

**Perchlorate Results for Creek Sampling**  
**Longhorn Army Ammunition Plant, Karnack, Texas**

Creek Sample ID	GW-Res	Mar 2008	Jun 2008	Sep 2008	Dec 2008	May 2009	July 2009	Aug 2009	Sep 2009	Dec 2009	Mar 2010	Jun 2010	Sep 2010	Dec 2010	Mar 2011	Jun 2011
GPW-1	26	27	0.5U	0.5U	0.22U	16	4U	NS	1.2U	3.7	1.3J	0.6U	dry	0.1U	8.7	dry
GPW-3	26	21.9	9.42	1.1	0.22U	8.9	4U	NS	0.6U	2.8	1.8J	0.6U	dry	0.199J	0.673	dry
HBW-1	26	0.5U	0.5U	0.5U	0.22U	0.55U	4U	NS	1.5U	0.275U	1.5U	0.6U	dry	0.1U	0.2U	dry
HBW-7	26	0.5U	0.5U	0.5U	0.22U	0.55U	4U	24*	1.2U	0.275U	1.5U	0.6U	dry	0.1U	0.2U	dry
HBW-10	26	0.5U	0.5U	0.5U	0.22U	0.55U	4U	NS	1.5U	0.275U	1.2U	0.6U	dry	0.1U	0.2U	dry

**NOTES:**

all units in micrograms/liter (µg/L)

\* One sample taken during GWTP shutdown

U undetected

J approximate value present below normal reporting limit

GW-Res groundwater medium-specific concentration for residential use

NS not sampled

GP is Goose Prairie Creek

HB is Harrison Bayou

W is surface water

**Creek Conditions for last four sampling events:**

September 2010 conditions: All creek sampling locations were dry in September.

December 2010 conditions: GP sampling locations some water but no visible flow; HB sampling locations plenty of water volume but very little flow

March 2011 conditions: GP sampling locations slow flow; HB sampling locations fairly good flow

June 2011 conditions: All creek sampling locations were dry in June.

**Perchlorate Results for Perimeter Well Sampling  
Longhorn Army Ammunition Plant, Karnack, Texas**

Well ID	GW Res	Sep 2006	May 2007	Aug 2007	Dec 2007	Mar 2008	Sep 2008	May 2009	Sep 2009	Mar 2010	Sep 2010	Mar 2011
LHPMW108	26	10 U		0.5U			2.5 U		1.2U		3.0U	
LHPMW110	26	10 U		10U			5.0 U		6.0U		dry	
LHPMW111	26	4 U		0.5U			0.5 U		0.30U		dry	
LHPMW112	26	5 U		3U			2.0 U		0.30U		3.0U	
LHPMW133	26	1.08	1 U	1.09	0.5 U	0.5 U	0.5 U	0.47 J	0.32J	0.30U	0.32J	0.59
LHPMW134	26	0.708 J	1 U	0.949 J	0.5 U	0.5 U	0.829 J	0.40 J	0.30U	0.30U	0.45J	0.636

**NOTES:**

all units in µg/L

µg/L micrograms/liter

U undetected

J Present below normal reporting limit but greater than or equal to the MDL and the concentration is an approximate value.

L Result biased low.

MDL method detection limit

# Validation Qualifier Data Entry Verification

## Longhorn Army Ammunition Plant

Run Date: October 5, 2010

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Sample Number:	Analytical/Extraction Method:		Flt	REX	Dil:	Parameter:	Result:	Units:	Qlfr:	Hit	Use	BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
	1	2													3	4				
LH-SP140-7370-G	E314.0	NONE	N	0	500	Perchlorate	22000	ug/L		Y	Y								680-61315-6	12:16
LH-SP650-6368-G	E314.0	NONE	N	0	4	Perchlorate	1.2	ug/L	U	N	Y		U						680-61315-7	12:31
PW108-100913	E314.0	NONE	N	0	10	Perchlorate	3.0	ug/L	U	N	Y		U						680-61315-5	15:46
PW112-100913	E314.0	NONE	N	0	10	Perchlorate	3.0	ug/L	U	N	Y		U						680-61315-3	11:31
PW112-100913-FD	E314.0	NONE	N	0	10	Perchlorate	3.0	ug/L	U	N	Y		U						680-61315-4	11:46
PW133-100913	E314.0	NONE	N	0	1	Perchlorate	0.32	ug/L	J	Y	Y		J						680-61315-1	11:01
PW134-100913	E314.0	NONE	N	0	1	Perchlorate	0.45	ug/L	J	Y	Y		J						680-61315-2	11:16

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Houston, TX	B. Lu	08/31/06	P. Srivastav 08/31/06	T:\GIS\Longhorn\MXD\PRV\Maps\PerimeterWells.mxd

Plot Date: 08/06

**Legend**

- Shallow Perimeter Well
- Intermediate Perimeter Well
- ▭ Lake/Pond
- ▭ LHAAP Approximate Boundary
- Road
- Stream
- Site



**Shaw**

U.S. ARMY CORPS OF ENGINEERS  
TULSA DISTRICT  
TULSA, OKLAHOMA

PERIMETER WELL LOCATION MAP

LONGHORN ARMY AMMUNITION PLANT  
KARNACK, TEXAS

FIGURE 1