Public Service Company of New Mexico 2401 Aztec NE MS Z160 Albuquerque, NM 87107

August 21, 2001

<u>CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED

Mr. Robert Warder, EI New Mexico Environment Department Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505-6303





RE:

Treatment Effectiveness Report, Second Quarter 2001, Public Service Company of New Mexico Person Generating Station Groundwater Treatment System, NMT 360010342

Dear Mr. Warder:

Enclosed please find three copies of the subject report submitted pursuant to requirements contained in the Person Station Corrective Action Directive issued in September 1991.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Toni K. Ristau

Director, Environmental Services

If you have any questions, please contact me at (505) 855-6392.

Sincerely,

John Hale, P.E.

Technical Project Manager

Enclosures

Public Service Company of New Mexico Person Generating Station Groundwater Treatment System

Treatment Effectiveness Report Second Quarter 2001

August 15, 2001

Report Prepared Pursuant to Requirements Contained in:

The Person Generating Station Corrective Action Directive (NMT 360010342) and
The New Mexico Environment Department Discharge Plan, DP-1006

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Executive Summary

Contour maps of the three primary contaminants of concern, PCE, DCE, and TCA, are shown in Figures 10, 11, and 12, respectively. These contour maps indicate the areal extent of the groundwater plume and the associated contaminant concentrations within the plume. The contour maps are prepared twice per year using data from the spring and fall sampling events.

Figure 10 indicates that the low PCE concentration zone (5 ppb to 20 ppb) and the moderate PCE concentration zone (20 ppb to 100 ppb) have remained approximately the same in size since October 2000. However, the high PCE concentration zone (100 ppb to 200 ppb) that was present in the October 2000 contour map has disappeared. Figure 11 indicates that the low and moderate DCE concentration zones have changed shape slightly since last October. Figure 12 indicates the reappearance of a small, low concentration TCA plume.

During May and June 2001, construction activities were initiated for the drilling of two new extraction wells. The new extraction wells will replace extraction wells PSMW-16 and PSMW-24.

Due to the locally declining groundwater table, PSMW-16 had become hydrologically stranded and has been out of service during the past several quarters. PSMW-24 has been out of service during the past few quarters due to a damaged pump.

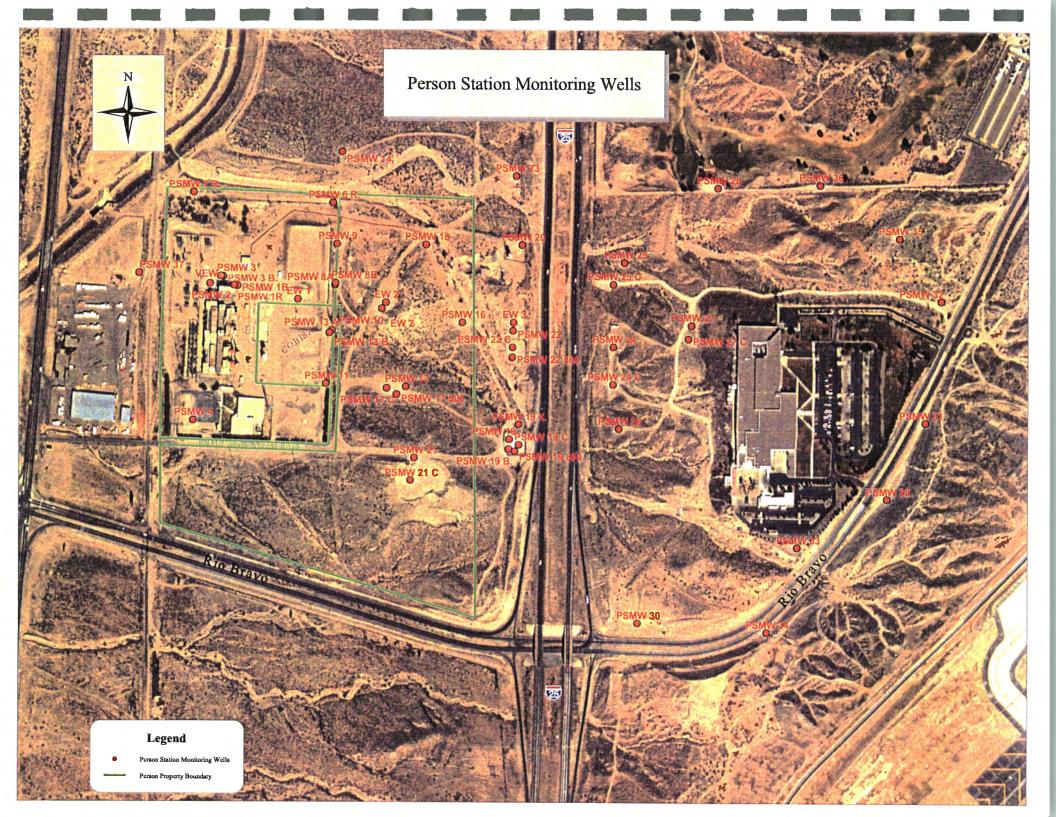
Continued operational problems with the sulfuric acid injection pump prevented operation of the east treatment train during this quarter.

