Attachment 1
Response to Comments on September Report

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Parsons Engineering Science Response to CSSA Comments:
Draft September 1999 Quarterly Groundwater Monitoring Report and
Informal Technical Data Information Report
(Date of draft report is December 1999)

Comment No.	Location	Comment	Response
1	1/1.0	Introduction – a) This section provides a summary of what DO this latest sampling event is being conducted under. Please provide additional information on what DO or RL will cover the quarterly monitoring after DO23 ends. b) Second paragraph Second sentence – Please state that the wells ***re***-sampled in 1992. c) Third paragraph – Please reference which volume of the Environmental Encyclopedia the 1997 quarterly monitoring report can be found in. d) Fourth paragraph – Fifth sentence – Please re-word this sentence for clarity. Suggest the text that starts with *fraudulent work…* be reworded to read, "it was reported that ITS Laboratory, who had conducted the CSSA groundwater analyses, had been accused of fraudulent work".	a) Concur. A sentence will be added to reflect six quarters of future groundwater monitoring under RL74, with new wells to be covered under RL83. b) Concur, with following additions. "TDH sampled CSSA well 16 on 8-9 August 1991, followed by resampling on 23 August 1991. TWC sampled well 16 on 4 December 1991. All CSSA wells were sampled in November 1992. c) Text will be added to reference placement of the quarterly groundwater monitoring reports in the Encyclopedia, Volume 5, behind the "Groundwater Monitoring" tab. Please note that the January 1997 report has not yet been placed in the Encyclopedia but will be during the next Encyclopedia update, planned for spring 2000. d) Concur – text will be modified as suggested.
2	2/1.0	Introduction – First paragraph – a) add "and rapid recharge" to the sentence that ends a *due to large amount of rainfall.* b) Please add a reference to the Environmental Encyclopedia Volume where Quarterly Monitoring reports can be found.	a) Concur – text will be modified as suggested. b) Concur. The reference will be Volume 5, behind the "Groundwater Monitoring" tab.
3	*2/2.0*	a) Last Paragraph – delete the word *typically.*	a) Concur.
4	3/2.0	a) Add a reference to the Environmental Encyclopedia Volume that the TIMs summary can be found. b) Please include that Well G is equipped with a gasoline engine and well I uses a windmill. C) Please revise reference that indicates well 11 is a potable water source. Well 11 was taken off the CSSA water distribution system during the spring of 1999 because it had repeatedly tested positive for fecal coliform. Well 11 is still sampled with a dedicated high capacity pump.	a) Final minutes in the Encyclopedia have been entered since April 1999, inception of the Encyclopedia. (The referenced TIM is from 1997.) Addition of all historical meeting minutes would involve several inches of paper and possibly a new binder, thus this action is not recommended. b) Concur. The requested information is also in Table 1. c) Concur – will add after sentence 2: "Well 11 is

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			also sampled through a dedicated high capacity pump; however as of spring 1999 it was removed from the CSSA water distribution system."
5	3/3.0	a) Please include a reference to the October 1998 flood and the resultant record water table elevations. B) Last paragraph – Please include a Environmental Encyclopedia Volume reference for the Well Research Report.	a) Concur – text will be added to Section 3.0, second paragraph, new last sentence, as follows: "The November 1998 sampling event was preceded by historically high rainfalls and flooding, thus affecting recharge and aquifer water levels. The data are presented in Sections 3.1 and 3.2." b) Concur – the reference will be Volume 5 under a new tab to be identified as "Well Research."
6	3/3.1	Please revise first sentence of second paragraph to read, "...pumping was "halted at least" 48 hours prior.... Instead of *performed up to*....	Concur – text will be modified as suggested.
7	5,6,7,8,9/ Figures	Please indicate on the legend which potentiometric maps used the well 10 water levels and which ones did not. It looks like the well 10 airline measurements were not used on Figures 4 or 5. Also check the legend date on Figure 5. We believe this map is from September 1999 not 1997.	Concur: - The table on the side of each figure will be revised to indicate whether well 10 water elevation was used to prepare the figure. - The legend on Figure 5 will be corrected to reference "September 1999."
8	10/3.2	First paragraph – Add "was replaced with a Y2K compliant model" after malfunctioned.	Concur – text will be modified as suggested.
9	Table 2	Using the groundwater elevation data, it might be interesting to create an average seasonal water level for each well. It would give a good read on what is typical for the sampling event time frame, and where we stand compared to typical.	Parsons ES agrees that this is a good suggestion. In reviewing the Table 2 data, however, it appears that much of the available data is clustered around 2 or 3 events, thus biasing a baseline to what is typical or seasonal at CSSA. We recommend that an approach for determination of a good baseline data set be discussed with AFCEE and CSSA and addressed under the upcoming groundwater modeling task under RL74.
10	14/4.0	a) First paragraph - Please place the agencies approval letter in an appendix and or in the Environmental Encyclopedia, and reference where it can be found. b) Third paragraph - Please be more specific about which labs we are talking about. Is the Jan/Oct 1997	a) The July 1999 letter from Parsons ES is in Volume 1-1, tab "Correspondence". The TNRCC approval letter of October 1999 will be placed in this tab during the spring 2000 update to the Encyclopedia. EPA's approval was given at the 5

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		data from ITS? If so state this. Also, specify that that the Nov 1998 data came through DHL which used CLP methods that had been approved for screening.	April 1999 TIM; minutes for this meeting are in Volume 1-1, tab "Minutes." b) Concur – a reference to ITS for January and October 1997 data and to DHL for November 1998 data will be added after the first sentence. "CLP methods" refers to an EPA sponsored Contract Laboratory Program which sets guidelines and policies for reporting laboratory analytical results on CERCLA projects. For the November 1998 data, DHL was approved to use EPA SW846 methods; however, reporting followed CLP guidelines, not AFCEE/CSSA QAPP requirements. Text will be added to clarify the analytical methods and reporting used by DHL.
11	Table 4	The table indicates methylene chloride was found in the well 11 samples. If this is a lab contaminant, shouldn't it be stated in the footnotes/flags?	Concur – a footer will be added to Table 4.
12	Figure 7	Lets think about what happened at well 16 in 1991. TCE levels were at record highs (500 ppb+)in August and near record lows (50 ppb) in December. Why was it so high? Was it because we stopped pumping the well? Did it relate to a rainfall or draught? Not necessary to include response in Quarterly report, but it is a head scratcher.	Parsons ES recommends discussion of this item at the 03 February 2000 TIM.
13	28/5.0	Summary – Third Bullet – Please add a short discussion on PCE breakdown and daughter products. Is *trans*-1-2-DCE a degradation product of TCE? If so, that may explain our decreases in TCE, PCE and *cis* and increases in *trans*?	Concur: text will be added to Section 5.
14	Attachment 2	Please include the code name for the Gombert, Hagendorf, and Thompson wells. We assume these are Priv. Wells 1, 2, and 3 from table 4. Also, lets add the actual well owners to Table 4. That way there will be no confusion about which wells we are talking about.	Concur. Parsons ES will clarify the text, Tables 4 and 5, Figure 5, and Appendix B with regard to the offsite wells sampled to date. We propose to use the well IDs found in the draft table for the upcoming Well Research Report. The draft table will be presented at the 03 February 2000 TIM.

Attachment 2
Tabulated Results

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Table 4
Groundwater VOC Analytical Results
Camp Stanley Storage Activity, Texas

Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
1	TDH		8/9/91	Unk.	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U				
	Parsons ES	SW8010/8020	11/3/92	Unk.	**4.7**	**7.3**	**4.5**	0.5U	NA	0.5U	**3.0**	0.5U	0.5U		0.5U	10U	NA
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	**17**	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	**2.0**	**18**	**2.0**	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	3/30/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U		0.6U	1.0U	0.6U
	Chemron	SW8260	6/13/95	Unk.	3U	**7**	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/25/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12./11/95	Unk.	3U	10	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/28/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/7/97[1]	Unk.	0.13U	**0.25 F**	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	**1.5**	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	DHL	SW8260B	11/6/98[1]	Unk.	NA	0.4U	NA	NA	0.3U	0.2U	NA	0.4U	**0.22 F**				
	O'B&G	SW8260B	9/9/99	1:1	0.025U	**0.29F**	0.049U	0.144U	0.145U	0.14U	**0.21F**	0.087U	**0.75F**		0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/14/99	1:1	0.025U	**0.2F**	0.049U	0.144U	0.145U	0.14U	0.06U	**0.17F**	**0.7F**	0.019U	0.054U	0.073U	0.017U
2	Parsons ES	SW8010/8020	11/3/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	**3.2**	**0.52**	0.5U				
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	**0.44**	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	**4.0**	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	4/6/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	**1.0**	0.4U				
	Chemron	SW8260	6/13/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/30/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
Duplicate	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/29/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/15/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	DHL	SW8260B	11/6/98[1]	Unk.	NA	0.4U	NA	NA	0.3U	0.2U	NA	0.43	0.2U				
	O'B&G	SW8260B	9/7/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	**1.109F**	0.06U	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/14/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Duplicate	O'B&G	SW8260B	12/14/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Comparison Criteria			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	7
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260A	MDL	--	0.130	0.110	0.100	0.230	0.200	0.330	0.230	0.470	0.340				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

Notes:

Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results.

- ug/L = micrograms per liter
- * Chlorination byproducts in water supply well (referenced in SWDA drinking water regulations as THMs, or trihalomethanes). MCL for total concentration of THMs is 100 ug/L.
- F = Laboratory data qualifier indicates the analyte was detected above the MDL but below the Practical Quantitation Limit (PQL).
- J = The analyte was positively identified below quantitation limits; the quantitation is an estimate.
- NA = Not sampled for this parameter
- R = The data are unusable with deficiencies in the ability to analyze the sample and meet criteria.

U = Set at MDL (Not Detect)

[1] = Indicates data is screening analytical data only

[2] = Chemron quantitation limits varied over the years that samples were analyzed by the lab. Values listed are for June 1995 through February 1996.

Detected concentrations are in bold type.

Concentrations above the MCL have a box around them.

Shaded areas indicate analytical data analyzed by ITS Laboratories.

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Groundwater VOC Analytical Results
Camp Stanley Storage Activity, Texas

Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
3	Parsons ES	SW8010/8020	11/4/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	2.0U	**1.1**	0.5U		0.5U	10U	NA
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	**0.95**	1.2U				
Duplicate	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	**0.92**	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	3.0	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	0.8U	1.0U	1.0U	1.0U				
	Chemron	SW8260	4/6/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	6/13/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
Duplicate	Chemron	SW8260	6/13/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/30/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
Duplicate	Chemron	SW8260	8/30/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/27/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/10/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	DHL	SW8260B	11/6/98[1]	Unk.	NA	0.4U	NA	NA	0.3U	0.2U	NA	**0.9**	0.2U				
	O'B&G	SW8260B	12/16/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	**0.99 F**	0.06U	0.019U	0.054U	0.073U	0.017U
4	TWC		12/4/91	Unk.	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U		1.0U	1.0U	1.0U
	Parsons ES	SW8010/8020	11/4/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	2.0U	**2.8**	**1.1**		0.5U	10U	NA
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	**2.6**	1.2U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	**2.0**	1.0U				
	Chemron	SW8260	4/6/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	**2.1**	**0.9**				
	Chemron	SW8260	6/13/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/30/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/13/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
6	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	**1.5**	1.2U				
9	TDH		8/9/91	Unk.	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U		1.0U	1.0U	1.0U
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	**1.0**	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	3/30/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	6/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	3U				
	Chemron	SW8260	8/29/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/12/95	Unk.	3U	**8**	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/28/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/6/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	**0.98**	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	O'B&G	SW8260B	9/8/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	**0.17F**	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/13/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Comparison Criteria			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	1000
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260A	MDL	--	0.13	0.11	0.10	0.23	0.20	0.33	0.23	0.47	0.34				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

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- Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results.
- ug/L = micrograms per liter
- * Chlorination byproducts in water supply well (referenced in SWDA drinking water regulations as THMs, or trihalomethanes). MCL for total concentration of THMs is 100 ug/L.
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Camp Stanley Storage Activity, Texas

DRAFT

Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
10	TDH		8/9/91	Unk.	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U		1.0U	1.0U	1.0U
	Parsons ES	SW8010/8020	11/5/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	5.8	0.5U	0.5U		0.5U	0.5U	NA
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	3/30/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	6/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/29/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/26/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/7/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	0.11R	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	DHL	SW8260B	11/6/98[1]	Unk.	NA	0.4U	NA	NA	0.3U	0.2U	NA	0.4U	0.2U				
	O'B&G	SW8260B	9/10/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.12F	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/13/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
11	TDH		8/9/91	Unk.	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U		1.0U	1.0U	1.0U
	Chemron	SW8260	5/25/94	Unk.	1.9	6.5	2.6	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
Duplicate	Chemron	SW8260	5/25/94	Unk.	1.9	6.0	2.6	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	7.0	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	3/30/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	6/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/29/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/15/95	Unk.	3U	10	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/29/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/20/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	39.7J	0.10U	0.23U	0.20U	0.33U	0.862	0.47U	0.34U				
	O'B&G	SW8260B	9/10/99	1:1	0.233F	52.647	0.049U	0.144U	0.145U	0.14U	0.68F	0.087U	0.06U	0.019U	0.141F	0.073U	0.017U
	O'B&G	SW8260B	12/15/99	1:1	0.025U	0.32	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Comparison Criteria			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	1000
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260A	MDL	--	0.130	0.11	0.10	0.23	0.20	0.33	0.23	0.47	0.34				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

Notes:
Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results
- ug/L = micrograms per liter
- * Chlorination byproducts in water supply well (referenced in SWDA drinking water regulations as THMs, or trihalomethanes). MCL for total concentration of THMs is 100 ug/L.
- F = Laboratory data qualifier indicates the analyte was detected above the MDL but below the Practical Quantitation Limit (POL).
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Detected concentrations are in bold type.

Concentrations above the MCL have a box around them.

Shaded areas indicate analytical data analyzed by ITS Laboratories.

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Table 4
Groundwater VOC Analytical Results
Camp Stanley Storage Activity, Texas

Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
16	TDH		8/9/91	Unk.	1.0U	1.0U	1 0U	1.0U	127		1.0U	137	151				
	TDH		8/23/91	Unk.	1.0U	1.0U	1 0U	1.0U	69		1.0U	196	509				
	TWC		12/4/91	Unk.	1.0U	1.0U	1 0U	1.0U	84		1.0U	54	29				
	Parsons ES	SW8010/8020	11/3/92	Unk.	0.5U	0.5U	0 5U	0.5U	NA	0.5U	2.0U	47	53				
Top of water	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	75	1.0U	1.0U	75	83				
Bottom of well	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	150	1.3	1.0U	150	170				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1 0U	1.0U	NA	1.0U	1.0U	81	81				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1 0U	1 0U	NA	1.0U	1.0U	25	21				
Duplicate	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1 0U	1.0U	NA	1.0U	1.0U	24	20				
	Chemron	SW8260	4/6/95	Unk.	0.6U	0.6U	0 6U	1.0U	270	0.8U	0.8U	170	170				
	Chemron	SW8260	4/7/95	Unk.	0.6U	0.6U	0.6U	1.0U	280	0.8U	0.8U	170	170				
Duplicate	Chemron	SW8260	4/7/95	Unk.	0.6U	0.6U	0.6U	1.0U	290	0.8U	0.8U	160	170				
	Chemron	SW8260	6/14/95	Unk.	3U	3U	3U	5U	38	4U	4U	39	45				
	Chemron	SW8260	8/30/95	Unk.	3U	3U	3U	5U	72	4U	4U	78	83				
	Chemron	SW8260	12./13/95	Unk.	3U	3U	3U	5 U	63	4U	4U	64	77				
	Chemron	SW8260	2/29/96	Unk.	3U	3U	3U	5U	152	4U	4U	158	175				
	ITS	SW8260A	1/21/97[1]	Unk.	0.13 R	0.11 R	0.10 R	0.23R	51 R	0.33 R	0.23 R	9.42 R	29.8 R				
	ITS	SW8260A	10/24/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	141 R	2.03	0.23U	130 R	134 R				
	DHL	SW8260B	11/6/98[1]	Unk.	NA	0.4U	NA	NA	212	1.61	NA	204	233				
	O'B&G	SW8260B	9/14/99	1:1	0.025U	0.159F	0.049U	0.144U	174.005	5.593	0.06U	173.953	220.87	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/14/99	1:1	0.025U	0.19F	0.049U	0.144U	184.66 R	9.59	0.06U	211.62 R	215 R	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/14/99	1:10	0.25U	1.32F	0.49U	1.44U	134.17	9.01	9.6 F	160.83	176.5	0.19U	0.54U	0.73U	0.17U
D	TWC		12/4/91	Unk.	1.0U	1.0U	1.0U	1.0U	43		1.0U	1.0U	1.0U				
Bottom of well	Parsons ES	SW8010/8020	11/3/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	4.7	8.9	15		0.5U	10U	NA
Top of water	Parsons ES	SW8010/8020	11/3/92	Unk.	0.5U	0.5U	0 5U	0.5U	NA	0.5U	5.9	8.6	15		0.5U	10U	NA
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	76	1.0U	1.0U	NA	82				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	110	130				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1 0U	1.0U	NA	1.0U	1.0U	99	130				
Duplicate	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	240	1.0U	1.0U	120	130				
	Chemron	SW8260	4/6/95	Unk.	0.6U	0.6U	0 6U	1.0U	240	0.8U	0.8U	110	130				
	Chemron	SW8260	6/14/95	Unk.	3U	3U	3U	5U	120	4U	4U	64	99				
	Chemron	SW8260	8/30/95	Unk.	3U	3U	3U	5U	86	4U	4U	80	88				
	Chemron	SW8260	12./12/95	Unk.	3U	3U	3U	5U	130	4U	4U	110	150				
	Chemron	SW8260	2/29/96	Unk.	3U	3U	3U	5U	81	4U	4U	72	98				
	ITS	SW8260A	1/20/97[1]	Unk.	0.13 R	0.11 R	0.10 R	0.23 R	0.20 R	0.33 R	0.23 R	0.47 R	0.34 R				
	ITS	SW8260A	10/24/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	145 R	14.6	0.23U	140 R	160 R				
	O'B&G	SW8260B	9/10/99	NA	Water level below pump depth setting (250'). No sample collected.												
Comparison Criteria			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	1000
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260A	MDL	--	0.130	0.110	0.100	0.230	0.200	0.330	0.230	0.470	0.340				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

[1] Notes: Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results.
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Table 4
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Camp Stanley Storage Activity, Texas

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Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
G	Parsons ES	SW8010/8020	11/3/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	2.3	0.5U	0.5U		0.5U	10U	NA
	Chemron	SW8260	5/26/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	6.0	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	4/7/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	6/14/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/29/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/28/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/17/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/24/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	O'B&G	SW8260B	9/8/99	1:1	0.114U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	**0.335F**	0.155F
H	Parsons ES	SW8010/8020	11/4/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	3.4	0.5U	0.5U		0.5U	10U	NA
	Chemron	SW8260	5/25/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	4/25/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	2/28/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	1/7/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
Comparison Criteria			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	1000
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260A	MDL	--	0.130	0.110	0.100	0.230	0.200	0.330	0.230	0.470	0.340				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

Notes:
Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results.
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Camp Stanley Storage Activity, Texas

DRAFT

Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
I	Parsons ES	SW8010/8020	11/4/92	Unk.	0.5U	0.5U	0.5U	0.5U	NA	0.5U	2.0U	0.5U	0.5U		0.5U	10U	NA
	Chemron	SW8260	5/25/94	Unk.	1.0U	0.5U	0.9U	1.0U	1.0U	1.0U	1.0U	0.3U	1.2U				
	Chemron	SW8260	9/30/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	3.0	1.0U	1.0U				
	Chemron	SW8260	12/19/94	Unk.	1.0U	1.0U	1.0U	1.0U	NA	1.0U	1.0U	1.0U	1.0U				
	Chemron	SW8260	4/7/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
Duplicate	Chemron	SW8260	4/7/95	Unk.	0.6U	0.6U	0.6U	1.0U	0.8U	0.8U	0.8U	1.0U	0.4U				
	Chemron	SW8260	6/14/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
Duplicate	Chemron	SW8260	6/14/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	8/29/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	12/12/95	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	Chemron	SW8260	3/1/96	Unk.	3U	3U	3U	5U	4U	4U	4U	5U	2U				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	0.20U	0.33U	0.23U	0.47U	0.34U				
	O'B&G	SW8260B	9/7/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/14/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
MW-1	ITS	SW8260A	1/9/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	3.92	0.33U	0.23U	13.7	12.3				
	ITS	SW8260A	10/23/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	29.6 R	2.47 R	0.23U	24.8 R	32.9 R				
	DHL	SW8260B	11/6/98[1]	Unk.	NA	0.4U	NA	NA	27.3	0.34	NA	23	28.5				
	O'B&G	SW8260B	9/8/99	1:1	0.025U	0.061U	0.049U	0.144U	15.802	2.027	0.06U	15.232	25.13	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/13/99	1:1	0.025U	0.061U	0.049U	0.144U	3.91	0.14U	0.06U	5.58	5.3	0.019U	0.054U	0.073U	0.017U
MW-2	ITS		1/10/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	1.14 F	0.33U	0.23U	6.74	7				
	ITS		10/24/97[1]	Unk.	0.13U	0.11U	0.10U	0.23U	4.72	0.33U	0.23U	6.13	8.25				
	DHL		11/6/98[1]	Unk.	NA	0.4U	NA	NA	4.4	0.2U	NA	9.33	9.62				
	O'B&G		9/9/99	1:1	0.025U	0.061U	0.049U	0.144U	3.54	0.206F	0.13F	9.236	7.47	0.019U	0.054U	0.073U	0.017U
	O'B&G	SW8260B	12/13/99	1:1	0.025U	0.061U	0.049U	0.144U	4.58	0.14U	0.06U	13.97	9.2	0.019U	0.054U	0.073U	0.017U
Duplicate	O'B&G	SW8260B	12/13/99	1:1	0.025U	0.061U	0.049U	0.144U	4.37	0.14U	0.06U	13.37	9	0.019U	0.054U	0.073U	0.017U
			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	1000
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260B	MDL	--	0.130	0.110	0.100	0.230	0.200	0.330	0.230	0.470	0.340				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

Notes:
Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results.
- ug/L = micrograms per liter
- * Chlorination byproducts in water supply well (referenced in SWDA drinking water regulations as THMs, or trihalomethanes). MCL for total concentration of THMs is 100 ug/L.
- F = Laboratory data qualifier indicates the analyte was detected above the MDL but below the Practical Quantitation Limit (PQL).
- J = The analyte was positively identified below quantitation limits; the quantitation is an estimate.
- NA = Not sampled for this parameter
- R = The data are unusable with deficiencies in the ability to analyze the sample and meet criteria.

[1] = Indicates data is screening analytical data only

Detected concentrations are in bold type.

Concentrations above the MCL have a box around them.

Shaded areas indicate analytical data analyzed by ITS Laboratories.

Table 4
Groundwater VOC Analytical Results
Camp Stanley Storage Activity, Texas

DRAFT

Well Number	Laboratory	Analytical Method	Sample Date	Dilution	Bromo-dichloro-methane * (ug/L)	Chloroform* (ug/L)	Dibromo-chloro-methane * (ug/L)	1,1-Dichloro-ethene (ug/L)	*cis*-1,2-Dichloro-ethene (ug/L)	*trans*-1,2-Dichloro-ethene (ug/L)	Dichloro-methane (methylene chloride) (ug/L)	Tetra-chloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)	1,1-Dichloro-ethane (ug/L)	Chloro-methane (ug/L)	Toluene (ug/L)
Private Well 1	O'B&G	SW8260B	9/9/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	**0.15F**	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Private Well 2	O'B&G	SW8260B	9/9/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	**0.17F**	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Private Well 3	O'B&G	SW8260B	9/9/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	**0.15F**	0.087U	0.06U	0.019U	0.054U	0.073U	0.017U
Private Well 4	O'B&G	SW8260	12/13/99	1:1	0.025U	0.061U	0.049U	0.144U	0.145U	0.14U	0.06U	**2.51**	**0.3F**	0.019U	0.144U	0.073U	0.017U
Comparison Criteria			MCL	--	100	100	100	7	70	100	5	5	5	2	7	--	1000
			GW-Ind	--	100	100	100	7	70	100	5	5	5	2	7	220	1000
	Chemron[2]	SW8260	PQL	--	3	3	3	5	4	4	4	5	2				
	Chemron	SW8260	MDL	--	MDLs not provided by laboratory												
	ITS	SW8260A	PQL	--	0.8	0.30	0.50	0.40	1.20	0.60	0.30	1.40	1.00				
	ITS	SW8260A	MDL	--	0.130	0.110	0.100	0.230	0.200	0.330	0.230	0.470	0.340				
	DHL	SW8260B	PQL	--	NA	1.0	NA	NA	1.0	1.0	NA	1.0	1.0				
	DHL	SW8260B	MDL	--	NA	0.4	NA	NA	0.3	0.2	NA	0.4	0.2				
	O'B&G	SW8260B	RL	--	0.8	0.3	0.5	1.2	1.2	0.6	2.0	1.4	1.0	1.1	0.4	1.3	1.1
	O'B&G	SW8260B	MDL	--	0.025	0.061	0.049	0.144	0.145	0.14	0.06	0.087	0.06	0.019	0.054	0.073	0.017

Notes:

Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parenthesis next to well sample results.

- ug/L = micrograms per liter
- * Chlorination byproducts in water supply well (referenced in SWDA drinking water regulations as THMs, or trihalomethanes). MCL for total concentration of THMs is 100 ug/L.
- F = Laboratory data qualifier indicates the analyte was detected above the MDL but below the Practical Quantitation Limit (PQL).
- J = The analyte was positively identified below quantitation limits; the quantitation is an estimate.
- NA = Not sampled for this parameter
- R = The data are unusable with deficiencies in the ability to analyze the sample and meet criteria.

[1] = Indicates data is screening analytical data only

Detected concentrations are in bold type.

Concentrations above the MCL have a box around them.

Shaded areas indicate analytical data analyzed by ITS Laboratories.

Table 2. Groundwater Analytical Results, April and June 1995

Well Number	Sample Date	Bromodichloro-methane * (ug/L)	Chloroform * (ug/L)	Dibromo-chloromethane * (ug/L)	Dichloro-methane (methyl-ene chloride) (ug/L)	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	trans-1,2-Dichloro-ethene (ug/L)	cis-1,2-Dichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)
1	3/30/1995	<0.6	<0.6	<0.6	<0.8	<1.0	<0.4	<0.8	<0.8	<1.0
	6/13/1995	<3	**7**	<3	<4	<5	<2	<4	<4	<5
2	4/6/1995	<0.6	<0.6	<0.6	<0.8	**1**	<0.4	<0.8	<0.8	<1.0
	6/13/1995	<3	<3	<3	<4	<5	<2	<4	<4	<5
3	4/6/1995	<0.6	<0.6	<0.6	<0.8	<1.0	<0.4	<0.8	<0.8	<1.0
	6/13/1995	<3(<3)	<3(<3)	<3(<3)	<4(<4)	<5(<5)	<2(<2)	<4(<4)	<4(<4)	<5(<5)
4	4/6/1995	<0.6	<0.6	<0.6	<0.8	**2.1**	**0.9**	<0.8	<0.8	<1.0
	6/13/1995	<3	<3	<3	<4	<5	<2	<4	<4	<5
9	3/30/1995	<0.6	<0.6	<0.6	<0.8	<1.0	<0.4	<0.8	<0.8	<1.0
	6/12/1995	<3	<3	<3	<4	<5	<3	<4	<4	<5
10	3/30/1995	<0.6	<0.6	<0.6	<0.8	<1.0	<0.4	<0.8	<0.8	<1.0
	6/12/1995	<3	<3	<3	<4	<5	<2	<4	<4	<5
11	3/30/1995	<0.6	<0.6	<0.6	<0.8	<1.0	<0.4	<0.8	<0.8	<1.0
	6/12/1995	<3	<3	<3	<4	<5	<2	<4	<4	<5
	2/29/1996	<3	<3	<3	<4	<5	<2	<4	<4	<5
Cow Creek	4/6/1995	<0.6	<0.6	<0.6	<0.8	**170**	**170**	<0.8	**270**	<1.0
Upper Glen Rose	4/7/1995	<0.6(<0.6)	<0.6(<0.6)	<0.6(<0.6)	<0.8(<0.8)	**170(160)**	**170(170)**	<0.8(<0.8)	**280(290)**	<1.0(<1.0)
	6/14/1995	<3	<3	<3	<4	**39**	**45**	<4	**38**	<5
D	4/6/1995	<0.6	<0.6	<0.6	<0.8	**110**	**130**	<0.8	**240**	<1.0
	6/14/1995	<3	<3	<3	<4	**64**	**99**	<4	**120**	<5
G	4/7/1995	<0.6	<0.6	<0.6	<0.8	<1.0	<0.4	<0.8	<0.8	<1.0
	6/14/1995	<3	<3	<3	<4	<5	<2	<4	<4	<5
I	4/7/1995	<0.6(<0.6)	<0.6(<0.6)	<0.6(<0.6)	<0.8(<0.8)	<1.0(<1.0)	<0.4(<0.4)	<0.8(<0.8)	<0.8(<0.8)	<1.0(<1.0)
	6/14/1995	<3(<3)	<3(<3)	<3(<3)	<4(<4)	<5(<5)	<2(<2)	<4(<4)	<4(<4)	<5(<5)

Notes: Analytes detected above laboratory detection limits are shown in bold font. All well water samples were collected through well pump or via bailer. Duplicate sample results are shown in parentheses next to well sample results.

< = minimum detection limit

ug/L = micrograms per liter

* Chlorination byproducts in water supply well (referenced in SDWA drinking water regulations as THMs, or trihalomethanes). MCL for total concentration of THMs is 100 ug/L.

Attachment 3
Map of Offsite Wells

CSSA
Off-Site Well Information

Map ID	Former Map ID	Banks	Elevation *(Feet MSL)*	Well Descriptor	Current Owner	Original Owner	Well Depth *(feet bgs)*	Casing Depth *(feet bgs)*	Pump Depth *(feet bgs)*	Well Yield *(gpm)*	Supply Type	Water Source	Current Status	Subdivsion	Address	Phone Number	Notes
48	72		1290	Vandeldon	Julie Vandeldon						Domestic		Used	Favor Ranch	26109 Ralph Fair Road		
49	73		1204	M. Klabunde	Milton Klabunde						Domestic		Used	Favor Ranch	25490 Old Fredricksburg Road		No data available for this well.
50	74		1171	Brown	John Brown						Domestic		Used	Favor Ranch	25360 Old Fredricksburg Road		No data available for this well.
51	77	5	1165	Pico Gas Station	Daughtry Properties	*same*	486	294	N/A	25	Public	Bexar Shale (Hensell)/ Cow Creek/ Hammett Shale	Used	Pico	IH10 @ Ralph Fair Road	210-698-2001	Behind PICO/Strip Center
52	78		1165	Seton #1	Mary Elizabeth Seton Church	N/A	N/A	N/A	N/A	N/A	Public	N/ A	Used	Curres Creek	7655 Curres Creek Road		No data available for this well.
53	79		1165	Seton #2	Mary Elizabeth Seton Church	N/A	N/A	N/A	N/A	N/A	Public	N/ A	Used	Curres Creek	7655 Curres Creek Road		No data available for this well.
54	80		1190	Garcia	Thomas Garcia	N/A	N/A	N/A	N/A	N/A	Public	N/ A	Used	Curres Creek	7529 Curres Creek Road		No data available for this well.
55	81	30	1190	Leon Springs Villa #1	Bexar Metro Water	Leon Springs Villa	435	N/A	N/A	N/A	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Used	Leon Springs Villa	25415 Brewer Dr.		
56	82	13	1170	Leon Springs Villa #2	Bexar Metro Water	Leon Springs Villa	450	348	N/A	N/A	Public	Cow Creek	Used	Leon Springs Villa	25300 Farenthold		Mobile home park
57	83	13	1160	Leon Springs Villa #3	Bexar Metro Water	Leon Springs Villa	404	312	N/A	N/A	Public	Cow Creek	Used	Leon Springs Villa	Farenhold Circle/ Danna Marie Drive		
58	85	40	1337	Hidden Springs Estates #1	Bexar Metro Water	Hidden Springs Estates	880	420	N/A	80	Unused	Cow Creek/ Hammett Shale/ Sligo/ Hosston	Unused	Hidden Springs Estates	Falcon View /Rocky Hill Road		Well is unused. 1997 TWDB log indicates well is now obstructed at 415'.
59	86	40	1340	Hidden Springs Estates #2	Bexar Metro Water	Hidden Springs Estates	880	412	558	75	Public	Cow Creek/ Hammett Shale/ Sligo/ Hosston	Used	Hidden Springs Estates	Falcon View /Rocky Hill Road		
60	87	40	1336	Hidden Springs Estates #3	Bexar Metro Water	Hidden Springs Estates	910	410	798	N/A	Unused	Cow Creek/ Hammett Shale/ Sligo/ Hosston	Unused	Hidden Springs Estates	Falcon View /Rocky Hill Road		Well is unused.
61	88	40	1330	Hidden Springs Estates #4	Bexar Metro Water	Hidden Springs Estates	925	410	777	N/A	Public	Cow Creek/ Hammett Shale/ Sligo/ Hosston	N/A	Hidden Springs Estates	Falcon View /Rocky Hill Road		
97	75	34		Vacant	Moores Mobile Home Park	*Home Park moved - now a strip center*	496				Public			Across from Pico	25291 IH10 West	210-680-3767	. This well is located west (100yds) of the new Texaco across I-10 from the Pico. Looks to be in good shape. There is another well on the property and looks decomissioned. 0534979e 3283059n. This is not a stripe center, onlt a vacant lot right now
98	76	5		AAA	Hank Daughtry	*Hank Daughtry*	400				Public			Pico	IH10 @ Ralph Fair Road	210-698-2001	move point 150' north
99	84	27		LSV #4	Leon Springs Villa #4	*Bexar Metro Water #4*	505				Public			LS Villa	24818 Ima Ruth Parkway		Point 30' south of well
100	89	13		Lapaglia	Lapaglia	*Lapaglia*	900				Domestic			LS Villa	Aue		Not here anymore. Old timer said its been gone about 5-10yrs. Near Villa Mobile home? Auburn and Associates?
101	90	15		Favor Windmill	Ruth Favor	*Favor*	375				Domestic				Old Fredricksburg Road		Windmill in field. Well 250' ne of gps point.
102	91			Favor Homestead											26044 Old Fredricksburg Road		Coordinates of Driveway. Well not observed. Homestead 200 north of gps point
104	93	37			William Price		361				Domestic				S. of I10-Across from Pico		New Texaco Station? 75'NW of old well-S. Side of I10.
150	140	2		Dick	Lucille Dick		662				Domestic			E. of I10	Rt. 8 Box 553		

