

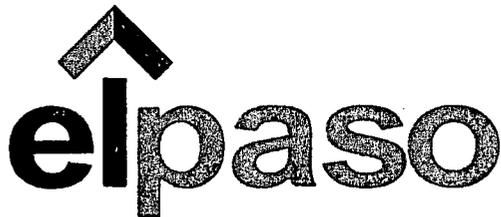
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Oil Conservation Division
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El Paso Tennessee
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San Juan Basin Pit Program
Groundwater Sites Project

Final 2006 Annual Report
Federal Sites (Volume 1)

March 2007



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2006 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I

EL PASO TENNESSEE PIPELINE COMPANY

MAR 06 2007

Oil Conservation Division
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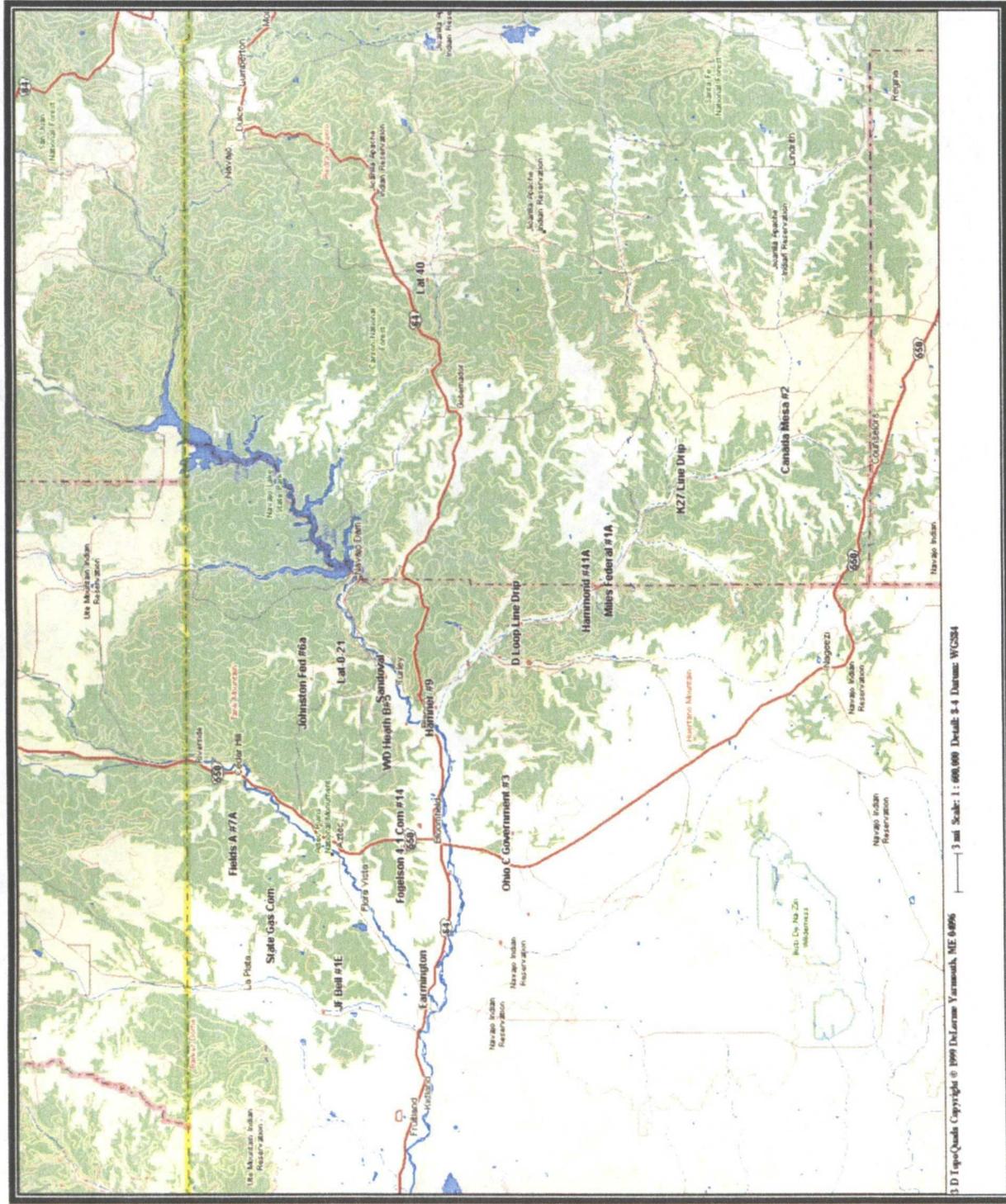
TABLE OF CONTENTS