I. Introduction

This report is prepared pursuant to requirements contained in the Person Generating Station Corrective Action Directive (NMT360010342) issued by the New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau, and requirements contained in Discharge Plan DP-1006 issued by the NMED Groundwater Protection and Remediation Bureau.

This report contains information on sampling results and operational activities at the Person Generating Station Groundwater Treatment System (GTS). The GTS is designed to extract volatile organic compound (VOC) contaminated groundwater, treat through an air stripper and granular activated carbon filter, and discharge the treated water to an irrigation pond at the UNM Championship Golf Course.

Figure 1 is a site map of the Person Generating Station vicinity and shows monitor well and extraction well locations.



II. Operational History

The GTS was started on Friday, January 27, 1995, with treated effluent being sent to the UNM Championship Golf Course.

During 1995, the GTS encountered periodic minor problems as well as a more serious problem with mineralization of the system components downstream from the air stripper. The GTS was kept off-line for most of the first quarter of 1996 while the mineralization problem was studied. After evaluation of various treatment methods, an acid treatment system was selected as the most feasible solution to the mineralization problem.

Installation of the acid treatment system began in early May 1996. In early April 1996, construction activities were initiated to convert monitor wells PSMW-24, PSMW-25, and PSMW-26 (PSMW-24, 25, and 26) to extraction wells. The GTS resumed regular operation in mid-June 1996.

The Person Generating Station Discharge Plan, DP-1006, was amended and approved by the Groundwater Protection and Remediation Bureau in mid-June 1997. As part of the amended plan, the existing plan requirement for the sulfuric acid treatment system was replaced. Previously, acid addition to the effluent was restricted to 35 mg/l. The new requirement specifies adjustment of the acid treatment system to maintain an effluent pH range of 6.0 to 9.0. A pH probe and chart recorder were installed on the effluent discharge tank for daily monitoring of pH. Effluent samples are collected monthly for total sulfate analysis.

In an effort to enhance the GTS effectiveness by increasing system pumping rates, two new extraction wells were completed during October 1999. The new wells are designated EW-2 and EW-3.

Due to the locally declining groundwater table, extraction well PSMW-16 has become hydrologically stranded, and has been out of service for the past several quarters. Extraction well PSMW-24 has been out of service for the past few quarters due to a damaged pump. An inspection of PSMW-24 indicated that the borehole casing had developed a hole, allowing material from the surrounding formation to move into the borehole permanently damaging the pump.

During May and June 2001, construction activities were initiated for the drilling of two new extraction wells to replace PSMW-16 and PSMW-24. The new extraction wells are designated EW-4 and EW-5. EW-4 is located approximately 25 feet northwest of PSMW-16. EW-5 is located approximately 25 feet south of PSMW-24. EW-4 and EW-5 will be brought on line next quarter.

Prior to drilling the replacement extraction wells, PSMW-16 and PSMW-24 were plugged and abandoned in accordance with the appropriate regulations.

Continued operational problems with the sulfuric acid injection pump prevented operation of the east treatment train this quarter.

III. Groundwater Treatment Effectiveness

Figures 2, 3, and 4 show graphs of concentration of total chlorinated VOCs as measured at wells PSMW-16, VEW, and EW-1 over the operational period of the GTS. Figure 5 shows a graph of concentration of total chlorinated VOCs in the combined influent from wells PSMW-24, 25, and 26 over the operational period of these wells. Figures 6 and 7 show graphs of concentration of total chlorinated VOCs over the operational period of EW-3 and EW-2. More detailed data for these wells are shown in Tables 1, 2, 3, 4, 5, and 6.

As previously noted, PSMW-16 and PSMW-24 have been out of service for the past few quarters. The two extraction wells were permanently plugged and abandoned this quarter. Two new replacement extraction wells were drilled in May and June 2001, but are not on line yet.