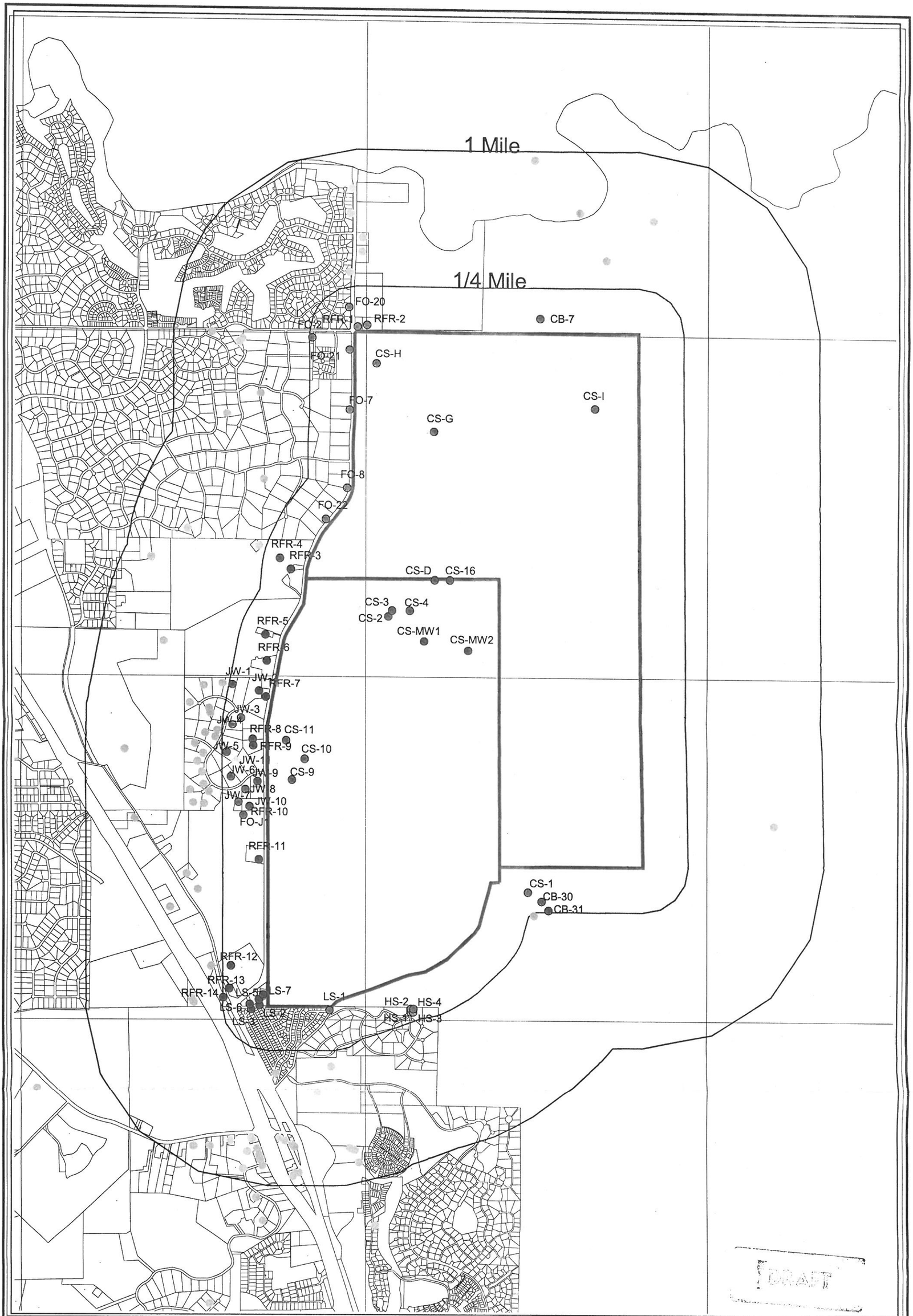
Gombert
SWMU B3
SWMU 01
Hagendorf
Thompson
Favor
Building 90
Storage
Offices
Garcia
Pico Gas
Vandeldon
CSSA Well 1
Seton Church
Garcia
Klabunde
Bullis Wells
Daughty
Brown
CSSA Well 6
Daughtry
Price
Moores
Bexar Met
Bexar Met
Bexar Met
Seton Church
Bexar Met
Bexar Met
Lapagalia
Dick

CSSA
Off-Site Well Information

N

Legend

Sampled wells
Wells < 0.25 mi
Wells < 1 mi
Bullis Wells
Fault Zones


1 Mile
1/4 Mile
FO-20
RFR-1
RFR-2
FO-2
CB-7
FO-21
CS-H
FO-7
CS-I
CS-G
FO-8
FO-22
RFR-4
RFR-3
CS-D
CS-16
CS-3
CS-4
CS-2
RFR-5
CS-MW1
CS-MW2
RFR-6
JW-1
JW-2
RFR-7
JW-3
JW-4
RFR-8
CS-11
JW-5
RFR-9
CS-10
JW-1
JW-6
JW-9
CS-9
JW-8
JW-7
JW-10
RFR-10
FO-J
RFR-11
CS-1
CB-30
CB-31
RFR-12
RFR-13
RFR-14
LS-5
LS-7
LS-1
HS-2
HS-4
LS-6
LS-8
HS-1
HS-3
LS-3
DRAFT
N
1000 0 1000 2000 Feet
Wells more than a 1/4 mile
Less less than a 1/4 mile
Unlocated data well
Fenceline
Parcel Data
Water Well Locations
Water Wells Within 1 Mile
Updated December 1999
Camp Stanley, Texas
PARSONS ENGINEERING SCIENCE, INC.
//m1491/environmental files/wells/wells_2_2_00.apr

Attachment 4
Offsite Well Description Table

Private Well Survey
Offsite Wells Located within 0.25-Miles of CSSA
Boerne, Texas

Map ID	Elevation (Feet MSL)	Well Descriptor	Current Owner	Original Owner	State ID	Date Drilled	Well Depth (feet bgs)	Well Diameter (inches)	Casing Diameter (inches)	Casing Depth (feet bgs)	Pump Depth (feet bgs)	Well Yield (gpm)	Static Water Level (feet bgs)	Water Level Date	Supply Type	Water Source	Current Status	Subdivsion	Address	Notes
Camp Stanley Storage Activity																				
CS-1	1165.6	Well 1	U.S. Government	*same*	68-20-401	March 2, 1940	432	N/A	8-5/8	135	420	70	193.56	September 9, 1999	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Used	Camp Bullis	25800 Ralph Fair Road	Well originally drilled to 1078', then plugged back to 451'. Video survey completed on May 7, 1997. ** internal casing installed to 135' on May 15, 1997.
CS-2	1234	Well 2	U.S. Government	*same*	N/A	N/A	350	8	4	205	339	N/A	255.85	September 7, 1999	Public	Lower Glen Rose	Unused/ Observation	CSSA	25800 Ralph Fair Road	Geophysical survey conducted on August 23, 1994. Surface casing installed into existing well on 25-Sep-94. Bladder pump installed for sampling only.
CS-3	1236.4	Well 3	U.S. Government	*same*	N/A	N/A	328	8	4	205	None	N/A	261.89	September 7, 1999	Public	Lower Glen Rose	Unused/ Observation	CSSA	25800 Ralph Fair Road	Surface casing installed into existing well on September 25, 1994.
CS-4	1225.8	Well 4	U.S. Government	*same*	N/A	N/A	252	6	4	200	None	N/A	251.14	September 7, 1999	Public	Lower Glen Rose	Unused/ Observation	CSSA	25800 Ralph Fair Road	Surface casing installed into existing well on September 25, 1994.
CS-9	1323.4	Well 9	U.S. Government	*same*	68-19-602	September 15, 1958	534	N/A	8-5/8	23	504	77	380.97	September 7, 1999	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Used	CSSA	25800 Ralph Fair Road	Geophysical survey conducted on September 15, 1958. Video survey completed on November 18, 1997.
CS-10	1328.3	Well 10	U.S. Government	*same*	68-19-603	August 7, 1958	559	N/A	10-3/4	390	528	N/A	320.61	September 7, 1999	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Used	CSSA	25800 Ralph Fair Road	Geophysical survey conducted on August 7, 1958.
CS-11	1330.5	Well 11	U.S. Government	*same*	68-19-604	August 27, 1958	529	N/A	8-5/8	213	510	70	388.38	September 7, 1999	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Unused/ Observation	CSSA	25800 Ralph Fair Road	Geophysical survey conducted on April 2, 1996. Video survey completed on May 7, 1997.
CS-16	1240.9	Well 16	U.S. Government	*same*	68-20-101	N/A	431	10	6	200	350	N/A	260.42	September 7, 1999	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Unused/ Observation	CSSA	25800 Ralph Fair Road	Geophysical survey conducted on August 23, 1994. Surface casing installed into existing well on 22-Sep-94. Bladder pump installed for sampling only.
CS-D	1232.6	Well D	U.S. Government	*same*	N/A	N/A	263	8	4	205	253	N/A	252.57	September 7, 1999	Public	Lower Glen Rose	Unused/ Observation	CSSA	25800 Ralph Fair Road	Geophysical survey conducted on August 23, 1994. Surface casing installed into existing well on 24-Sep-94. Bladder pump installed for sampling only.
CS-G	1324.8	Well G	U.S. Government	*same*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	298.83	September 7, 1999	Stock	N/ A	Used	CSSA	25800 Ralph Fair Road	No data available for this well.
CS-H	1315.7	Well H	U.S. Government	*same*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	September 7, 1999	Stock	N/ A	Unused	CSSA	25800 Ralph Fair Road	No data available for this well.
CS-I	1312.5	Well I	USDA	*same*	68-20-1A	April 10, 1979	362	9	7	250	252	N/A	277.12	September 7, 1999	Stock	Lower Glen Rose/ Bexar Shale	Used	CSSA	25800 Ralph Fair Road	Well operated by windmill power.
CS-MW1	1219.3	MW1	U.S. Government	*same*	N/A	April 13, 1996	320	6	10	140	310	N/A	240.9	September 7, 1999	Monitoring	Lower Glen Rose	Monitoring Only	CSSA	25800 Ralph Fair Road	Geophysical survey conducted at pilot hole (PH-1) on April 3, 1996. Bladder pump installed for sampling only.
CS-MW2	1235.4	MW2	U.S. Government	*same*	N/A	April 10, 1996	361	6	10	141	349	N/A	253.95	September 7, 1999	Monitoring	Lower Glen Rose	Monitoring Only	CSSA	25800 Ralph Fair Road	Geophysical survey conducted at pilot hole (PH-2) on April 11, 1996. Bladder pump installed for sampling only.
Fairco Water Company																				
FO-2	1351	Fair Oaks #02	Fairco Water Company	*same*	68-19-303	January 8, 1975	553	6	8-5/8	282	504	20	250	August 13, 1999	Public	Lower Glen Rose/ Cow Creek	Used	Fair Oaks	7286 Dietz-Elkhorn Road	Prior to 1975 this well was originally 384' deep. In January 1975 the well was deeped to 555'. Geophysical survey conducted on January 9, 1975. Depth to Cow Creek is 442'.
FO-7	1314	Fair Oaks #07	Fairco Water Company	*same*	68-20-103	January 11, 1978	525	8	8-5/8	290	441	115	270	January 11, 1978	Public	Lower Glen Rose/ Cow Creek	Used	Fair Oaks	28833 Ralph Fair Road	Depth to Cow Creek is 423'.
FO-8	1323	Fair Oaks #08	Fairco Water Company	*same*	68-20-104	April 4, 1978	525	7-5/8	8-5/8	310	462	85	290	April 4, 1978	Public	Lower Glen Rose/ Cow Creek	Used	Fair Oaks	28329 Ralph Fair Road	Depth to Cow Creek is 447'.
FO-20	1327	Fair Oaks #20	Fairco Water Company	*same*	68-20-110	December 3, 1984	435	8	8-5/8	N/A	None	109	256	August 13, 1987	Unused	Lower Glen Rose/ Cow Creek	Observation/ Unused	Fair Oaks	29435 Ralph Fair Road	Borehole originally drilled to 780' and was a dry hole. The well was plugged back to 435' and dynamited to fracture bedrock.. Depth to Cow Creek is 416'. No pump is installed in well, and is currently used for water level observation only.
FO-21	1310	Fair Oaks #21	Fairco Water Company	*same*	68-20-112	February 1, 1989	500	8	8-5/8	300	420	90	300	February 1, 1989	Public	Lower Glen Rose/ Cow Creek	Used	Fair Oaks	29175 Ralph Fair Road	Depth to Cow Creek is 404'.
FO-22	1304	Fair Oaks #22	Fairco Water Company	*same*	68-19-317	March 20, 1989	505	8	8-5/8	306	462	100	300	March 20, 1989	Public	Lower Glen Rose/ Cow Creek	Used	Fair Oaks	28037 Ralph Fair Road	Depth to Cow Creek is 428'.
FO-J1	1268	Fair Oaks J-1	Fairco Water Company	*same*	68-19-620	November 7, 1986	496	8	8-5/8	297	441	100	N/A	N/A	Public	Lower Glen Rose/ Cow Creek	Used	Jackson Woods	Lot 29 - Jackson Woods	Depth to Cow Creek is 448'.
Jackson Woods Subdivision																				
JW-1	1280	Dunderstat	Frank Dunderstadt	*same*	68-19-3	November 21, 1985	445	6-1/2	8-3/4	214	399	30	260	November 21, 1985	Domestic	Lower Glen Rose/ Cow Creek	Used	Jackson Woods	7735 Mountain Trail	Driller log indicates groundwater was first encountered at 250', then again at 320'.
JW-2	1280	Ramirez	Rene Ramirez	Karen Fletcher	68-19-6	October 12, 1990	525	6	8-3/4	170	462	30	345	October 12, 1990	Domestic	Lower Glen Rose/ Cow Creek	Unused	Jackson Woods	26837 Fawn Mountain	
JW-3	1293	Young	Richard Young	Charles Swindler	68-19-6EE	April 19, 1979	400	6	7	140	336	10	165	April 19, 1979	Domestic	Lower Glen Rose/ Bexar Shale	Used	Jackson Woods		
JW-4	1302	Brazil	Jerry Brazil	Richard Gansle	68-19-6F	December 7, 1981	412	6	7-3/16	175	378	10	240	December 3, 1981	Domestic	Lower Glen Rose	Used	Jackson Woods	26766 Fawn Mountain	Driller logs specify Lower Glen Rose water from 190' and 350'-375'. Well is probably also completed into the Bexar Shale.
JW-5		Niedre	Arvo Neidre	*Arvo Neidre*	68-19-6EE	October 29, 1984	565								Domestic			Jackson Woods	26736 Fawn Mountain	
JW-6	1268	Drown	Glenn Drown	Bernhard Construction	68-19-6EE	October 7, 1983	525								Domestic			Jackson Woods		
JW-7	1255	Chlebowski	Richard Chlebowski		N/A										Domestic			Jackson Woods	26541 Fawn Mountain	
JW-8	1270	Poetschke	Ed Poetschke	*same*	68-19-6	July 8, 1991	550	6	6-5/8	187	N/A	60	274	July 8, 1991	Domestic	Lower Glen Rose/ Cow Creek	Used	Jackson Woods	26531 Fawn Mountain	Geophyscial survey conducted on July 3, 1991.
JW-9	1312	Dante	William Dante												Domestic			Jackson Woods	26455 Ralph Fair Road	
JW-10		Not Matched	Unkown	Charlie Lima Corp.	68-19-6	August 26, 1991	450	5	7-7/8	250	360	35	250	August 26, 1991	Domestic	Lower Glen Rose/ Cow Creek	Used	Jackson Woods	26435 Ralph Fair Road	Single-cased well with perforated casing from 250' to 450'. Driller log indicates water at 260' and 415'.
JW-11		Not Matched	Unkown	E.A. Hermes	68-19-6EE	July 2, 1984	600	6-1/4	6-5/8	205	441	12	395	July 2, 1984	Domestic	Lower Glen Rose/ Cow Creek	Used	Jackson Woods	???? Fawn Mountain	

DRAFT

<0.25 mile

Private Well Survey
Offsite Wells Located within 0.25-Miles of CSSA
Boerne, Texas

Map ID	Elevation (Feet MSL)	Well Descriptor	Current Owner	Original Owner	State ID	Date Drilled	Well Depth (feet bgs)	Well Diameter (inches)	Casing Diameter (inches)	Casing Depth (feet bgs)	Pump Depth (feet bgs)	Well Yield (gpm)	Static Water Level (feet bgs)	Water Level Date	Supply Type	Water Source	Current Status	Subdivision	Address	Notes
Ralph Fair Road																				
RFR-1	1338	Exxon	Val West, Inc.	Reno Schubert	68-20-1	July 31, 1984	560								Public			East of Fair Oaks	29202 Ralph Fair Road	
RFR-2	1352	Chatelle	Michael Chatelle		N/A													East of Fair Oaks	7087 Dietz-Elkhorn	
RFR-3	1170	R. Gombert, Sr.	Roy Gombert, Sr.	*same*	68-19-6BB	July 28, 1982	435	6	6-5/8	135	N/A	28	200	July 28, 1982	Domestic	Lower Glen Rose/ Cow Creek	Used	Gombert Ranch	27805 Ralph Fair Road	
RFR-4	1290	R. Gombert, Jr.	Roy Gombert, Jr.	*same*	AY68-19-3	July 26, 1963	375	7	7	30	336	14	310	July 26, 1963	Domestic	Lower Glen Rose	Used	Gombert Ranch	27645 Ralph Fair Road	
RFR-5	1320	Friar	Fred Friar	*same*	68-19-6	July 11, 1990	500	6	6	373		25	350	July 11, 1990	Domestic	Cow Creek	Used	Favor Ranch	27397 Ralph Fair Road	The well was deepened on July 11, 1990. The original installation date is unvailable.
RFR-6	1287	S. Klabunde	Shirley Klabunde		N/A										Domestic			Favor Ranch	27207 Ralph Fair Road	
RFR-7	1282	Hagendorph	Michael Hagendorph		N/A										Domestic			Favor Ranch	27125 Ralph Fair Road	
RFR-8	1290	Marsh	Thad Marsh		N/A										Domestic			Jackson Woods	26753 Ralph Fair Road	
RFR-9	1290	Lira	Richard Lira		N/A										Domestic			Jackson Woods	26743 Ralph Fair Road	
RFR-10	1282	Hicks	Carlynn Hicks	Buddy Nichols	68-19-6	May 18, 1982	425	6	6	202	300	45	290	May 18, 1982	Domestic	Lower Glen Rose/ Cow Creek	Used	Jackson Woods		
RFR-11	1290	Vandeldon	Julie Vandeldon		N/A										Domestic		Used	Favor Ranch	26109 Ralph Fair Road	
RFR-12	1204	M. Klabunde	Milton Klabunde		N/A										Domestic		Used	Favor Ranch	25490 Old Fredricksburg Road	No data available for this well.
RFR-13	1171	Brown	John Brown		N/A										Domestic		Used	Favor Ranch	25360 Old Fredricksburg Road	No data available for this well.
RFR-14	1165	Pico Gas Station	Daughtry Properties	*same*	68-19-621	September 1, 1989	486	5-5/8	6-5/8	294	N/A	25	266	September 1, 1989	Public	Bexar Shale (Hensell)/ Cow Creek/ Hammett Shale	Used	Pico	IH10 @ Ralph Fair Road	Geophysical survey conducted September 1, 1989.
Leon Springs Villa/Hidden Springs Estates Vicinity																				
LS-1	1190	Leon Springs Villa #1	Bexar Metro Water	Leon Springs Villa	68-20-402	January 1, 1933	435	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Public	Lower Glen Rose/ Bexar Shale/ Cow Creek	Used	Leon Springs Villa	25415 Brewer Dr.	
LS-2	1170	Leon Springs Villa #2	Bexar Metro Water	Leon Springs Villa	68-19-606	June 1, 1967	450	6	7	348	N/A	N/A	275	June 1, 1967	Public	Cow Creek	Used	Leon Springs Villa	25300 Farenthold	
LS-3	1160	Leon Springs Villa #3	Bexar Metro Water	Leon Springs Villa	68-19-607	February 8, 1970	404	6	7	312	N/A	N/A	N/A	N/A	Public	Cow Creek	Used	Leon Springs Villa	Farenhold Circle/ Danna Marie Drive	
LS-5	1165	Seton #2	Mary Elizabeth Seton Church	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Public	N/ A	Used	Curres Creek	7655 Curres Creek Road	No data available for this well.
LS-6	1165	Seton #1	Mary Elizabeth Seton Church	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Public	N/ A	Used	Curres Creek	7655 Curres Creek Road	No data available for this well.
LS-7	1190	Garcia	Thomas Garcia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Public	N/ A	Used	Curres Creek	7529 Curres Creek Road	No data available for this well.
HS-1	1337	Hidden Springs Estates #1	Bexar Metro Water	Hidden Springs Estates	68-20-404	April 12, 1983	880	6	8-3/4	420	N/A	80	450	April 14, 1983	Unused	Cow Creek/ Hammett Shale/ Sligo/ Hosston	Unused	Hidden Springs Estates	Falcon View /Rocky Hill Road	Well is unused. 1997 TWDB log indicates well is now obstructed at 415'.
HS-2	1340	Hidden Springs Estates #2	Bexar Metro Water	Hidden Springs Estates	68-20-403	April 7, 1983	880	6	7	412	558	75	450	April 7, 1983	Public	Cow Creek/ Hammett Shale/ Sligo/ Hosston	Used	Hidden Springs Estates	Falcon View /Rocky Hill Road	
HS-3	1336	Hidden Springs Estates #3	Bexar Metro Water	Hidden Springs Estates	68-20-405	February 13, 1984	910	6	7	410	798	N/A	470	February 23, 1984	Unused	Cow Creek/ Hammett Shale/ Sligo/ Hosston	Unused	Hidden Springs Estates	Falcon View /Rocky Hill Road	Well is unused.
HS-4	1330	Hidden Springs Estates #4	Bexar Metro Water	Hidden Springs Estates	68-20-406	February 16, 1984	925	6	7	410	777	N/A	470	February 28, 1984	Public	Cow Creek/ Hammett Shale/ Sligo/ Hosston	N/A	Hidden Springs Estates	Falcon View /Rocky Hill Road	
Camp Bullis																				
CB-7	1335	Well 7	U.S. Government	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Camp Bullis		No data available for this well.
CB-30	1165	Well 30	U.S. Government	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Camp Bullis		No data available for this well.
CB-31	1165	Well 31	U.S. Government	Comanche Mill		N/A	601	N/A	6	N/A	None	N/A	300	April 1, 1905	Public	Middle Trinity	Blockage	Camp Bullis		Blockage at 1.5 feet

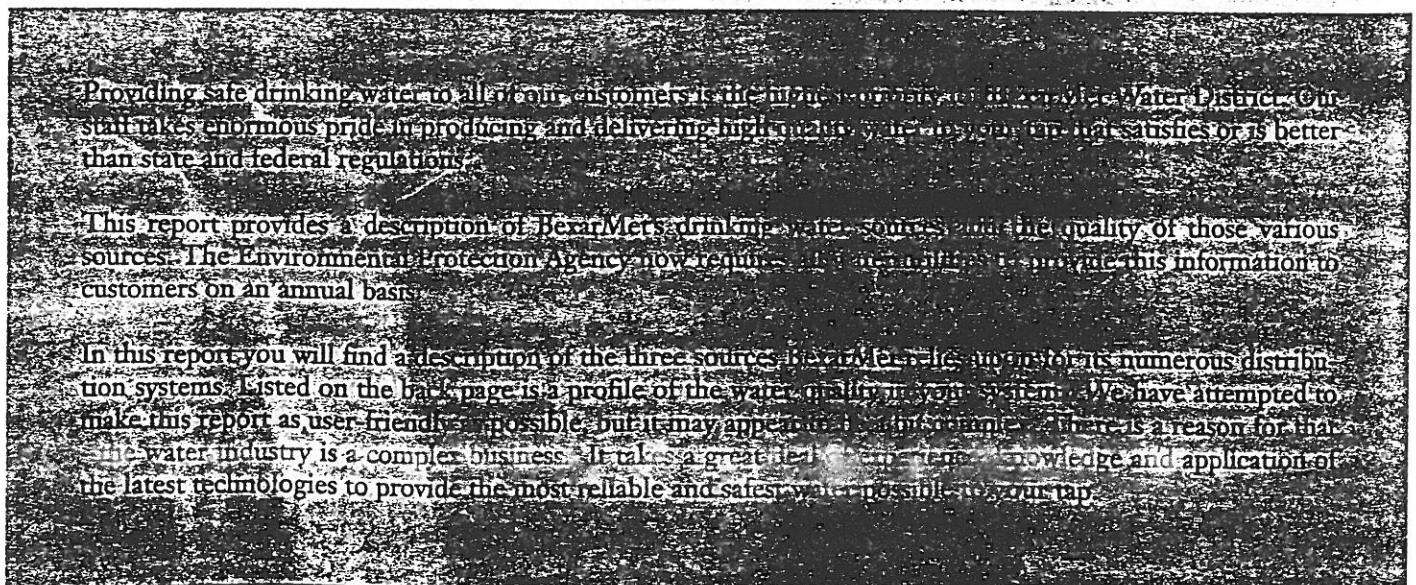
Notes:
UTM:
MSL:
bgs:
N/A:

Attachment 5
Leon Springs Mobile Villa
Water Quality Report

BexarMet
WATER DISTRICT
P.O. Box 3577
San Antonio, Texas 78211-0577

BexarMet Water District 1998 Water Quality Report

Trinity Aquifer



Providing safe drinking water to all of our customers is the most important job at BexarMet Water District. Our staff takes enormous pride in producing and delivering high quality water to our customers that satisfies or is better than state and federal regulations.

This report provides a description of BexarMet's drinking water sources and the quality of those various sources. The Environmental Protection Agency now requires all water utilities to provide this information to customers on an annual basis.

In this report you will find a description of the three sources BexarMet relies upon for its numerous distribution systems. Listed on the back page is a profile of the water quality in your system. We have attempted to make this report as user-friendly as possible, but it may appear technical in some areas. There is a reason for that. The water industry is a complex business. It takes a great deal of expertise, knowledge and application of the latest technologies to provide the most reliable and safest water possible to your tap.

Thomas C. Moreno

Ronald C. Williamson

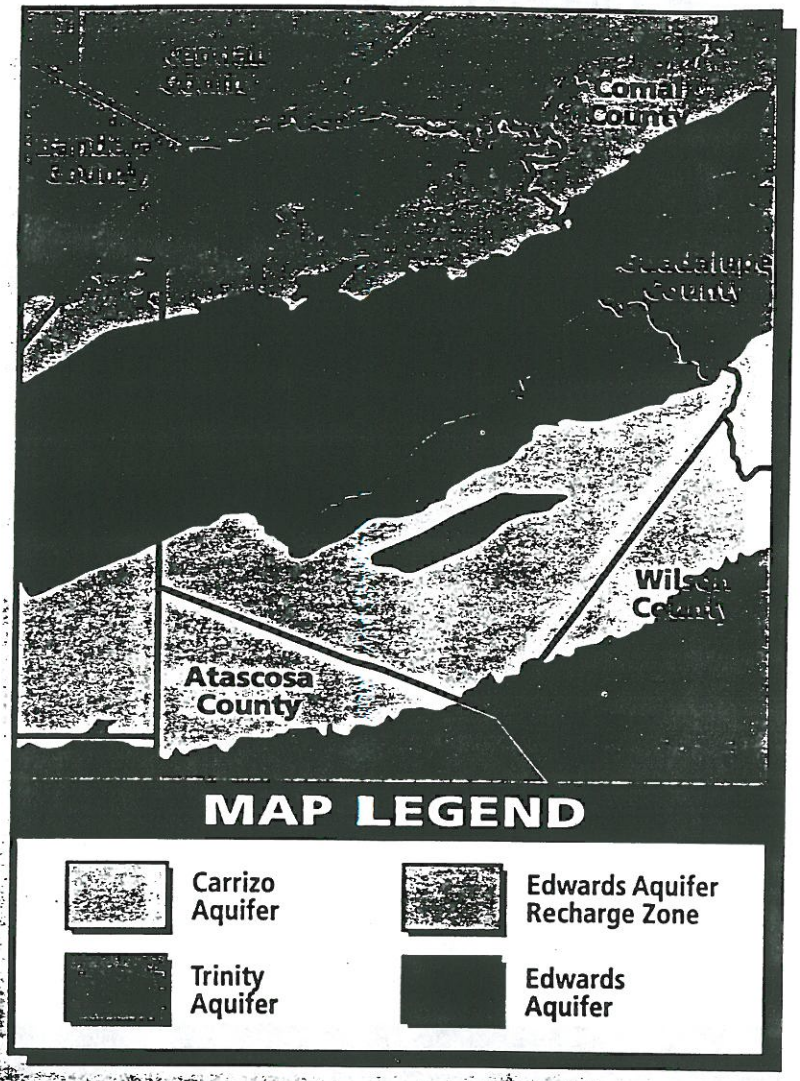
BexarMet's Water Resources

Currently the Edwards Aquifer supplies about three-fourths of the water delivered by BexarMet. However, the state has ordered reduced pumping from the Edwards Aquifer. As a result, BexarMet has developed a long-range plan to ensure meeting its customer's water needs now and in the future.

During 1998, BexarMet pumped water from three sources: (see map at right)

1) **Edwards Aquifer**
   (The Edwards Balcones Fault Zone aquifer is a limestone aquifer)
2) **Carrizo-Wilcox Aquifer**
   (The Carrizo-Wilcox is a sand and gravel aquifer)
3) **Trinity Aquifer** (The Trinity aquifer is a limestone formation)

BexarMet is leading the region in the development of highly productive water resources - an accomplishment that no other local water utility can proclaim. In addition to producing water from the three aquifer systems, BexarMet will soon be producing water from surface resources, including water from Canyon Lake and Lake Dunlap in the northern Guadalupe watershed. BexarMet's more immediate plans include the addition of water from Medina Lake through the Medina River. Beginning early 2000, over nine million gallons of surface water a day will be added to the list of BexarMet water resources.



BexarMet Systems

BexarMet owns and operates 23 separate and independent water systems within the three source areas. These systems are scattered across Bexar County, and include areas in Medina, Comal, Atascosa counties.

BexarMet Provided Water Through 23 Independent Systems During 1998.

Edwards Aquifer-BMWD	Carrizo Aquifer-BMWD	Trinity Aquifer-BMWD
Southside	Waterwood	Timberwood Park
Castle Hills	Palo Alto	Mobile City Estates
Northwest	Primrose	Leon Springs Villa
Northeast	Silver Mountain	Bulverde Hills
North SA Hills	Windy's	Oakland Estates
Hill Country	Twin Valley	Woods/Spring Branch
Chaparral	Oak South	
Texas Research Park		
Elm Valley Park		
Country Oaks Estates		

Your Drinking Water is Exceptional

Frequently Asked Questions

Drinking Water Information

The U.S. EPA requires water systems to test up to 97 constituents. The Safe Drinking Water Act requires that the highest value detected during the calendar year be provided in this report. Not listed are the hundreds of other compounds for which we tested that were not detected. The table on the back page of this publication contains the final report of all of the chemical constituents that were found in your drinking water during routine samplings.

Your Comments are Welcome

If you have questions about this report, call the BexarMet Community [illegible] Office [illegible] 210-3[illegible] or [illegible]. If you are interested in learning more about water quality [illegible] your water company operates, the BexarMet Board of Directors meets every [illegible] Monday of the month at the BexarMet Administrative Offices, 2047 West Malone. In addition, timely information about BexarMet can be obtained through our website at www.bexarmet.org.

The Environmental Protection Agency (EPA) has a Safe Drinking Water Hotline at [illegible]-426-4791 [illegible] connect to the EPA through its website at www.epa.gov.

In addition, you can contact the state regulatory agency, the Texas Natural Resource Conservation Commission (TNRCC) at 210-490-3096, website www.tnrcc.state.tx.us.

Special Information for People With Weakened Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)

Bexar Metropolitan Water District
Water Quality Report - Leon Springs Mobile Villa (Trinity Aquifer) System

Most recent data available indicate five constituents detected in your water.

Regulated at the Pump Station - Treatment Plant

Year	Detected Substance (Inorganic Compounds)	Federal MCL	Federal MCLG	Leon Springs System Highest Level	Range of Detected Levels	Possible Source of Contaminants
1997	barium	2 ppm	2 ppm	0.0380 ppm	0.0320-- 0.0380 ppm	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
1997	fluoride	4 ppm	4 ppm	0.6 ppm	0.40 - 0.60 ppm	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
1997	nitrate	10 ppm	10 ppm	2.65 ppm	1.01 - 2.65 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
1997	selenium	50 ppb	50 ppb	2.4 ppb	0.00 - 2.4 ppb	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
1998	tetrachloroethylene	5 ppb	0 ppb	0.7	0.00 - 0.700 ppb	Leaching from PVC pipes; Discharge from factories and dry cleaners

Regulated at the Customer's Tap

Year	Detected Substance (Inorganic Compounds)	90th Percentile Values	#/Sites Above Action Level	MCL	MCLG	Possible Source of Contaminants
1996	copper	0.0430 ppm	0	Action Level = 1.3 ppm	1.3 ppm	Corrosion of customer plumbing, service connection; Erosion of natural deposits; Leaching from wood preservatives
1996	lead	5.00 ppb	0	Action Level = 15 ppb	0 ppb	Corrosion of customer plumbing, service connection; Erosion of natural deposits

Definitions

MCL - (Maximum Contaminant Level) - The highest level of a contaminant that is allowed in drinking water.
MCLG - (Maximum Contaminant Level Goal) - The level of a contaminant in drinking water below which there is not known or expected risk to health.
Action Level - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.
ppm - parts per million
ppb - parts per billion.
NTU - Nephelometric Turbidity Units. This is the unit used to measure suspended material in water.
Turbidity - A measure of the cloudiness of water. It is a good indicator of the effectiveness of the filtration system. The turbidity level of filtered water shall be less than or equal to 0.5 NTU in 95% of the measurements taken each month and shall not exceed 5.0 NTU anytime.
pCi/L - Picocuries per liter is a measure of the radioactivity in water.
ND - none detected.

Attachment 6
Fair Oaks Ranch
Water Quality Report

1998 DRINKING WATER QUALITY REPORT

Fair Oaks Ranch Utilities 830-755-4294 or 210-698-1756

Dear Customer:

We are pleased to present this first annual summary of the quality of water provided by Fair Oaks Ranch Utilities. The Safe Water Drinking Act Amendments of 1996 (SWDA) require utilities to make this report to its customers. This report details where our water comes from, what it contains, and the health risks our testing and treatment is designed to prevent. We hope it advances your understanding of drinking water issues and heightens awareness of the need to protect precious water resources.

During calendar year 1998, Fair Oaks Ranch Utilities pumped 375,141,000 gallons of water for its 1691 residential and commercial customers. That represents an average of 618 gallons per customer per day. The growth of our city and the increasing demands on the Trinity Aquifer dictate that an alternate source be obtained to insure future water availability. Contract discussions have been ongoing for several months with the Guadalupe-Blanco River Authority (GBRA) to participate in their Canyon Lake water project. The Fair Oaks Ranch City Council expects to sign a contract with GBRA prior to the end of 1999.

We are committed to providing you the safest, most reliable and cost effective water supply.

Our Drinking Water Is Safe:

In accordance with EPA and Texas Natural Resource Conservation Commission (TNRCC) rules, the Fair Oaks Ranch Utility water system conducts various contaminant tests monthly, yearly and every three years. The TNRCC has assessed our system and determined that our water is safe to drink. The analysis was made by using the data in the attached tables. Since we meet federal standards there may not be any health based benefits to purchasing bottled water or point of use devices

Special Notice for the ELDERLY, INFANTS, CANCER PATIENTS, and people with HIV/AIDS or other immune problems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Public Participation Opportunities:

Do you have questions about our water system and drinking water? If so, you are invited to attend the Utility Board's meetings held at 2:00 PM on the third Monday of each month in Council Chambers at City Hall. There is an open forum at each meeting where your questions and concerns will be addressed. The meeting agenda is posted at City Hall three business days prior to each meeting. You may also contact Dan Kasprowicz at 830-981-9639.

All Drinking Water May Contain Contaminants:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Their presence does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline. (800-426-4791).

