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CNC CHARLESTON
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LETTER REGARDING REQUEST TO INSTALL DPT GROUNDWATER SAMPLING AND TEMPORARY WELLS CNC CHARLESTON SC
01/10/2001
ENSAFE INC

ENSAFE

ENSAFE INC. ENVIRONMENTAL AND MANAGEMENT CONSULTANTS

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Bureau of Underground
Storage Tank Management

January 10, 2001

Mr. Michael Bishop
Groundwater Quality Section - Bureau of Water
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re: Request for DPT Groundwater Sampling/Temporary Well Permit
CNC Fuel Distribution System, Area 21

Dear Mr. Bishop:

Preliminary information pertaining to the ongoing assessment of a portion of the Charleston Naval Complex (CNC) fuel distribution system identified as "Area 21" was presented at a meeting held on December 20, 2000 between representatives of the South Carolina Department of Health and Environmental Control (SCDHEC), the Navy, CH2M-Jones, and EnSafe. Two data gaps were identified and discussed during the meeting. The first data gap is the incomplete characterization of the horizontal and vertical extent of the DCE detection in shallow groundwater at temporary well location HFFGP10 which is shown on the figure enclosed as Attachment A. The second data gap pertains to the detection of chlorobenzene along with petroleum constituents in the subsurface soil at location HFFSP008 and, whether or not any of the detected constituents have leached into groundwater. The soil borings are shown on the figure enclosed as Attachment B. During the meeting, a tentative agreement was reached to perform additional direct push groundwater sampling at 5 locations to obtain the information to address the data gaps. The following request for temporary well permits provides a general overview of the scope of work that was discussed at the meeting.

On behalf of the Navy, EnSafe is requesting approval for the installation of one (1) direct push sample point offset approximately 5 feet from the existing HFFGP010 location, one (1) direct push sample point offset approximately 5 feet from the existing HFFGP011 location, and three (3) new (HFFGP014, HFFGP015, and HFFGP016) direct push sample locations. The proposed locations are depicted on the groundwater data figure which is included as an attachment to this request. Offset locations HFFGP010 HFFGP011 are to be advanced adjacent to existing shallow temporary well with the intent of collecting groundwater samples from the interval between the bottom of the temporary well screens and the top of the Ashley Formation. The temporary wells are screened between 5 and 13 feet below ground surface. Locations HFFGP014 and HFFGP015 are hydraulically upgradient to temporary well HFFGP010 which had a groundwater detection of DCE

at a concentration of 20 μg/L. Location HFFGP016 is a confirmatory groundwater sampling location based on a subsurface soil detection at soil boring HFFSP008.

Groundwater samples at each DPT location will be collected every 5 feet until encountering the Ashley Formation. Collection of HFFGP10 groundwater samples will begin at 18 feet below ground surface (bgs) which is five (5) feet below the well bottom of HFFGP010. Sampling at locations HFFGP014, HFFGP015, and HFFGP016 will begin just below the water table and proceed every 5 feet until encountering the Ashley Formation. It is anticipated that maximum boring depths will be approximately 25 feet bgs based on previous work completed in the area. Groundwater samples will also be collected from temporary wells HFFGP010 and HFFGP011. DPT groundwater samples will be collected using either vertical profiling similar to the Waterloo Sampler method or standard DPT groundwater sampling techniques. Upon completion of the sampling at each location, the DPT borings will be abandoned in accordance with Section 5.0 of Revision No. 01 of the *Final Comprehensive Sampling and Analysis Plan* (CSAP) and in compliance with South Carolina Well Standards and Regulations R. 61-71. Groundwater samples will be analyzed for volatile organic compounds using USEPA Method 8260.

In addition to the points specified above, EnSafe requests approval for 5 "contingency" locations which would be installed in the event the initial work does not fully delineate the extent of any contaminants detected. The locations of the contingency points, if needed, will be determined based on the analytical results of the original points and the current understanding of the prevailing groundwater flow directions in the area. Sampling at the contingency locations would also begin at the water table and continue every 5 feet thereafter until the Ashley Formation is encountered.

EnSafe anticipates commencing field work during the week of January 29, 2001, contingent upon approval. Please feel free to contact me at 843-884-0029 if you have any questions or concerns regarding this well permit request.

Sincerely,
EnSafe, Inc.

Todd Haverkost, P.G.