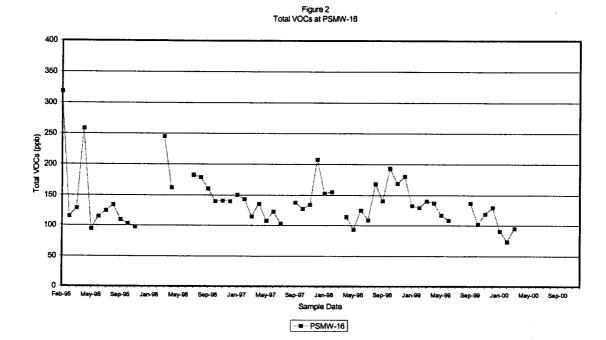
Only VEW and EW-1 were in service for the entire second quarter. The other extraction wells were operated sporadically during this quarter due to operational and maintenance problems with the GTS and the extraction wells. Consequently, monthly samples were not collected from all the extraction wells this quarter.

In the VEW, total chlorinated VOCs remained relatively constant this quarter. Total chlorinated VOCs at EW-1 increased sharply in June.

PSMW-25 and PSMW-26 were only in service during April 2001. Consequently, no samples were collected during May and June 2001.

EW-2 was in service during April and May 2001. Total chlorinated VOCs remained relatively constant during this period. EW-3 was only in service during June 2001. Total chlorinated VOCs increased significantly since the last sampling event (August 2000). The concentration increase is probably due to a rebound effect.

Laboratory reports for this quarter are contained in Appendix A.