0150216

Post-it® Fax Note 7671	Date 1/24	# of pages ▶ 4
To Susan Roberts/S. Pearson	From C BEAL	
Co./Dept. Parsons	Co. CSSA	
Phone #	Phone # 210/295-7417	
Fax #	Fax #	

ATTACHMENT 6

DEFINITIONS:

Maximum Contaminant Level (MCL) - The highest level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is not known or expected health risk. MCLGs allow for a margin of safety.

Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

The U. S. EPA requires water systems to test up to 97 constituents. The constituents identified below were detected in your water. None approached MCL or MCLG targets. There were no violations.

WATER QUALITY TABLE

Inorganic Contaminants

Year	Constituent	Highest Level at any Sampling Point	Range of Detected Levels	MCL	MCLG	Unit of Measure	Possible Source of Constituent
1995	Barium	0.0287	0.0220-0.0287	2	2	ppm	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
1996	Fluoride	1.2000	0.4000-1.2000	4	4	ppm	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
1996	Nitrate	1.1700	0.1200-1.1700	10	10	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
1996	Selenium	4.4000	0.0000-4.4000	50	50	ppb	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
1996	Gross alpha adjusted	2.2000 2.2000	2.2000	15	0	pCi/l	Erosion of natural deposits

Lead and Copper

Year	Constituent	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Possible Source of Constituent
1996	Lead	0.0044	0	15.00	ppb	Corrosion of household plumbing systems; Erosion of natural deposits.
1996	Copper	0.1890	0	1.30	ppm	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

Key to table:
ppm = parts per million or milligrams per liter
ppb = parts per billion or micrograms per liter
pCi/l = picoCuries per liter (a measure of radiation)

0150216

Where Does Our Water Come From:

At the present time, Fair Oaks Ranch Utilities relies on the Trinity Aquifer as its sole water supply source. There are currently twenty-nine active wells that tap into the Cow Creek formation of the Trinity and provide the drinking water for our area. This ground water is of such purity that the only treatment it receives is chlorine as a disinfectant.

The weather and news reports that we watch on San Antonio TV are all based on the Edwards Aquifer. Our supply is totally different and isolated from the Edwards. The TNRCC will be reviewing all of Texas' drinking water sources. The source water assessment process will be completed in three years.

The following article by Jan Wrede of the Cibolo Nature Center (CNC) recently appeared in the Boerne Star and the Hill Country Recorder. It presents a factual, graphic picture of the unique and critical differences between the Edwards and Trinity Aquifers. It is reprinted here with Ms. Wrede's permission.

Trinity Aquifer vs. Edwards Aquifer

The final week of CNC summer Adventure Camp was something new this year - Water Wonders. The weather co-operated by opening camp on Monday with an all day rain storm. We loved watching downpours drench the prairie and listening to torrents thunder onto the porch roof. In between cloudbursts, I told groups of campers and counselors the story of "the two aquifers" and asked everyone to draw some part of the story. Many children drew rain falling on lush green grass and trees above underground caves full of water.

We hear plenty about the Edwards Aquifer. It is the only source of drinking water for everyone in San Antonio. It supplies large quantities of water for irrigation, industry and the military. It stretches from eastern Kinney County in the west into southern Hays County on its eastern edge. Its water gushes out of Comal Springs in New Braunfels and at Aquarena Springs in San Marcos. Its rise and fall is recorded daily on the back page of the sports section of the San Antonio Express-News.

But what about the Trinity Aquifer where we, in Kendall County, get our drinking water? Our aquifer just happens to be the most poorly understood aquifer in Texas. This sad fact is soon to be rectified thanks to a Trinity Aquifer Study conducted by Dr. Marshall Jennings of the Edwards Aquifer Research and Data Center in San Marcos. His team will be monitoring wells throughout critical Hill Country counties. In Kendall County, they will be gathering well-level information on 6-7 pre-existing wells. Kendall County also just put in a special well and a weather station on Johns Road that will provide continuous data. It will supply information not just on water level but also on how water level responds to rain.

There are three major differences between the Trinity and the Edwards Aquifers and none of them are in the Trinity's favor.

First, the Edwards is huge with 40,000,000 acre feet of retrievable water; whereas, the Trinity only holds about 750,000 acre feet.

Second, the Edwards is mainly fed or recharged by seepage from streams (including the Cibolo Creek) that cross its outcrop or "recharge zone". The Trinity Aquifer is merely fed or recharged by rain that falls directly over it and seeps gradually downward through the soil and underlying rock strata. Thus, its recharge is dependent on permeable, sponge-like ground cover that prevents runoff.

Third, water in the Edwards occupies a system of underground caves that are interconnected by water filled tunnels, giving the aquifer what is called high transmissibility. This means that nearly all the water in the aquifer is available to every well in the Edwards. In stark contrast, the Trinity Aquifer has very low transmissibility because its water occupies a collection of caves and gravel zones that are separated by clay which severely limits water flow. This means that our water is in separate pockets, some large and some smaller.

When the Trinity Aquifer Study is completed, we'll have a model that will tell us how much water is available in different areas of the aquifer and the county. Then, public officials, land owners and CNC summer Adventure Campers will have a more accurate picture of the underground water world beneath our feet. I hope that all their drawings will still show a county of thick green vegetation over water-filled caves.

Jan Wrede, CNC

Sewer Effluent:

The Fair Oaks Ranch Utility Wastewater Treatment Plant produced 63,521,000 gallons of effluent in 1998. There were 841 sewer customers at year-end. All plant effluent is provided to the Fair Oaks Ranch Golf and Country Club and is used for golf course irrigation. This supply dramatically reduces the demand that would be placed on the Trinity Aquifer if this source was not available. A real win-win situation for everyone.

Fair Oaks Ranch Utilities
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015

Presorted Std.
US Postage
Paid
San Antonio, TX
Permit # 167

Bill Payments:
P. O. Box 4495
Boerne, TX 78006

Phones:
830-755-4294
210-698-1756
210-258-4091 (After Hour Emergencies

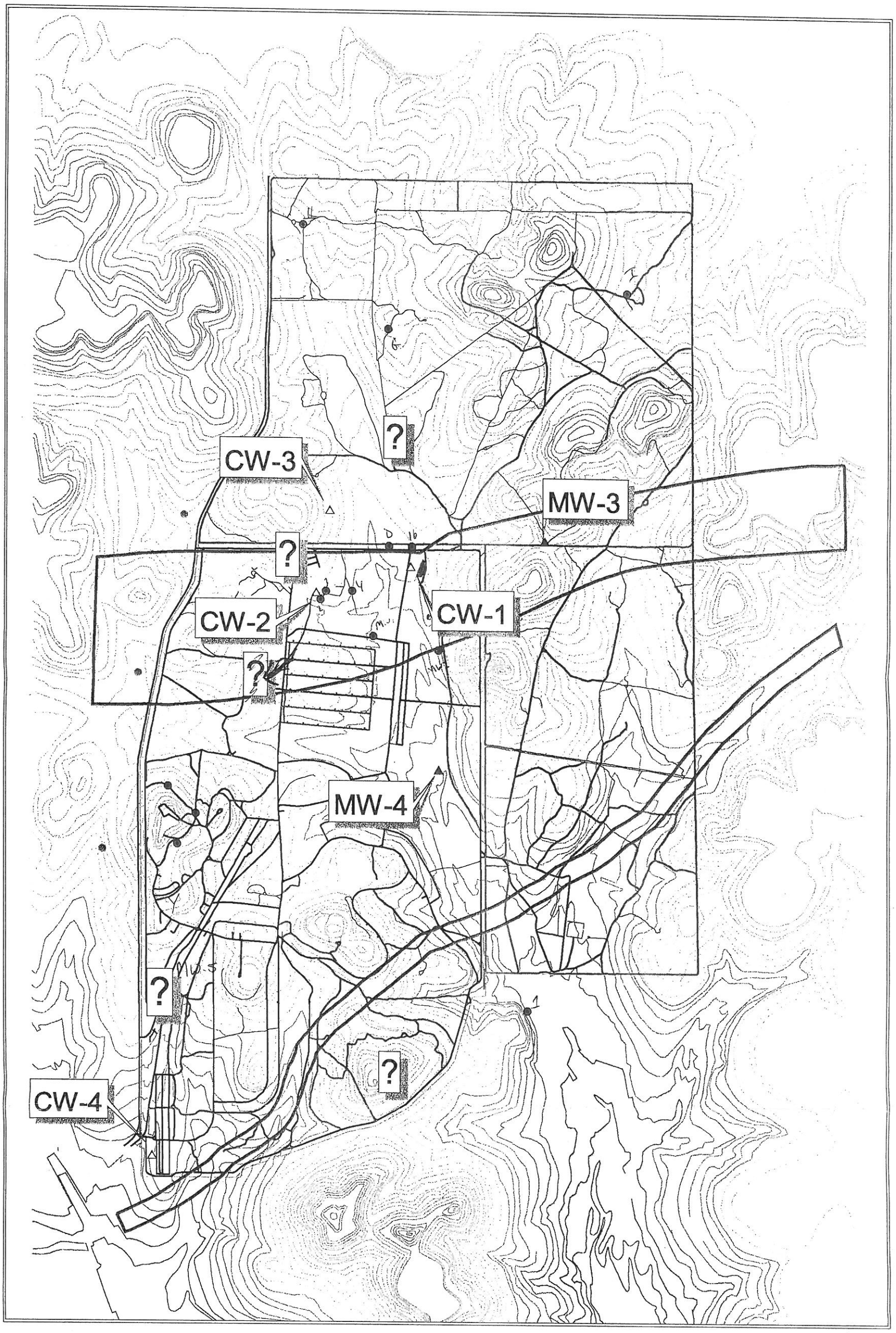
AN IMPORTANT MESSAGE FOR

FAIR OAKS RANCH UTILITIES

WATER CUSTOMERS

Attachment 7
Proposed Well Locations
January 25, 2000 Revision
(Prepared by WPI and CSSA)

Proposed Well Locations
January 25, 2000 Revision



Legend

? Floater Locations

▲ Proposed Glen Rose wells

△ Proposed Cluster Well

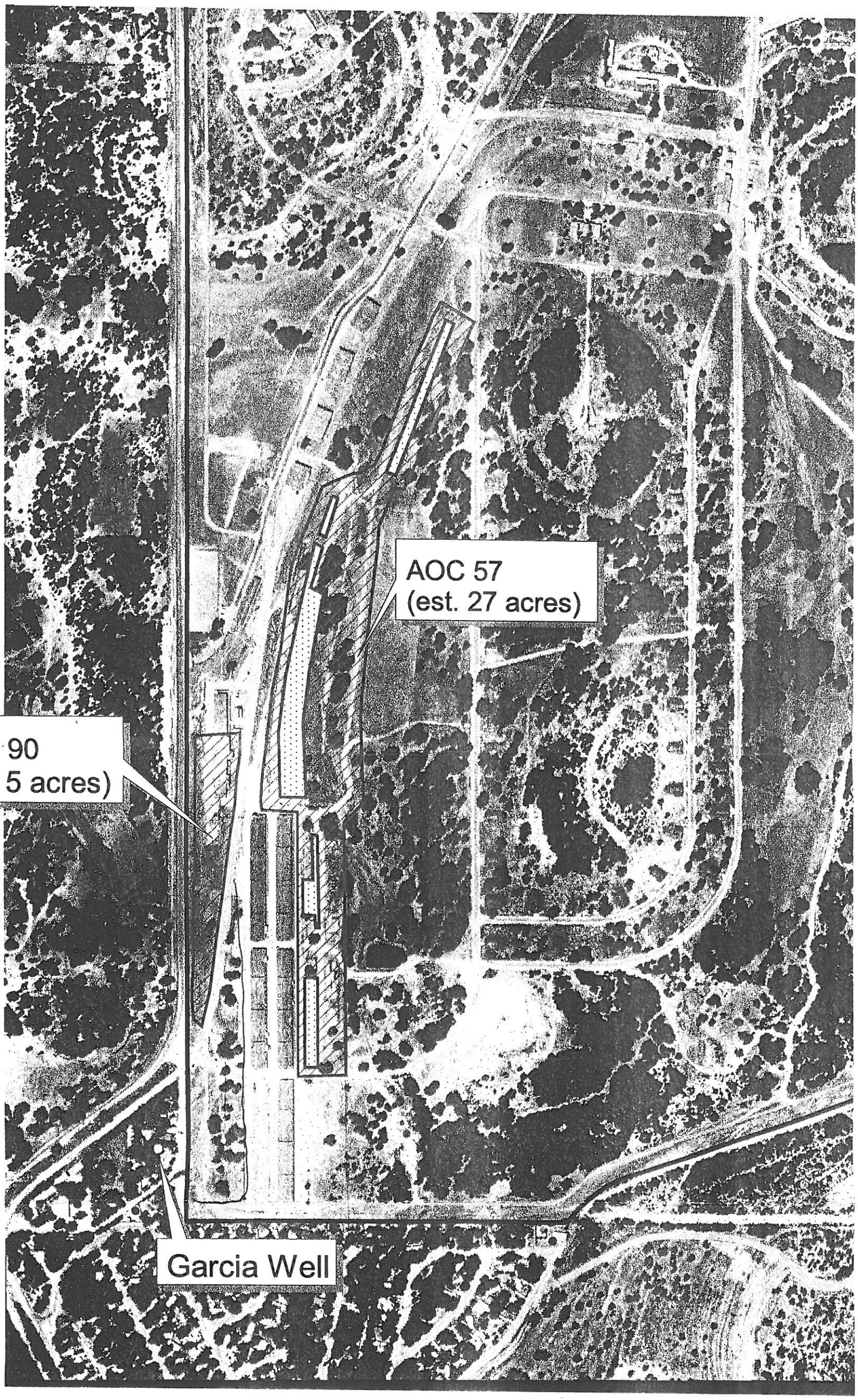
Fault Zone

Tce source areas.shp

Attachment 8
Proposed Soil Gas Areas
(Prepared by WPI and CSSA)

Proposed Soil Gas Areas

DRAFT



Legend

- Well < 0.25 mi
- Old Temporary Buildings
- Soil Gas 2000
- Fenceline.shp

Attachment 9
Background Comparison
Criteria Table

Table 3 Laboratory Analytical Methods, Detection Limits, and Regulatory Criteria
Camp Stanley Storage Activity, Texas

		Detection Limits							State of Texas Regulatory Criteria				EPA Region 6		
		NET Lab		Terra Lab		APPL Lab							Risk Based Screening Levels		
Analyte	Method	IDL (mg/kg)	PQL (mg/kg)	IDL (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	RL (mg/kg)	AFCEE QAPP Required RL (mg/kg)	GWP-Ind* (mg/kg)	SAI-Ind* (mg/kg)	Risk-Based Screening Values (mg/kg)	Texas-Specific Background Concentration (mg/kg)	Industrial (mg/kg)	Industrial w/o dermal (mg/kg)	Background Concentration or Range (mg/kg)
Arsenic	SW6010	NA	0.2	--	--	--	--	60	5	20		5.9	2.3	3.8	1.1-16.7
	SW7060A	--	--	2	0.5*	0.16	0.5	0.5							
Barium	SW6010	NA	1.0	NA	2*	0.08	1	2	200	59,000	910	300	NS	NS	430
Cadmium	SW6010	NA	0.5	1.5	4*	--	--	4	0.5	410	3.3	NA	1,000	1,000	0.1-1.0
	SW7131A	--	--	--	--	0.02	0.1	0.1							
Chromium	SW6010	NA	2.0	NA	7*	0.1	20	7	10	240,000	5,300	30	100,000	100,000	38
Copper	SW6010	NA	0.5	--	--	0.19	2	6	130	74,000	1,000	15	76,000	76,000	20
Lead	SW6010	NA	2.2	NA	50*	--	--	50	1.5	1,000	500	15	2,000	NS	10-18
	SW7421	--	--	NA	0.5*	0.19	0.5	0.5							
Mercury	SW7471	NA	0.02	0.01	0.1*	0.01	0.1	0.1	0.2	0.15	0.61	0.04	610	610	0.1
Nickel	SW6010	NA	1.6	--	--	0.12	2	15	10	12,000	190	10	41,000	41,000	16
Zinc	SW6010	NA	1.0	--	--	0.63	5	2	3,100	410,000	5,900	30	100,000	100,000	22-50

NA = Not available. Laboratory did not report MDLs.
NS = No standard established in 30 TAC 335 Subchapter S.
IDL = Instrument Detection Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
RL = Reporting Limit
GWP-Ind = Industrial Groundwater Protection Standard
SAI-Ind = Industrial Soil-Air Ingestion Standard
*GWP-Ind and SAI-Ind are from 30 TAC 335 Subchapter S, updated July 1, 1998.
**Risk-based screening values are from the TNRCC Interoffice Memorandum regarding Implementation of the Existing Risk Reduction Rule Values updated September 18, 1998.
Note: AFCEE RL values are from Version 3.0 of the AFCEE Quality Assurance Project Plan (AFCEE, 1999).

Attachment 10
Comparison of
Background Values

Comparison of Background Values
Camp Stanley Storage Activity

Compound and Soil Type	June 1997 Background Value (mg/kg)	PRELIMINARY Revised February 2000 Background Value (mg/kg)	Change (mg/kg)
ARSENIC			
Glen Rose	4.3	2.3	(2.0)
Brackett	37.7	30.8	(6.9)
Brackett Tarrant	2.6	2.6	0.0
Crawford & Bexar	40.3	NA	
Krum Complex	31.8	NA	
Lewisville	20.9	29.7	8.8
Tarrant (rolling)	25.6	20.5	(5.1)
Tarrant (undulating)	13.4	26.6	13.2
Trinity & Frio	29.5	32.9	3.4
BARIUM			
Glen Rose	11.7	10.4	(1.3)
Brackett	243	426	183.0
Brackett Tarrant	84.3	84.3	0.0
Crawford & Bexar	170	170	0.0
Krum Complex	279	343	64.0
Lewisville	255	279	24.0
Tarrant (rolling)	303	258	(45.0)
Tarrant (undulating)	281	363	82.0
Trinity & Frio	234	330	96.0
CADMIUM			
Glen Rose	2.0	1.5	(0.5)
Brackett	2.6	2.32	(0.3)
Brackett Tarrant	2.0	2.0	0.0
Crawford & Bexar	3.0	5.55	2.6
Krum Complex	2.6	4.0	1.4
Lewisville	2.4	0.62	(1.8)
Tarrant (rolling)	3.4	1.1	(2.3)
Tarrant (undulating)	2.6	0.84	(1.8)
Trinity & Frio	2.3	0.49	(1.8)
CHROMIUM			
Glen Rose	3.1	8.0	4.9
Brackett	73.1	98.6	25.5
Brackett Tarrant	15.0	15.0	0.0
Crawford & Bexar	43.4	43.4	0.0
Krum Complex	50.7	59.4	8.7
Lewisville	41.5	77.9	36.4
Tarrant (rolling)	74.4	51.4	(23.0)
Tarrant (undulating)	69.2	85.3	16.1
Trinity & Frio	46.8	64.4	17.6
COPPER			
Glen Rose	6.9	11.9	5.0
Brackett	34.6	54.0	19.4
Brackett Tarrant	12.1	20.4	8.3
Crawford & Bexar	30.7	21.7	(9.0)
Krum Complex	28.2	32.9	4.7
Lewisville	25.6	30.5	4.9

Compound and Soil Type	June 1997 Background Value (mg/kg)	PRELIMINARY Revised February 2000 Background Value (mg/kg)	Change (mg/kg)
Tarrant (rolling)	31.6	52.9	21.3
Tarrant (undulating)	28.9	37.6	8.7
Trinity & Frio	25.6	46.0	20.4
LEAD			
Glen Rose	69.3	432	362.7
Brackett	196	144	(52.0)
Brackett Tarrant	128	128	0.0
Crawford & Bexar	133	133	0.0
Krum Complex	82.4	82.4	0.0
Lewisville	124	71.5	(52.5)
Tarrant (rolling)	91.4	304	212.6
Tarrant (undulating)	105	105	0.0
Trinity & Frio	214	408	194.0
MERCURY			
Glen Rose	0.05	0.03	(0.0)
Brackett	0.12	1.24	1.1
Brackett Tarrant	0.05	0.05	0.0
Crawford & Bexar	0.05	0.14	0.1
Krum Complex	0.05	0.03	(0.0)
Lewisville	0.05	0.13	0.1
Tarrant (rolling)	0.77	0.77	0.0
Tarrant (undulating)	0.05	1.5	1.5
Trinity & Frio	0.08	NA	
NICKEL			
Glen Rose	29.9	90.3	60.4
Brackett	66.6	87.5	20.9
Brackett Tarrant	47.1	63.9	16.8
Crawford & Bexar	57.6	58.1	0.5
Krum Complex	46.5	72.7	26.2
Lewisville	29.1	51.9	22.8
Tarrant (rolling)	47.6	57.2	9.6
Tarrant (undulating)	44.9	62.4	17.5
Trinity & Frio	30.8	55.7	24.9
ZINC			
Glen Rose	5.2	12	6.8
Brackett	92.1	169	76.9
Brackett Tarrant	46.9	51.5	4.6
Crawford & Bexar	121	84.3	(36.7)
Krum Complex	120	160	40.0
Lewisville	69.8	81.5	11.7
Tarrant (rolling)	107	106	(1.0)
Tarrant (undulating)	67.1	133	65.9
Trinity & Frio	142	228	86.0

Attachment 11
Soil Gas Survey
Results

AOC 66

AOC 41

AOC 37

B-5

N

200 0 200 Feet

Legend

- 0.01 - 0.10 ug/L PCE
- 0.10 - 1.00 ug/L PCE
- 1.00 - 10.00 ug/L PCE
- 10.00 - 100.00 ug/L PCE
- > 100 ug/L PCE

DRAFT

PCE Soil Gas

Contour Summary Map
Updated December 1999
Camp Stanley, Texas

PARSONS ENGINEERING SCIENCE, INC.

//m1491/environmental files/gisdata/final/do5068/cssaoct99grd_f.apr

The distribution, concentrations and contaminant associations for the compounds detected are addressed below in the sections for each AOC. The soil-gas survey data for all three sites, AOC's 37, 41, and 66 are presented in Table 5.

N.4.1 Soil Gas Survey Results for AOC 37

A total of 6 samples were collected at AOC 37. PCE was the only target compound detected in soil gas samples from AOC 37. Sampling depths varied from 2 to 5 feet and depended on refusal. PCE was detected only one sample at a concentration of 0.01 µg/L or close to the detection limit. The data suggests that a source of VOCs was not present in the area.

N.4.2 Soil Gas Survey Results for AOC 41

A total of 40 samples were collected at AOC 41. Soil gas samples were collected at depths of 1.5 to 6 feet with the depth of sampling determined by refusal. PCE was the only target compound detected in soil gas samples from AOC 41 and was detected in only two samples, locations 1 and 11 in the southwest corner of AOC 41, at a concentration of 0.02 µg/L in both samples. Previously, PCE had been detected at concentrations of 0.01 to 0.07 µg/L, however, these detections were not flagged based on the detection of PCE in blanks. The recent and previous data collected at this site suggest that the site does not contain a source of VOC contamination.

N.4.3 Soil Gas Survey Results for AOC 66

A total of 100 soil gas samples were collected at AOC 66. PCE and TCE were the only target compounds detected in soil gas samples from AOC 66. Soil gas sampling depths varied from 2 feet to 6 feet and sampling depths were usually determined by refusal.

TCE was detected in only one sample, location 81, at a concentration of 0.04 µg/L. TCE was detected in the same sample as the highest PCE detection.

PCE was detected at 19 locations and ranged in concentration from 0.01 to 0.16 µg/L. The highest concentration occurred in the duplicate sample analysis from location 81. Only three detections were equal to or above 0.10 µg/L. The PCE detections were generally spotty with more than a third of the detections occurring along the boundary with AOC 35. These PCE detections along the boundary with AOC 35 appear to be consistent with previous results that indicated low concentrations of PCE extending from AOC 35 into the north pasture (AOC 66). PCE detections in the north pasture were not

as pervasive as in the south pasture suggesting that groundwater contamination may not extend into the north pasture. The isolated occurrence of PCE at locations 61 and 81 could be related to gas migration focused along fractures or faults to these locations. The low concentrations and the few occurrences suggest that a source of VOC's is not present in AOC 66.

Table 5
Soil Gas Survey Results for CSSA

Date	Location		Depth	Benzene	Toluene	Ethylbenzene	m/p-xylenes	o-xylene	cis-1,2-DCE	TCE	PCE
	SWMU 37										
12/15/1999	AOC37-01		5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC37-02		5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC37-03		6	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC37-04		2	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC37-05		3.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC37-06		3.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01
	SWMU 41										
12/06/1999	AOC41-01		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/06/1999	AOC41-02		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-03	Dup	4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-03		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-04		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC41-05		2.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC41-06		1.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC41-07		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-08		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-09		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-10		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-11		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-12		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/06/1999	AOC41-13		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-14		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-15		3	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-16		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC41-17		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-18		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-19		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-20		4	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-21		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-22		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-23		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-24		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U

Table 5
Soil Gas Survey Results for CSSA

Date	Location		Depth	Benzene	Toluene	Ethylbenzene	m/p-xylenes	o-xylene	cis-1,2-DCE	TCE	PCE
12/07/1999	AOC41-25		3	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-26	Dup	5	0.30 U	0.46 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-26		5	0.30 U	0.46 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-27		4	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-28		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-29		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-30		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-31		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-32		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-33		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/07/1999	AOC41-34		4	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/06/1999	AOC41-35		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-36	Dup	3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-36		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-37		3.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-38		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-39	Dup	3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-39		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC41-40		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
	SWMU 66										
12/08/1999	AOC66-01		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-02	Dup	5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.05
12/08/1999	AOC66-02		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.05
12/10/1999	AOC66-03		2.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-04		2.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-05	Dup	5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-05		5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-06		6	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-07		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-08		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-09		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-10		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-11		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U

Table 5
Soil Gas Survey Results for CSSA

Date	Location		Depth	Benzene	Toluene	Ethylbenzene	m/p-xylenes	o-xylene	cis-1,2-DCE	TCE	PCE
12/09/1999	AOC66-12		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01
12/10/1999	AOC66-13	Dup	6	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/10/1999	AOC66-13		6	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01
12/13/1999	AOC66-14		6	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-15		4.5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-16		3.5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-17		5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-18		5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-19		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-20		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-21		4.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/09/1999	AOC66-22		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-23		5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-24		4.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-25		3.5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-26	Dup	4	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-26		4	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-27		2	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-28		3.5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-29		4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-30		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-31		3.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-32		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-33	Dup	3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/08/1999	AOC66-33		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.06
12/09/1999	AOC66-34		3.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.06
12/09/1999	AOC66-35		3.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-36		3.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-37		4	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-38	Dup	3.5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-38		3.5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.04
12/14/1999	AOC66-39	Dup	4	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.05
12/14/1999	AOC66-39		4	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/13/1999	AOC66-40		4	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
											0.01 U

Table 5
Soil Gas Survey Results for CSSA

Date	Location		Depth	Benzene	Toluene	Ethylbenzene	m/p-xylenes	o-xylene	cis-1,2-DCE	TCE	PCE
12/10/1999	AOC66-41		3	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-42	Dup	4	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.07
12/09/1999	AOC66-42		4	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.06
12/09/1999	AOC66-43		4	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01
12/08/1999	AOC66-44	Dup	3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.10
12/08/1999	AOC66-44		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.11
12/08/1999	AOC66-45		5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.03
12/09/1999	AOC66-46		4	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-47	Dup	4.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/09/1999	AOC66-47		4.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/10/1999	AOC66-48	Dup	3.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/10/1999	AOC66-48		3.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
12/13/1999	AOC66-49		4	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-51		5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-52		6	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-53		5.5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-54		2.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-55		3.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-56		4.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-57		6	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01
12/08/1999	AOC66-58		5.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.04
12/09/1999	AOC66-59		6	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.03
12/09/1999	AOC66-60		4.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-61	Dup	4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-61		4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.10
12/13/1999	AOC66-62		4	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.10
12/14/1999	AOC66-63		3	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-64		2.5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-65		5	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-66		2	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-67		3	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-68		2.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-69		3.5	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/08/1999	AOC66-70		2	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.02
											0.01 U

Table 5
Soil Gas Survey Results for CSSA

Date	Location		Depth	Benzene	Toluene	Ethylbenzene	m/p-xylenes	o-xylene	cis-1,2-DCE	TCE	PCE
12/09/1999	AOC66-71		2.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-72		3	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01
12/10/1999	AOC66-73		4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/13/1999	AOC66-74		6	0.30 U	0.70 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-75		4	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-76		3	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-77	Dup	5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-77		5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-78		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-79		3	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-80		4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-81	Dup	3.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/09/1999	AOC66-81		3.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.04	0.16
12/09/1999	AOC66-82		4.5	0.30 U	1.0 U	0.40 U	0.40 U	0.40 U	0.50 U	0.04	0.14
12/08/1999	AOC66-83		2	0.30 U	0.35 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-84		2	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-85		4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-86		4	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-87		5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-88		2.5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-89		1.5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-90		5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-91		5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-92		6	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/14/1999	AOC66-93		2.5	0.30 U	0.75 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-94		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/10/1999	AOC66-95		1.5	0.30 U	0.80 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-96		3	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-97		3.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-98		3.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-99		2	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-100		4.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U
12/15/1999	AOC66-101		5.5	0.30 U	0.60 U	0.40 U	0.40 U	0.40 U	0.50 U	0.01 U	0.01 U

Attachment 12
Geophysical Survey
Results

DRAFT

DO 5068 Geophysical Survey Results. Conducted December 1999

Background

Electromagnetic (EM) Conductivity – An EM-31 instrument, manufactured by Geonics, that uses a transmitter and receiver coils to measure the conductivity of the ground. A magnetic field is provided by alternating current in the transmitting loop. This primary field induces an electrical current flow in earth materials. The amount of current flow depends on the conductivity of the earth materials. The current flow produces a second magnetic field at the same frequency but not the same phase or direction. This second field is detected by a receiver coil. The quadrature phase (quad) is a secondary field relative to the primary field converted to a value of milliseimens per meter (mS/m). Quadrature data is good for delineating areas of disturbance by contrasting the conductive properties of native and fill material. In-phase measures the portion of secondary field that is aligned with the primary field., The in-phase shift is good for detecting metallic debris since metal is a good electrical conductor. In the presence of metal, conductivity values are sometimes negative (polarity reversals), and highly irregular.

Ground Penetrating Radar (GPR) – An instrument that transmits low-powered microwave energy into the ground via an antenna. The signal from the antenna is reflected back by materials with contrasting electrical (dielectric and conductivity) and physical properties. Metal objects typically produce high amplitude hyperbolic reflections, although cobbles, boulders and concrete pipes can cause similar signatures. Water table and clay layers tend to produce flat high amplitude reflectors. GPR data are highly interpretive.

. A Geophysical Survey Systems, Inc. (GSSI) SIR System-2 with a 300mhz antenna was used to generate all GPR data during this field effort. Lower frequency antennas have deeper penetration but less resolution. Penetration was approximately 13 feet based on a given 2-way travel time of 4.5 nanoseconds per foot (n/s/ft) for dry limestone. This value is only an approximation and can very greatly within a survey site. The clay and the bedrock in the survey areas have very similar electrical properties. (This would include backfill in trenches). This makes the GPR data difficult to interpret.

Methodology

To accurately locate the geophysical data, local survey grids were established over each area investigated. The grids were formed by staking each site on 50 foot centers. The boundary grid lines were staked at 10 foot intervals during the EM-31 survey. EM-31 surveys were

conducted first. The EM data were then processed using DAT-31® and Surfer® software. The processed data were used for targeting the GPR surveys.

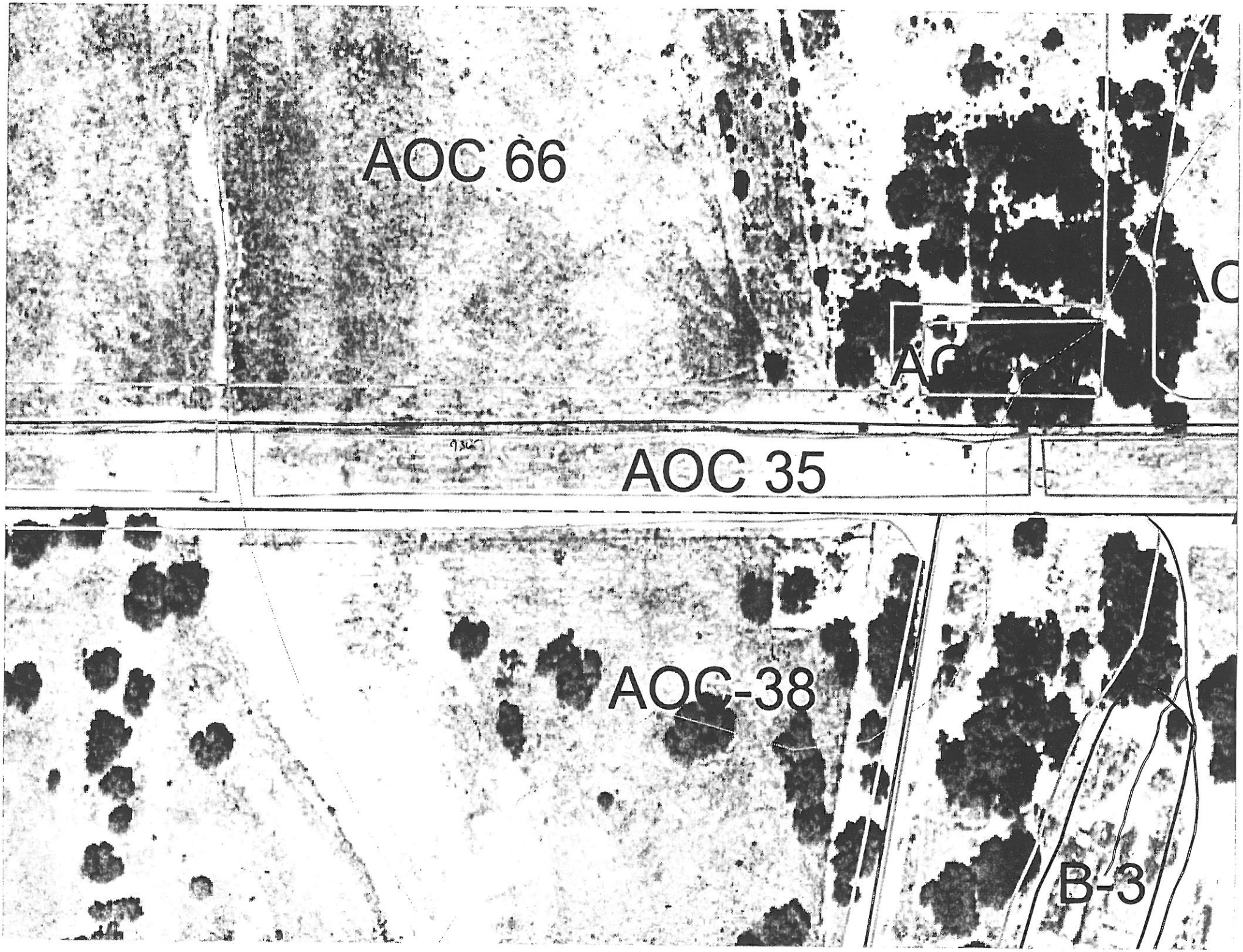
Results

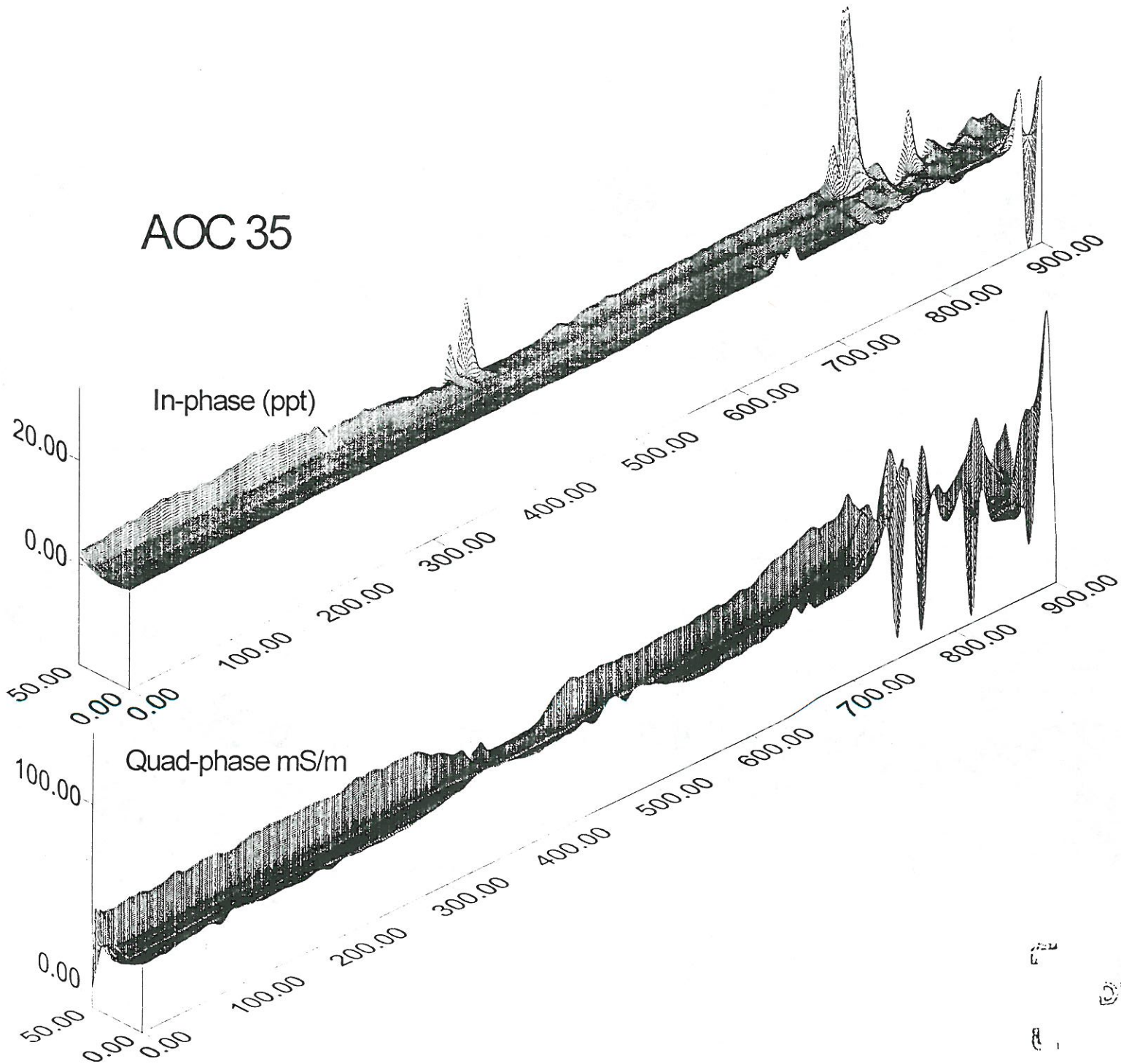
AOC 35: EM quad-phase data show an area of disturbed ground with multiple anomalies around Well 16. These disturbed areas are probably associated with the buried utilities around Well 16. The in-phase data do not show the same high-amplitude anomalous results that would confirm buried metallic objects. A rise in the quad- and in-phase data on the northern boundary can be attributed to the metal fence that separates the Inner Cantonment area from the North Pasture area. The five in-phase anomalies present can all be attributed to surface features. Those features listed from east to west are: The metal re-enforced concrete culvert, the building surrounding Well 16, the cattle watering trough, the large water spigot near the road, and Well D, which had a 55-gallon metal drum on the wellpad during the survey. Two of the GPR survey results (files 47 and 45) confirmed the presence of buried objects.

AOC 42: EM data, quad- and in-phase, show the presence of six identifiable anomalies. Anomalies A, B, and C are the strongest anomalies and may indicate the presence of buried metallic objects in trenches. Anomaly D is slightly weaker then the previous anomalies but may be associated with them. It follows a linear trend with anomaly C that is parallel to the anomalies A and B trend. Anomalies E and F are individual and not associated with any trend. Both E and F are visible in GPR data as well. GPR data confirms the presence of other buried objects associated with anomalies A, B, and C.

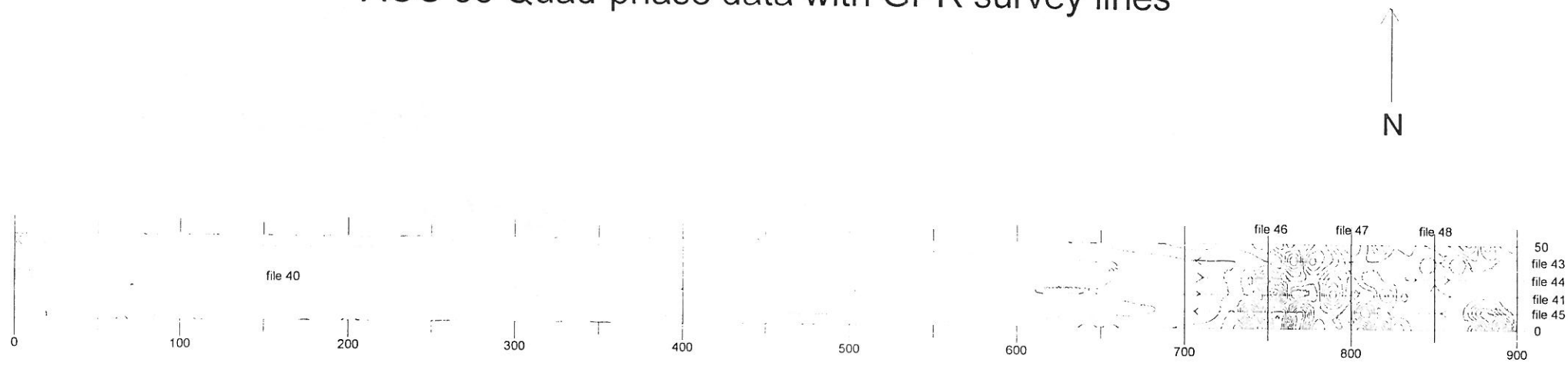
AOC 43: EM data and GPR data show no significant anomalies. One of the GPR survey files shows the presence of dipping beds between 2 and 5 feet. The apparent dip of the beds is to the east.

SWMU B-9: EM data and GPR data show no significant anomalies. All GPR data files collected in the northwest-southeast trend show dipping beds with an apparent dip to the southeast.


AOC 66
AOC 35
AOC-38
B-3


AOC 35
In-phase (ppt)
20.00
0.00
50.00
0.00
0.00
100.00
200.00
300.00
400.00
500.00
600.00
700.00
800.00
900.00
Quad-phase mS/m
100.00
0.00
50.00
0.00
0.00
100.00
200.00
300.00
400.00
500.00
600.00
700.00
800.00
900.00

AOC 35 Quad-phase data with GPR survey lines



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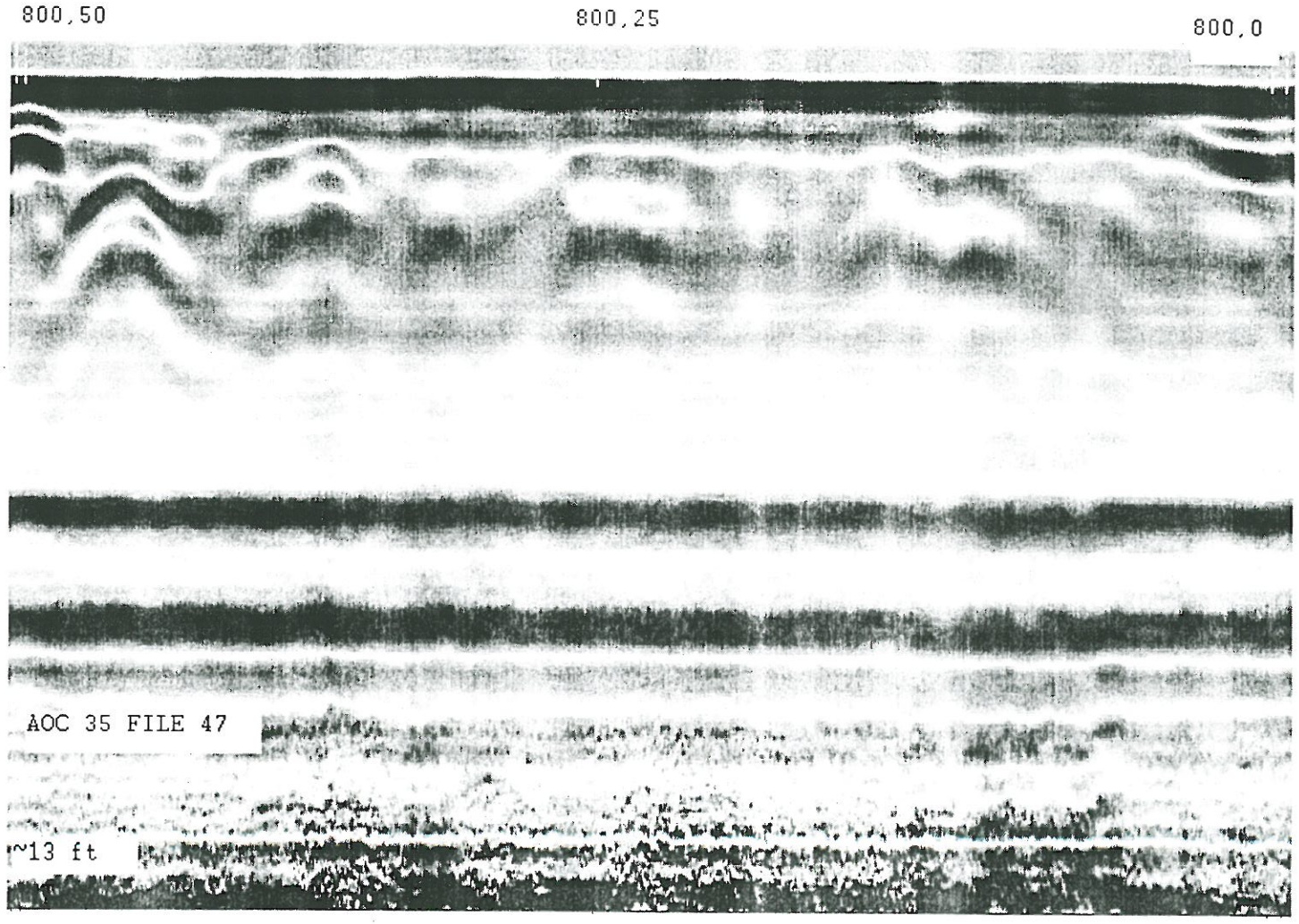
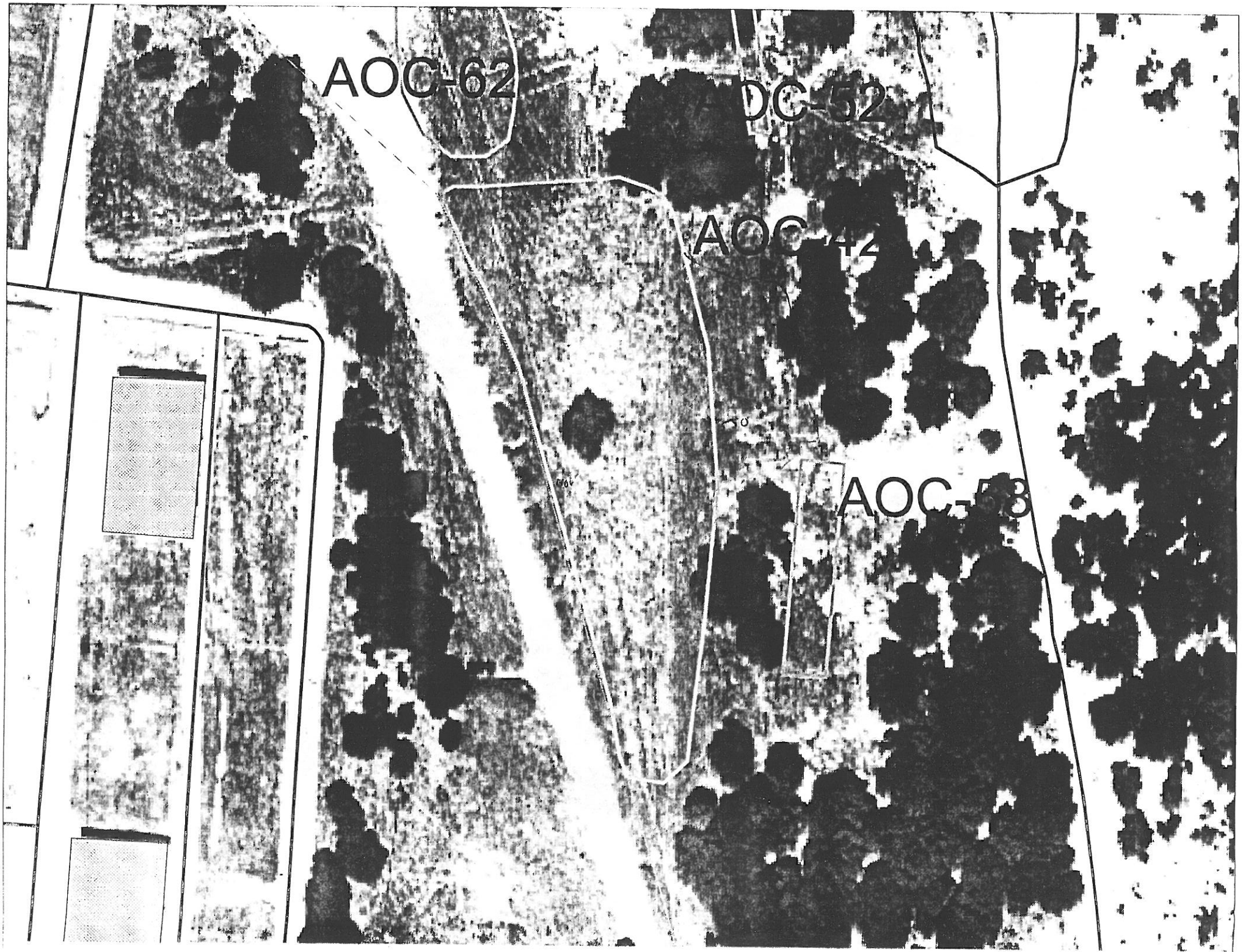
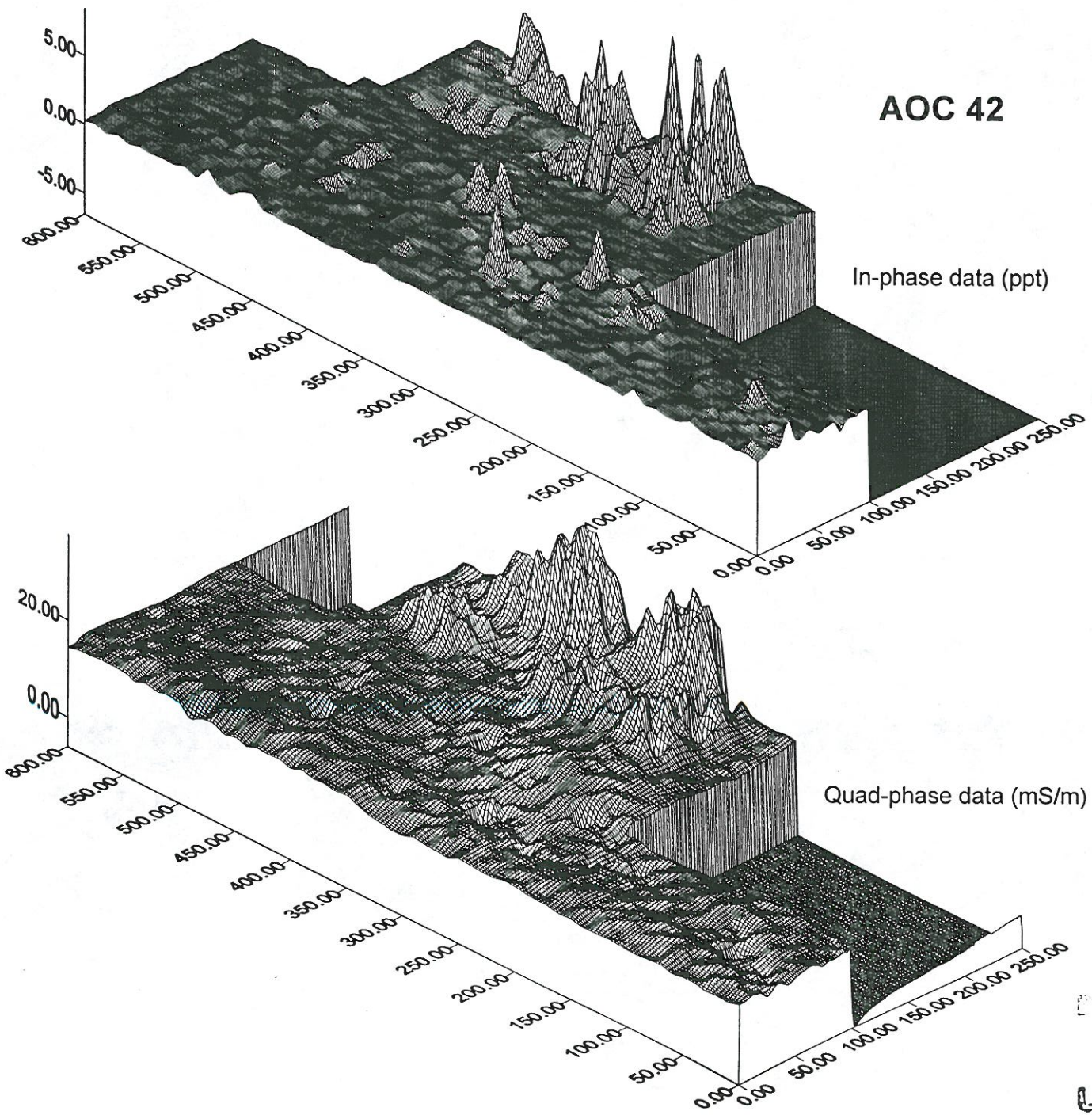
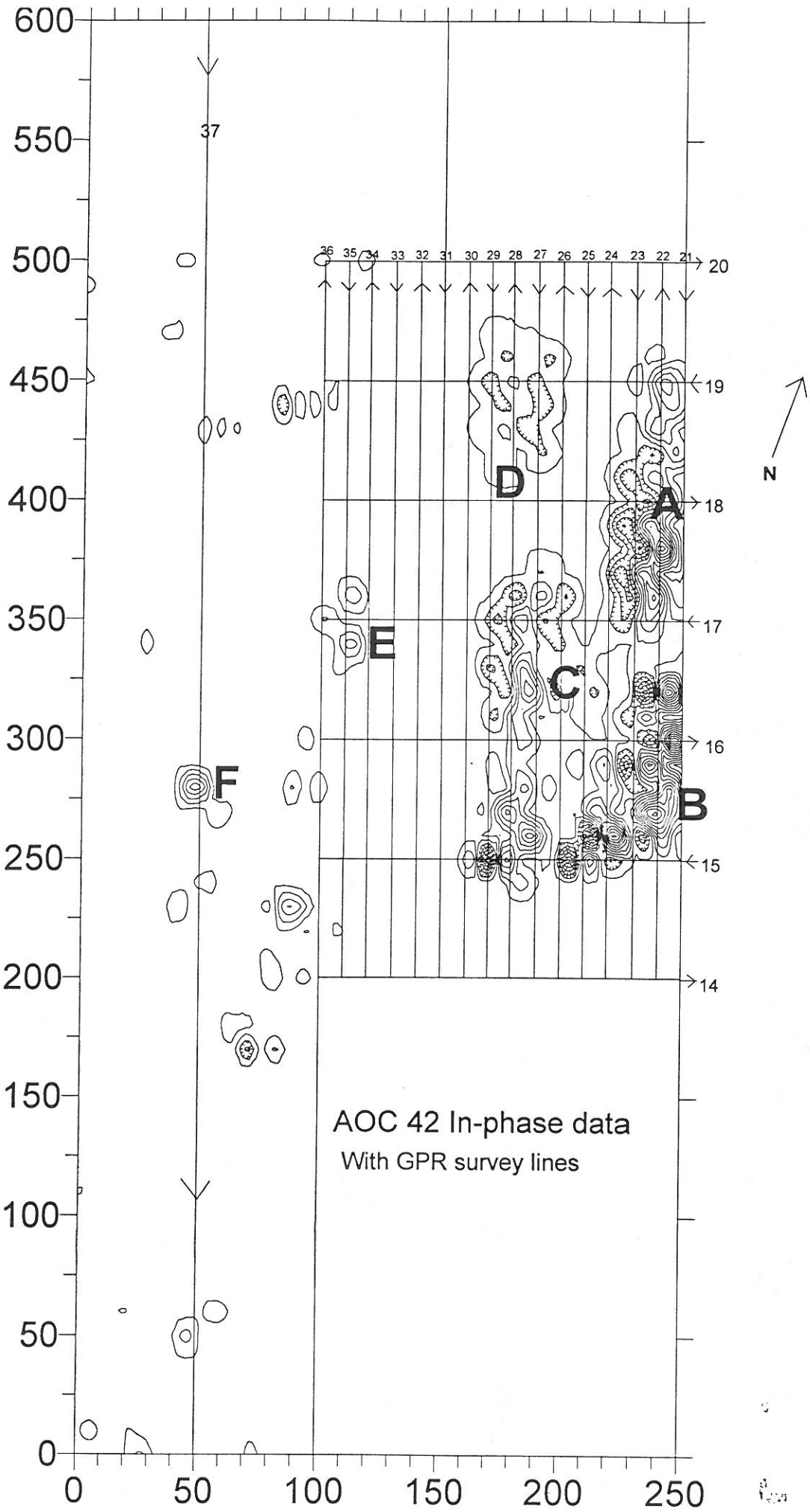
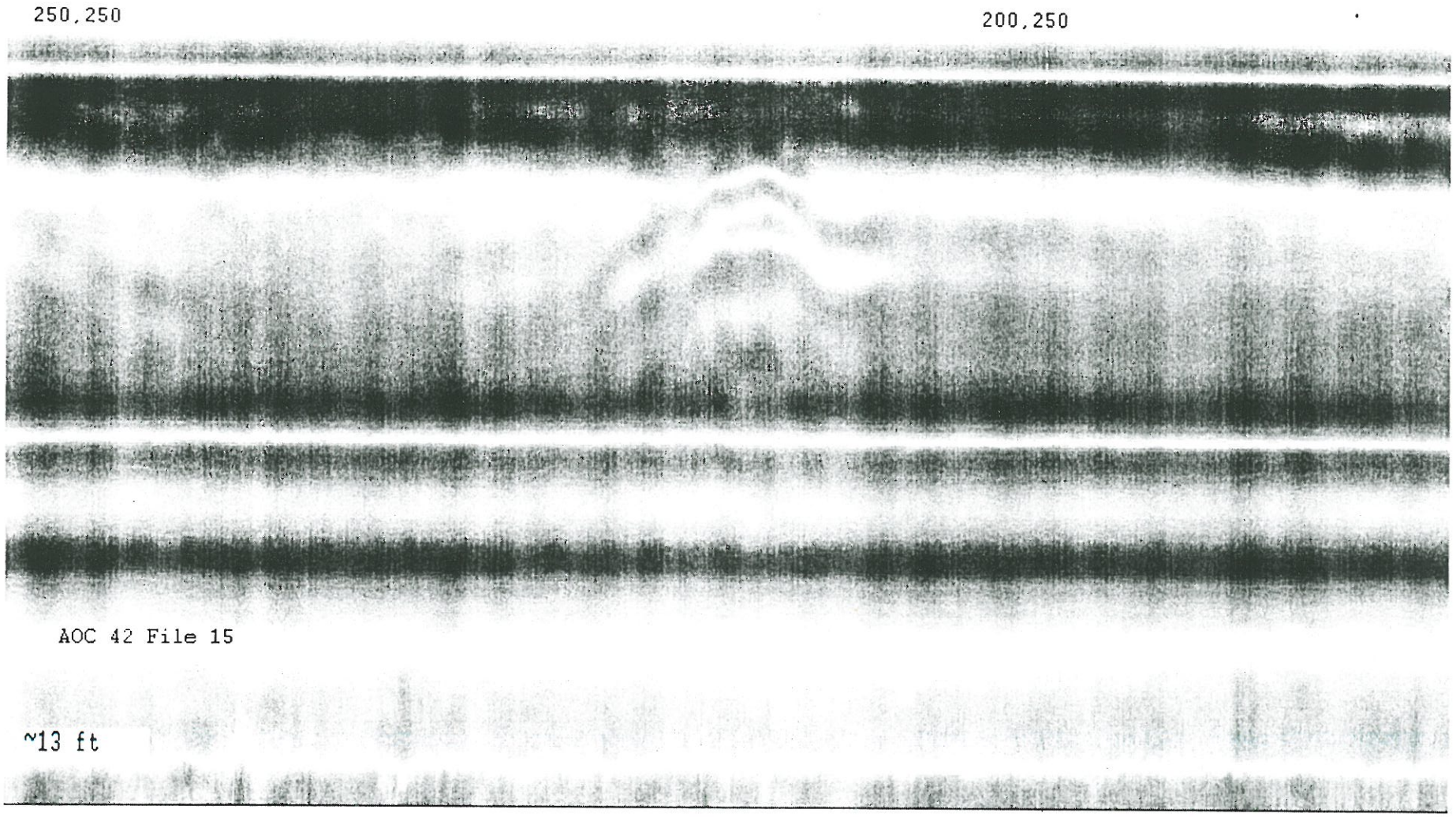

800,50
800,25
800,0
AOC 35 FILE 47
~13 ft


AOC-62
DC-52
AOC-44


AOC 42
5.00
0.00
-5.00
600.00
550.00
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
0.00
50.00
100.00
150.00
200.00
250.00
In-phase data (ppt)
20.00
0.00
600.00
550.00
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
0.00
50.00
100.00
150.00
200.00
250.00
Quad-phase data (mS/m)


600
550
500
450
400
350
300
250
200
150
100
50
0
0
50
100
150
200
250
37
36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
20
19
18
17
16
15
14
A
B
C
D
E
F
N
AOC 42 In-phase data
With GPR survey lines



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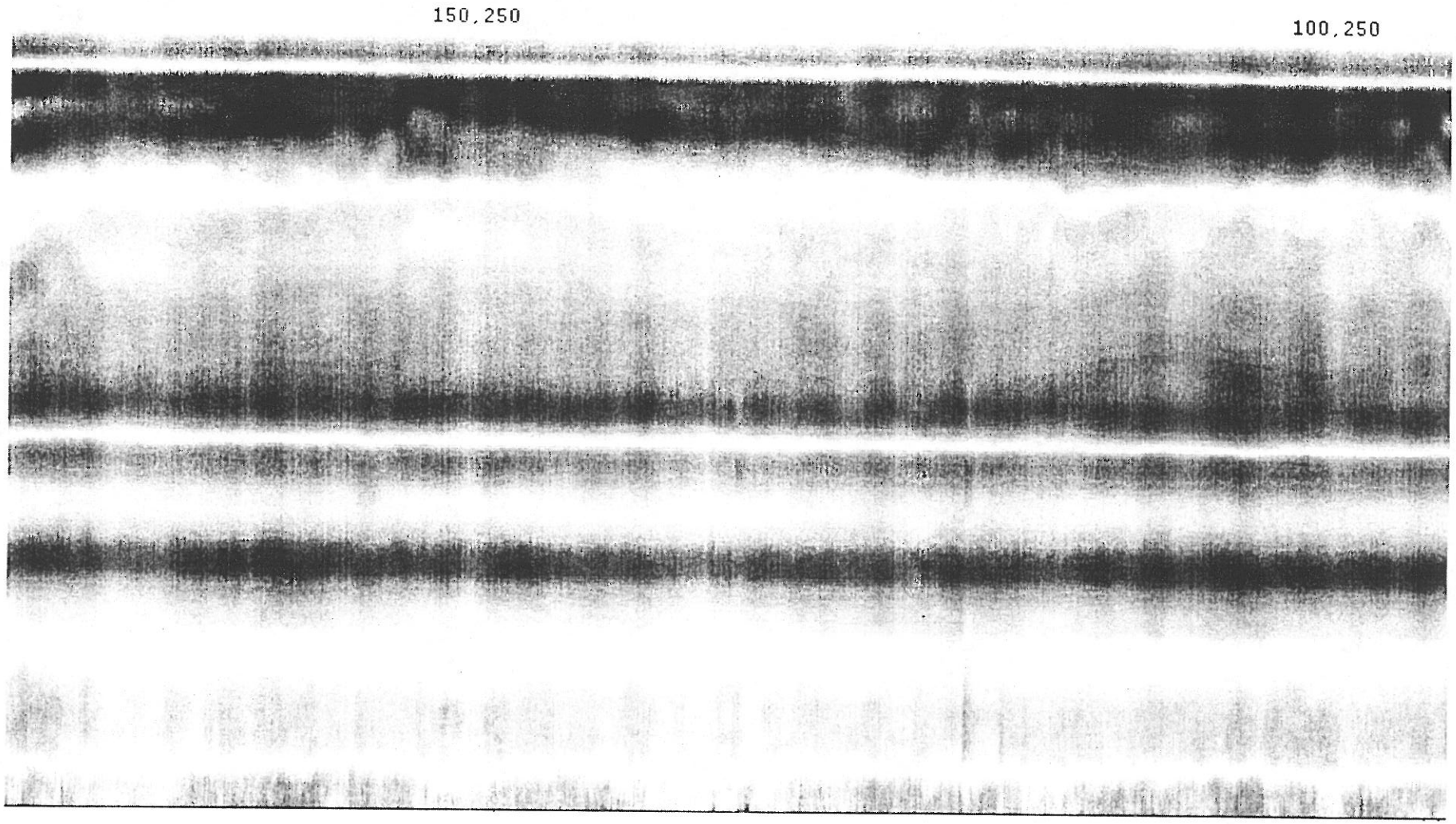
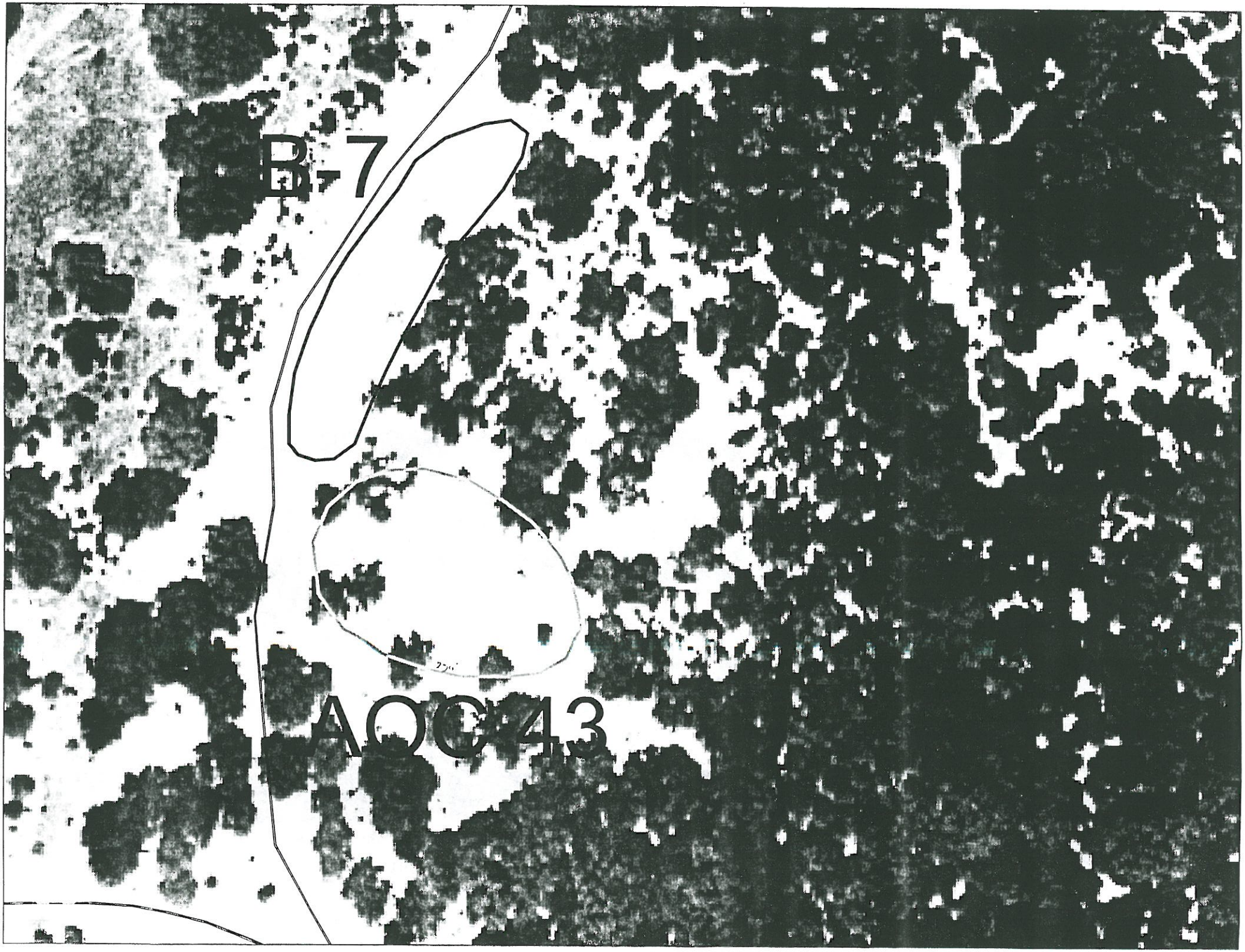
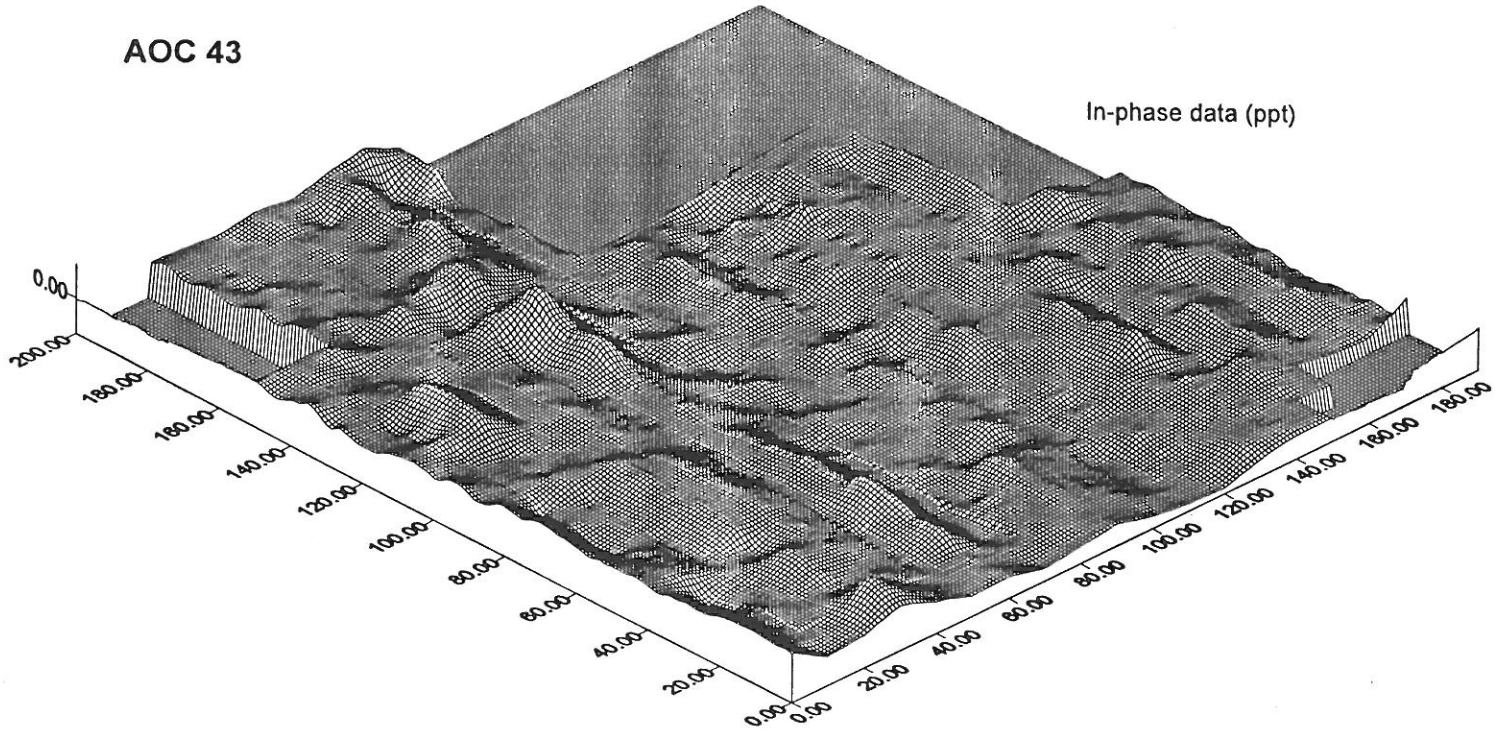
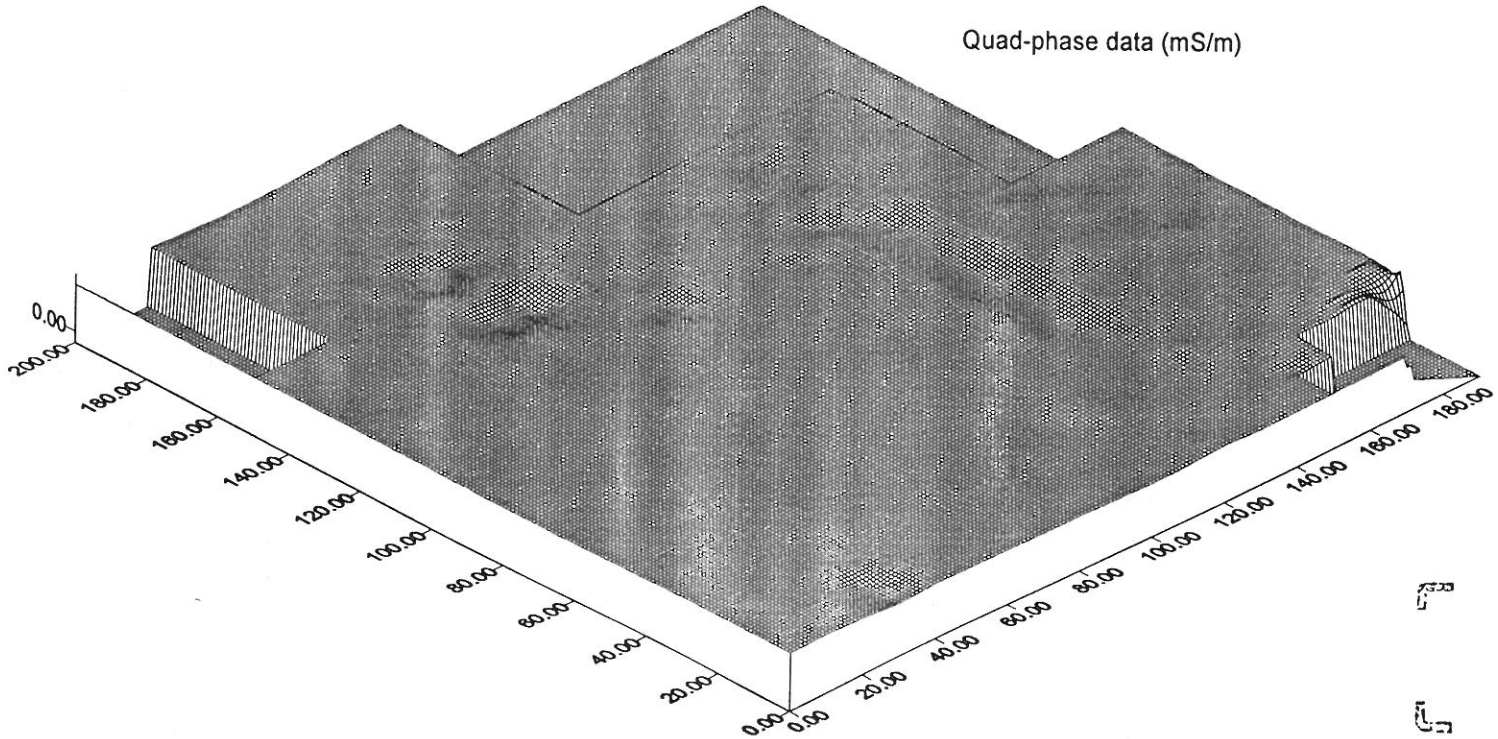
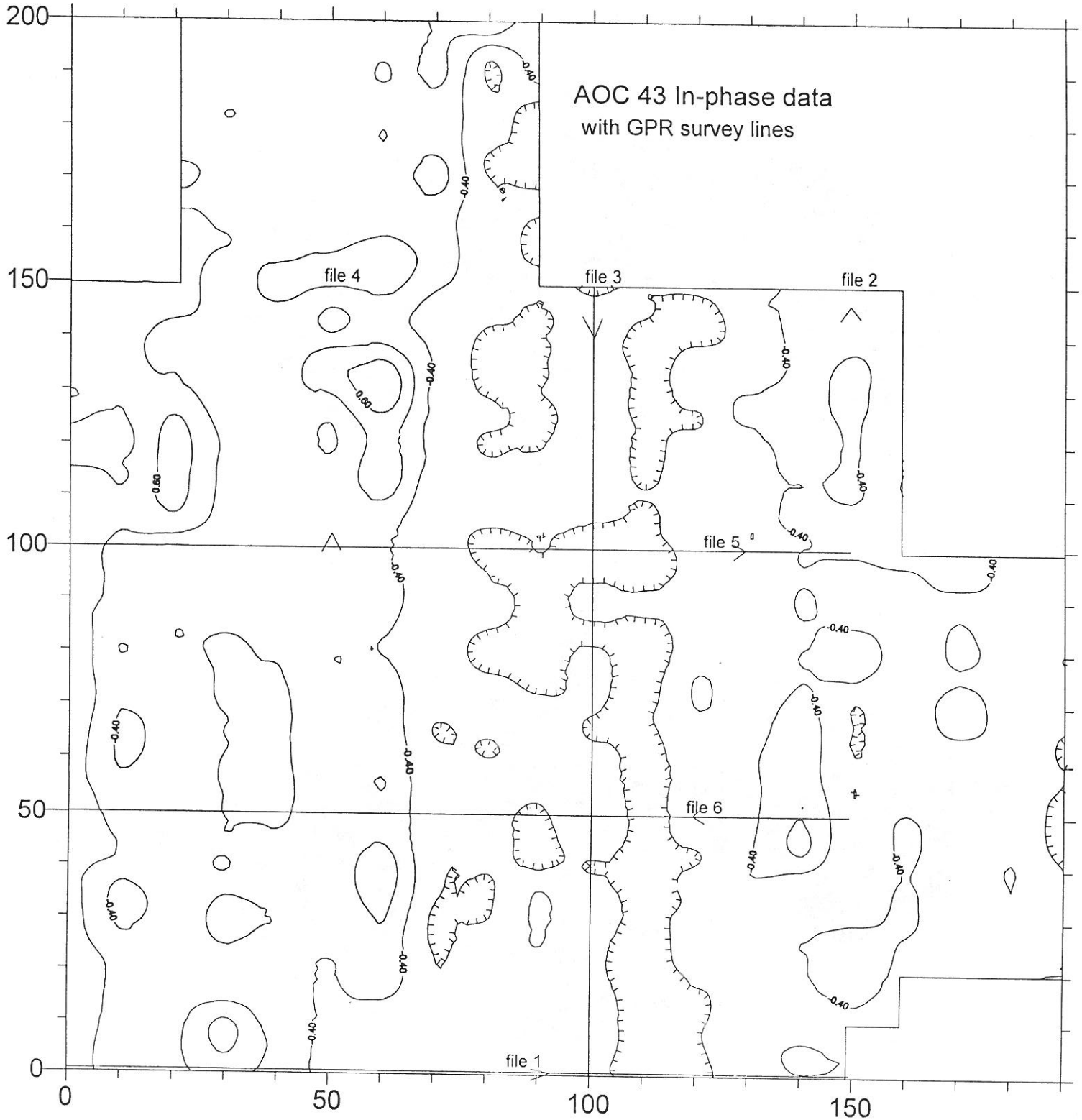

150,250
100,250

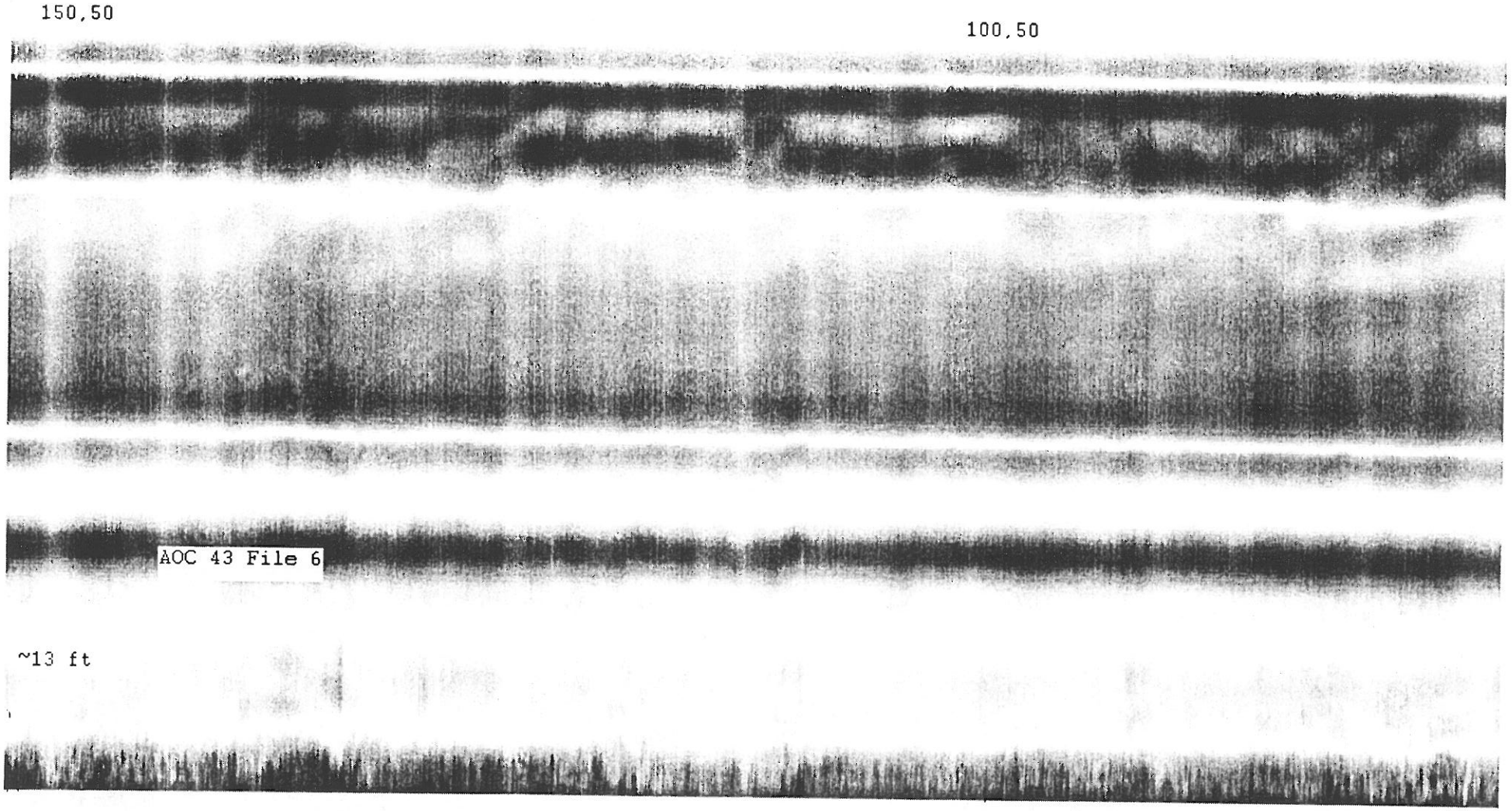

B-7
AOC 43

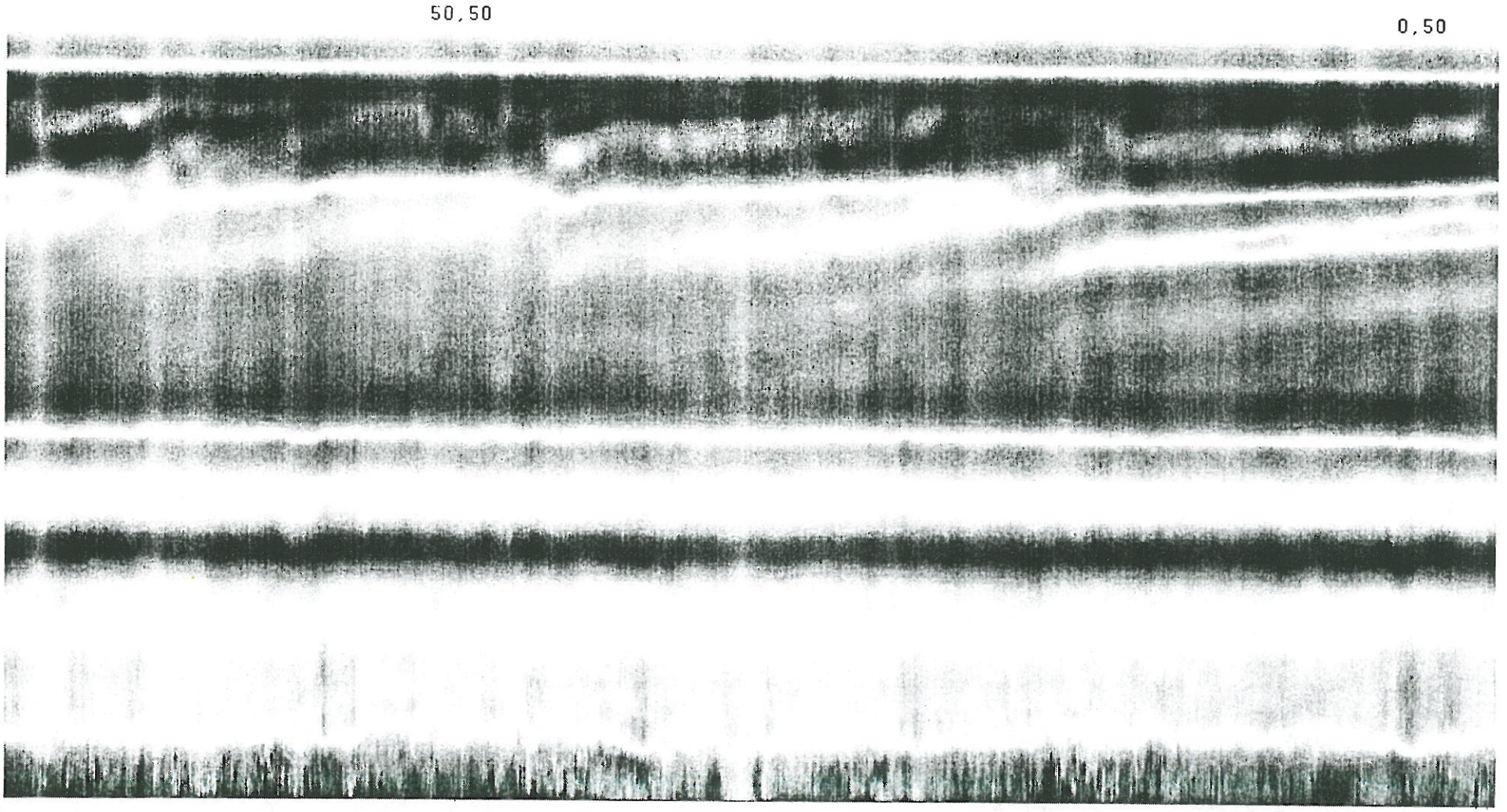
AOC 43

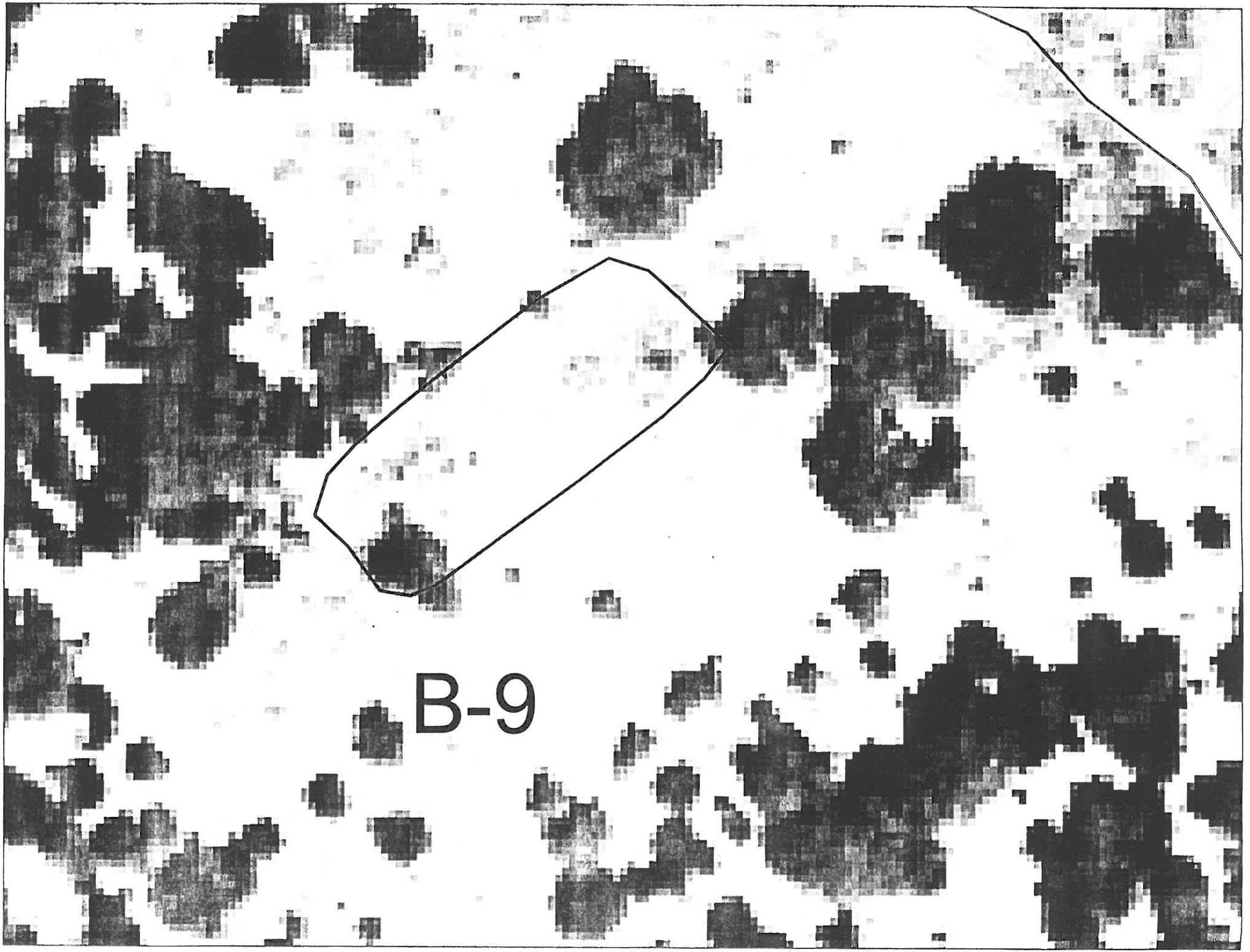

In-phase data (ppt)
0.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00

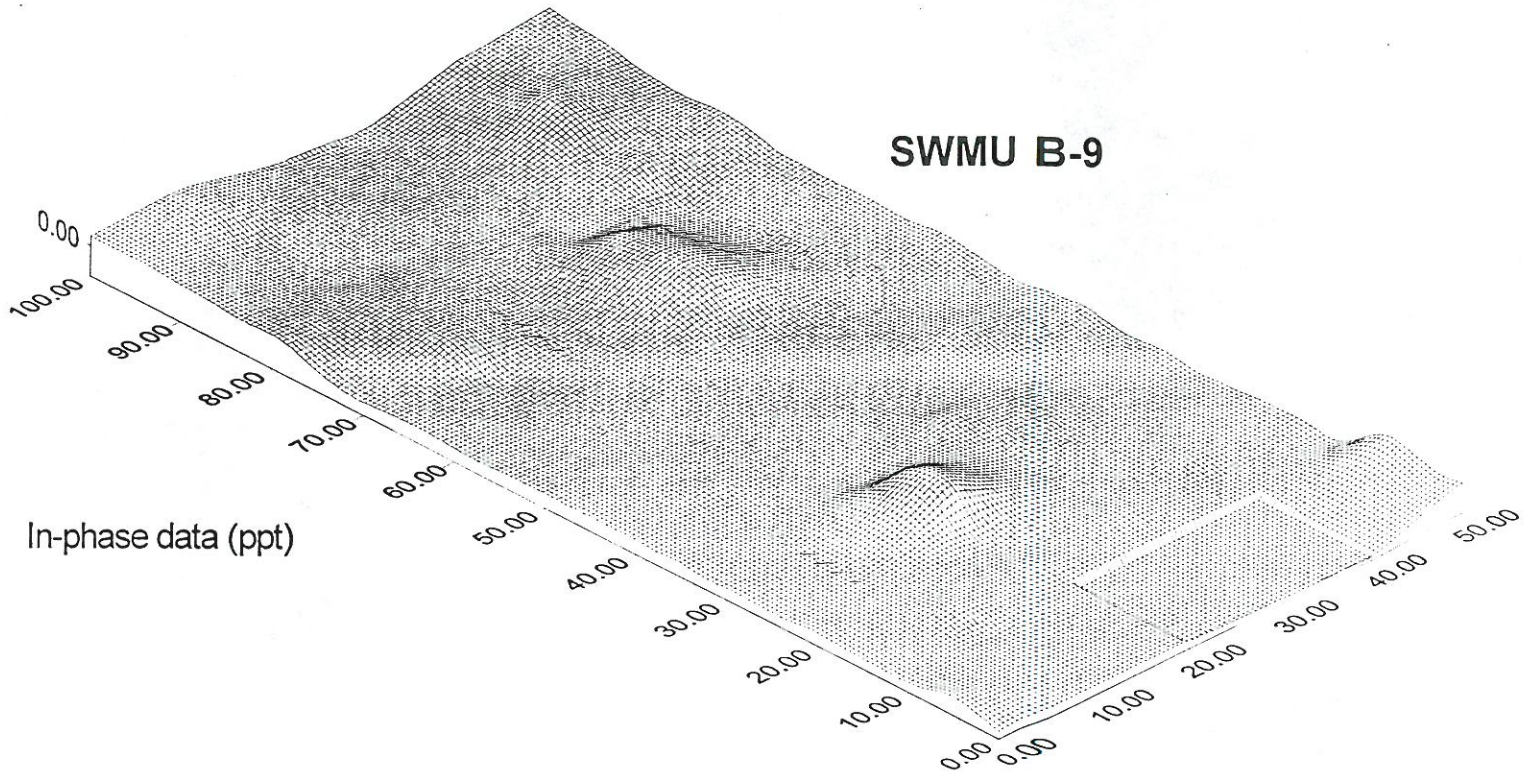

Quad-phase data (mS/m)
0.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00

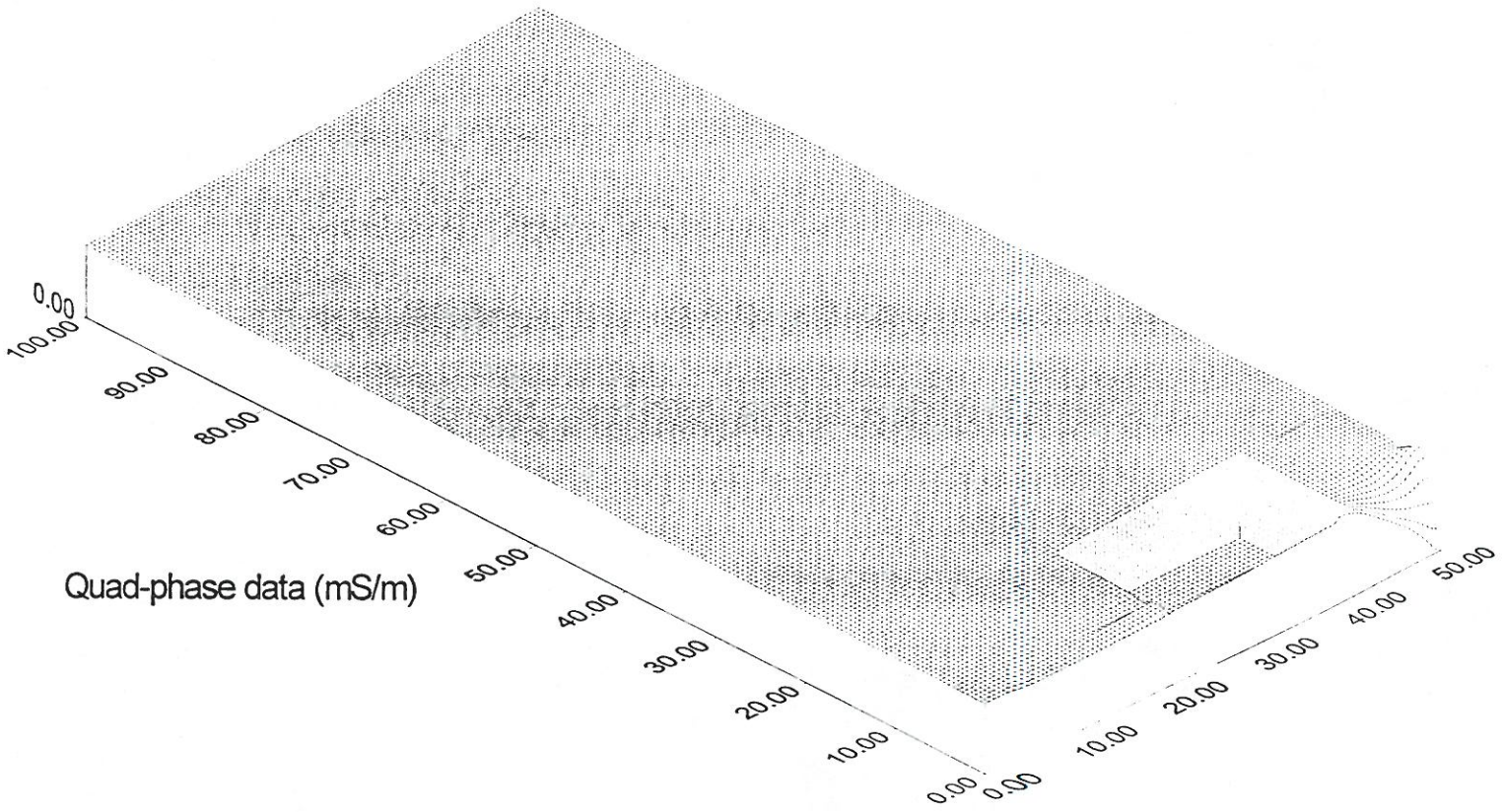

AOC 43 In-phase data
with GPR survey lines
file 1
file 2
file 3
file 4
file 5
file 6
200
150
100
50
0
0
50
100
150
-0.40
-0.80
N


150,50
100,50
AOC 43 File 6
~13 ft



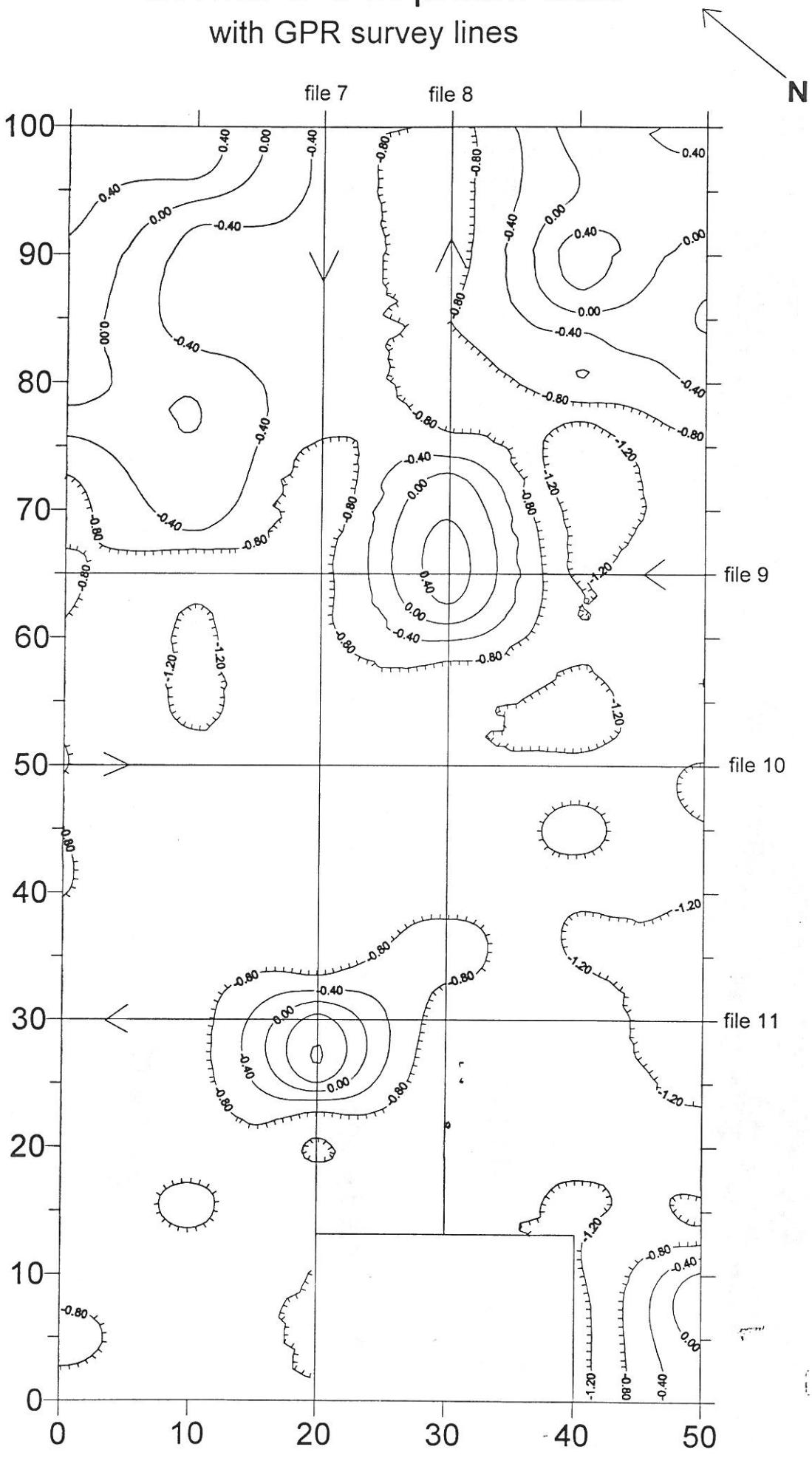

B-9

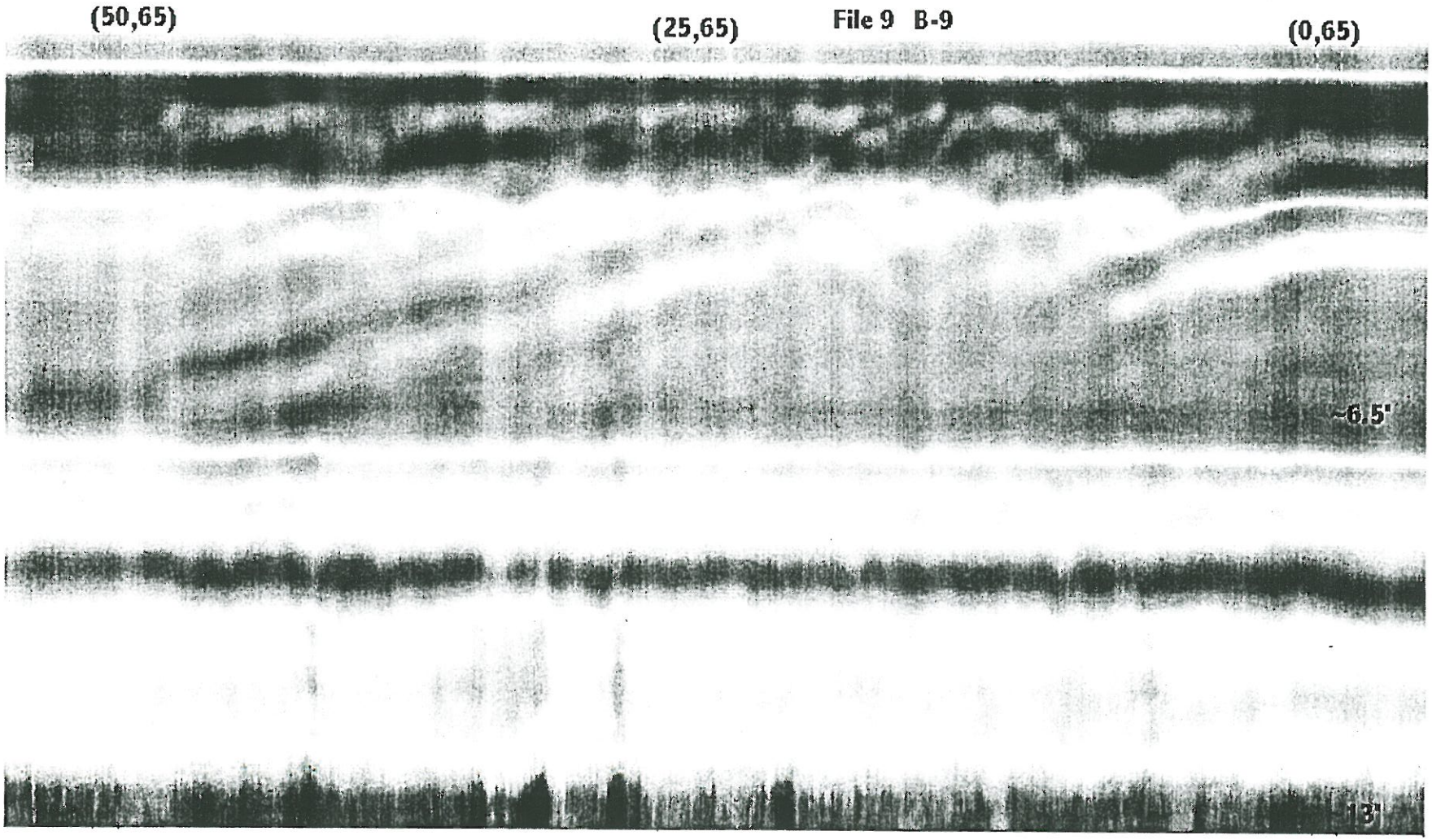

SWMU B-9
In-phase data (ppt)
0.00
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
0.00
10.00
20.00
30.00
40.00
50.00


Quad-phase data (mS/m)
0.00
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
0.00
10.00
20.00
30.00
40.00
50.00

SWMU B-9 In-phase data

with GPR survey lines





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DO 5068 Drilling Work Scope

AOC 35

- *Geophysical survey results*: No Anomalies found at this site.
- *Scheduled work*: Five 10-foot borings based on geophysical results 2 samples per boring for TCE, PCE, DCE
- *Proposed changes to scheduled work*: ~~8~~ 5 surface samples based on prior soil gas results. Sample for TCE, DCE, PCE.

AOC 42 (SWMU 42?)

- *Geophysical survey results*: 6 anomalies located, 4 in linear trend and 2 individual points.
- *Scheduled work*: Five 10 foot borings based on geophysical results. 2 samples per boring for VOCs and metals.
- *Proposed changes to scheduled work*: Nine 10 foot borings base on geophysical results. 3 samples per boring for VOCs and Metals. (possibly Explosives)

AOC 43

- *Geophysical survey results*: No anomalies found at this site.
- *Scheduled work*: Three 10 foot borings based on geophysical results. 2 samples per boring for metals and explosives.
- *Proposed changes to scheduled work*: 3 surface soil samples for Metals and Explosives. Add explosives & UXO screen.

SWMU B-9

No UXO or explosives add 9 x 15' borings include explosives

- *Geophysical survey results*: No anomalies found at this site.
- *Scheduled work*: (Under RL53) 3 surface soil samples for VOCs, SVOCs, Metals, and Explosives. 3 borings with 2 samples per boring for VOCs, SVOCs, Metals, and Explosives
- *Proposed changes to scheduled work*: No changes.

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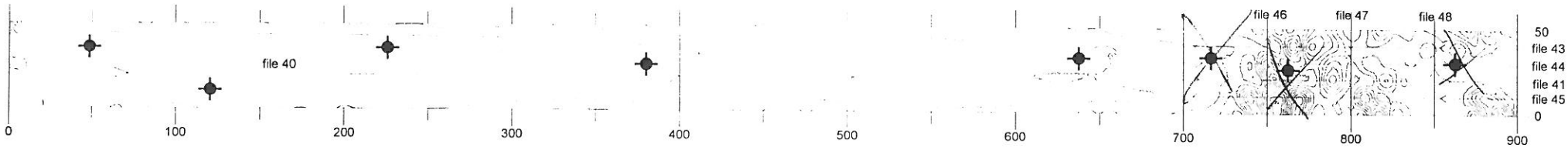
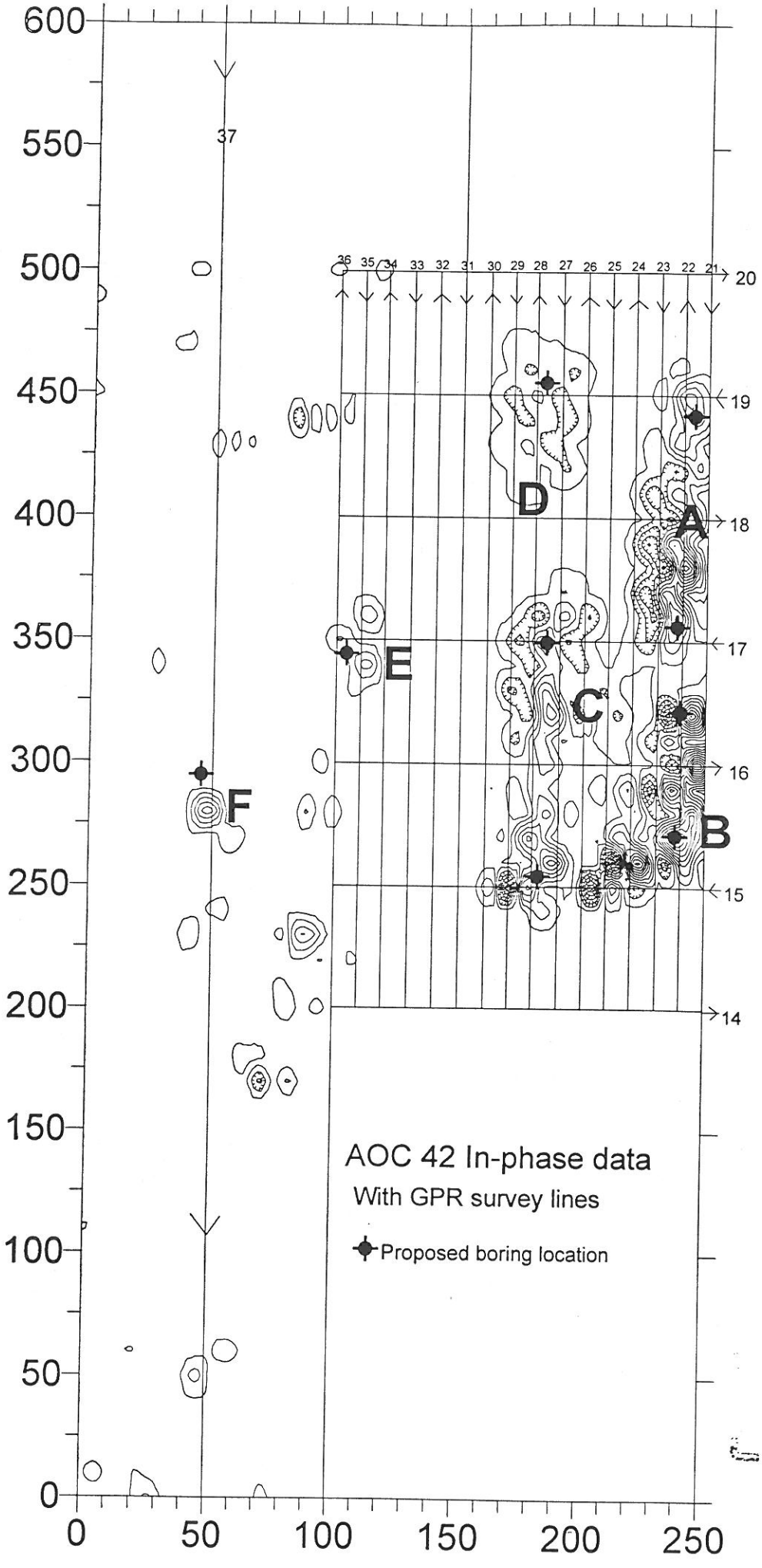
AOC 35 Quad-phase data with GPR survey lines

✦ Proposed surface sample location

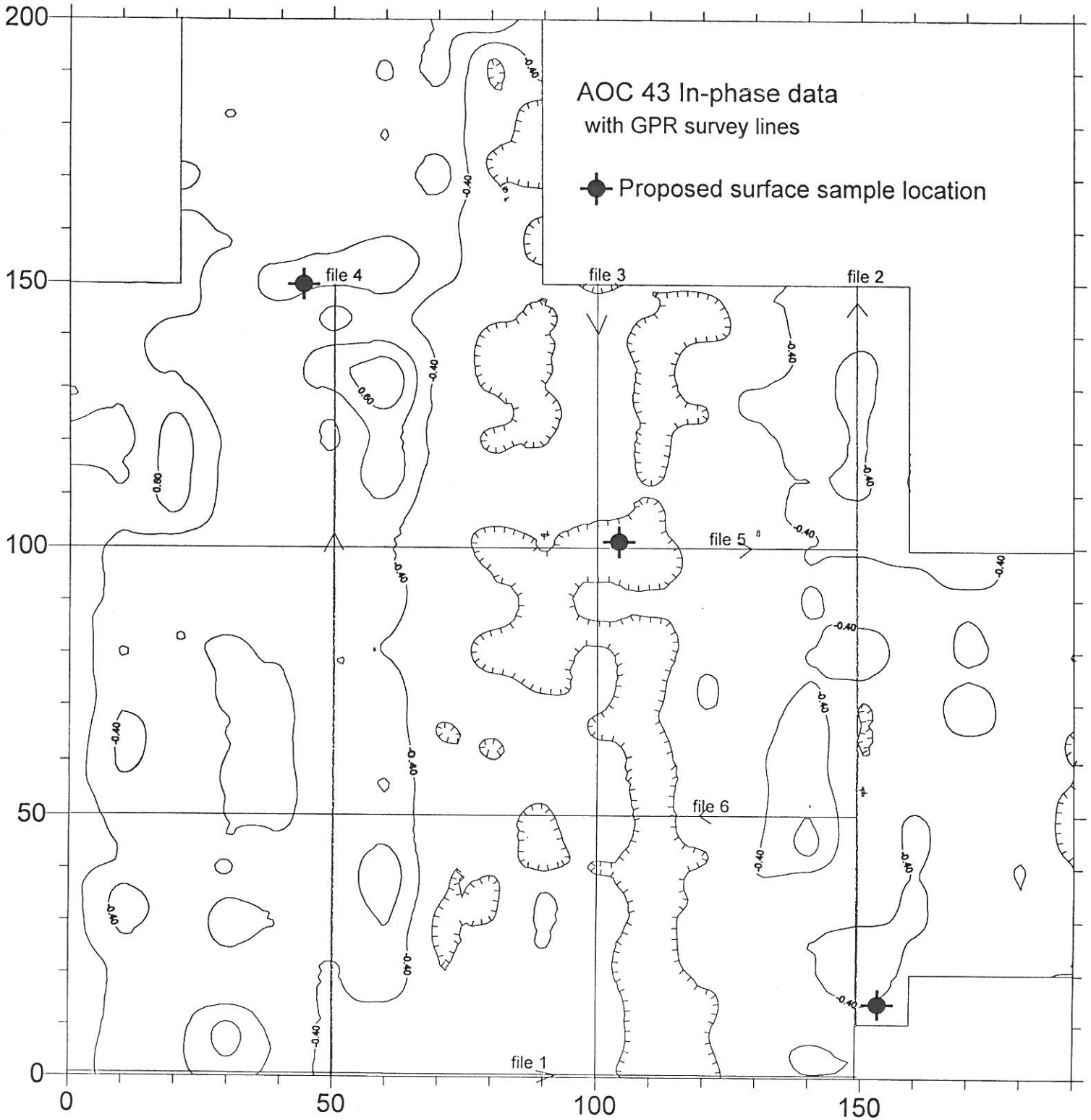


5 biased points

DRAFT

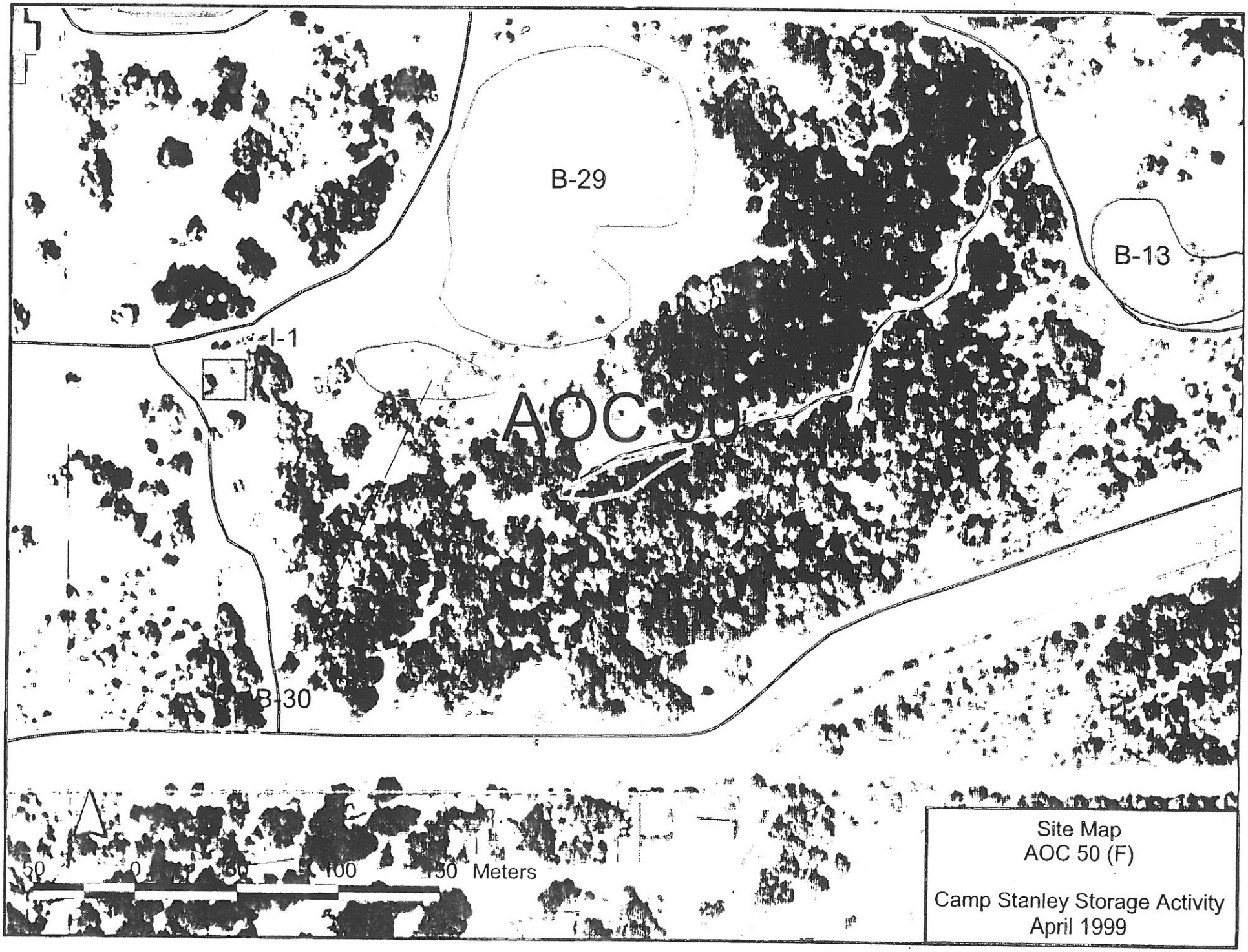

600
550
500
450
400
350
300
250
200
150
100
50
0
0
50
100
150
200
250
37
36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
20
19
18
17
16
15
14
A
B
C
D
E
F
AOC 42 In-phase data
With GPR survey lines
Proposed boring location

DRAFT


AOC 43 In-phase data
with GPR survey lines
Proposed surface sample location
file 1
file 2
file 3
file 4
file 5
file 6
200
150
100
50
0
0
50
100
150
-0.40
0.80

DRAFT

Attachment 13
AOC 50 Site Map


B-29
B-13
I-1
AOC 50
B-30
50 0 50 100 150 Meters
Site Map
AOC 50 (F)
Camp Stanley Storage Activity
April 1999

Attachment 14
List of Potential
UXO Sites

Observations of Recent Site Visits to SMWUs and AOCs
Scoped for Upcoming Activities
January 2000

DRAFT

SWMU or AOC	Recent Visitation	Comment	UXO/Munitions
Demo Dud	Yes	Area has been excavated and cleared. No UXO or projectiles were visible. Sampling locations have been marked.	No
O-1	Yes		No
B-1	Yes	Sampling locations have been marked. No UXO or projectiles visible. VERY LARGE AREA.	No
B-2	Yes	Area has been excavated and cleared. No UXO or projectiles visible. Sampling locations have been marked.	No
B-3	Yes		No
B-4	Yes	Assortment of shrapnel, munitions and gun parts, casings and projectiles including 20mm, 37mm, flare and rocket components. Borings have been drilled previously at this location. Sampling locations have been marked.	Yes
B-5	Yes	No evidence of disposal area. Sampling locations have been marked.	No
B-6	Yes	Sampling locations have been marked. No UXO or projectiles visible.	No
B-7	Yes	Sampling locations have been marked. Some projectiles, casings, and shrapnel were visible.	Yes?
B-8	Yes	Area has been excavated and cleared. No UXO or projectiles were visible. Sampling locations have been marked.	No
B-9	Yes	Some UXO and projectiles were noted in the vicinity during the geophysical survey.	Yes
B-12	Yes	SWMU is at the base of the cliff from where waste was dumped. There is no evidence of landfilling, and the site consists of rock outcrop. Some objects identified as "practice bomb fins" were identified in 1996, but were deemed to not be a hazard. Borings have been drilled previously at this location. Locations have be staked for RL17 re-sampling.	No
B-13	Yes	SWMU consists of burn areas and landfilling. Molten metal slag and ammunition clips are present along the southern limestone outcrops. Exposed material in the landfill area to the north is wood and wire. Borings have been drilled previously at this location. Locations have been staked for RL17 re-sampling.	Yes?
B-15/16	Yes	SWMU consists of large, open trenches. No UXO or projectiles have been observed in this area. Drilling locations have not been marked.	No
B-19	Yes	No UXO or projectiles were visible. Sampling locations have been marked.	No
B-20/21	No	Former OB/OD ammunition disposal area. Site has been excavated and cleared. A thorough site visit has not been conducted since the excavation.	
B-23	Yes	SWMU consists of long, open trench. Two JATO packs are exposed in immediate vicinity of two proposed drilling locations. There is reasonable concern based on the EM anomaly that other JATO packs may be buried at the east end of the trench. Recommend that JATO packs be excavated prior to drilling, or boring sites re-located. May also require ramping work to get drilling rig inside the shallow trench.	Yes ✓
B-23A	Yes	Ampoules or acetone are visible at the surface. No sampling efforts have been proposed for this site.	Yes ✓
B-24	Yes	Area has been excavated and cleared by contractors within past few years. This site visit is the first in several years. Erosion has exposed considerable potential UXO, projectiles, and shrapnel. Most of the ammunition material visible is confined to the two northernmost trenches. Deep trenches (10-12 feet) are probably considered a confined space, and may require engineering controls for slope stability. Sampling locations have not been marked. Currently, borings are not planned to be drilled within the trenches.	Yes
B-25	Yes	RL17 re-sampling locations have been marked. No UXO or projectiles visible. Soil borings have been drilled here before, and no waste management activities were evident. May need some grading/ramping assistance to facilitate rig mobilization within shallow trench.	No

Observations of Recent Site Visits to SMWUs and AOCs
Scoped for Upcoming Activities
January 2000

DRAFT

B-26	Yes	RL17 re-sampling locations have been marked. No UXO or projectiles visible. Soil borings have been drilled here before, and no waste management activities were evident. May need some grading/ramping assistance to facilitate rig mobilization within shallow trench.	No
B-27	Yes	RL17 re-sampling locations have been marked. No UXO or projectiles visible. Soil borings have been drilled here before. Some trash was noted in the borings of this sanitary landfill.	No
B-28	Yes	Area has been excavated and cleared. No UXO or projectiles were visible. Sampling locations have been marked.	No
B-29	Yes	SWMU located within confines of old quarry. Six borings were drilled here in 1996. Three borings were drilled upon the quarry bedrock floor near disposal areas of spent projectiles and casings. Three borings were drilled within landfilled anomalies along the quarry walls. A spring from a 20-lb. practice bomb was recently found here. Also identified another area (approximately 5-10 cubic yards) of sand and lead shot. RL17 re-sampling locations were marked.	UXO?
B-30	Yes	RL17 re-sampling locations have been marked. No UXO or projectiles visible. Soil borings have been drilled here before.	No
B-31	Yes	SWMU consists of former lead shot/sand backfill at bottom of utility trenches. Soil borings have been drilled here previously. RL17 re-sampling locations have been marked.	No
B-32	Yes	SWMU consists of former lead shot/sand backfill at bottom of utility trenches. Soil borings have been drilled here previously. RL17 re-sampling locations have been marked.	No
B-33	Yes	SWMU consists of former lead shot/sand backfill at bottom of utility trenches. Soil borings have been drilled here previously. RL17 re-sampling locations have been marked.	No
B-34	Yes	SWMU consists of former lead shot/sand backfill at bottom of utility trenches. Soil borings have been drilled here previously. RL17 re-sampling locations have been marked.	No
AOC-35	Yes	Geophysical surveys indicate no buried anomalies. NO UXO or projectiles have been encountered here. Surface samples will be collected in lieu of scoped soil borings.	No
AOC-36	Yes	Surface samples were collected from site in January 2000. No UXO or projectiles were noted.	No
AOC-37	Yes	Soil gas survey was conducted in December 1999. No UXO or projectiles were noted.	No
AOC-38	Yes	Surface samples were collected from site in January 2000. No UXO or projectiles were noted.	No
AOC-39	Yes	Surface samples were collected from site in January 2000. No UXO or projectiles were noted.	No
AOC-40	Yes	Surface samples were collected from site in January 2000. No UXO or projectiles were noted.	No
AOC-41	Yes	Soil gas survey was conducted in December 1999. Area of potential UXO was identified and marked during field mowing activities.	Yes
AOC-42	Yes	December 1999 geophysical surveys indicate potentially significant amount of buried metallic wastes. No visible UXO or projectiles are exposed at the surface. In comparison to B-4, it would appear that this site is not a burn/detonation area. CSSA staff have no recollection of the disposal area. Recommend that this site be drilled under the presence of UXO support at same time as other UXO work proceeds.	Yes?
AOC-43	Yes	Geophysical surveys indicate no buried anomalies. NO UXO or projectiles have been encountered here. Surface samples will be collected in lieu of scoped soil borings.	No
AOC-50	Yes	Disposal area of nickel penetrant within creek floodplain. Significantly more nickel penetrant has been recently identified here than first assumed. In addition, some UXO and projectiles were identified during a recent site visit. A 100-lb practice bomb was also recently removed.	Yes
AOC-66	Yes	Soil gas survey was conducted in December 1999. No UXO or projectiles were noted.	No

Attachment 15
Responses to EPA Comments

DRAFT

EPA Response to Comments: Description of Current Conditions Report, RCRA Facility Investigation Work Plan, and Interim Measures Work Plan
Camp Stanley Storage Activity Storage, Texas

Comment No.	Location	Comment	Response
1	All Appropriate Work Plans	All tables shall list the complete summary of analytical results. For example, some summary tables omit the analytical results for arsenic, beryllium, mercury, zinc, explosives, or volatile organic compounds.	A small number of tables from previous investigations (prior to 1996) at SWMUs B-1, B-2, B-3, B-4, B-19, B-28, and O-1 were included in the encyclopedia. In these past tables, individual analytes that were not detected were not listed. However, if a complete group of analytes, such as explosives or volatile organic compounds, was analyzed for, that group was listed in the table with "—U_1" listed for each sample's results. All metals analyzed for are listed in the tables. In the future, a complete listing of all analytes will be included in the informal technical information reports (ITIRs) which will be included along with the technical reports in Volume 3 of the encyclopedia. Tables summarizing detected concentrations will be provided in the body of the technical reports. These summary tables will include a specific reference to an ITIR table for the full list of analytes.
2	All Appropriate Work Plans	Some of the values listed as U2 (defined as the sample containing less than five times the amount of the analyte in the corresponding method blank) are relatively high values, thus indicating a problem with the reliability of the data (i.e., not certain of presence or absence of contaminants). These data should be reexamined and evaluated for their reliability and usability in the RFI process.	As described above, a small number of tables from previous investigations (prior to 1996) were included in the encyclopedia. A review of those tables showed that cadmium, chromium, and nickel results were sometimes flagged with a "U_2." As these investigations were conducted some time ago, and since QA/QC requirements have changed since that time, it will be difficult to gauge the usability of these data under today's standards. Since further investigations are planned for these sites, Parsons ES proposes that re-examination only be undertaken where the data are to be used to demonstrate that the site has met closure requirements. This re-examination will be conducted during preparation of upcoming SWMU-specific RFI Reports.
3	All Appropriate Work Plans	Sample quantitation limits were not reported. Sample quantitation limits should always be reported.	Concur. SQLs have not been and will not be reported in investigation reports as the AFCEE QAPP does not allow for MDLs to be adjusted for moisture content. However, based on the following response from Ed Brown, AFCEE chemist, SQLs will be calculated and reported in the risk assessment. In providing a response it is appropriate to describe the relationship of the sample quantitation limit (SQL) to the method detection limit

Comment No.	Location	Comment	Response
			(MDL) in non-statistical terms. To begin with, the MDL is different from the SQL. The MDL is usually associated with analytical chemistry while the SQL is associated with risk assessment calculations. The method detection limit is the lowest concentration of a chemical that an instrument can measure to reliably say that the chemical is present. The method detection limit, although a statistical calculation, takes into consideration numerous variables that impact the number that can be used in a risk assessment. Variables include sample preparation, sample extraction, analyst variability, method variability, and matrix type just to name a few. The MDL is essentially a number that says when a chemical is present in a matrix an instrument can "see" the chemical at or above that number. That number is called the method detection limit. The MDL then establishes that a chemical is present at or above a certain concentration number. SQL, as defined by the USEPA is essentially an adjusted or corrected MDL related to sample-specific actions. Sample specific-actions mean that the sample has been diluted because of a high concentration of a specific chemical, a smaller amount of sample has been used than what the method requires, or there has been a matrix effect observed in the sample. There may be other reasons for sample-specific actions such as an analyte exceeding the calibration range or for moisture in a sample. When an analyte exceeds the calibration range (i.e., greater than the highest calibration standard), a sample is diluted appropriately and reanalyzed. The MDL and reporting limit (RL) are then adjusted for the dilution. When soil samples are collected a certain amount of water (moisture) sticks with the soils. Certain types of soils have different amounts of water content in them. When doing soil analysis, a percent moisture calculation is performed to account for the amount of water that contributes to the total weight of the sample required for the analysis. As a result of this calculation the RL is adjusted

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			and reported on a dry weight basis. It would appear that when sample-specific actions occur as discussed in the above paragraphs the adjustments to the MDL would be considered the SQLs for individual chemicals for the specific sample. It would also seem reasonable to say that the SQL would be equivalent to the MDL concentration number when there are no sample specific actions or adjustments. Essentially the MDL would equal the SQL. In conclusion it would appear that the SQL and the MDL are equivalent, especially when adjustments are made to the MDL. In using these terms in a risk assessment the reader would have to keep in mind that the term SQL is a risk term while MDL is an analytical chemistry term. The prime contractor's risk assessor will be responsible for establishing SQL's for those samples that have had sample-specific actions.
4	All Appropriate Work Plans	The Work Plans shall clearly state that chemicals of concern will not be selected until after a cumulative potential risk for human health and an ecological risk evaluation is conducted.	Several EPA comments address selection of chemicals of potential concern (COPCs) and selection of chemicals of concern (COCs). According to EPA's Risk Assessment Guidance for Superfund, COPCs are chemicals that are potentially site-related and whose data are of sufficient quality for use in a quantitative risk assessment. During the planning of Solid Waste Management Unit Closures, accomplished in early 1996, Parsons ES investigated past waste generating activities at CSSA. The plans included a list of COPCs developed from past waste disposal records as well as process knowledge. At that time, a phased approach to investigation of CSSA's numerous sites was also initiated. The first phase is an initial screening for contamination through limited sampling, geophysical surveys, and soil gas surveys, where appropriate. The second phase will be to identify the nature and extent of contamination, where detected. The majority of CSSA's sites are solid waste disposal areas (trenches). Samples from these sites are analyzed for VOCs and metals. Where UXO is suspected, samples are also analyzed for explosives. Where it is suspected that waste was burned in the

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			trench, samples are also analyzed for SVOCs. At any site in the screening phase of investigation, analyses include all analytes within the VOC, SVOC, and explosives analytical methods. If any analytes are detected at concentrations above risk-based standards, additional investigations will be conducted to determine the nature and extent. Phase 2 investigation at sites where SVOCs were detected may include analysis for PAHs. The list of metal analytes known to have been previously managed at CSSA include arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, and zinc. These metal analytes are included for all phase 1 (screening) investigations. If any of the metals are not identified during the phase 1 investigation, subsequent investigations will not include those specific metals not identified in the previous investigation. COCs, as noted in your comment, will only be selected after a cumulative potential risk for human health and an ecological risk evaluation is conducted. This approach will be detailed in the Risk Assessment Technical Approach currently being prepared. This approach will be included as part of the RFI Work Plan by its incorporation into Volume 1-6 of the encyclopedia.
5	All Appropriate Work Plans	The footnote "NA" should be clearly defined in the summary tables.	Concur. Footnote definition will be added.
6		The RFI Work Plan shall clearly state that a plan for conducting a risk-based evaluation inclusive of ecological receptors will be submitted.	The plan for conducting a risk-based evaluation inclusive of ecological receptors will be included in the Risk Assessment Technical Approach document currently being prepared. According to Section B.4 of the 3008(h) order, the human health and ecological risk assessment is due 60 days after the RFI Report is approved. According to Section B.2 of the order, there were no specific requirements for including a plan for the risk assessment; however, a risk assessment technical approach document is currently being prepared.
7		CSSA shall ensure that all relevant compounds are analyzed for during the RFI activities conducted at the sites. It should also be clearly stated in the Work Plans if the proposed sampling effort is a screening effort or a nature and extent	The manner in which COPCs were identified is described in the response to comment #4. As described in the response to comment #4, a phased approach will be taken in all of the investigations at CSSA.

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		determination. Dioxins and PAHs shall be analyzed for in areas where the potential exists for their detection. PAHs and pesticides/herbicides should be considered for analysis in the landfill/solid waste sites if there is the potential for their existence. Vinyl chloride shall be included in the list of VOC analysis.	Dioxins are considered COPCs at two sites, I-1 and Building 43. Where PAHs are COPCs, SVOC analysis will be conducted during the screening investigation to determine if they are present. PAHs/SVOCs are COPCs at 25 sites (B-1, B-4, B-5, B-6, B-8, B-9, B-12, B-13, B-15/16, B-23, B-24, B-25, B-26, B-27, B-28, B-29, B-30, B-34, AOC 47, AOC 48, AOC 56, AOC 58, AOC 61, and DD. PAHs are described above. Pesticides/herbicides are not considered to be COPCs at any of the CSSA sites due to their very limited use at the facility. At all sites in the screening investigation phase of work where VOCs are COPCs, vinyl chloride [illegible] will [illegible] to be analyzed for.
8		Surface soil samples are generally collected from the 0 - 6 inch interval below the ground surface. The proposed sampling intervals should also be based on the expected human health and ecological exposures in order to obtain the information necessary to conduct the risk assessment.	Concur. Most previous surface soil samples have been and all future surface soil samples will continue to be collected from the 0 – 6 inch interval. A limited number of historic site investigation samples were collected from the 0-2 foot interval; these data will not be used in future risk assessments.
9		Geophysical surveys are being proposed to aid in identifying areas to sample at the sites. The use of PID/OVA to find hot spots should also be employed in areas where VOCs are expected. If hot spots are not identified, then the use of standardized depths for sample location and depth should be utilized.	Concur. A PID is typically used during drilling operations to determine if any depth intervals may contain contamination. If volatiles are detected, the standardized sample depth is modified so that a sample from the interval with the highest PID reading is collected. However, Parsons does not feel that use of a PID during geophysical surveys or surface soil sampling is appropriate due to the likely volatilization of any contaminants in surface soil.
10		Phthalate concentrations are consistently reported as measured concentrations. The origin of the phthalate concentration must be determined and explained.	Additional sampling is planned at SWMU B-1 where phthalates were detected to confirm or deny the presence of these analytes. This sampling plan is detailed in the rework work plans.
11		The overall purpose and the Data Quality Objectives for the collection of the wipe samples is not clear (e.g., Volume 1-1, SWMU I-1, page 25). It is unclear how these results will be evaluated and interpreted. This	The purpose of the wipe sample is to screen (phase I investigation) for dioxins and furans inside the incinerator, where these contaminants are considered most likely to exist. If present, additional investigation (phase 2) for dioxins and furans around the incinerator will be recommended. The work plan will be revised to

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		information must be added to the Work Plans.	incorporate this information.
12	Volume 1-1, Work Plan, page 2-1	The work plan states that geophysical surveys will be utilized to determine the need for sampling. A complete rationale for sampling analytes and locations should be developed for each area to be investigated. Additionally, the work plan states that closure reports will only be submitted to TNRCC. A copy of the closure reports will be submitted to the EPA.	Geophysical surveys are being conducted at several sites where subsurface waste is suspected. At these sites, soil borings will be drilled near any identified anomalies. Where only surface soil samples are being collected, sample locations will be based on what is known about the waste management activities at the site, stressed vegetation, visible waste (such as ampoules at the B-23A site), or any other features indicative of waste. A section titled "Rationale" will be added to each site work plan. Copies of the closure reports will be included in updates to CSSA's encyclopedia which will be provided to EPA, TNRCC, AFCEE, and administrative record copies at the public library. If EPA would like any additional courtesy copies, they will be provided on request
13	Volume 1-1, Work Plan, page 2-4, 4th paragraph	The report has the wrong citation for TNRCC Risk Reduction Rules. The chapter citation in the report corresponds to the underground and above ground storage tank requirements. The correct chapter citation is 335. The full citation should read: *30 TAC 335.556 - 559.*	Concur. Citation will be corrected.
14	Volume 1-1, Work Plan, page 2-6, Table 2.2, Summary of Statistically Calculated Background Concentrations of Metals in Soil and Rock Samples	There are concerns over some of the calculated values for arsenic, chromium, copper, lead, nickel and zinc. See related comments for Volume 2 (*Background Metals Levels*).	See Response to Comment #37.
15	Volume 1-1, page 4-2, Figure 4.1, Project Schedule	The project schedule should be updated to reflect the actual dates.	A very detailed project schedule was provided in the second Quarterly Progress Report, which is also included in Volume 1-1. Section 4 will be revised to remove Figure 4.1, and refer the reader to the schedule in the Quarterly Progress Report.
16	Volume 1-1, Work Plan, page 8-9, Table 8.3.1 Analyses to be Performed on	What is the rationale for not including SVOCs and pesticides/herbicides in the list of analyses? The analytes must be included, or a rationale must be presented to clearly show that the analytes will not be detected.	The groundwater list of analyses began with VOCs upon discovery of PCE in well 16. VOCs have been monitored since 1991, and based on the results, a reduced list of VOC analytes of concern was approved by EPA in August 1999. Metals were added in 1995, 1997 and 1999, and will continue to be monitored. SVOCs and

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	CSSA Monitor Wells		pesticides/herbicides were not recorded as being disposed of in the two known groundwater contamination source areas, B-3 and O-1. However, as CSSA doesn't have records that explictly state exclusion of these compounds, SVOCs and pesticides/ herbicides can be added for 1 year of groundwater monitoring. If no SVOCs, pesticides, or herbicides are detected, then it will be proposed that these analytes be taken off the list of analytes to be monitored. Funding and a contract vehicle will be required to add these to the suite of analyses, if required.
17	Volume 1-2. Checklist for Revision Number 1, September 1, 1999	The following items were not included: Table B3-2, Figure B23-1, RL83 Interim Measures Work Plan Addendum, SWMU B-32 Chronology, Chronology for SWMU B-33. This information should be re-submitted.	These items will be included in Revision 3.
18	Volume 1-2, SWMU B-1, page 4	Soil samples did not include the 0 - 1 foot soil interval. Additionally, the soil intervals varied widely in depth from 1.0 - 4.0, 14.0 - 15.0, to 29.0 - 30.0 feet below ground surface. It is recommended that a PID/OVA be utilized to help determine hot-spot locations. If hot spots are not found, then the use of a standardized depth for sampling locations/depths should be utilized.	Concur. The work described in the referenced work plan was initially completed in 1996; however, samples were analyzed by ITS Laboratory. A draft plan for rework was submitted to you on January 5, 2000. The rework work plan notes that: "If PID readings indicate that VOCs are present, then the subsurface soil sample from that interval will be submitted to the laboratory for analysis."
19	Volume 1-2, SWMU B-3	The proposed sampling locations/depths may be a concern. The rationale for sampling points should be provided. A sampling location map should also be provided.	Since SWMU B-3 is in the treatability study phase of work, documents pertaining to work at this site are included in Volume 4 of the encyclopedia. The work plan in that volume describes the rationale for sampling points and includes several sampling location maps.
20	Volume 1-2, SWMU B-4, Item 5	This statement contains a typographical error. The word "*without*" should be removed.	Concur. Corrected page will be included in Revision 3.
21	Volume 1-2, SWMU B-5	What is the rationale for SVOCs being excluded in Field Effort 1 but included in Field Effort 2? Provide the rationale.	This typographical error will be corrected in the next update to the Encyclopedia. No analysis of SVOCs is planned at this site.
22	Volume 1-2, SWMU B-23A	Due to the multiple locations of the ampules across this site, additional borings and monitoring will be necessary at this SWMU. Sample locations should be biased around the ampules to ensure that the site is characterized.	As at other sites, a phased approach is planned for investigation of this site. The first phase, documented in RL83 Work Plan Addendum, includes surface soil sampling with locations biased around the ampules. Recommendations for further work will be included in the technical report for the site.
23	Volume 1-2, RL83	Explosives were not included in the list of	CSSA requests clarification on this comment. What site does this

