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ANNUAL MONITORING REPORT

02/21/2005



Via Federal Express

February 21, 2005

Mr. Ed Martin New Mexico Oil Conservation Division 1220 St. Francis Dr. Santa Fe, NM 87504

RE: 2004 Pit Project Annual Groundwater Report

Dear Mr. Martin:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 20 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 20 Annual Reports (Volumes 1, 2 and 3) by land type. Volume 1 contains Annual Reports for sites found on Federal land. Volume 2 contains Non Federal land sites and Volume 3 contains one site on Navajo land. EPFS understands closure of groundwater sites on Navajo lands falls under jurisdiction of the Navajo Nation Environmental Protection Agency; however, the Navajo site report is included for your information.

If you have any questions concerning the enclosed reports, please call me at (719) 520-4433.

Sincerely,

Sione T. Pare

Scott T. Pope P.G. Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; Federal Express Mr. Bill Liesse, BLM - w/ enclosures (federal sites only), Federal Express Dr. Ted Helfgott, Enterprise - w / enclosures (Enterprise sites only), Federal Express Groundwater Pit File w / o enclosures Pam Anderson - MWH, w / o enclosures Inside Pocket of Each Volume of Report

El Paso Corporation 2 North Nevada

Colorado Springs,

Colorado 80903



Federal Groundwater Site Map



EPFS GROUNDWATER SITES 2004 ANNUAL GROUNDWATER REPORT

Hamner #9 Meter Code: 97213

SITE DETAILS

Legal Description:	Town:	29N	Range:	9W	Sec:	20	Unit:	Α
NMOCD Haz Ranking:	30	Land Type:	Federal	Operator:	Amoco	Product	tion Corr	ipany
PREVIOUS ACT	VITIES							
Site Assessment:	5/94	Excavatio	on:	5/94	Soil Bori	ng:	8/9:	5
Monitor Well:	8/95	Geoprobe	e:	8/96	Addition	al MWs	: 9/99	Ð
Downgradient MWs:	9/99	Replace N	MW:	NA	Quarterl Initiated:	у :	11/9	96
ORC Nutrient Injection:	11/02	Re-Excav	ation:	NA	PSH Ren Initiated	noval :	NA	
Annual Initiated:	8/00	Quarterly	y Resumed:	NA				

SUMMARY OF 2004 ACTIVITIES

- **MW-1:** Semi-annual groundwater sampling and water level monitoring were performed in May and November 2004.
- **MW-2:** Semi-annual water level monitoring was performed in May and November 2004.
- **MW-3:** Semi-annual water level monitoring was performed in May and November 2004.

Site-Wide Activities: No other site activities were performed at this site during 2004.

SITE MAP

Site maps (May and November) are attached in Figures 1 and 2.

SUMMARY TABLES AND GRAPHS

- Analytical data from 2004 are summarized in Table 1, and historic data are shown graphically on Figures 3 through 5.
- Laboratory reports are presented in Attachment 1.
- Field documentation is presented in Attachment 2.



EPFS GROUNDWATER SITES 2004 ANNUAL GROUNDWATER REPORT

Hamner #9 Meter Code: 97213

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this site during 2004.

DISPOSITION OF GENERATED WASTES

No wastes were generated at this site during 2004.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this site, however, the attached site maps present both the groundwater level and analytical data collected during 2004.

CONCLUSIONS

- The groundwater flow direction at this site is to the west, based on historic water level data from 2002 and 2003.
- Analytical results from samples collected at MW-1 indicate that benzene concentrations continued to decrease to concentrations of 57.6 μ g/L and 38.0 μ g/L in 2004, down from a high concentration of 559 μ g/L in 1996.
- Ethylbenzene, toluene, and total xylenes concentrations at MW-1 were below NMWQCC standards in 2004.
- In November 2002, oxygen releasing compound (ORC) slurry was injected into the subsurface near MW-1 (see maps for injection point locations). Following ORC injection in November 2002, the benzene concentrations in MW-1 have decreased in 2003 and 2004, indicating that enhanced natural attenuation is occurring in this location.
- MW-2 was dry during both monitoring events in 2004.

RECOMMENDATIONS

- EPFS will sample MW-1 semi-annually (May and November 2005), at a minimum. If results of the first semi-annual sampling event (May) indicate BTEX concentrations are approaching closure standards, MW-1 will be scheduled for quarterly sampling. The well will continue to be sampled until BTEX concentrations are below NMWQCC standards for four, consecutive quarters, at which time this site will be submitted for closure.
- EPFS will perform water level monitoring at MW-2 and MW-3, in conjunction with the sampling events at MW-1. Because four consecutive annual sampling events at MW-2 and MW-3 indicated BTEX concentrations below detection limits (1999 2002), EPFS recommends that these wells be sampled at closure only.





TABLE 1

SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES HAMNER #9 (METER #97213)

			Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to Water
Site Name	Monitoring Well	Sample Date	(ug/L)	(ng/L)	(ug/L)	(ug/L)	(ft btoc)
Hamner #9	MW-1	5/11/2004	57.6	44.5	52.1	153	32.61
Hamner #9	MW-1	11/16/2004	38.0	26.4	34.7	126	32.88
Hamner #9	MW-1*	11/16/2004	37.2	25.5	33.4	121	ı
< = Analyte not detected at Me	thod Detection Limit (MDL	.). Value shown is M	DL.				

J = Value estimated
* = Duplicate sample





2004 Hamner 9.xls,Hamn MW1

HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS FIGURE 4



2004 Hamner 9.xls,Hamn MW2

HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS HAMNER #9 FIGURE 5



2004 Hamner 9.xls, Hamn MW3