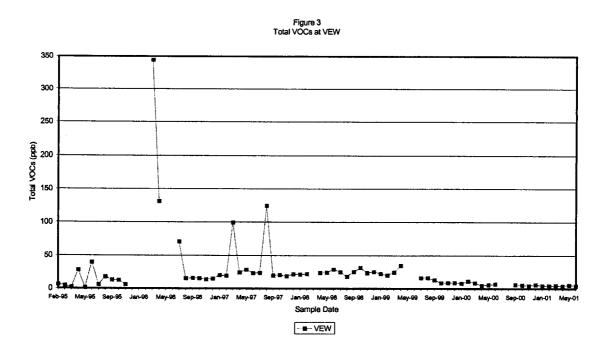


Figure 4 Total VOCs at EW-1

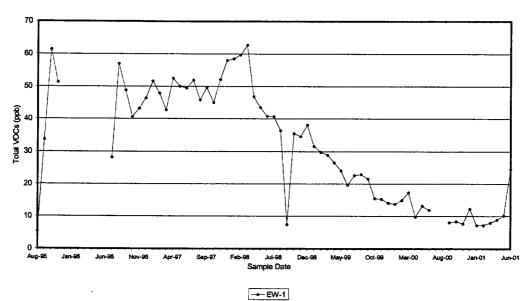


Figure 5 Total VOCs at PSMW-24,25,26

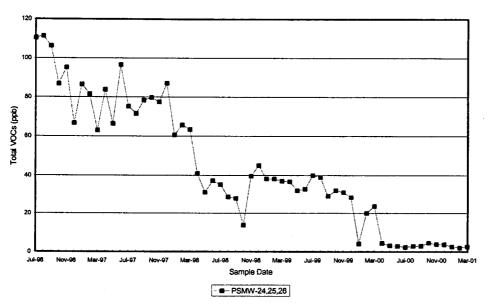


Figure 6 Total VOCs at EW-3

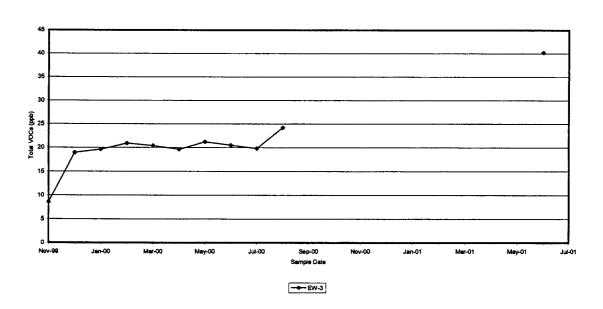


Figure 7 Total VOCs at EW-2

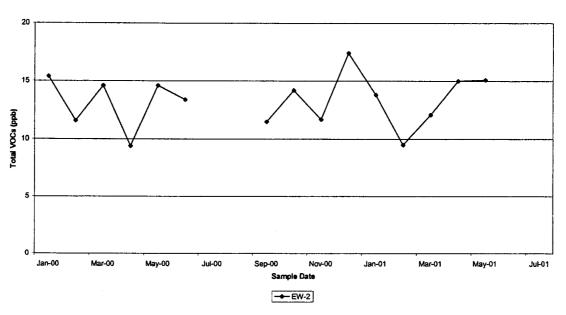


Table 1
Influent Concentrations at PSMW-16

Date	Laboratory Report No.	PCE (ppb)	DCE (ppb)	Total VOCs (ppb)
2/1/95	502304	200	110	318.4
2/15/95	502376	69	39	115.0
3/8/95	503317	78	46	128.3
4/10/95	504341	170	81	258.6
5/18/95	505371	62	30	94.6
6/21/95	506396	76	36	114.8
7/12/95	507327	75	41	124.3
8/17/95	508405	83	45	134.0
9/13/95	509339	69	35	109.2
10/11/95	510335	66	32	
11/22/95	511367			102.8
3/20/96		58	35	97.5
	603347	180	63	245.3
4/17/96	604367	110	46	162.5
7/18/96	607334	120	54	182.9
8/15/96	608331	120	51	179.1
9/18/96	609338	110	43	160.9
10/16/96	610361	97	37	140.0
11/19/96	611331	94	42	141.0
12/17/96	612331	96	39	140.0
1/16/97	701336	99	46	150.7
2/13/97	702332	100	40	143.7
3/19/97	703344	88	23	114.6
4/17/97	704355	93	38	135.8
5/15/97	705347	71	32	107.6
6/18/97	706353	83	36	122.6
7/23/97	707360	67	34	103.1
9/15/97	709332	100	34	137.9
10/15/97	710358	92	31	127.2
11/19/97	711335	95	34	134.5
12/16/97	712318	140	68	208
1/15/98	801334	110	37	153.1
2/11/98	802336	110	38	155.3
NS	502330	-	-	155.5
4/8/98	804337	78	30	114.4
5/20/98	805379	67	23	93.4
6/16/98	806353	89	30	124.6
7/1/98		 		
8/13/98	807300	76	29	108.8
	808040	120	41	168.5
9/16/98	809042	110	26	140.7
10/7/98	810021	120	68	193.4
11/17/98	811049	100	64	169
12/9/98	812045	110	66	180.7
1/7/99	901010	100	28	132.8
2/4/99	902014	100	26	129.3
3/3/99	903010	100	36	140.5
4/21/99	904091	100	32	137.0
5/14/99	905048	87	25	116.7
6/9/99	906040	79	25	108.3
NS	-	-	•	-
NS	-	-	-	-
9/2/99	909005	99	32	136.8
10/11/99	910036	75	23	102
11/10/99	911035	80	33	118.6
12/8/99	912027	87	36	129.5
1/12/00	001021	64	20	90.5
		 	· · · · · · · · · · · · · · · · · · ·	
2/10/00	002042	54	13	73.6
3/7/00	003023	62	26	95.1
NS	-	-	-	•
NS	-	1 - 1	-	-

Table 2
Influent Concentrations at VEW

Date	Laboratory Report No.	PCE (ppb)	DCE (ppb)	Total VOCs (ppb)
2/1/95	502304	5.3	0.8	6.1
2/15/95	502376	4	0.5	4.5
3/8/95	503317	1.5	0.3	1.8
4/10/95	504341	21	5.8	28.1
5/18/95	505371	1.4	<0.2	1.4
6/21/95	506396	25	9.4	39.8
7/12/95	507327	3.5	1.0	5.8
8/17/95	508405	6.4	1.1	17.7
9/13/95	509405	9.7	1.9	12.9
10/11/95	510335	9.3	1.8	12.5
11/22/95	511367	4.6	1.1	6.0
3/20/96	603347	270	72	344.3
4/17/96	604367	94	24	131.2
7/18/96 8/15/96	607334	47	14	70.6
9/18/96	608331 609338	5.0 3.1	2.1 2.1	15.2 15.8
10/16/96	610361	3.2	2.1	15.3
11/19/96	611331	0.8	1.8	13.6
12/17/96	612331	<0.5	2.0	15.0
1/16/97	701336	0.9	3.2	20.2
2/13/97	702332	1.0	2.4	19.2
3/19/97	703344	68	17	99.5
4/17/97	704355	2.8	3.4	24.4
5/15/97	705347	6.1	5.3	28.5
6/18/97	706353	3.8	4.2	23.5
7/23/97	707360	2.9	4.0	23.6
8/13/97	708339	57	50	124.8
9/15/97	709332	1.7	3.4	19.8
10/15/97	710358	3.2	3.1	20.5
11/19/97	711335	1.3	3.2	18.7
12/16/97	712318	1	4.8	21.7
1/15/98	801334	2.5	3.6	21.3
2/11/98	802336	2.9	3.7	22
NS 1/2/22		-		
4/8/98	804337	6.4	5.0	23.7
5/20/98 6/16/98	805379	8.4	5.4	24.3
7/1/98	806353 807300	7.6	6.2 4.6	29.1 25.0
8/13/98	808040	5.6	3.8	18.2
9/16/98	809042	8.9	5.6	25.3
10/7/98	810021	10	9.4	31.7
11/17/98	811049	6.9	5.2	23.7
12/9/98	812045	7.9	5.6	25.4
1/7/99	901010	7.7	4.3	22.5
2/4/99	902014	7.0	4.0	20.0
3/3/99	903010	7.9	6.2	24.7
4/21/99	904091	17.0	8.9	34.8
NS	-	-	-	_
NS	-	-	-	-
7/6/99	907015	5.5	3.0	16.3
8/5/99	908021	5.4	3.2	16.3
9/2/99	909005	2.5	2.6	13.0
10/11/99	910036	0.7	0.9	8.3
11/10/99	911035	< 0.5	1	8.7
12/8/99	912027	0.8	1.1	8.8
1/12/00	001021	0.9	1.1	7.6
2/10/00	002042	3.7	1.3	11.1
3/7/00	003023	1.1	1.3	8.3
4/12/00	004041	1.2	1.2	4.5
5/3/00	005014	< 0.5	0.9	5.6
6/8/00	006035	< 0.5	0.8	6.7
NS	<u>-</u>		•	<u>-</u>
NS				
9/19/00	009101	0.7	< 0.5	6.0
10/4/00	010016	< 0.5	1.5	5,2
11/3/00	011012	< 0.5	0.5	4.4
	012017	< 0.5	0.5	5.9
12/5/00	101052	< 0.5	0.5	4.2
1/17/01				
1/17/01 2/15/01	102052	< 0.5	0.6	4.2
1/17/01 2/15/01 3/1/01	102052 103007	< 0.5	0.4	4.5
1/17/01 2/15/01	102052			

