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September 30, 2009

NAVFAC Mid-Atlantic
Marine Corps North Carolina IPT
Environmental Business Line
Code: OPNCEV
Attn: Mr. David Borton, PG
6506 Hampton Blvd.
LRA-Bldg. C, 3rd Floor
Norfolk, VA 23508-1278

Re: Building 645 Extension Request
Marine Corps Base
Camp Lejeune, North Carolina
Navy Contract No. N62470-05-D-6200
Delivery Order No. 0054
CATLIN Project No. 208-018

Dear Mr. Borton:

As you are aware, a Corrective Action Plan (CAP) Supplement Report for the Building 645 site (Incident No. 87556) was submitted by CATLIN Engineers and Scientists (CATLIN) on September 8, 2008. This CAP recommended bio-sparging of the dissolved phase "hot-spot" in the vicinity of UST645-MW26 and natural attenuation of the fringe areas of the identified plume. Modification of the existing Air Sparge/Soil Vapor Extraction (AS/SVE) system was recommended to include the installation of five deep bio-sparge wells at the Building 645 project site. The Deep Zone Bio-sparge System was proposed in the vicinity of monitoring well UST645-MW26 to address the presence of elevated levels of dissolved phase petroleum contamination at a depth of approximately 60ft to 90ft below land surface (BLS). The recommendations were based on review of historical groundwater analytical data collected between January 2006 and April 2008 that identified the area around UST645-MW26 as the deep zone "hot-spot". As agreed upon by Marine Corps Base (MCB), Camp Lejeune and the North Carolina Department of Environment and Natural Resources (NCDENR), December 28, 2009 was the targeted startup date for the modified system.

Recent groundwater laboratory results generated during the ongoing monitoring program have revealed substantial shifts in the dissolved phase contaminant concentration trends previously observed in the deep zone of the site. Of particular interest is the data generated by the analysis of groundwater samples collected from monitoring wells, UST645-MW26 and US645-MW27, during the last two monitoring events conducted on March 2, 2009 and September 2, 2009. The table below presents the Benzene concentrations (µg/L) used for preparation of the CAP Supplement, dated April 17, 2008, in addition to the last three groundwater sampling events:

WELL ID	SAMPLE DATE			
	04/17/2008	10/15/2008	03/02/2009	09/02/2009
UST645-MW26	1,780	521	0.92	9.03
UST645-MW27	96.9	0.98	1,030	1,480
	Benzene Concentrations in µg/L			

As is indicated on the attached figure, the "hot-spot" of dissolved phase contamination appears to have shifted in an eastward direction. Furthermore, a review of the most recent preliminary data generated from the September 2009 monitoring event suggests that the overall deep zone dissolved phase plume geometry is similar yet less expansive than historical interpretations with an overall reduction of benzene concentrations.

Based on this data, additional investigation has been deemed necessary prior to the installation and implementation of the proposed Deep Zone Bio-sparge system. The proposed additional investigation activities include the installation of three (3) groundwater monitoring wells installed approximately 100 linear feet west, east, and south of existing monitoring well UST645-MW27. The additional wells are proposed to be installed with a screened interval extending from approximately 75 to 80 feet BLS. Installation of the proposed wells is intended to provide information that may assist in refinement of the dissolved phase plume with respect to the deep zone "hot-spot". Additionally, groundwater sampling and analysis will be necessary in order to characterize the dissolved phase contaminant plume and develop an appropriate remedial response. In order to achieve this goal, a proposed submittal date to the NCDENR for the report is February 5, 2010.

CATLIN appreciates the opportunity to continue to provide services to NAVFAC Mid-Atlantic and the MCB on your environmental projects.