Attachment

cc: Rob Harrell, P.E., SOUTHDIV, w/ attachment
Matt Humphrey, Caretaker's Site Office, w/ attachment
Jed Heames, CH2M Jones, w/ attachment

DPT Lower Soil Hits
Hobson Fuel Farm Area

N

HFFSP006

Sample_id	Param	Result	Conc_units
HFFSP006	Benzoic acid	260.0000	UG/KG

HFFSP004

Sample_id	Param	Result	Conc_units
HFFSP004	Benzoic acid	420.0000	UG/KG
HFFSP004	Chrysene	33.0000	UG/KG
HFFSP004	Benzo(a)anthracene	31.0000	UG/KG

HFFSP005

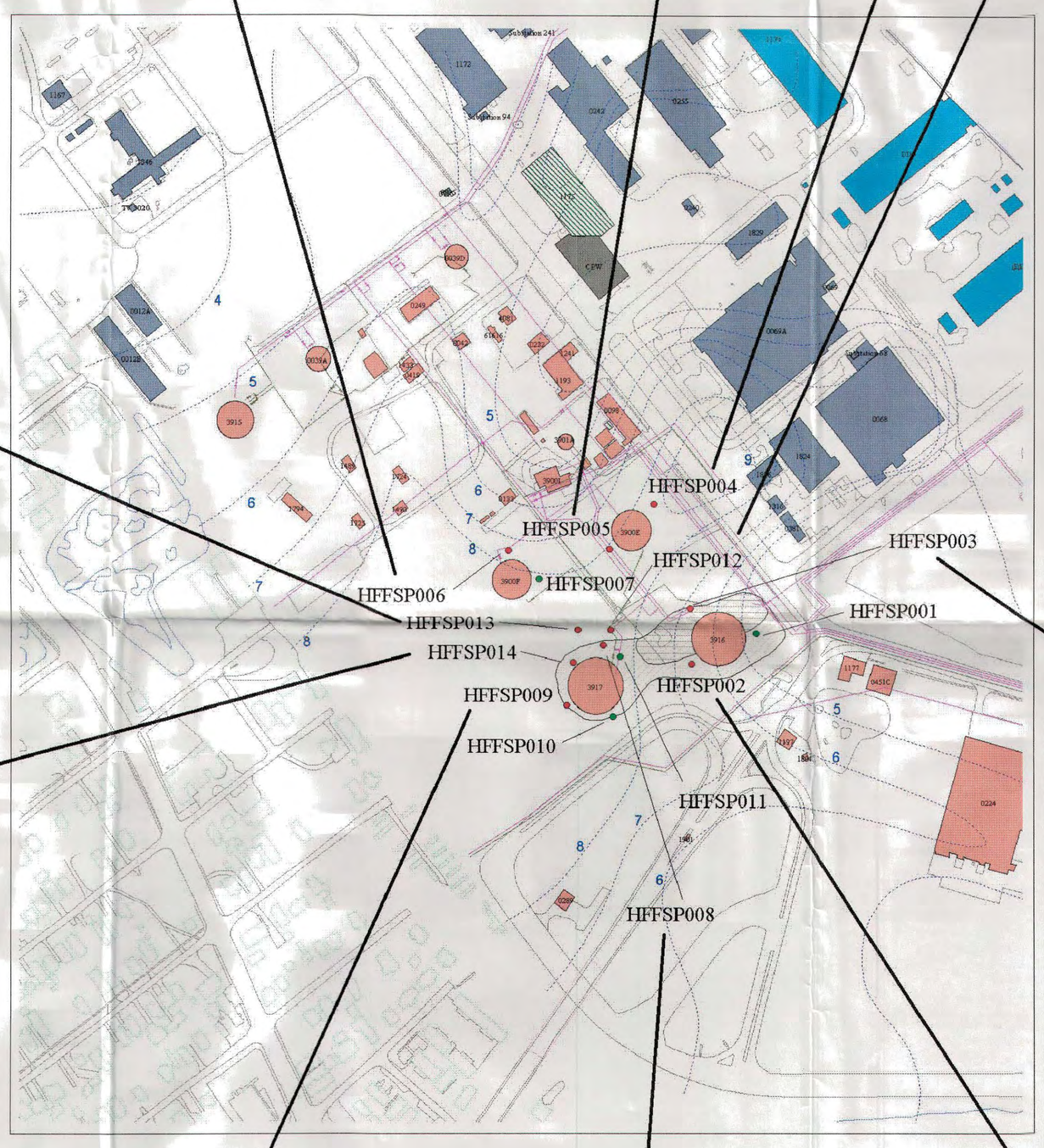
Sample_id	Param	Result	Conc_units
HFFSP005	Methylene chloride	4.0000	UG/KG