Table 3
Influent Concentrations at EW-1

Date	Laboratory Report No.	PCE (ppb)	DCE(ppb)	Total VOCs (ppb)
8/17/95	508405	3.5	0.9	5.4
9/13/95	509339	25	6.1	33.6
10/11/95	510335	49	8.8	61.4
11/22/95	511367	38	9.5	51.3
7/18/96	607334	20	5.7	28.2
8/15/96	608331	45	8.4	57.0
9/18/96	609338	37	7.8	48.8
10/16/96	610361	29	7.3	40.6
11/19/96	611331	32	7.0	43.2
12/17/96	612331	33	7.7	46.4
1/16/97	701336	36	9.2	51.6
2/13/97	702332	32	7.7	47.9
3/19/97	703344	29	5.7	42.7
4/17/97	704355	31	8.4	52.5
5/15/97	705347	27	9.7	50
6/18/97	706353	23	8.6	49.4
7/23/97	707360	25	9.5	51.9
8/13/97	708339	20	6.8	45.8
9/15/97	709332	21	8.5	49.7
10/15/97	710358	18	6.5	45
11/19/97	711335	20	9.7	52.1
12/16/97	712318	21	12	58
1/15/98	801334	20	11	58.5
2/11/98	802336	21	11	59.7
3/11/98	803324	20	16	62.7
4/8/98	804337	16	9.7	46.8
5/20/98	805379	16	9	43.5
6/16/98	806353	13	7.9	40.8
7/1/98	807300	12	7.7	40.7
8/13/98	808040	8.5	7	36.4
9/16/98	809042	3.2	2.7	7.4
10/7/98	810021	9.5	7.7	35.5
11/17/98	811049	10	7.5	34.6
12/9/98	812045	12	8.4	38.1
1/7/99	901010	10	5.8	31.6
2/4/99	902014	10	5.7	29.8
3/3/99	903010	8.2	6.9	28.9
4/21/99	904091	8.3	5.5	26.6
5/14/99	905048	7.1	4.6	24.1
6/9/99	906040	5.5		
7/6/99			3.5	19.7
8/5/99	907015	6.1	4.1	22.7
	908021	6.2	4.3	23.0
9/2/99	909005	5.5	4.6	21.6
10/11/99	910036	5	2.3	15.5
11/10/99	911035	4	2.4	15.3
12/8/99	912027	3.7	2.5	14.1
1/12/00	001021	4.7	2.5	13.8
2/10/00	002042	4.3	3.2	14.9
3/7/00	003023	5.2	3.2	17.3
4/12/00	004041	3.7	2.6	9.8
5/3/00	005014	4	2.6	13.2
6/8/00	006035	3.3	2.3	11.9
NS	<u> </u>	•		-
NS	•	•	•	•
9/19/00	009101	1.7	0.6	8.1
10/4/00	010016	1.1	1.5	8.4
11/3/00	011012	0.9	0.9	7.7
12/5/00	012017	2.6	1.6	12.3
1/17/01	101052	2.7	1.3	7.2
2/15/01	102052	2.4	1.3	7.2
3/1/01	103007	2.8	1.4	8.0
4/5/01	104018	3.3	1.6	8.9
5/1/01	105004	3.5	1.6	10.2
6/1/01	106007	17	3.7	24.6

Table 4
Combined Influent Concentrations at PSMW-24, 25, and 26

Date	Laboratory Report No.	PCE (ppb)	DCE (ppb)	Total VOCs (ppb)
7/18/96	607334	49	55	110.6
8/15/96	608331	47	50	111.3
9/18/96	609338	_ 58	44	106.3
10/16/96	610361	41	40	86.8
11/19/96	611331	46	44	95.2
12/17/96	612331	33	30	66.7
1/16/97	701336	41	41	86.5
2/13/97	702332	41	37	81.5
3/19/97	703344	37	23	63.0
4/17/97	704355	42	37	83.8
5/15/97	705347	33	30	66.4
6/18/97	706353	39	55	96.6
7/23/97	707360	37	36	75.2
8/13/97	708339	39	30	71.5
9/15/97	709332	42	34	78.4
10/15/97	710358	48	29	79.8
11/19/97	711335	41	34	77.5
12/16/97	712318	40	47	87
1/15/98	801334	33	25	60.6
2/11/98	802336	36	27	65.7
3/11/98	803324	30	31	63.4
4/8/98	804337	21	18	41
5/20/98	805379	18	12	31.1
6/16/98				
7/1/98	806353 807300	21	15	37.3
8/13/98		18	16	35.2
	808040		13	28.6
9/16/98	809042	6.5	4.4	27.9
10/7/98	810021	5	7.3	13.9
11/17/98	811049	22	17	39.7
12/9/98	812045	25	19	45
1/7/99	901010	22	15	38.2
2/4/99	902014	23	14	38.2
3/3/99	903010	20	16	37.1
4/21/99	904091	20	15	36.8
5/14/99	905048	18	14	32
6/9/99	906040	18	14	32.8
7/6/99	907015	22	18	40
8/5/99	908021	22	17	39
9/2/99	909005	17	12	29
10/11/99	910036	19	13	32
11/10/99	911035	18	13	31
12/8/99	912027	16	12	28.3
1/12/00	001021	2.7	1.5	4.2
2/10/00	002042	10	0.2	20
3/7/00	003023	13	10	23.7
4/12/00	004041	2.5	2	4.5
5/3/00	005014	1.9	1.3	3.2
6/8/00	006035	1.8	1.2	3
7/24/00	007056	1.6	0.8	2.4
8/16/00	008062	2.1	0.9	3
9/19/00	009101	2.4	0.7	3.1
10/4/00	010016	2.5	2.1	4.6
11/3/00	011012	1.7	1.3	3.9
12/5/00	012017	1.3	1.0	3.9
1/17/01				
	101052	1.2	1.0	2.7
2/15/01 3/1/01	102052	1.1	1.0	2.1
5/1/01	103007	1.2	1.0	2.7
	10.000			
4/5/01 NS	104018	1.3	0.9	2.2

Table 5
Influent Concentrations at EW-2

Date	Laboratory Report No.	PCE (ppb)	DCE (ppb)	Total VOCs (ppb)
1/12/00	001021	2.7	4.3	15.4
2/10/00	002042	1.5	2.7	11.6
3/7/00	003023	2.7	4.3	14.6
4/12/00	004041	0.9	4.2	9.4
5/3/00	005014	1.9	4.4	14.6
6/8/00	006035	1	3.9	13.4
NS	-	-	-	-
NS	-	-	-	-
9/19/00	009101	0.9	2.2	11.5
10/4/00	010016	1.9	4.1	14.2
11/3/00	011012	1.1	3	11.7
12/5/00	012017	3.5	2.9	17.4
1/17/01	101052	3.5	3.4	13.8
2/15/01	102052	0.9	2.2	9.5
3/1/01	103007	2.1	2.9	12.1
4/5/01	104018	4.5	3.6	15
5/1/01	105004	4.4	3.3	15.1
NS	-	•		-

Table 6
Influent Concentrations at EW-3

Date	Laboratory Report No.	PCE (ppb)	DCE (ppb)	Total VOCs (ppb)
11/10/99	911035	5.1	2.9	8.6
12/8/99	912027	12	6.3	18.9
1/12/00	001021	13	5.7	19.6
2/10/00	002042	12	7.7	20.9
3/7/00	003023	12	7.3	20.4
4/12/00	004041	11	8	19.6
5/3/00	005014	12	8	21.2
6/8/00	006035	11	7.9	20.5
7/24/00	007056	12	6.3	19.8
8/16/00	008062	13	9.1	24.2
NS	-	-	-	-
NS	-	-	-	-
NS	-	-	-	-
NS	-	-	-	-
NS	-	-	-	•
NS	-	-	-	-
NS	-	-	-	-
NS	-	-	-	-
NS	-	-	-	-
6/1/01	106007	25	11	40.7

IV. Operational Activities

Operational activities during the second quarter included the drilling of two new extraction wells to replace PSMW-16 and PSMW-24. The new extraction wells are designated EW-4 and EW-5.

Work continued on the pH probes and the east treatment train sulfuric acid injection pump. Operational problems with the acid injection pump include a malfunctioning electronic controller and leaking seals.

V. Influent and Effluent Flow Volumes

Flow totalizing meters are present on each influent well line and on the effluent flow line. Table 7 below details flow volumes from each influent well and the effluent line. Differences between total influent and total effluent volumes may be attributed to water loss (evaporation) out the stack in the air stripper system and to differences, inaccuracies, and operational problems with the flow meters.

Table 7
Influent and Effluent Flow Volumes

Source	Meter Number	Start Reading	End Reading	Volume (Gallons)
Flow Volumes for April 200	1:			
Influent (VEW)	Badger Meter No. 94976130	6,313,172	6,522,393	209,221
Influent (PSMW-16)	Hayes Meter No. 29408700	7,143,037	7,143,037	0
Influent (EW-1)	Haves Meter No. 29408732	7,918,233	8,065,976	147,743
Influent (EW-2)	Badger Meter No. 15796506	2,912,959	3,180,285	267,326
Influent (EW-3)	7		1,764,259	0
Influent (PSMW-24)	Fisher Porter Meter	6,740,970	6,740,970	0
` '	No. 960307112		0,1.0,570	J
Influent (PSMW-25)			2,706,080	51,060
Influent (PSMW-26)	Fisher Porter Meter No. 960307112	3,027,980	3,085,800	57,820
Monitor Well Sample Purge				821
Effluent (to Golf Course)	Fisher Porter Meter No. 960307112	4,649,684	5,342,812	693,128
Flow Volumes May 2001:				
Influent (VEW)	Badger Meter No. 94976130	6,522,393	6,692,881	170,488
Influent (PSMW-16)	Hayes Meter No. 29408700	7,143,078	7,143,078	0
Influent (EW-1)	Hayes Meter No. 29408732	8,065,976	8,106,572	40,596
Influent (EW-2)	Badger Meter No. 15796506	3,180,285	3,254,208	73,923
Influent (EW-3)	Badger Meter No. 15796517	1,764,259	2,879,901	1,115,642
Influent (PSMW-24)	Fisher Porter Meter No. 960307112	6,740,970	6,740,970	0
Influent (PSMW-25)	Fisher Porter Meter No. 960307112	2,706,080	2,706,080	0
Influent (PSMW-26)			3,085,800	0
Monitor Well Sample Purge				0
Effluent (to Golf Course)	Fisher Porter Meter No. 960307112	5,342,812	6,763,446	1,420,634
Flow Volumes for June 2001	:			
Influent (VEW)	Badger Meter No. 94976130	6,692,881	6,797,415	104,534
Influent (PSMW-16)	Hayes Meter No. 29408700	7,143,037	7,143,037	0
Influent (EW-1)	Hayes Meter No. 29408732	8,106,572	8,179,131	72,559
Influent (EW-2)	Badger Meter No. 15796506	3,254,208	3,254,208	0
Influent (EW-3)	Badger Meter No. 15796517	2,879,901	3,667,477	787,576
Influent (PSMW-24)	Fisher Porter Meter No. 960307112	6,740,970	6,740,970	0
Influent (PSMW-25)	Fisher Porter Meter No. 960307112	2,706,080	2,706,080	0
Influent (PSMW-26)	Fisher Porter Meter No. 960307112	3,085,800	3,085,800	0
Monitor Well Sample Purge				
Effluent (to Golf Course)	977,874			
Quarterly Total for Influent (' Well Sample Purge)	VEW+PSMW-16+EW-1+EW-2+EW-3+	-PSMW-24+PSMW-25+PS	MW-26+Monitor	3,099,309
Quarterly Total for Effluent:				3,091,636
Annual Totals				
Annual Cumulative Influent				4,959,907
Annual Cumulative Effluent	Total for 2001:			4,895,763

VI. Laboratory Analysis

A. Influent and Effluent Sampling for Chlorinated VOCs (8021 Analysis)

During the second quarter, influent and effluent sampling was conducted pursuant to the routine schedule outlined in DP-1006, i.e., once each month. Chlorinated VOC analysis of GTS influent and effluent (after GAC units) is shown graphically in Figures 8 and 9. More detailed data are shown in Table 8 below.

As noted in previous treatment effectiveness reports, the addition of EW-2 and EW-3 required the operation of both treatment trains (east and west) to handle the increased influent flow rate. However, due to operational difficulties with the sulfuric acid injection pump, the east treatment train has remained out of service this quarter.

As Figure 9 indicates, total chlorinated VOCs in the GTS west treatment train influent increased sharply in June 2001. This increase is a result of bringing EW-3 back on line in June.