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
89961	Fields A#7A	32N	11W	34	E
89232	Johnston Fed #6A	31N	09W	35	F
94715	James F. Bell #1E	30N	13W	10	P
89620	Sandoval GC A #1A	30N	09W	35	C
LD151	Lat 0-21 Line Drip	30N	09W	12	O
73220	Fogelson 4-1 Com. #14	29N	11W	4	P
97213	Hamner #9	29N	09W	20	A
LD174	LAT L 40	28N	04W	13	H
89894	Hammond #41A	27N	08W	25	O
94810	Miles Fed 1A	26N	07W	5	F
LD072	K27 LD072	25N	06W	4	E
87640	Canada Mesa #2	24N	06W	24	I
70194	Johnston Fed #4	31N	09W	33	H



MWH

Federal Groundwater Site Map



LIST OF ACRONYMS

B	benzene
btoc	below top of casing
E	ethylbenzene
EPTPC	El Paso Tennessee Pipeline Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitoring well
PSH	phase-separated hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NE	not established
NM	not measured
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
ppb	parts per billion
µg/L	micrograms per liter
X	total xylenes

**EPTPC GROUNDWATER SITES
2006 ANNUAL GROUNDWATER REPORT**

**Sandoval GC A #1A
Meter Code: 89620**

SITE DETAILS

Legal Description:	Town: 30N	Range: 9W	Sec: 35	Unit: C
NMOCD Haz Ranking:	10	Land Type:	Federal	Operator: BP \ Amoco Production Company

PREVIOUS ACTIVITIES

Site Assessment:	5/94	Excavation:	9/94 (50 cy)	Soil Boring:	5/95
Monitor Well:	5/95	Geoprobe:	NA*	Additional MWs:	NA*
Downgradient MWs:	NA	Replace MW:	8/97	Quarterly Initiated:	4/96
ORC Nutrient Injection:	10/01	Re-Excavation:	7/97 (504cy)	PSH Removal Initiated:	NA
Annual Initiated:	4/99	Quarterly Resumed:	NA		

*Downgradient monitoring wells were attempted in 1995, but met with drilling refusal. In 1997, geoprobe borings were attempted, but were again met with drilling refusal.

SUMMARY OF 2006 ACTIVITIES

MW-1: Annual groundwater sampling and dissolved oxygen measurements were conducted in November 2006. Oxygen releasing compound (ORC) socks in MW-1 were replaced during November 2006.

Site-Wide Activities: No other activities were performed at this site during 2006.

SITE MAP

A site map (November) is attached in Figure 1.

SUMMARY TABLES AND GRAPHS

- Analytical data for 2006 are included in Table 1, and historic data are presented graphically in Figure 2.
- The 2006 analytical report is presented in Attachment 1 (included on CD).
- Field documentation is presented in Attachment 2 (included on CD).

**EPTPC GROUNDWATER SITES
2006 ANNUAL GROUNDWATER REPORT**

**Sandoval GC A #1A
Meter Code: 89620**

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this site during 2006.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this site; however, the attached site map presents the analytical data collected during 2006.

CONCLUSIONS

- Regional groundwater flow is estimated to be toward the south.
- The dissolved oxygen concentration in MW-1 was 2.53 mg/L in November, indicating that sufficient oxygen is present for natural aerobic biodegradation to proceed uninhibited.
- The benzene concentration in MW-1 has decreased in 2006 with a measured concentration of 198 µg/L, as compared with the measured concentration of 338 µg/L in 2005. Benzene concentrations continue to decrease from the historic high concentration of 10,400 µg/L in 1996.
- Previous attempts to install downgradient monitoring wells in December 1995 resulted in drilling refusal. Therefore, additional wells are not considered to be feasible at this site.

RECOMMENDATIONS

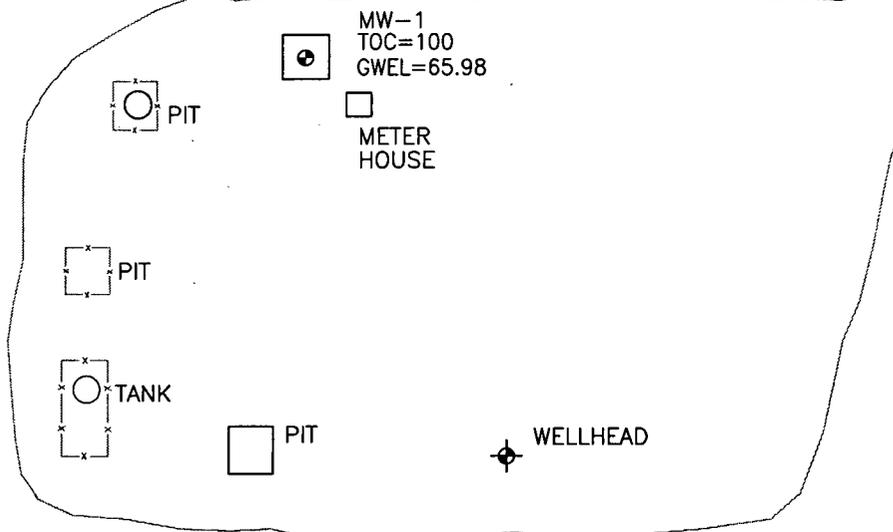
- EPTPC will continue annual groundwater sampling (including dissolved oxygen measurements) at MW-1.
- EPTPC will continue to inspect the ORC socks installed in MW-1 and will replace them annually.

