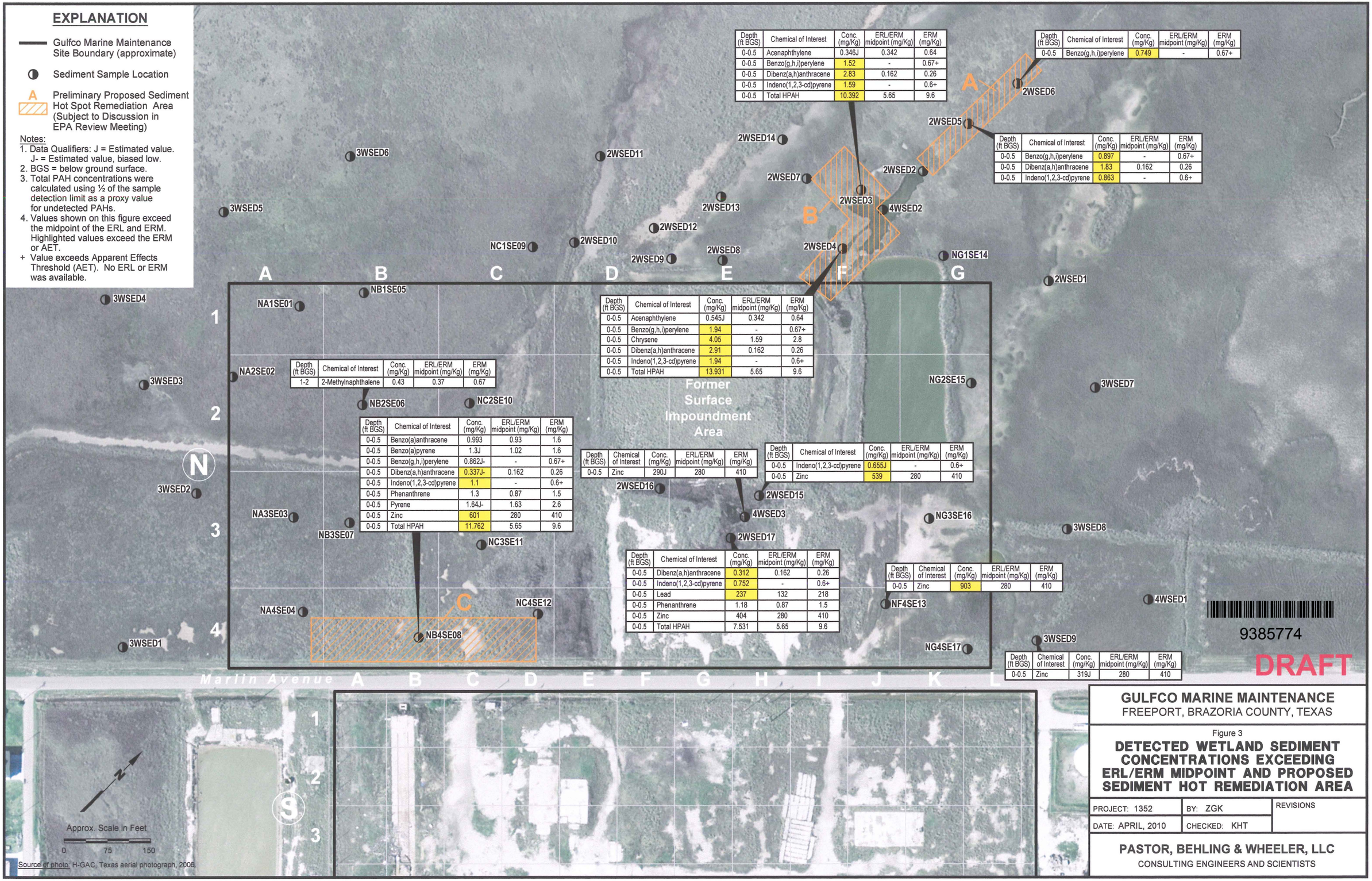
EXPLANATION

Gulfco Marine Maintenance Site Boundary (approximate)

Sediment Sample Location

A Preliminary Proposed Sediment Hot Spot Remediation Area (Subject to Discussion in EPA Review Meeting)

Notes:
1. Data Qualifiers: J = Estimated value. J- = Estimated value, biased low.
2. BGS = below ground surface.
3. Total PAH concentrations were calculated using ½ of the sample detection limit as a proxy value for undetected PAHs.
4. Values shown on this figure exceed the midpoint of the ERL and ERM. Highlighted values exceed the ERM or AET.
+ Value exceeds Apparent Effects Threshold (AET). No ERL or ERM was available.



Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Acenaphthylene	0.346J	0.342	0.64
0-0.5	Benzo(g,h,i)perylene	1.52	-	0.67+
0-0.5	Dibenz(a,h)anthracene	2.83	0.162	0.26
0-0.5	Indeno(1,2,3-cd)pyrene	1.59	-	0.6+
0-0.5	Total HPAH	10.392	5.65	9.6

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Benzo(g,h,i)perylene	0.749	-	0.67+

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Benzo(g,h,i)perylene	0.897	-	0.67+
0-0.5	Dibenz(a,h)anthracene	1.83	0.162	0.26
0-0.5	Indeno(1,2,3-cd)pyrene	0.863	-	0.6+

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Acenaphthylene	0.545J	0.342	0.64
0-0.5	Benzo(g,h,i)perylene	1.94	-	0.67+
0-0.5	Chrysene	4.05	1.59	2.8
0-0.5	Dibenz(a,h)anthracene	2.91	0.162	0.26
0-0.5	Indeno(1,2,3-cd)pyrene	1.94	-	0.6+
0-0.5	Total HPAH	13.931	5.65	9.6

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
1-2	2-Methylnaphthalene	0.43	0.37	0.67

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Benzo(a)anthracene	0.993	0.93	1.6
0-0.5	Benzo(a)pyrene	1.3J	1.02	1.6
0-0.5	Benzo(g,h,i)perylene	0.862J-	-	0.67+
0-0.5	Dibenz(a,h)anthracene	0.337J-	0.162	0.26
0-0.5	Indeno(1,2,3-cd)pyrene	1.1	-	0.6+
0-0.5	Phenanthrene	1.3	0.87	1.5
0-0.5	Pyrene	1.64J-	1.63	2.6
0-0.5	Zinc	601	280	410
0-0.5	Total HPAH	11.762	5.65	9.6

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Zinc	290J	280	410

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Indeno(1,2,3-cd)pyrene	0.655J	-	0.6+
0-0.5	Zinc	539	280	410

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Dibenz(a,h)anthracene	0.312	0.162	0.26
0-0.5	Indeno(1,2,3-cd)pyrene	0.752	-	0.6+
0-0.5	Lead	237	132	218
0-0.5	Phenanthrene	1.18	0.87	1.5
0-0.5	Zinc	404	280	410
0-0.5	Total HPAH	7.531	5.65	9.6

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Zinc	903	280	410

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)	ERL/ERM midpoint (mg/Kg)	ERM (mg/Kg)
0-0.5	Zinc	319J	280	410

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 3
DETECTED WETLAND SEDIMENT CONCENTRATIONS EXCEEDING ERL/ERM MIDPOINT AND PROPOSED SEDIMENT HOT REMEDIATION AREA

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: APRIL, 2010	CHECKED: KHT	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS