

**Baker**

**Baker Environmental, Inc.**  
 Airport Office Park, Building 3  
 420 Rouser Road  
 Coraopolis, Pennsylvania 15108

(412) 269-6000  
 FAX (412) 269-2002

March 27, 1998

Commanding General  
 ACS-EMD Building 67, Room 238  
 PSC Box 20004 Marine Corps Base  
 Camp Lejeune, North Carolina 28542-0004

Attn: Mr. Mick Senus

Re: Contract N62470-89-D-4814  
 Navy CLEAN, District III  
 Contract Task Orders (CTOs) 232, 303, 323, and 356  
 US Highway 17 Bypass (Project 8.T261301 U-2017B)  
 Monitoring Well Abandonment and Replacement  
 Operable Unit (OU) No. 10 (Site 35)  
 OU No. 6 (Site 36)  
 OU No. 16 (Site 89)  
 Marine Corps Base, Camp Lejeune, North Carolina

Dear Mr. Senus:

Baker Environmental, Inc. (Baker) is pleased to submit the enclosed information related to the impending impact to a number of the groundwater monitoring wells installed under the Installation Restoration Program (IRP) at Marine Corps Base (MCB), Camp Lejeune, North Carolina. As shown on the enclosed drawing, the information depicted (highlighted in yellow) represents the right-of-way limits using northings and eastings provided by the North Carolina, Department of Transportation (DOT). In addition, the easements represented on the drawing were digitized from the North Carolina Division of Highways design drawings for US Highway 17 Bypass to Wilson Bay, South of Jacksonville (Project 8.T261301 U-2017B). These highway drawings were approved by the Federal Highway Administration on December 15, 1997.

Included for your use are two copies of the March 1998 drawing that represents the locations of the above mentioned Camp Lejeune sites, as well as the limits of the proposed US Highway 17 Bypass. Tables have also been provided for each of the sites. The information contained therein reflects the relevant well information as affected by the proposed US Highway 17 Bypass. The wells that need to be abandoned and those that need to be abandoned and replaced are highlighted on the tables. Copies of the enclosed tables have been forwarded to you directly via e-mail. One overall summary table has also been provided; it incorporates all of the affected IRP wells.



A Total Quality Corporation

**Baker**

Mr. Mick Senus  
March 27, 1998  
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Should you have any questions or require additional information, please do not hesitate to contact me directly at (412)269-2062, or Mr. Matt Bartman, Camp Lejeune Activity Coordinator, at (412)269-2053.

Sincerely,

BAKER ENVIRONMENTAL, INC.



Kathy Chavara, P.E.  
Project Engineer

KMC/rw  
Enclosures

cc: Ms. Lee Anne Rapp, P.E. Code 18312 (w/out enclosures)  
Ms. Beth Collier, Code 02115 (w/out enclosures)  
Ms. Katherine Landman, Code 18232 (w/ enclosures)

Existing Wells Within/Adjacent to US Highway 17 Bypass  
 Project: 8.T2C.01 U-2107B  
 R.O.W./Easement Boundaries Per DOT Federal Administration Approval December 15, 1997  
 Operable Unit No. 10  
 (Site 35) Camp Geiger Area Fuel Farm