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		analytes. Provide the rationale for the list of analytes.	comment refer to?
24	Volume 1-2, SWMU B-31/B-32/B-33	Which metals will be included in the analyses? Provide the rationale for the list of analytes.	Initially, samples collected at these three sites were analyzed for arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, and zinc. The basis for selection of these metals is described in the response to comment #4. These analyses were conducted by ITS Laboratory as part of the RL17 Project (in accordance with the RL17 Work Plan). Subsequently under the RL33 Project, the waste material (shot containing lead and sand) was excavated and disposed of. Since the initial samples collected at the site showed elevated (above background) concentrations of copper, lead, mercury (B-33 only), and zinc, samples collected after the pits were excavated were analyzed for these metals only. However, as part of the ITS rework sampling, samples collected as part of the RL17 Project will be recollected and analyzed for the nine-metal suite once again. The RL33 samples with the reduced metals analyte list will not be recollected as they were collected at the bottom of the pipe trenches which have since been backfilled. A "rationale" section will be added to each work plan to describe the rational used in identifying COPCs.
25	Volume 1-2, SWMU F-14	The final closure report should be included in the work plan.	The final closure report is included in Volume 3-1.
26	Volume 1-2, SWMU Bldg. 43	SVOCs were not included in the proposed list of analytes. Provide the rationale for the list of analytes.	Known waste management activities at SWMU Bldg 43 included use as a makeshift ammunition demolition facility used to burn miscellaneous solid waste and ammunition. Fuels potentially included chlorinated solvent, tetrachloroethylene, as well as other volatile compounds. There is no knowledge that SVOCs were disposed of within SWMU 43.
27	Volume 1-2, SWMU O-1, Tables O1-1 and O1-2	There appears to be an inconsistency in the list of metals analyzed for SWMU O-1. Table O1-1 excludes arsenic, beryllium, mercury, and zinc and Table O1-2 excludes beryllium, nickel and zinc. Provide the rationale for the list of analytes.	During prior investigations, (e.g., Well 16 Source Investigation, and other related investigations performed prior to 1996), analysis of contaminants were chosen either by analytical method capability, (i.e., EPA SW-846 Method 6010), or by EPA hazardous RCRA eight metals. Therefore, investigations prior to 1996 included metals which CSSA has no previous record or knowledge of being present in any waste generating activities on-site. All subsequent investigations (after 1995), including the establishment of background levels for all soil types known to exist at CSSA,

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			included the nine metals of potential concern determined through known past waste management activities. During the closure/investigation activities, metal analysis included the CSSA nine metals of potential concern. Subsequent investigations included only those metals which were identified during the previous investigation(s).
28	Volume 1-3, AOC 49, RFI Work Plan Addendum, page 1	The work plan addendum states that 3 soil borings will be completed to characterize the subsurface soils surrounding any detected anomaly. Two soil samples are proposed to be collected from each soil boring at the total depth of 10 feet for each boring. A PID/OVA instrument should be utilized to detect hot spots. If hot spots are not found, then the use of a standardized depth for sampling locations/depths should be utilized.	Concur. The following statement will be added to the RFI Work Plan: "If PID readings indicate that VOCs are present, then the subsurface soil sample from that interval will be submitted to the laboratory for analysis. If there are no PID readings throughout the total depth of the boring, samples will be collected at depths of approximately 5 and 10 feet."
29	Volume 1-3, AOC 53, RFI Work Plan Addendum, page 1	Grab surface soil samples are proposed to be collected at approximately 2 feet and analyzed for metals and pH. Surface soil samples should be collected at the 0 - 6 inch below ground surface interval.	Concur. The RFI Work Plan Addendum for AOC 53 will be revised to reflect a 0-6 inch surface soil sampling depth.
30	Volume 1-3, AOC 54, RFI Work Plan Addendum, page 1	Grab surface soil samples are proposed to be collected at approximately 2 feet and analyzed for metals and pH. Surface soil samples should be collected at the 0 - 6 inch below ground surface interval	Concur. The RFI Work Plan Addendum for AOC 54 will be revised to reflect a 0-6 inch surface soil sampling depth.
31	Volume 1-3, AOC 67, RFI Work Plan Addendum, page 1	Which metals will be included in the analyses? Provide the rationale for the list of analytes.	Metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, and zinc) will be added to the list of analytes for this site. The rationale for this list of metals is described in the response to comment #4.
32	Volume 1-4, Sampling Analysis Plan, Addendum 1, RL33 Addendum, page 3, Section 2.2 Field Screening	The analysis of amines and nitrates should be included in the list of compounds for evaluation of the residual concentrations of explosives.	The comment addresses a list of analytes associated with the immunoassay test kits. These samples were collected during previous investigations at the B-20 site to help identify explosives contamination. However, soil samples were also collected for laboratory analysis. These samples were analyzed for nitroaromatics and nitramines using the SW8330 method which includes the following analytes: Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) 1,3,5-Trinitrobenzene (1,3,5-TNB)

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			1,3-Dinitrobenzene (1,3-DNB) Methyl-2,4,6-trinitrophenylnitramine (Tetryl) Nitrobenzene (NB) 2,4,6-Trinitrotoluene (2,4,6-TNT) 4-Amino-2,6-dinitrotoluene (4-Am-DNT) 2-Amino-4,6-dinitrotoluene (2-AM-DNT) 2,4-Dinitrotoluene (2,4-DNT) 2,6-Dinitortoluene (2,6-DNT) 2-Nitrotoluene (2-NT) 3-Nitrotoluene (3-NT) 4-Nitrotoluene (4-NT) Rework sampling for nitroaromatics and nitramines analysis is currently planned for the B-20 site, as described in the rework work plan.
33	Volume 1-4, Sampling and Analysis Plan, RL53 Addendum, Procedures For Sampling Activities, page 1	It is stated in the report that due to cost constraints, no corresponding QA/QC samples will be collected for PCBs or dioxins. A level of QA/QC should be proposed and conducted to ensure that the data collected is usable.	It was inaccurately stated that no QA/QC samples would be collected for PCBs or dioxins wipe samples. The laboratory will analyze a method blank, laboratory control sample (LCS), and an LCS duplicate sample to ensure that accuracy and precision requirements will be met. These LCS/LCSD QA/QC samples will verify that the laboratory is following the correct procedures stated in the SOP and the method blank will ensure that no cross-contamination has taken place.
34	Volume 1-4, Sampling and Analysis Plan, RL 53 Addendum, Constituents of Concern and Analytical Methods, page 2	This information is not complete. It should, at a minimum, also include method detection limits, practical quantitation limits/estimated quantitation limits, and reporting limits. Provide the missing information.	Since laboratories conduct new method detection limit (MDL) studies on a regular basis and the values are subject to change, MDLs will be included in the informal technical information reports (ITIRs) which will be submitted along with the technical reports. AFCEE reporting limits (RLs) are listed by method in the AFCEE QAPP (included in Volume 1-4). In accordance with the AFCEE QAPP, laboratories do not report practical quantitation limits (PQLs).
35	Volume 1-4, Sampling and Analysis Plan, RL 74 Addendum, Table 1. Constituents of Concern at O-1 and Methods of Analysis, page 2	There appears to be an inconsistency in the list of metals analyzed for SWMU O-1. Table O1-1 excludes arsenic, beryllium, mercury, and zinc and Table O1-2 excludes beryllium, nickel and zinc. Provide the rationale for the list of analytes.	Please see response to comment #27
36	Volume 1-6.	The correct mailing address for Mr. Lyssy is	This correction will be included in the next update to the

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	Community Relations Plan, page C-1	U.S. EPA, Superfund Division, Mail Code 6SF-LT, 1445 Ross Avenue, Dallas, Texas, 75202.	Encyclopedia.
37	Volume 2, Background Metals Levels	Some of the detected and calculated background concentrations are higher in magnitude than would appear reasonable (i.e., point of reference is EPA Region 6's list of background ranges in the Region 6's Human Health Media-Specific Screening Levels). The wide range of the detected concentrations or concentration variability could be a factor in the inflated calculated values for arsenic, barium, chromium, lead, nickel, and zinc. The EPA will be evaluating the site investigation data by comparing those data with the detected background concentration ranges rather than the calculated background concentrations. CSSA need not recalculate the background concentrations nor conduct any additional background sampling. However, the background concentration summary tables should clearly indicate the detected background concentration ranges.	Parsons ES and AFCEE reviewed the EPA Region 6 list of background ranges in a document titled *EPA Region 6 Human Health Medium-Specific Screening Levels* (page 5, Region 6 EPA, June 1999). The table provided in that document is not a list of ranges for all metals. Concentration ranges are not provided for each metal. On page 5 of that document, there is a short discussion regarding inorganic background. The use of the word "typical" at the beginning of the 4th sentence of that paragraph is puzzling as nothing is provided to demonstrate how these "typical" EPA Region 6 background numbers were derived. As CSSA's contractor is under contract to perform a risk assessment, it is imperative that a full understanding of the criteria to be used for comparison be understood. If the QA/QC for the resampling and analysis of some of the background is acceptable and the results are similar to previous results (See response to comment #38 below), then comparison to "regional typical" background concentration ranges may be inappropriate. Without any information as to how these "typical" concentration ranges were determined an assessment is probably impossible at this time. The contractor must have direction on what methodology to use to perform a risk assessment, or the probability of not fulfilling contractual requirements arises. The contractor can seek relief from contractual requirements because the government (CSSA/AFCEE) did not provide specifications in the SOW that could be met (Previously closures were being sought under Texas Risk Reduction Standard 1 requirements). In addition, the schedule for completing the RFI would very likely be adversely affected. Further, CSSA performed the background study under the TNRCC Risk Reduction Standard's rules. As CSSA is required to close sites under these rules and the background study was approved by the TNRCC, there is the possibility of acquiring state closure and then

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			being required to remediate the clean closed site if the EPA's screening "ranges" are used. Important to note is that there has been no demonstration showing that all the soils of Region 6 are composed of the same mineralogical and metal content as the soils of CSSA. Geological evidence indicates that this is not the case. That makes it even more important to be able to assess whether or not the "typical" background methodology is applicable to the types of soil matrices that are found at CSSA. **CSSA requests a copy of the method used to determine the "typical" background concentration ranges and access to the data sets used in building the data sets used in the calculations.** This is needed in order to ascertain whether or not the soil matrix is similar. If the soil types were similar, it would be possible to perform a direct comparison. If one or more are dissimilar then the comparison criteria can be adjusted to take into account site specific differences. AFCEE is comparing several base background study results for Texas Air Force bases to CSSA's background values and the "typical" values provided by the EPA. A full comparison will take some time, but preliminarily it appears as if some values are above and some are below the "typical" values. If at the end of this assessment the results indicate that CSSA's background metal concentrations are "atypical" then the EPA and CSSA can work to provide the best method for determining true site and base risk levels. **CSSA requests that the EPA provide assistance and information to aid both CSSA and the EPA to meet these goals.**
38	Volume 2, Background Metals Levels, Tables C-1 through J-2	The following are concerns in the information listed in these tables: The data qualifiers of "F" and "B" were not defined in the tables.	Revisions to the Background Report tables will be included in an upcoming Encyclopedia update. The "F" and "B" qualifier definitions will be added at that time.

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		"M" qualified data were used in the calculation of the 95% Upper Tolerance Limit. "M" qualified data is defined as a sample identified by the laboratory as not meeting QAPP requirements for one or more target analytes (see Volume 2, Appendix A, page A-1).	The QAPP requires that an "M" flag be applied when the matrix spike (MS) and/or the matrix spike duplicate (MSD) have recovery problems. As is typical in the soils in this region of Texas poor recovery of matrix spikes is a common problem. This problem is understandable when one looks at the matrix and the pH of the soils. The alkaline soils do not leach metals readily. In fact, treatability studies (electrokinetics, soil washing and phytoremediation treatability studies performed at CSSA) have shown that unless the pH of the soil is reduced significantly during treatment, the treatments do not work efficiently, thus producing poor mass removal rates. To acidify the soils sufficiently to remove metal contamination, the addition of inordinately large amounts of acid or other pH lowering compounds or elements are required. It therefore follows, that, as acid digestion of the samples is required, (fixed amounts, as per method extraction procedures) for chemical analysis as well as for remedial actions, it is not unreasonable to expect low recoveries. Method modification may be necessary to overcome this problem. But at this time, no identified procedure has been found. Technical personnel from AFCEE, AFCEE's support contractors and the prime contractors and their subcontract laboratories are looking for a solution. If the EPA has any information on methods that can achieve better recoveries in the alkaline soils composed of clay, caliche and limestones, then it would be greatly appreciated if this information could be provided to CSSA. The effect this has on the site samples, as well as the background concentrations, is that "M" flagged data is biased low. This has a modifying effect to the previous comments from the EPA regarding the fact that the concentrations of certain metals are higher than that which the EPA would reasonably expect. The true

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			concentrations may very well be even higher than the ranges provided in the background report. If the QA/QC for the analytical results are acceptable then this could present more of a problem than has already been considered. A large portion of the data for background is being resampled and analyzed because the previous data was analyzed by Intertech Testing Service (ITS). However, the current laboratory contacted the prime and is experiencing similar matrix effects. Until such a time as this rework is completed a full understanding of this problem is not possible. We will work with you and your technical people to solve the analytical problems so that confidence in the background concentration values will be high, thus lending better credence to a risk assessment.

APPENDIX B

U.S. ARMY, CAMP STANLEY STORAGE ACTIVITY
DIFFUSION SAMPLING PILOT STUDY - DRAFT

DRAFT

U. S. Army,
Camp Stanley Storage Activity

Diffusion Sampling Pilot Study

2 February 2000

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DRAFT

Camp Stanley Storage Activity
Diffusion Sampling Pilot Study
2 February 2000

Background

Camp Stanley Storage Activity (CSSA) is located along the Balcones Escarpment in northwestern Bexar County Texas. Two well defined, northeast/southwest striking fault zones cross the facility. The majority of the site is underlain by outcrops of the Upper Glen Rose Formation. The Lower Glen Rose can be found in drainage bottoms near the southern end of the Base. The Glen Rose is composed of interbedded zones of limestone, dolomite, and marl. Abundant fractures and karst features are common. CSSA drinking water is supplied by the Middle Trinity Aquifer. The Middle Trinity consists the Lower Glen Rose, Bexar Shale, Cow Creek, and Hammett Shale.

Currently, there are 14 active ground water wells at CSSA. Three off these wells (Wells 1, 9, and 10) are used to supply potable drinking water to the Base. These wells are open bore-hole completions over the Lower Glen Rose, Bexar Shale, and Cow Creek members of the Middle Trinity. The remaining wells are used mainly for monitoring purposes and to supply livestock water. Groundwater contamination became evident at CSSA in August 1991, when the Texas Water Commission (now the TNRCC) sampled the potable water wells and discovered solvent contamination in Wells D and 16. At that time, Wells 16 and D were disconnected from the water system. CSSA also initiated a periodic ground water monitoring program for all the wells at the installation. CSSA also began a program of testing off-site wells that are in close proximity to the facility boundary.

Prior to 1997, the CSSA wells were purged using high capacity downhole pumps and sampled using bailers or sampled through gasoline or windmill powered sucker rod systems. In 1997, CSSA converted five key wells to slow purge/low flow QED® sampling systems. This was done to obtain more representative and consistent samples and to decrease the amount of purge/development water requiring disposal. To find a more cost-effective alternative to the QED® systems, CSSA researched the use of Diffusion Samplers.

Goals

- To determine if ground water samples collected for VOC analyses using the Diffusion Sampler were comparable to the samples collected using dedicated low flow pumps.
- To determine if the Diffusion Sampler could provide "profile" information regarding what intervals are contributing contamination to the well bore.

- If the Diffusion Sampler pilot study proves successful, CSSA would like to obtain regulatory approval to apply this sampling method as part of the base ground water monitoring program.

Diffusion Sampler Information

Three Diffusion Sampler papers were reviewed prior to initiating the CSSA Pilot Study. These papers included:

- Diffusion Samplers as an Inexpensive Approach to Monitoring VOCs in Ground Water, Vroblesky and Hyde, GWMR, Summer 1997.

- Locating VOC Contamination in a Fractured Rock Aquifer at the ground water surface water Interface using Passive Vapor Collectors, Vroblesky, Rhodes, Robertson, Harrigan, Groundwater, March-April, 1996.

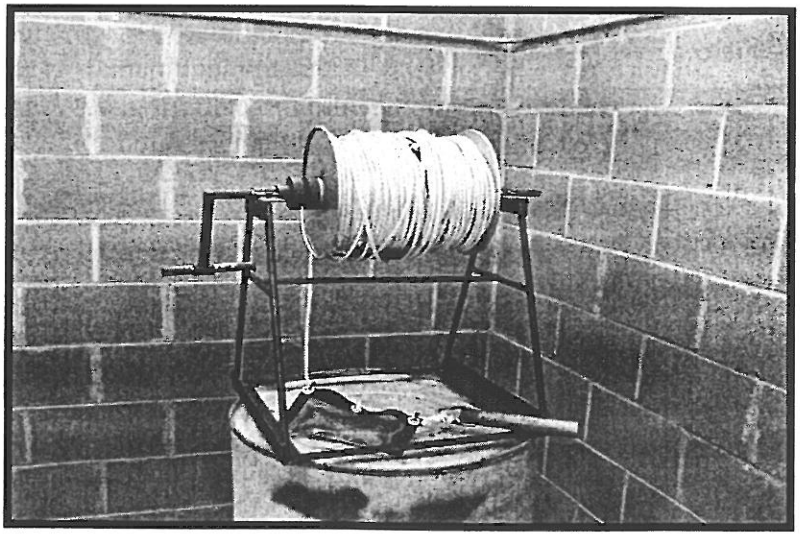
- Implementation of Passive Samplers for Monitoring Volatile Organic Compounds in Ground Water at the Kansas City Plant, Oak Ridge National Laboratory, September, 1997.

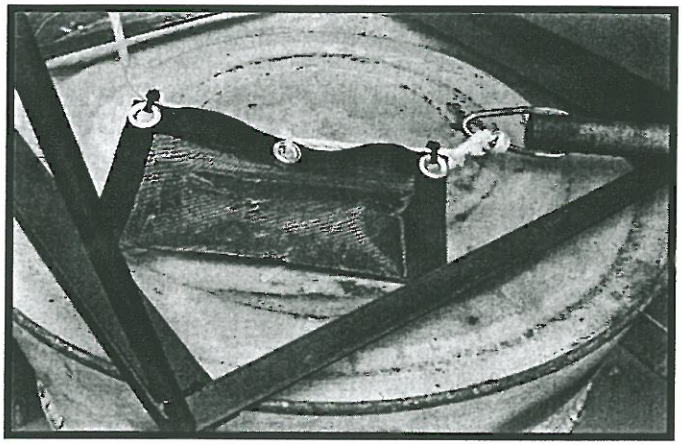
All three of the papers indicated the Diffusion Sampler approach had been effective in monitoring ground water VOC concentrations.

CSSA Pilot Study

Photographs of the CSSA Diffusion Sampler are provided below. The CSSA Diffusion Sampler consisted of:

- 500 foot spool of ¼ inch nylon rope,
- manufactured stand and reel to lower the rope into the well,
- open sided nylon mesh bags with 3 grommet connections,
- 6.5 in. X 3.25 in. "snack" bags,
- nylon cinch ties,
- Type II Dionized Water,
- 5 pound anchor weight.





Pilot Study Procedures

CSSA Well 16 was selected as the initial pilot test well because it has historically had the highest level of VOC contamination on the Base and also because the well 16 QED sampling system had recently been removed for repair.

Prior to installation of the Diffusion Sampler, the Well 16 completion information (formation tops, casing levels, casing diameter, total depth) was reviewed to determine appropriate test intervals. A summary of the sample intervals versus formation is provided below:

- Interval 1 – 300 ft – Lower Glen Rose
- Interval 2 – 350 ft – Bexar Shale
- Interval 3 – 390 ft – Top of the Cow Creek
- Interval 4 – 430 ft – Middle of the Cow Creek

After the test intervals were chosen, Well 16 water levels were checked to make sure the target test intervals were below the water table. Recent draught conditions and increased demand for ground water by surrounding water providers has dropped groundwater elevation significantly at CSSA. Review of the water table data indicated that the December 1999 water level in Well 16 was approximately 270 feet below the top of casing. Therefore, all of the selected sample intervals were below water.

A week before the Diffusion Sampler was set in place, an equipment blank was prepared for QA/QC purposes. The equipment blank was prepared by placing scraps of the nylon rope and the mesh bags into three 40 ml glass VOAs. The VOAs were then filled with dionized water and allowed to equilibrate for the entire duration of the diffusion sample period.

The procedure for setting-up and conducting the CSSA Diffusion Sampler was as follows:

1) The nylon rope was extended on the floor of a CSSA warehouse for approximately 450 ft. Twenty –five foot intervals were marked using nylon cinch ties.

2) The five pound anchor weight was attached to the end of the rope.

3) The nylon mesh bags were attached to the rope at the selected intervals by weaving the cinch ties through the top and bottom grommets and into the rope strands. The middle grommet was not connected to allow later placement of the sealed "snack" bags.

4) The rope was then reeled in and the sampler was taken to Well 16.

5) The "snack" bags were filled with DI-water and sealed. Care was taken to eliminate all air-bubbles while sealing the bags. The filled bags were placed inside the mesh bags as the sampler was being lowered into the well. After the "snack" bag was placed in the mesh bag, the third grommet was cinched to the nylon rope to secure the sampling apparatus in place.

6) The above process was repeated for each sample interval as the entire sample string was lowered into the well. When the line weight reached total depth of the well, the reel was secured to the top of the well head to prevent loss of line or shifting of the sampling intervals.

7) The diffusion test period began at approximately 10:00 am on November 29, 1999 and concluded at approximately 10:00 am on December 14, 1999.

8) On December 14, the Diffusion Samplers were removed from well 16. The "snack" bags were removed from the mesh holding bags as the diffusion system was removed from the well. The "snack" bags were freed by cutting the nylon cinch ties with a pair of scissors. The outside of the "snack" bags were labeled and then decontaminated using Aquanox® soap and rinsed with DI-water to remove any residual contaminants that the bags may have picked up as they were being pulled through the well bore. After the outside of the bags had been decontaminated, the corner of the "snack" bags were cut using scissors and the contents were carefully pored into 3 preserved 40 ml VOAs. Care was taken to remove all head space before the VOAs were sealed.

9) The sample VOAs were then labeled, stored on ice, and shipped to O'Brien and Gere Laboratories in Syracuse New York for VOC analyses. The equipment blank was submitted for analyses as a "blind" sample (Well 16 - 500ft). A trip blank was also included in the shipment for analyses.

After the Diffusion Sampler was removed, Parsons' Engineering Science (PES), Incorporated reinstalled the low flow pump to well 16. The pump inlet for the Well 16 low flow system was at approximately 350 ft. The PES samples were also sent to O'Brien and Gere for analyses. The results of the low flow sample analyses are included for comparison purposes.

Results

An abbreviated summary table of the diffusion sampling results compared to the low flow sampling results is provided below. Complete summaries of the diffusion sampling results is attached.

Sample Type/ Depth/ Formation	Analyte			
	Cis-1,2-DCE (ug/L)	PCE (ug/L)	Trans-1,2-DCE (ug/L)	TCE (ug/L)
Diffusion 300 ft Glen Rose	88.3	117.3	1.92	115.0
Diffusion 350 ft Bexar Shale	*151.1*	*215.1*	*2.66*	*213.8*
Low Flow 350 ft Bexar Shale	*134*	*161*	*9.01*	*177*
Diffusion 390 ft Cow Creek	148.9	204.1	2.66	205.6
Diffusion 430 ft Cow Creek	150.0	196.5	2.78	204.3
Equipment Blank	<1.2	<1.4	<0.6	<1.0
Trip Blank	<1.2	<1.4	<0.6	<1.0

Note: With the exception of trans-1,2-DCE, all reported analytes are from the 1:10 dilution. The reported trans-1,2-DCE levels are undiluted (1:1) samples.

In general, the diffusion sampling method resulted in higher VOC contaminant concentrations than were found in the low flow samples. For TCE, PCE, and Cis-1,2-DCE, the diffusion sample results were from 13% to 34% higher than the low flow sample results. The exception to this generalization was for trans-1,2-DCE which was actually higher in the low flow sample.

Conclusions

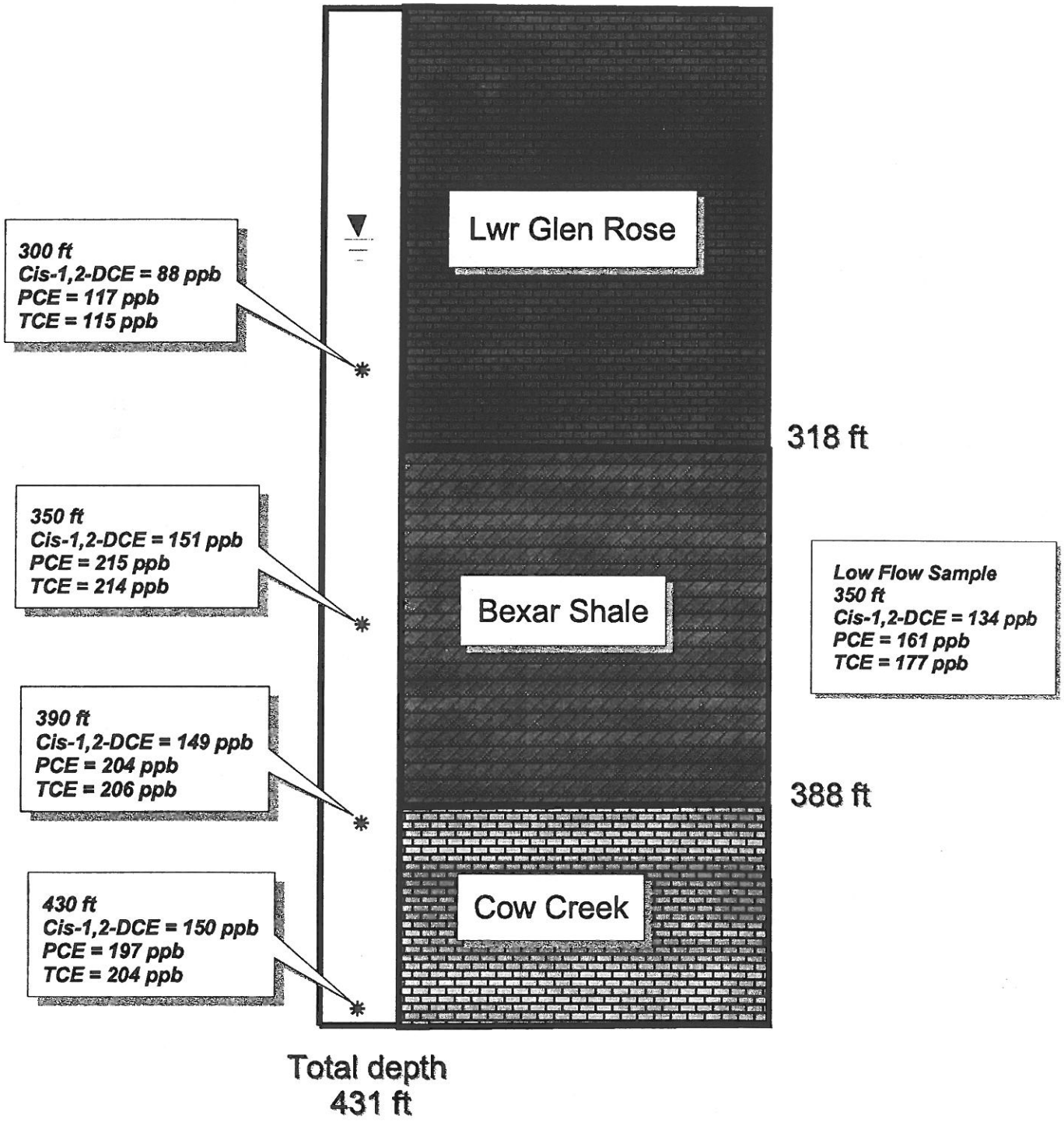
The following conclusions are based on the findings of the Diffusion Sampling and Low Flow Sampling analyses.

- The Diffusion Sampler yielded analytical results that were comparable to the low flow sampling method. All analytes detected in the Diffusion Samplers were also found in the low flow samples. The only VOCs noted above the reporting limit were Cis-1,2-DCE, PCE, trans-1,2-DCE, and TCE. No other VOC analytes were detected in either sample set.
- Based on the sample results, the entire water column in the well bore appears to be contaminated. The sample from 300 ft (Lwr Glen Rose) was slightly less contaminated then than the deeper samples that came from the Bexar Shale (350 feet) and Cow Creek intervals (390 & 430 feet). The Diffusion Sampler does not appear to have been effective at isolating which interval was contributing contamination to the well bore.
- Based on the equipment blank results, there was no VOC cross contamination associated with the materials used in the rope or mesh bags used in the Diffusion Sampler.

Recommendations

- Conduct further diffusion tests on a less contaminated well. Well 3 which had 0.99 ug/L PCE in December 1999 appears to be a favorable target.
- Prepare another equipment blank for submission with the Well 3 samples. This equipment blank should include exposure to "snack" bag material.
- Further review of the Diffusion Sampler literature to determine how varying the duration of the sampling time may affect the reported concentration levels in the samples. The idea here is that a shorter duration time may yield lower concentration levels that may provide a better comparison to the low flow sample results.
- Review literature to see if other Diffusion Sampler experiments resulted in lower levels of trans-1,2-DCE.

CSSA Well 16
Diffusion Sample Results



Notes:
- 1:10 Dilution Results Reported
- Sample Period - Nov 29 - Dec 14, 1999
- Low Flow Samples Collected Dec 14, 1999

Analytical Results

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ORGANIC ANALYSES DATA PACKAGE

Analytical Method: 8260

AAB#:

Lab Name: O'Brien & Gere Laboratories, Inc.