Sincerely,

NORTH CAROLINA PROFESSIONAL SEAL 11299 ENGINEER MICHAEL E. MASON

Michael E. Mason, P.E.
CATLIN Program Manager

Steven V. Hudson, P.G.
Project Manager

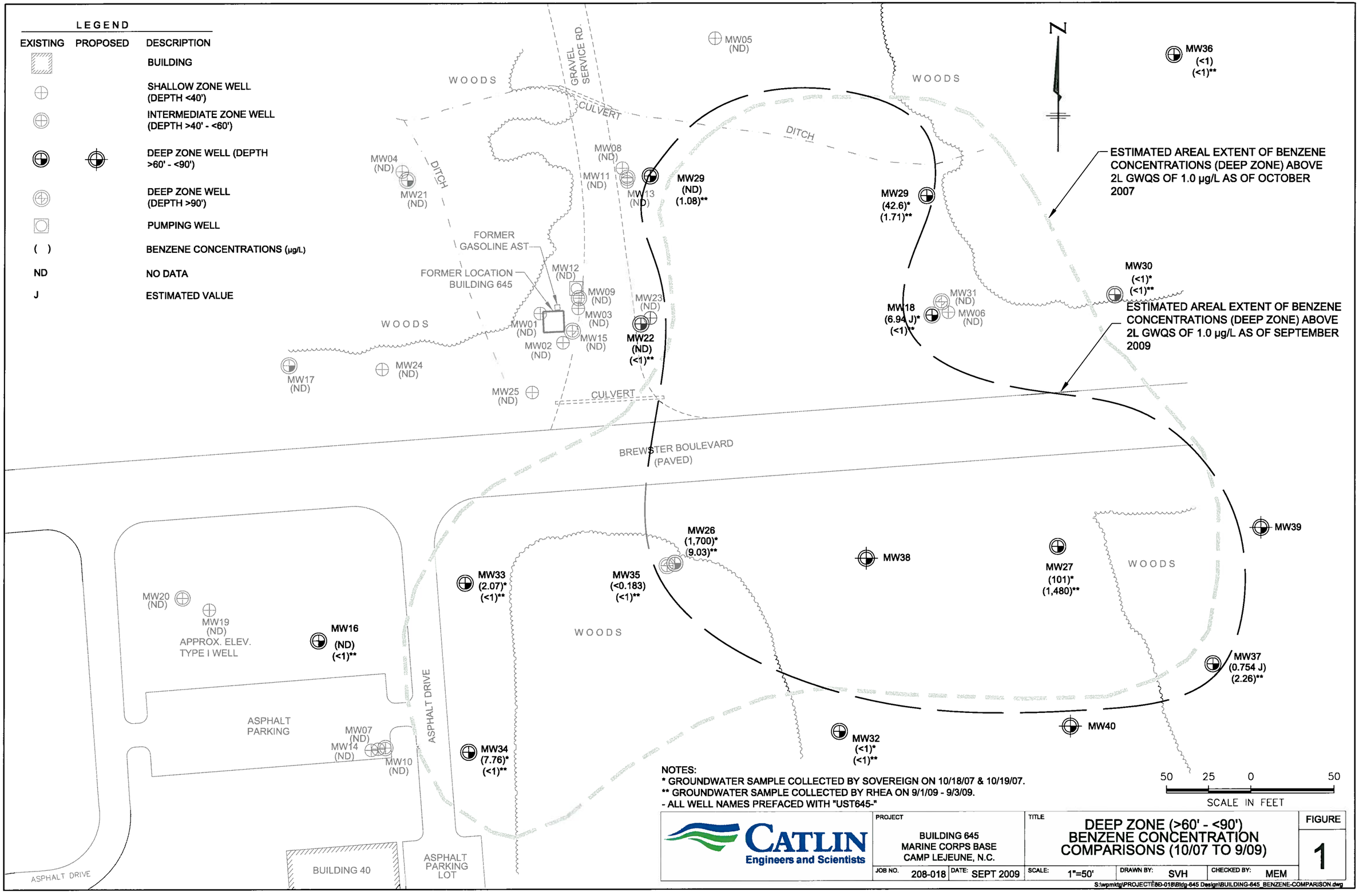
Enclosure

cc: Commanding Officer, Attn: Director I&E/EMD/EQB (w/ enclosure)
Ms. Susan Tsimpinos, NAVFAC Mid-Atlantic – Contract Specialist (correspondence only)

Bldg 645 Extension Request.doc

LEGEND

EXISTING	PROPOSED	DESCRIPTION
▨		BUILDING
⊕		SHALLOW ZONE WELL (DEPTH <40')
⊕		INTERMEDIATE ZONE WELL (DEPTH >40' - <60')
⊕	⊕	DEEP ZONE WELL (DEPTH >60' - <90')
⊕		DEEP ZONE WELL (DEPTH >90')
○		PUMPING WELL
( )		BENZENE CONCENTRATIONS (µg/L)
ND		NO DATA
J		ESTIMATED VALUE



NOTES:
* GROUNDWATER SAMPLE COLLECTED BY SOVEREIGN ON 10/18/07 & 10/19/07.
** GROUNDWATER SAMPLE COLLECTED BY RHEA ON 9/1/09 - 9/3/09.
- ALL WELL NAMES PREFACED WITH "UST645-"

50 25 0 50
SCALE IN FEET

CATLIN Engineers and Scientists

PROJECT	BUILDING 645 MARINE CORPS BASE CAMP LEJEUNE, N.C.
TITLE	DEEP ZONE (>60' - <90') BENZENE CONCENTRATION COMPARISONS (10/07 TO 9/09)
FIGURE	1
JOB NO.	208-018
DATE:	SEPT 2009
SCALE:	1"=50'
DRAWN BY:	SVH
CHECKED BY:	MEM

S:\wpmktg\PROJECTS\BD-018\Bldg-645 Design\BUILDING-645_BENZENE-COMPARISON.dwg