Well Number	To be abandoned				# of replacement wells	NC State Plane Coordinates		Comments
	2 Well Cluster	Shallow Single Well	Intermediate Single Well	Deep Single Well		Northing	Easting	
IR35-EMW02		x				363818.6244	2465413.237	May have been previously abandoned
IR35-EMW03		x				363729.091	2465351.1	4" diameter well
IR35-EMW04		x				363888.7639	2465420.183	May have been previously abandoned
IR35-EMW06			x			363585.283	2465447.37	
IR35-EMW07		x				363380.683	2465647.55	
IR35-MW12	x				2	363797.114	2465060.43	Replace existing cluster with shallow and intermediate well
IR35-MW13	x					363950.403	2465230.54	
IR35-MW16	x				2	363461.64	2465481.35	Replace existing cluster with shallow and intermediate well
IR35-MW17	x					363690.485	2465466.48	
IR35-MW18	x					363532.9781	2465631.427	
IR35-MW19	x				2	363409	2465748.36	Replace existing cluster with shallow and intermediate well
IR35-MW22	x				2	363301.78	2465422.97	Replace existing cluster with shallow and intermediate well
IR35-MW23	x					363842.14	2465501.78	On or close to the ROW border.
IR35-MW26A		x			1	363218.09	2465389.83	Replace with a shallow well
IR35-MW26B			x		1	363200.13	2465390.32	Replace with an intermediate well
IR35-MW27		x				363205.7319	2465430.86	
IR35-MW33A		x			1	363097.6	2465638.56	Replace with a shallow well
IR35-MW33B			x		1	363097.43	2465634.31	Replace with an intermediate well
IR35-MW35A		x			1	362994.51	2465844.67	Replace with a shallow well
IR35-MW35B			x		1	362997.69	2465840.37	Replace with an intermediate well
IR35-MW36A		x			1	363068.75	2466050.97	Replace with a shallow well
IR35-MW36B			x		1	363075.13	2466049.6	Replace with an intermediate well
IR35-PW28		x				363231.8601	2465491.508	
IR35-GWD05				x	1	363296.5	2465810.31	Replace with a deep well
IR35-GWD02				x	1	363479.08	2465479.12	Replace with a deep well
IR35-MW42B			x			361201.56	2465751.01	Replace with an intermediate well
IR35-MW44A		x				363602.3	2465681.2	On or close to the ROW border.
IR35-MW44B			x			363599.8	2465684.6	On or close to the ROW border.
IR35-MW45A		x				363597.3	2465673.5	
IR35-MW45B			x			363599.6	2465676.4	
IR35-MW46A		x				363580.2	2465702	On or close to the ROW border.
IR35-MW46B			x			363590.3	2465692.1	On or close to the ROW border.
IR35-MW50A		x				363625.6	2465664.4	On or close to the ROW border.
IR35-MW50B			x			363613.9	2465673	On or close to the ROW border.
IR35-MW51B			x			363365.963	2465860.013	On or close to the ROW border.
IR35-MW52A		x				363367	2465851	

Existing Wells Within/Adjacent to US Highway 17 Bypass  
 Project: 8.T20.001 U-2107B  
 R.O.W./Easement Boundaries Per DOT Federal Administration Approval December 15, 1997  
 Operable Unit No. 10  
 (Site 35) Camp Geiger Area Fuel Farm

Well Number	To be abandoned				# of replacement wells	NC State Plane Coordinates		Comments
	2 Well Cluster	Shallow Single Well	Intermediate Single Well	Deep Single Well		Northing	Easting	
IR35-MW52B			x			363369.1247	2465851	
IR35-MW53A		x				363358.0772	2465842.063	
IR35-MW53B			x			363354.0975	2465841.574	
IR35-MW54A		x				363371	2465840	
IR35-MW54B			x			363373.1247	2465840	
IR35-MW56B			x			363338	2465887	On or close to the ROW border.
IR35-MW57B			x			363405	2465830	On or close to the ROW border.
IR35-MW58B			x			363316	2465813	
<b>Totals</b>	<b>8</b>	<b>17</b>	<b>17</b>	<b>2</b>	<b>18</b>			

TOTAL TO BE ABANDONED                      44  
 TOTAL TO BE REPLACED                      18

Notes:

- 1.) A 2 well cluster is a shallow and an intermediate well installed in a single borehole.
- 2.) Current practice at Camp Lejeune is to install 1 permanent monitoring well per borehole. Replacing 2 well clusters will require the installation of 2 wells.
- 3.) Borehole depth of 2 well clusters is approximately 35-40 ft below ground surface.
- 4.) Borehole depth of shallow wells is approximately 20 ft below ground surface.
- 5.) Borehole depth of intermediate wells is approximately 35-40 ft below ground surface.
- 6.) Borehole depth of deep wells is approximately 65 ft below ground surface.

Existing Wells Within/Adjacent to US Highway 17 Bypass

Project: 8.T.2 U-2107B

R.O.W./Easement Boundaries Per DOT Federal Administration Approval December 15, 1997

Operable Unit No. 6

(Site 36) Camp Geiger Area Dump

Well Number	To be abandoned				# of replacement wells	NC State Plane Coordinates		Comments
	2 Well Cluster	Shallow Single Well	Intermediate Single Well	Deep Single Well		Northing	Easting	
IR36-GW04		x			0	362035.9971	2466887.949	Abandon well; do not replace.
IR36-GW06		x			0	362249.6111	2466333.796	Abandon well; do not replace.
IR36-GW06DW				x	0	362251.6494	2466323.09	Abandon well; do not replace.
IR36-GW08		x			0	361715.1484	2466924.778	Abandon well; do not replace.
IR36-GW12		x			1	362287.4632	2467406.472	Abandon and replace with a shallow well.
IR36-GW12IW			x		1	362286.6412	2467396.325	Abandon and replace with an intermediate well.
IR36-GW14		x			0	362343.6574	2466585.879	Abandon well; do not replace.
IR36-GW15		x			1	362224.34	2467109.01	Abandon and replace with shallow well.
IR36-GW17		x			0	2466573.12	361801.96	Abandon well; do not replace.
Totals	0	7	1	1	3			