HFFSP012

Sample_id	Param	Result	Conc_units
HFFSP012	Acetone	6.0000	UG/KG

HFFSP013

Sample_id	Param	Result	Conc_units
HFFSP013	Benzo(a)pyrene	110.0000	UG/KG
HFFSP013	Acetone	8.0000	UG/KG



HFFSP014

Sample_id	Param	Result	Conc_units
HFFSP014	Di-n-butylphthalate	110.0000	UG/KG
HFFSP014	Acetone	7.0000	UG/KG
HFFSP014	Chloroform	0.9000	UG/KG

HFFSP003

Sample_id	Param	Result	Conc_units
HFFSP003	Chrysene	89.0000	UG/KG
HFFSP003	Benzo(a)anthracene	78.0000	UG/KG
HFFSP003	Benzo(a)pyrene	78.0000	UG/KG
HFFSP003	Phenanthrene	47.0000	UG/KG

HFFSP002

Sample_id	Param	Result	Conc_units
HFFSP002	Pyrene	1100.0000	UG/KG
HFFSP002	Chrysene	130.0000	UG/KG
HFFSP002	Benzo(a)anthracene	75.0000	UG/KG
HFFSP002	Acenaphthene	66.0000	UG/KG
HFFSP002	Benzo(a)pyrene	62.0000	UG/KG
HFFSP002	Ethylbenzene	2.0000	UG/KG

HFFSP009

Sample_id	Param	Result	Conc_units
HFFSP009	Benzoic acid	410.0000	UG/KG
HFFSP009	Acetone	92.0000	UG/KG
HFFSP009	Benzo(a)pyrene	49.0000	UG/KG
HFFSP009	Benzo(a)anthracene	48.0000	UG/KG
HFFSP009	Chrysene	45.0000	UG/KG

HFFSP008

Sample_id	Param	Result	Conc_units
HFFSP008	Phenanthrene	31000.0000	UG/KG
HFFSP008	Fluoranthene	24000.0000	UG/KG
HFFSP008	Pyrene	22000.0000	UG/KG
HFFSP008	Benzo(b)fluoranthene	11000.0000	UG/KG
HFFSP008	Benzo(a)anthracene	9500.0000	UG/KG
HFFSP008	Acenaphthene	8800.0000	UG/KG
HFFSP008	Chrysene	8500.0000	UG/KG
HFFSP008	Fluorene	8400.0000	UG/KG
HFFSP008	Benzo(a)pyrene	7400.0000	UG/KG
HFFSP008	Anthracene	6300.0000	UG/KG
HFFSP008	Dibenzofuran	5000.0000	UG/KG
HFFSP008	Naphthalene	4200.0000	UG/KG
HFFSP008	Benzo(g,h,i)perylene	4000.0000	UG/KG
HFFSP008	Indeno(1,2,3-cd)pyrene	3600.0000	UG/KG
HFFSP008	2-Methylnaphthalene	3000.0000	UG/KG
HFFSP008	Dibenz(a,h)anthracene	1400.0000	UG/KG
HFFSP008	Acenaphthylene	290.0000	UG/KG
HFFSP008	Chlorobenzene	10.0000	UG/KG

400 0 400 800 Feet

DPT Lower Soil Hits
Hobson Fuel Farm Area

Legend

HFFSP001 DPT Soil Sampling Point
Constituent Not Found
Constituent Found
Groundwater Flow
Fuel Line
Sludge Line
Zone E
Zone F
Zone G
New Building
Demolished Building
Est. Contaminated Soil, Kemron, 1986-87
Est. Contaminated Soil, Kemron, 1990