TABLE 1

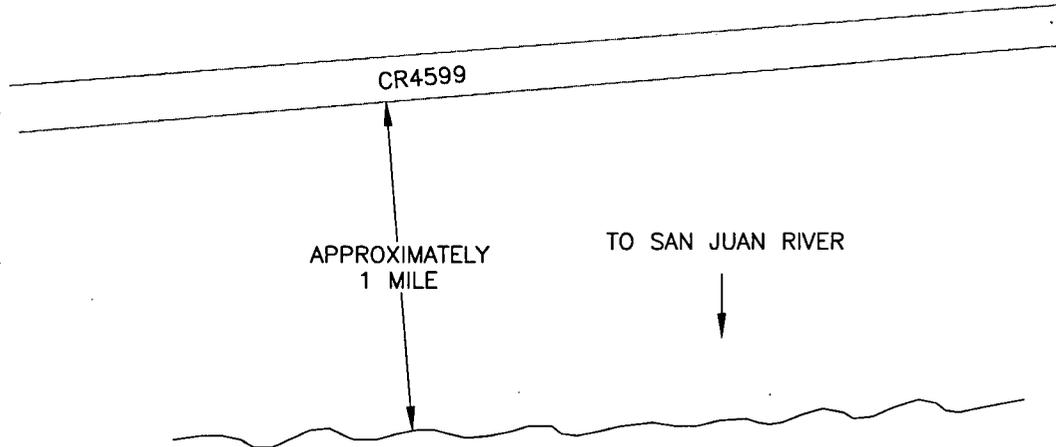
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
SANDOVAL GC A #1A (METER #89620)

Site Name	Sample Date	Monitoring Well	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (feet btoc)
Sandoval GC A #1A	5/30/1995	MW-1	5500	3980	579	4780	34.49
Sandoval GC A #1A	4/12/1996	MW-1	10400	8960	925	10100	35.39
Sandoval GC A #1A	7/26/1996	MW-1	8980	7980	1000	9430	35.61
Sandoval GC A #1A	10/18/1996	MW-1	11050	9960	900	10700	35.79
Sandoval GC A #1A	1/21/1997	MW-1	7700	7210	787	8430	35.80
Sandoval GC A #1A	4/16/1997	MW-1	8900	8680	996	9250	35.99
Sandoval GC A #1A	7/11/1997	MW-1	8240	7850	709	8230	36.05
Sandoval GC A #1A	4/13/2000	MW-1	2300	1500	590	5900	34.70
Sandoval GC A #1A	5/30/2001	MW-1	2800	710	560	5200	34.97
Sandoval GC A #1A	5/16/2002	MW-1	3000	1500	440	5300	35.11
Sandoval GC A #1A	5/21/2003	MW-1	3850	601	443	6360	35.26
Sandoval GC A #1A	11/16/2004	MW-1	2490	30.9	346	2860	34.84
Sandoval GC A #1A	11/8/2005	MW-1	338	8.5	80.1	757	33.87
Sandoval GC A #1A	11/7/2006	MW-1	198	3.4	14.9	83.6	34.02

ACCESS ROAD



MW-1	
B	198
T	3.4
E	14.9
X	83.6



LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- GWEL Groundwater Elevation (Relative)
- TOC Top of Casing
- B Benzene ($\mu\text{g/L}$)
- T Toluene ($\mu\text{g/L}$)
- E Ethylbenzene ($\mu\text{g/L}$)
- X Total Xylenes ($\mu\text{g/L}$)



NOT TO SCALE

Fig_1_sandoval_november2005.dwg

SANDOVAL GAS COM A #1A, METER 89620
NOVEMBER 2006

GROUNDWATER SITES
EL PASO TENNESSEE PIPELINE COMPANY

FIGURE 1

FIGURE 2
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER DEPTHS
SANDOVAL GC A #1A
MW-1