TOTAL TO BE ABANDONDED 9

TOTAL TO BE REPLACED 3

Notes:

- 1.) A 2 well cluster is a shallow and an intermediate well installed in a single borehole.
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Existing Wells Within/Adjacent to US Highway 17 Bypass

Project: 8.T261301 U-2107B

R.O.W./Easement Boundaries Per DOT Federal Administration Approval December 15, 1997

Operable Unit No. 16 (Site 89)

Well Number	To be abandoned				# of replacement wells	NC State Plane Coordinates		Comments
	2 Well Cluster	Shallow Single Well	Intermediate Single Well	Deep Single Well		Northing	Easting	
IR89-MW08DW				x	1	360662.872	2468349.055	Abandon and replace with a deep well.
IR89-MW08IW			x		1	360665.302	2468344.423	Abandon and replace with an intermediate well.
IR89-MW42B		x			1	361202.46	2465659.44	Abandon and replace with a shallow well.
Totals	0	1	1	1	3			

TOTAL TO BE ABANDONDED 3

TOTAL TO BE REPLACED 3

Notes:

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Existing Wells Within/Adjacent to US Highway 17 Bypass

Project: 8.T20.001 U-2107B

R.O.W./Easement Boundaries Per DOT Federal Administration Approval December 15, 1997

Operable Unit Nos. 6, 10 and 16 (Sites 35, 36, and 89)

Well Number	To be abandoned				# of replacement wells	NC State Plane Coordinates		Comments
	2 Well Cluster	Shallow Single Well	Intermediate Single Well	Deep Single Well		Northing	Easting	
OU No. 10 (Site 35) Camp Geiger Area Fuel Farm								
IR35-EMW02		x				363818.6244	2465413.237	May have been previously abandoned
IR35-EMW03		x				363729.091	2465351.1	4" diameter well
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IR35-MW13	x					363950.403	2465230.54	
IR35-MW16	x				2	363461.64	2465481.35	Replace existing cluster with shallow and intermediate well
IR35-MW17	x					363690.485	2465466.48	
IR35-MW18	x					363532.9781	2465631.427	
IR35-MW19	x				2	363409	2465748.36	Replace existing cluster with shallow and intermediate well
IR35-MW22	x				2	363301.78	2465422.97	Replace existing cluster with shallow and intermediate well
IR35-MW23	x					363842.14	2465501.78	On or close to the ROW border.
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Existing Wells Within/Adjacent to US Highway 17 Bypass  
 Project: 8.1.1.001 U-2107B  
 R.O.W./Easement Boundaries Per DOT Federal Administration Approval December 15, 1997  
 Operable Unit Nos. 6, 10 and 16 (Sites 35, 36, and 89)

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IR35-MW57B			x			363405	2465830	On or close to the ROW border.
IR35-MW58B			x			363316	2465813	
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IR89-MW08IW			x		1	360665.302	2468344.423	Abandon and replace with an intermediate well.
IR89-MW42B		x			1	361202.46	2465659.44	Abandon and replace with a shallow well.
<b>Totals</b>	<b>8</b>	<b>25</b>	<b>19</b>	<b>4</b>	<b>24</b>			

TOTAL TO BE ABANDONED 56  
 TOTAL TO BE REPLACED 24

Notes:

- 1.) A 2 well cluster is a shallow and an intermediate well installed in a single borehole.
- 2.) Current practice at Camp Lejeune is to install 1 permanent monitoring well per borehole. Replacing 2 well clusters will require the installation of 2 wells.
- 3.) Borehole depth of 2 well clusters is approximately 35-40 ft below ground surface.
- 4.) Borehole depth of shallow wells is approximately 20 ft below ground surface.
- 5.) Borehole depth of intermediate wells is approximately 35-40 ft below ground surface.
- 6.) Borehole depth of deep wells is approximately 65 ft below ground surface.