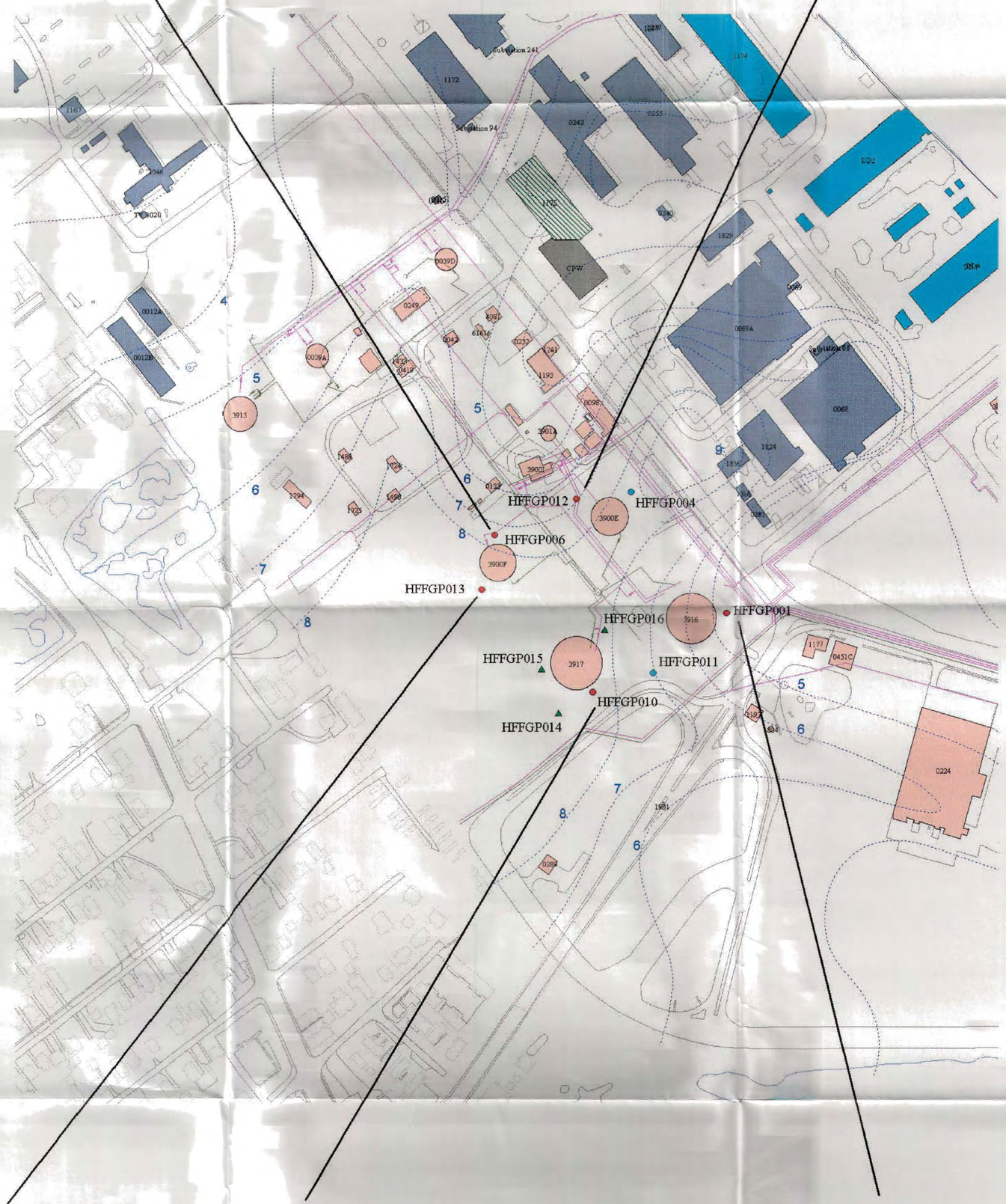
ATTACHMENT B

DPT Groundwater Hits & Proposed Additional Points
CNC Fuel Distribution System Area 21

N

Sample_id	Param	Result	Conc_units
HFFGP006	bis(2-Ethylhexyl)phthalate	6.0000	UG/L

Sample_id	Param	Result	Conc_units
HFFGP012	Benzoic acid	11.0000	UG/L



Sample_id	Param	Result	Conc_units
HFFGP010	1,2-Dichloroethene (total)	21.0000	UG/L

Sample_id	Param	Result	Conc_units
HFFGP001	Methylene chloride	3.0000	UG/L

Sample_id	Param	Result	Conc_units
HFFGP013	bis(2-Ethylhexyl)phthalate	6.0000	UG/L

500 0 500 1000 Feet

Legend

HFFGP001 DPT GW Sampling Point

- Constituent Not Found
- Constituent Found
- Proposed Additional Point
- Groundwater Flow
- Fuel Line
- Sludge Line

- Zone E
- Zone F
- Zone G
- New Building
- Demolished Building