Contract #: Diffusion Sample Test

Base/Command: Camp Stanley, Texas

Prime Contractor: CDR CSSA

Field Sample ID	Lab Sample ID
Well 16 - 300'	N6709DL
Well 16 - 300'	N6709
Well 16 - 350'	N6710DL
Well 16 - 350'	N6710
Well 16 - 390'	N6711DL
Well 16 - 390'	N6711
Well 16 - 430'	N6712DL
Well 16 - 430'	N6712
Well 16 - 500'	N6713
QC Trip Blank	N6714

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Monika Santucci

Name: Monika Santucci

Date: 1/17/00

Title: Project Manager

AFCEE FORM O-1

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 300' Lab Sample ID: N6709 Matrix: Water

%Solids: Initial Calibration ID: ID15AF30.17

Date Received: 12/15/99 Date Prepared: 12/18/99 Date Analyzed: 12/18/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.024	1.3	.024	1		U
1,1,1,2-Tetrachloroethane	.051	.5	.051	1		U
1,1,1-Trichloroethane	.049	.8	.049	1		U
1,1,2,2-Tetrachloroethane	.052	.5	.052	1		U
1,1,2-Trichloroethane	.08	1.	.08	1		U
1,1-Dichloroethane	.054	.4	.054	1		U
1,1-Dichloroethene	.144	1.2	.144	1		U
1,1-Dichloropropene	.07	1.	.07	1		U
1,2,3-Trichlorobenzene	.063	.3	.063	1		U
1,2,3-Trichloropropane	.075	3.2	.075	1		U
1,2,4-Trichlorobenzene	.062	.4	.062	1		U
1,2,4-Trimethylbenzene	.014	1.3	.014	1		U
1,2-Dibromo-3-chloropropane	.33	2.6	.33	1		U
1,2-Dibromoethane	.068	.6	.068	1		U
1,2-Dichlorobenzene	.028	.3	.028	1		U
1,2-Dichloroethane	.067	.6	.067	1		U
1,2-Dichloropropane	.067	.4	.067	1		U
1,3,5-Trimethylbenzene	.018	.5	.018	1		U
1,3-Dichlorobenzene	.048	1.2	.048	1		U
1,3-Dichloropropane	.05	.4	.05	1		U
1,4-Dichlorobenzene	.023	.3	.023	1		U
1-Chlorohexane	.066	.5	.066	1		U
2,2-Dichloropropane	.026	3.5	.026	1		U
2-Chlorotoluene	.019	.4	.019	1		U
4-Chlorotoluene	.015	.6	.015	1		U
Benzene	.032	.4	.16	1		F
Bromobenzene	.091	.3	.091	1		U
Bromochloromethane	.114	.4	.114	1		U
Bromodichloromethane	.025	.8	.025	1		U
Bromoform	.108	1.2	.108	1		U
Bromomethane	.059	1.1	.059	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 300' Lab Sample ID: N6709 Matrix: Water

%Solids: Initial Calibration ID: JD15AF30.M7

Date Received: 12/15/99 Date Prepared: 12/18/99 Date Analyzed: 12/18/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.06	2.1	.06	1		U
Chlorobenzene	.014	.4	.014	1		U
Chloroethane	.07	1.	.07	1		U
Chloroform	.061	.3	.061	1		U
Chloromethane	.073	1.3	.073	1		U
cis-1,2-Dichloroethene	.145	1.2	108.9	1		
cis-1,3-Dichloropropene	.05	1.	.05	1		U
Dibromochloromethane	.049	.5	.049	1		U
Dibromomethane	.036	2.4	.036	1		U
Dichlorodifluoromethane	.06	1.	.06	1		U
Ethylbenzene	.015	.6	.015	1		U
Hexachlorobutadiene	.102	1.1	.102	1		U
Isopropylbenzene	.014	.5	.014	1		U
Methylene chloride	.06	2.	.06	1		U
n-Butylbenzene	.037	1.1	.037	1		U
n-Propylbenzene	.018	.4	.018	1		U
Naphthalene	.05	1.	.05	1		U
o-Xylene	.013	1.1	.013	1		U
p-Isopropyltoluene	.029	1.2	.029	1		U
sec-Butylbenzene	.026	1.3	.026	1		U
Styrene	.011	.5	.011	1		U
tert-Butylbenzene	.024	1.4	.024	1		U
Tetrachloroethene	.087	1.4	131.75	1		
Toluene	.017	1.1	.017	1		U
trans-1,2-Dichloroethene	.14	.6	1.92	1		
trans-1,3-Dichloropropene	.06	1.	.06	1		U
Trichloroethene	.06	1	124.3	1		
Trichlorofluoromethane	.018	.8	.018	1		U
Vinyl chloride	.019	1.1	.019	1		U
Xylene (total)	.024	1.1	.024	1		U

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 300' Lab Sample ID: N6709 Matrix: Water

%Solids: ____ Initial Calibration ID: JO15AF30.M

Date Received: 12/15/99 Date Prepared: 12/18/99 Date Analyzed: 12/18/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	108	62-139	
Bromofluorobenzene (surrogate)	81	75-125	
Dibromofluoromethane (surrogate)	112	75-125	
Toluene-d8 (surrogate)	106	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 300' Lab Sample ID: N6709DL Matrix: Water

%Solids: _____ Initial Calibration ID: JD15AF30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.24	13.	.24	10		U
1,1,1,2-Tetrachloroethane	.51	5.	.51	10		U
1,1,1-Trichloroethane	.49	8.	.49	10		U
1,1,2,2-Tetrachloroethane	.52	5.	.52	10		U
1,1,2-Trichloroethane	.79	10.	.79	10		U
1,1-Dichloroethane	.54	4.	.54	10		U
1,1-Dichloroethene	1.44	12.	1.44	10		U
1,1-Dichloropropene	.66	10.	.66	10		U
1,2,3-Trichlorobenzene	.63	3.	.63	10		U
1,2,3-Trichloropropane	.75	32.	.75	10		U
1,2,4-Trichlorobenzene	.62	4.	.62	10		U
1,2,4-Trimethylbenzene	.14	13.	.14	10		U
1,2-Dibromo-3-chloropropane	3.3	26.	3.3	10		U
1,2-Dibromoethane	.68	6.	.68	10		U
1,2-Dichlorobenzene	.28	3.	.28	10		U
1,2-Dichloroethane	.67	6.	.67	10		U
1,2-Dichloropropane	.67	4.	.67	10		U
1,3,5-Trimethylbenzene	.18	5.	.18	10		U
1,3-Dichlorobenzene	.48	12.	.48	10		U
1,3-Dichloropropane	.5	4.	.5	10		U
1,4-Dichlorobenzene	.23	3.	.23	10		U
1-Chlorohexane	.66	5.	.66	10		U
2,2-Dichloropropane	.26	35.	.26	10		U
2-Chlorotoluene	.19	4.	.19	10		U
4-Chlorotoluene	.15	6.	.15	10		U
Benzene	.32	4.	.32	10		U
Bromobenzene	.91	3.	.91	10		U
Bromochloromethane	1.14	4.	1.14	10		U
Bromodichloromethane	.25	8.	.25	10		U
Bromoform	1.08	12.	1.08	10		U
Bromomethane	.59	11.	.59	10		U

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 300' Lab Sample ID: N6709DL Matrix: Water

%Solids: _____ Initial Calibration ID: 10 15AF30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.6	21.	.6	10		U
Chlorobenzene	.14	4.	.14	10		U
Chloroethane	.71	10.	.71	10		U
Chloroform	.61	3.	.61	10		U
Chloromethane	.73	13.	.73	10		U
cis-1,2-Dichloroethene	1.45	12	88.3	10		
cis-1,3-Dichloropropene	.49	10.	.49	10		U
Dibromochloromethane	.49	5.	.49	10		U
Dibromomethane	.36	24.	.36	10		U
Dichlorodifluoromethane	.64	10.	.64	10		U
Ethylbenzene	.15	6.	.15	10		U
Hexachlorobutadiene	1.02	11.	1.02	10		U
Isopropylbenzene	.14	5.	.14	10		U
Methylene chloride	.61	20.	.61	10		U
n-Butylbenzene	.37	11.	.37	10		U
n-Propylbenzene	.18	4.	.18	10		U
Naphthalene	.48	10.	.48	10		U
o-Xylene	.13	11.	.13	10		U
p-Isopropyltoluene	.29	12.	.29	10		U
sec-Butylbenzene	.26	13.	.26	10		U
Styrene	.11	5.	.11	10		U
tert-Butylbenzene	.24	14.	.24	10		U
Tetrachloroethene	.87	14	117.33	10		
Toluene	.17	11.	.17	10		U
trans-1,2-Dichloroethene	1.4	6.	1.4	10		U
trans-1,3-Dichloropropene	.6	10.	.6	10		U
Trichloroethene	.57	10	115.	10		
Trichlorofluoromethane	.18	8.	.18	10		U
Vinyl chloride	.19	11.	.19	10		U
Xylene (total)	.24	11.	.24	10		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 300' Lab Sample ID: N6709DL Matrix: Water

%Solids: Initial Calibration ID: JD15DF30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	92	62-139	
Bromofluorobenzene (surrogate)	85	75-125	
Dibromofluoromethane (surrogate)	95	75-125	
Toluene-d8 (surrogate)	96	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 350' Lab Sample ID: N6710 Matrix: Water

%Solids: Initial Calibration ID: JD15AF30.M

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.024	1.3	.024	1		U
1,1,1,2-Tetrachloroethane	.051	.5	.051	1		U
1,1,1-Trichloroethane	.049	.8	.049	1		U
1,1,2,2-Tetrachloroethane	.052	.5	.052	1		U
1,1,2-Trichloroethane	.08	1.	.08	1		U
1,1-Dichloroethane	.054	.4	.054	1		U
1,1-Dichloroethene	.144	1.2	.144	1		U
1,1-Dichloropropene	.07	1.	.07	1		U
1,2,3-Trichlorobenzene	.063	.3	.063	1		U
1,2,3-Trichloropropane	.075	3.2	.075	1		U
1,2,4-Trichlorobenzene	.062	.4	.062	1		U
1,2,4-Trimethylbenzene	.014	1.3	.014	1		U
1,2-Dibromo-3-chloropropane	.33	2.6	.33	1		U
1,2-Dibromoethane	.068	.6	.068	1		U
1,2-Dichlorobenzene	.028	.3	.028	1		U
1,2-Dichloroethane	.067	.6	.067	1		U
1,2-Dichloropropane	.067	.4	.067	1		U
1,3,5-Trimethylbenzene	.018	.5	.018	1		U
1,3-Dichlorobenzene	.048	1.2	.048	1		U
1,3-Dichloropropane	.05	.4	.05	1		U
1,4-Dichlorobenzene	.023	.3	.023	1		U
1-Chlorohexane	.066	.5	.066	1		U
2,2-Dichloropropane	.026	3.5	.026	1		U
2-Chlorotoluene	.019	.4	.019	1		U
4-Chlorotoluene	.015	.6	.015	1		U
Benzene	.032	.4	.17	1		F
Bromobenzene	.091	.3	.091	1		U
Bromochloromethane	.114	.4	.114	1		U
Bromodichloromethane	.025	.8	.025	1		U
Bromoform	.108	1.2	.108	1		U
Bromomethane	.059	1.1	.059	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 350' Lab Sample ID: N6710 Matrix: Water

%Solids: _____ Initial Calibration ID: JO15AF30.W7

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.06	2.1	.06	1		U
Chlorobenzene	.014	.4	.014	1		U
Chloroethane	.07	1.	.07	1		U
Chloroform	.061	.3	.2	1		F
Chloromethane	.073	1.3	.073	1		U
cis-1,2-Dichloroethene	.145	1.2	173.97	1		
cis-1,3-Dichloropropene	.05	1.	.05	1		U
Dibromochloromethane	.049	.5	.049	1		U
Dibromomethane	.036	2.4	.036	1		U
Dichlorodifluoromethane	.06	1.	.06	1		U
Ethylbenzene	.015	.6	.015	1		U
Hexachlorobutadiene	.102	1.1	.102	1		U
Isopropylbenzene	.014	.5	.014	1		U
Methylene chloride	.06	2.	.06	1		U
n-Butylbenzene	.037	1.1	.037	1		U
n-Propylbenzene	.018	.4	.018	1		U
Naphthalene	.05	1.	.05	1		U
o-Xylene	.013	1.1	.013	1		U
p-Isopropyltoluene	.029	1.2	.029	1		U
sec-Butylbenzene	.026	1.3	.026	1		U
Styrene	.011	.5	.011	1		U
tert-Butylbenzene	.024	1.4	.024	1		U
Tetrachloroethene	.087	1.4	209.33	1		
Toluene	.017	1.1	.017	1		U
trans-1,2-Dichloroethene	.14	.6	2.66	1		
trans-1,3-Dichloropropene	.06	1.	.06	1		U
Trichloroethene	.06	1	201.7	1		
Trichlorofluoromethane	.018	.8	.018	1		U
Vinyl chloride	.019	1.1	.019	1		U
Xylene (total)	.024	1.1	.024	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 350' Lab Sample ID: N6710 Matrix: Water

%Solids: _____ Initial Calibration ID: JD15CF30.M

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	115	62-139	
Bromofluorobenzene (surrogate)	86	75-125	
Dibromofluoromethane (surrogate)	120	75-125	
Toluene-d8 (surrogate)	114	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 350' Lab Sample ID: N6710DL Matrix: Water

%Solids: Initial Calibration ID: 991512F30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.24	13.	.24	10		U
1,1,1,2-Tetrachloroethane	.51	5.	.51	10		U
1,1,1-Trichloroethane	.49	8.	.49	10		U
1,1,2,2-Tetrachloroethane	.52	5.	.52	10		U
1,1,2-Trichloroethane	.79	10.	.79	10		U
1,1-Dichloroethane	.54	4.	.54	10		U
1,1-Dichloroethene	1.44	12.	1.44	10		U
1,1-Dichloropropene	.66	10.	.66	10		U
1,2,3-Trichlorobenzene	.63	3.	.63	10		U
1,2,3-Trichloropropane	.75	32.	.75	10		U
1,2,4-Trichlorobenzene	.62	4.	.62	10		U
1,2,4-Trimethylbenzene	.14	13.	.14	10		U
1,2-Dibromo-3-chloropropane	3.3	26.	3.3	10		U
1,2-Dibromoethane	.68	6.	.68	10		U
1,2-Dichlorobenzene	.28	3.	.28	10		U
1,2-Dichloroethane	.67	6.	.67	10		U
1,2-Dichloropropane	.67	4.	.67	10		U
1,3,5-Trimethylbenzene	.18	5.	.18	10		U
1,3-Dichlorobenzene	.48	12.	.48	10		U
1,3-Dichloropropane	.5	4.	.5	10		U
1,4-Dichlorobenzene	.23	3.	.23	10		U
1-Chlorohexane	.66	5.	.66	10		U
2,2-Dichloropropane	.26	35.	.26	10		U
2-Chlorotoluene	.19	4.	.19	10		U
4-Chlorotoluene	.15	6.	.15	10		U
Benzene	.32	4.	.32	10		U
Bromobenzene	.91	3.	.91	10		U
Bromochloromethane	1.14	4.	1.14	10		U
Bromodichloromethane	.25	8.	.25	10		U
Bromoform	1.08	12.	1.08	10		U
Bromomethane	.59	11.	.59	10		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 350' Lab Sample ID: N6710DL Matrix: Water

%Solids: _____ Initial Calibration ID: 16SEP30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.6	21.	.6	10		U
Chlorobenzene	.14	4.	.14	10		U
Chloroethane	.71	10.	.71	10		U
Chloroform	.61	3.	.61	10		U
Chloromethane	.73	13.	.73	10		U
cis-1,2-Dichloroethene	1.45	12	151.11	10		
cis-1,3-Dichloropropene	.49	10.	.49	10		U
Dibromochloromethane	.49	5.	.49	10		U
Dibromomethane	.36	24.	.36	10		U
Dichlorodifluoromethane	.64	10.	.64	10		U
Ethylbenzene	.15	6.	.15	10		U
Hexachlorobutadiene	1.02	11.	1.02	10		U
Isopropylbenzene	.14	5.	.14	10		U
Methylene chloride	.61	20.	9.4	10		F
n-Butylbenzene	.37	11.	.37	10		U
n-Propylbenzene	.18	4.	.18	10		U
Naphthalene	.48	10.	.48	10		U
o-Xylene	.13	11.	.13	10		U
p-Isopropyltoluene	.29	12.	.29	10		U
sec-Butylbenzene	.26	13.	.26	10		U
Styrene	.11	5.	.11	10		U
tert-Butylbenzene	.24	14.	.24	10		U
Tetrachloroethene	.87	14	215.14	10		
Toluene	.17	11.	.17	10		U
trans-1,2-Dichloroethene	1.4	6.	1.4	10		U
trans-1,3-Dichloropropene	.6	10.	.6	10		U
Trichloroethene	.57	10	213.8	10		
Trichlorofluoromethane	.18	8.	.18	10		U
Vinyl chloride	.19	11.	.19	10		U
Xylene (total)	.24	11.	.24	10		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 350' Lab Sample ID: N6710DL Matrix: Water

%Solids: ____ Initial Calibration ID: 1015AF30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	91	62-139	
Bromofluorobenzene (surrogate)	84	75-125	
Dibromofluoromethane (surrogate)	96	75-125	
Toluene-d8 (surrogate)	98	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 390' Lab Sample ID: N6711 Matrix: Water

%Solids: Initial Calibration ID: JD15NF30.M

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.06	2.1	.06	1		U
Chlorobenzene	.014	.4	.014	1		U
Chloroethane	.07	1.	.07	1		U
Chloroform	.061	.3	.18	1		F
Chloromethane	.073	1.3	.073	1		U
cis-1,2-Dichloroethene	.145	1.2	169.79	1		
cis-1,3-Dichloropropene	.05	1.	.05	1		U
Dibromochloromethane	.049	.5	.049	1		U
Dibromomethane	.036	2.4	.036	1		U
Dichlorodifluoromethane	.06	1.	.06	1		U
Ethylbenzene	.015	.6	.015	1		U
Hexachlorobutadiene	.102	1.1	.102	1		U
Isopropylbenzene	.014	.5	.014	1		U
Methylene chloride	.06	2.	.06	1		U
n-Butylbenzene	.037	1.1	.037	1		U
n-Propylbenzene	.018	.4	.018	1		U
Naphthalene	.05	1.	.05	1		U
o-Xylene	.013	1.1	.013	1		U
p-Isopropyltoluene	.029	1.2	.029	1		U
sec-Butylbenzene	.026	1.3	.026	1		U
Styrene	.011	.5	.011	1		U
tert-Butylbenzene	.024	1.4	.024	1		U
Tetrachloroethene	.087	1.4	205.39	1		
Toluene	.017	1.1	.017	1		U
trans-1,2-Dichloroethene	.14	.6	2.66	1		
trans-1,3-Dichloropropene	.06	1.	.06	1		U
Trichloroethene	.06	1	193.1	1		
Trichlorofluoromethane	.018	.8	.018	1		U
Vinyl chloride	.019	1.1	.019	1		U
Xylene (total)	.024	1.1	.024	1		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 390' Lab Sample ID: N6711 Matrix: Water

%Solids: _____ Initial Calibration ID: DD15NF30.M1

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	111	62-139	
Bromofluorobenzene (surrogate)	86	75-125	
Dibromofluoromethane (surrogate)	117	75-125	
Toluene-d8 (surrogate)	110	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 390' Lab Sample ID: N6711DL Matrix: Water

%Solids: _____ Initial Calibration ID: JD15DF30.M7

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.24	13.	.24	10		U
1,1,1,2-Tetrachloroethane	.51	5.	.51	10		U
1,1,1-Trichloroethane	.49	8.	.49	10		U
1,1,2,2-Tetrachloroethane	.52	5.	.52	10		U
1,1,2-Trichloroethane	.79	10.	.79	10		U
1,1-Dichloroethane	.54	4.	.54	10		U
1,1-Dichloroethene	1.44	12.	1.44	10		U
1,1-Dichloropropene	.66	10.	.66	10		U
1,2,3-Trichlorobenzene	.63	3.	.63	10		U
1,2,3-Trichloropropane	.75	32.	.75	10		U
1,2,4-Trichlorobenzene	.62	4.	.62	10		U
1,2,4-Trimethylbenzene	.14	13.	.14	10		U
1,2-Dibromo-3-chloropropane	3.3	26.	3.3	10		U
1,2-Dibromoethane	.68	6.	.68	10		U
1,2-Dichlorobenzene	.28	3.	.28	10		U
1,2-Dichloroethane	.67	6.	.67	10		U
1,2-Dichloropropane	.67	4.	.67	10		U
1,3,5-Trimethylbenzene	.18	5.	.18	10		U
1,3-Dichlorobenzene	.48	12.	.48	10		U
1,3-Dichloropropane	.5	4.	.5	10		U
1,4-Dichlorobenzene	.23	3.	.23	10		U
1-Chlorohexane	.66	5.	.66	10		U
2,2-Dichloropropane	.26	35.	.26	10		U
2-Chlorotoluene	.19	4.	.19	10		U
4-Chlorotoluene	.15	6.	.15	10		U
Benzene	.32	4.	.32	10		U
Bromobenzene	.91	3.	.91	10		U
Bromochloromethane	1.14	4.	1.14	10		U
Bromodichloromethane	.25	8.	.25	10		U
Bromoform	1.08	12.	1.08	10		U
Bromomethane	.59	11.	.59	10		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 390' Lab Sample ID: N6711DL Matrix: Water

%Solids: _____ Initial Calibration ID: JD05NF30.M7

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.6	21.	.6	10		U
Chlorobenzene	.14	4.	.14	10		U
Chloroethane	.71	10.	.71	10		U
Chloroform	.61	3.	1.2	10		F
Chloromethane	.73	13.	.73	10		U
cis-1,2-Dichloroethene	1.45	12	148.99	10		
cis-1,3-Dichloropropene	.49	10.	.49	10		U
Dibromochloromethane	.49	5.	.49	10		U
Dibromomethane	.36	24.	.36	10		U
Dichlorodifluoromethane	.64	10.	.64	10		U
Ethylbenzene	.15	6.	.15	10		U
Hexachlorobutadiene	1.02	11.	1.02	10		U
Isopropylbenzene	.14	5.	.14	10		U
Methylene chloride	.61	20.	8.4	10		F
n-Butylbenzene	.37	11.	.37	10		U
n-Propylbenzene	.18	4.	.18	10		U
Naphthalene	.48	10.	.48	10		U
o-Xylene	.13	11.	.13	10		U
p-Isopropyltoluene	.29	12.	.29	10		U
sec-Butylbenzene	.26	13.	.26	10		U
Styrene	.11	5.	.11	10		U
tert-Butylbenzene	.24	14.	.24	10		U
Tetrachloroethene	.87	14	204.12	10		
Toluene	.17	11.	.17	10		U
trans-1,2-Dichloroethene	1.4	6.	1.4	10		U
trans-1,3-Dichloropropene	.6	10.	.6	10		U
Trichloroethene	.57	10	205.6	10		
Trichlorofluoromethane	.18	8.	.18	10		U
Vinyl chloride	.19	11.	.19	10		U
Xylene (total)	.24	11.	.24	10		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121699W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 390' Lab Sample ID: N6711DL Matrix: Water

%Solids: ____ Initial Calibration ID: JD15NF30.M

Date Received: 12/15/99 Date Prepared: 12/16/99 Date Analyzed: 12/16/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	91	62-139	
Bromofluorobenzene (surrogate)	83	75-125	
Dibromofluoromethane (surrogate)	98	75-125	
Toluene-d8 (surrogate)	97	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 430' Lab Sample ID: N6712 Matrix: Water

%Solids: _____ Initial Calibration ID: JD15NF30.M1

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.024	1.3	.024	1		U
1,1,1,2-Tetrachloroethane	.051	.5	.051	1		U
1,1,1-Trichloroethane	.049	.8	.049	1		U
1,1,2,2-Tetrachloroethane	.052	.5	.052	1		U
1,1,2-Trichloroethane	.08	1.	.08	1		U
1,1-Dichloroethane	.054	.4	.054	1		U
1,1-Dichloroethene	.144	1.2	.144	1		U
1,1-Dichloropropene	.07	1.	.07	1		U
1,2,3-Trichlorobenzene	.063	.3	.063	1		U
1,2,3-Trichloropropane	.075	3.2	.075	1		U
1,2,4-Trichlorobenzene	.062	.4	.062	1		U
1,2,4-Trimethylbenzene	.014	1.3	.014	1		U
1,2-Dibromo-3-chloropropane	.33	2.6	.33	1		U
1,2-Dibromoethane	.068	.6	.068	1		U
1,2-Dichlorobenzene	.028	.3	.028	1		U
1,2-Dichloroethane	.067	.6	.067	1		U
1,2-Dichloropropane	.067	.4	.067	1		U
1,3,5-Trimethylbenzene	.018	.5	.018	1		U
1,3-Dichlorobenzene	.048	1.2	.048	1		U
1,3-Dichloropropane	.05	.4	.05	1		U
1,4-Dichlorobenzene	.023	.3	.023	1		U
1-Chlorohexane	.066	.5	.066	1		U
2,2-Dichloropropane	.026	3.5	.026	1		U
2-Chlorotoluene	.019	.4	.019	1		U
4-Chlorotoluene	.015	.6	.015	1		U
Benzene	.032	.4	.29	1		F
Bromobenzene	.091	.3	.091	1		U
Bromochloromethane	.114	.4	.114	1		U
Bromodichloromethane	.025	.8	.025	1		U
Bromoform	.108	1.2	.108	1		U
Bromomethane	.059	1.1	.059	1		U

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 430' Lab Sample ID: N6712 Matrix: Water

%Solids: _____ Initial Calibration ID: JD15NF30.M

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.06	2.1	.06	1		U
Chlorobenzene	.014	.4	.014	1		U
Chloroethane	.07	1.	.07	1		U
Chloroform	.061	.3	.061	1		U
Chloromethane	.073	1.3	.073	1		U
cis-1,2-Dichloroethene	.145	1.2	173.78	1		
cis-1,3-Dichloropropene	.05	1.	.05	1		U
Dibromochloromethane	.049	.5	.049	1		U
Dibromomethane	.036	2.4	.036	1		U
Dichlorodifluoromethane	.06	1.	.06	1		U
Ethylbenzene	.015	.6	.015	1		U
Hexachlorobutadiene	.102	1.1	.102	1		U
Isopropylbenzene	.014	.5	.014	1		U
Methylene chloride	.06	2.	.06	1		U
n-Butylbenzene	.037	1.1	.037	1		U
n-Propylbenzene	.018	.4	.018	1		U
Naphthalene	.05	1.	.05	1		U
o-Xylene	.013	1.1	.013	1		U
p-Isopropyltoluene	.029	1.2	.029	1		U
sec-Butylbenzene	.026	1.3	.026	1		U
Styrene	.011	.5	.011	1		U
tert-Butylbenzene	.024	1.4	.024	1		U
Tetrachloroethene	.087	1.4	215.32	1		
Toluene	.017	1.1	.017	1		U
trans-1,2-Dichloroethene	.14	.6	2.78	1		
trans-1,3-Dichloropropene	.06	1.	.06	1		U
Trichloroethene	.06	1	199.9	1		
Trichlorofluoromethane	.018	.8	.018	1		U
Vinyl chloride	.019	1.1	.019	1		U
Xylene (total)	.024	1.1	.024	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 122099W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 430' Lab Sample ID: N6712 Matrix: Water

%Solids: _____ Initial Calibration ID: JD15DF30.M

Date Received: 12/15/99 Date Prepared: 12/20/99 Date Analyzed: 12/20/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	112	62-139	
Bromofluorobenzene (surrogate)	87	75-125	
Dibromofluoromethane (surrogate)	116	75-125	
Toluene-d8 (surrogate)	108	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 430' Lab Sample ID: N6712DL Matrix: Water

%Solids: Initial Calibration ID: JD15NF30.M

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.24	13.	.24	10		U
1,1,1,2-Tetrachloroethane	.51	5.	.51	10		U
1,1,1-Trichloroethane	.49	8.	.49	10		U
1,1,2,2-Tetrachloroethane	.52	5.	.52	10		U
1,1,2-Trichloroethane	.79	10.	.79	10		U
1,1-Dichloroethane	.54	4.	.54	10		U
1,1-Dichloroethene	1.44	12.	1.44	10		U
1,1-Dichloropropene	.66	10.	.66	10		U
1,2,3-Trichlorobenzene	.63	3.	.63	10		U
1,2,3-Trichloropropane	.75	32.	.75	10		U
1,2,4-Trichlorobenzene	.62	4.	.62	10		U
1,2,4-Trimethylbenzene	.14	13.	.14	10		U
1,2-Dibromo-3-chloropropane	3.3	26.	3.3	10		U
1,2-Dibromoethane	.68	6.	.68	10		U
1,2-Dichlorobenzene	.28	3.	.28	10		U
1,2-Dichloroethane	.67	6.	.67	10		U
1,2-Dichloropropane	.67	4.	.67	10		U
1,3,5-Trimethylbenzene	.18	5.	.18	10		U
1,3-Dichlorobenzene	.48	12.	.48	10		U
1,3-Dichloropropane	.5	4.	.5	10		U
1,4-Dichlorobenzene	.23	3.	.23	10		U
1-Chlorohexane	.66	5.	.66	10		U
2,2-Dichloropropane	.26	35.	.26	10		U
2-Chlorotoluene	.19	4.	.19	10		U
4-Chlorotoluene	.15	6.	.15	10		U
Benzene	.32	4.	.32	10		U
Bromobenzene	.91	3.	.91	10		U
Bromochloromethane	1.14	4.	1.14	10		U
Bromodichloromethane	.25	8.	.25	10		U
Bromoform	1.08	12.	1.08	10		U
Bromomethane	.59	11.	.59	10		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 430' Lab Sample ID: N6712DL Matrix: Water

%Solids: Initial Calibration ID: JD15AF30.M

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.6	21.	.6	10		U
Chlorobenzene	.14	4.	.14	10		U
Chloroethane	.71	10.	.71	10		U
Chloroform	.61	3.	1.3	10		F
Chloromethane	.73	13.	.73	10		U
cis-1,2-Dichloroethene	1.45	12	150.04	10		
cis-1,3-Dichloropropene	.49	10.	.49	10		U
Dibromochloromethane	.49	5.	.49	10		U
Dibromomethane	.36	24.	.36	10		U
Dichlorodifluoromethane	.64	10.	.64	10		U
Ethylbenzene	.15	6.	.15	10		U
Hexachlorobutadiene	1.02	11.	1.02	10		U
Isopropylbenzene	.14	5.	.14	10		U
Methylene chloride	.61	20.	5.4	10		F
n-Butylbenzene	.37	11.	.37	10		U
n-Propylbenzene	.18	4.	.18	10		U
Naphthalene	.48	10.	.48	10		U
o-Xylene	.13	11.	.13	10		U
p-Isopropyltoluene	.29	12.	.29	10		U
sec-Butylbenzene	.26	13.	.26	10		U
Styrene	.11	5.	.11	10		U
tert-Butylbenzene	.24	14.	.24	10		U
Tetrachloroethene	.87	14	196.48	10		
Toluene	.17	11.	.17	10		U
trans-1,2-Dichloroethene	1.4	6.	1.4	10		U
trans-1,3-Dichloropropene	.6	10.	.6	10		U
Trichloroethene	.57	10	204.3	10		
Trichlorofluoromethane	.18	8.	.18	10		U
Vinyl chloride	.19	11.	.19	10		U
Xylene (total)	.24	11.	.24	10		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 430' Lab Sample ID: N6712DL Matrix: Water

%Solids: ____ Initial Calibration ID: 991512F30.W1

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	92	62-139	
Bromofluorobenzene (surrogate)	84	75-125	
Dibromofluoromethane (surrogate)	95	75-125	
Toluene-d8 (surrogate)	98	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 500' Lab Sample ID: N6713 Matrix: Water

%Solids: _____ Initial Calibration ID: SD15Aug30.M1.

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.024	1.3	.024	1		U
1,1,1,2-Tetrachloroethane	.051	.5	.051	1		U
1,1,1-Trichloroethane	.049	.8	.049	1		U
1,1,2,2-Tetrachloroethane	.052	.5	.052	1		U
1,1,2-Trichloroethane	.08	1.	.08	1		U
1,1-Dichloroethane	.054	.4	.054	1		U
1,1-Dichloroethene	.144	1.2	.144	1		U
1,1-Dichloropropene	.07	1.	.07	1		U
1,2,3-Trichlorobenzene	.063	.3	.063	1		U
1,2,3-Trichloropropane	.075	3.2	.075	1		U
1,2,4-Trichlorobenzene	.062	.4	.062	1		U
1,2,4-Trimethylbenzene	.014	1.3	.014	1		U
1,2-Dibromo-3-chloropropane	.33	2.6	.33	1		U
1,2-Dibromoethane	.068	.6	.068	1		U
1,2-Dichlorobenzene	.028	.3	.028	1		U
1,2-Dichloroethane	.067	.6	.067	1		U
1,2-Dichloropropane	.067	.4	.067	1		U
1,3,5-Trimethylbenzene	.018	.5	.018	1		U
1,3-Dichlorobenzene	.048	1.2	.048	1		U
1,3-Dichloropropane	.05	.4	.05	1		U
1,4-Dichlorobenzene	.023	.3	.023	1		U
1-Chlorohexane	.066	.5	.066	1		U
2,2-Dichloropropane	.026	3.5	.026	1		U
2-Chlorotoluene	.019	.4	.019	1		U
4-Chlorotoluene	.015	.6	.015	1		U
Benzene	.032	.4	.032	1		U
Bromobenzene	.091	.3	.091	1		U
Bromochloromethane	.114	.4	.114	1		U
Bromodichloromethane	.025	.8	.025	1		U
Bromoform	.108	1.2	.108	1		U
Bromomethane	.059	1.1	.059	1		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 500' Lab Sample ID: N6713 Matrix: Water

%Solids: _____ Initial Calibration ID: 301SA530.M1

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.06	2.1	.06	1		U
Chlorobenzene	.014	.4	.014	1		U
Chloroethane	.07	1.	.07	1		U
Chloroform	.061	.3	.061	1		U
Chloromethane	.073	1.3	.073	1		U
cis-1,2-Dichloroethene	.145	1.2	.145	1		U
cis-1,3-Dichloropropene	.05	1.	.05	1		U
Dibromochloromethane	.049	.5	.049	1		U
Dibromomethane	.036	2.4	.036	1		U
Dichlorodifluoromethane	.06	1.	.06	1		U
Ethylbenzene	.015	.6	.015	1		U
Hexachlorobutadiene	.102	1.1	.102	1		U
Isopropylbenzene	.014	.5	.014	1		U
Methylene chloride	.06	2.	.06	1		U
n-Butylbenzene	.037	1.1	.037	1		U
n-Propylbenzene	.018	.4	.018	1		U
Naphthalene	.05	1.	.05	1		U
o-Xylene	.013	1.1	.013	1		U
p-Isopropyltoluene	.029	1.2	.029	1		U
sec-Butylbenzene	.026	1.3	.026	1		U
Styrene	.011	.5	.011	1		U
tert-Butylbenzene	.024	1.4	.024	1		U
Tetrachloroethene	.087	1.4	.087	1		U
Toluene	.017	1.1	.017	1		U
trans-1,2-Dichloroethene	.14	.6	.14	1		U
trans-1,3-Dichloropropene	.06	1.	.06	1		U
Trichloroethene	.06	1.	.06	1		U
Trichlorofluoromethane	.018	.8	.018	1		U
Vinyl chloride	.019	1.1	.019	1		U
Xylene (total)	.024	1.1	.024	1		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: Well 16 - 500' Lab Sample ID: N6713 Matrix: Water

%Solids: _____ Initial Calibration ID: 5D15NF30.M

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	89	62-139	
Bromofluorobenzene (surrogate)	88	75-125	
Dibromofluoromethane (surrogate)	95	75-125	
Toluene-d8 (surrogate)	96	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: QC Trip Blank Lab Sample ID: N6714 Matrix: Water

%Solids: Initial Calibration ID: JD15NF30.M7

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.024	1.3	.024	1		U
1,1,1,2-Tetrachloroethane	.051	.5	.051	1		U
1,1,1-Trichloroethane	.049	.8	.049	1		U
1,1,2,2-Tetrachloroethane	.052	.5	.052	1		U
1,1,2-Trichloroethane	.08	1.	.08	1		U
1,1-Dichloroethane	.054	.4	.054	1		U
1,1-Dichloroethene	.144	1.2	.144	1		U
1,1-Dichloropropene	.07	1.	.07	1		U
1,2,3-Trichlorobenzene	.063	.3	.063	1		U
1,2,3-Trichloropropane	.075	3.2	.075	1		U
1,2,4-Trichlorobenzene	.062	.4	.062	1		U
1,2,4-Trimethylbenzene	.014	1.3	.014	1		U
1,2-Dibromo-3-chloropropane	.33	2.6	.33	1		U
1,2-Dibromoethane	.068	.6	.068	1		U
1,2-Dichlorobenzene	.028	.3	.028	1		U
1,2-Dichloroethane	.067	.6	.067	1		U
1,2-Dichloropropane	.067	.4	.067	1		U
1,3,5-Trimethylbenzene	.018	.5	.018	1		U
1,3-Dichlorobenzene	.048	1.2	.048	1		U
1,3-Dichloropropane	.05	.4	.05	1		U
1,4-Dichlorobenzene	.023	.3	.023	1		U
1-Chlorohexane	.066	.5	.066	1		U
2,2-Dichloropropane	.026	3.5	.026	1		U
2-Chlorotoluene	.019	.4	.019	1		U
4-Chlorotoluene	.015	.6	.015	1		U
Benzene	.032	.4	.032	1		U
Bromobenzene	.091	.3	.091	1		U
Bromochloromethane	.114	.4	.114	1		U
Bromodichloromethane	.025	.8	.025	1		U
Bromoform	.108	1.2	.108	1		U
Bromomethane	.059	1.1	.059	1		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: QC Trip Blank Lab Sample ID: N6714 Matrix: Water

%Solids: _____ Initial Calibration ID: 991512F30.M

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.06	2.1	.06	1		U
Chlorobenzene	.014	.4	.014	1		U
Chloroethane	.07	1.	.07	1		U
Chloroform	.061	.3	.061	1		U
Chloromethane	.073	1.3	.073	1		U
cis-1,2-Dichloroethene	.145	1.2	.145	1		U
cis-1,3-Dichloropropene	.05	1.	.05	1		U
Dibromochloromethane	.049	.5	.049	1		U
Dibromomethane	.036	2.4	.036	1		U
Dichlorodifluoromethane	.06	1.	.06	1		U
Ethylbenzene	.015	.6	.015	1		U
Hexachlorobutadiene	.102	1.1	.102	1		U
Isopropylbenzene	.014	.5	.014	1		U
Methylene chloride	.06	2.	.06	1		U
n-Butylbenzene	.037	1.1	.037	1		U
n-Propylbenzene	.018	.4	.018	1		U
Naphthalene	.05	1.	.05	1		U
o-Xylene	.013	1.1	.013	1		U
p-Isopropyltoluene	.029	1.2	.029	1		U
sec-Butylbenzene	.026	1.3	.026	1		U
Styrene	.011	.5	.011	1		U
tert-Butylbenzene	.024	1.4	.024	1		U
Tetrachloroethene	.087	1.4	.087	1		U
Toluene	.017	1.1	.017	1		U
trans-1,2-Dichloroethene	.14	.6	.14	1		U
trans-1,3-Dichloropropene	.06	1.	.06	1		U
Trichloroethene	.06	1.	.06	1		U
Trichlorofluoromethane	.018	.8	.018	1		U
Vinyl chloride	.019	1.1	.019	1		U
Xylene (total)	.024	1.1	.024	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: 5030 AAB#: 121799W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: Diffusion Sample Test

Field Sample ID: QC Trip Blank Lab Sample ID: N6714 Matrix: Water

%Solids: Initial Calibration ID: SD15AF30.M

Date Received: 12/15/99 Date Prepared: 12/17/99 Date Analyzed: 12/17/99

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	94	62-139	
Bromofluorobenzene (surrogate)	86	75-125	
Dibromofluoromethane (surrogate)	93	75-125	
Toluene-d8 (surrogate)	95	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2