIAL WELL VOLUME Well diameter (in.) <u>4</u> Stickup (ft.) <u>2.4</u> Depth to bottom of well from TOC (ft.) <u>12.2</u> Depth to water surface from TOC (ft.) <u>6.90</u> Length of water (ft.) <u>5.3</u> Volume of water (ft.) _____ (gal.) <u>3.4</u> Amount of sediment at bottom of well (ft.) <u>none</u> 3 Volumes of water (gal.) <u>10.3</u>	PURGING WELL DEVELOPMENT Time started <u>0800</u> Finished <u>0952</u> Volume purged <u>approx. 135 gals.</u> Comments on Well Recovery _____ Depth to water (ft.) _____ Completion _____ Additional Comments _____ Sample Collected: Start _____ Finish _____									
IN-SITU TESTING	Time:	<u>0900</u>	<u>0906</u>	<u>0915</u>	<u>0920</u>	<u>0925</u>	<u>0930</u>	<u>0938</u>	<u>0943</u>	<u>0952</u>
Well Volume Purged (gal.)		<u>60</u>	<u>65</u>	<u>75</u>	<u>85</u>	<u>95</u>	<u>105</u>	<u>115</u>	<u>125</u>	<u>135</u>
Turbidity		<u>86</u>	<u>70</u>	<u>64</u>	<u>42</u>	<u>38</u>	<u>28</u>	<u>36</u>	<u>34</u>	<u>26</u>
Odor		<u>slight petroleum odor</u>								
pH (units)		<u>6.42</u>	<u>6.97</u>	<u>7.05</u>	<u>7.19</u>	<u>7.08</u>	<u>7.07</u>	<u>7.06</u>	<u>7.06</u>	<u>7.10</u>
Conductivity (µmno) ms/cm		<u>6.68</u>	<u>6.63</u>	<u>6.44</u>	<u>6.01</u>	<u>6.27</u>	<u>6.35</u>	<u>6.32</u>	<u>6.29</u>	<u>6.28</u>
Water Temperature (°C)		<u>24.4</u>	<u>24.6</u>	<u>24.5</u>	<u>24.9</u>	<u>24.7</u>	<u>24.6</u>	<u>24.7</u>	<u>24.7</u>	<u>24.8</u>
Depth to water (ft.)	salinity (%)	<u>.35</u>	<u>.35</u>	<u>.34</u>	<u>.32</u>	<u>.33</u>	<u>.34</u>	<u>.33</u>	<u>.33</u>	<u>.33</u>
NOTES:		1 ft. length of 4" = 0.087 ft ³ or 0.65 gal.		1 ft. length 2" = 0.022 ft ³ or 0.16 gal.		Revision Date: 8/5/92				
		Turbidity choices: clear, turbid, opaque								