Laboratory analytical data reports are contained in Appendix A. Influent and effluent sampling results indicate that the GTS has consistently removed chlorinated VOC contaminants in the 20 to 200 ppb range to levels below laboratory detection limits in the effluent sent to the golf course. Laboratory analysis of the water at a point after the air stripper and before the granular activated carbon treatment also show that at these influent concentrations and a flow rate of approximately 50 gpm, the air stripper alone is capable of treating the groundwater to concentrations consistently below or near laboratory detection limits for chlorinated VOCs.

Figure 8
Total VOCs GTS Influent vs. Effluent - East

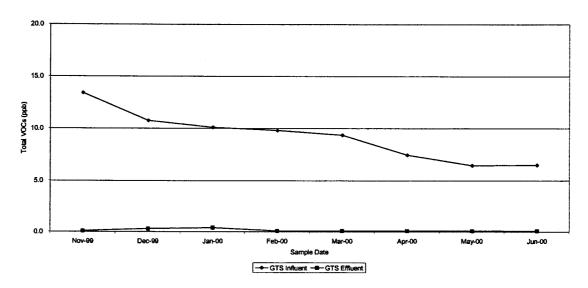


Figure 9
Total VOCs GTS Influent vs. Effluent - West

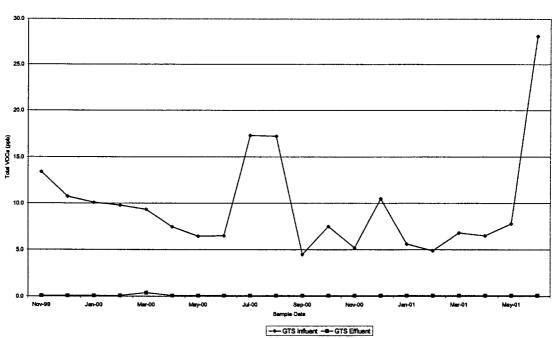


Table 8
Influent and Effluent VOC Concentrations

Sampling Date: 4/5/01	Lab Repo	rt Number: 104018			
VOC Compound	Influent (ppb)	Effluent After East Air Stripper (ppb)	Effluent After West Air Stripper (ppb)	Effluent After East GAC Unit (ppb)	Effluent After West GAC Unit (ppb)
1,1-Dichloroethane	3.2	NA	< 0.3	NA	< 0.3
1,1-Dichloroethene	1.2	NA	< 0.2	NA	< 0.2
Tetrachloroethene	2.1	NA	< 0.5	NA	< 0.5
TOTAL VOC'S	6.5	NA	BDL	NA	BDL

Sampling Date: 5/1/01	Lab Repo	rt Number: 105004			
VOC Compound	Influent (ppb)	Effluent After East Air Stripper (ppb)	Effluent After West Air Stripper (ppb)	Effluent After East GAC Unit (ppb)	Effluent After West GAC Unit (ppb)
1,1-Dichloroethane	4.3	NA	< 0.3	NA	< 0.3
1,1-Dichloroethene	1.3	NA	< 0.2	NA	< 0.2
Tetrachloroethene	2.2	NA	< 0.5	NA	< 0.5
TOTAL VOC'S	7.8	NA	BDL	NA	BDL

Sampling Date: 6/1/00	Lab Repo	Lab Report Number: 106007			
VOC Compound	Influent (ppb)	Effluent After East Air Stripper (ppb)	Effluent After West Air Stripper (ppb)	Effluent After East GAC Unit (ppb)	Effluent After West GAC Unit (ppb)
Chloroform	0.8	NA	< 0.3	NA	< 0.3
1,1-Dichloroethane	3	NA	< 0.3	NA	< 0.3
1,1-Dichloroethene	1.3	NA	< 0.2	NA	< 0.2
Tetrachloroethene	1.5	NA	< 0.5	NA	< 0.5
TOTAL VOC'S	6.6	NA	BDL	NA	BDL

B. Effluent Sulfate Analysis and pH Monitoring

The June 1997 amendment to DP-1006 requires monthly sulfate analysis and daily pH monitoring of the GTS effluent. Table 9 presents the results of the second quarter sulfate analysis using EPA Method 375.4. The elevated sulfate concentrations in the samples collected this quarter are due to operational difficulties with the system pH probes and electronic controllers. Maintenance personnel have been working to correct the problem.

The monthly minimum, maximum, and average pH readings for this quarter are shown in Table 10.

Table 9
GTS Effluent Sulfate Concentrations

Date	Lab Report Number	Sulfate (mg/l)
4/5/01	104018	510
5/1/01	105004	790
6/1/01	106007	640

Table 10 Monthly pH Readings

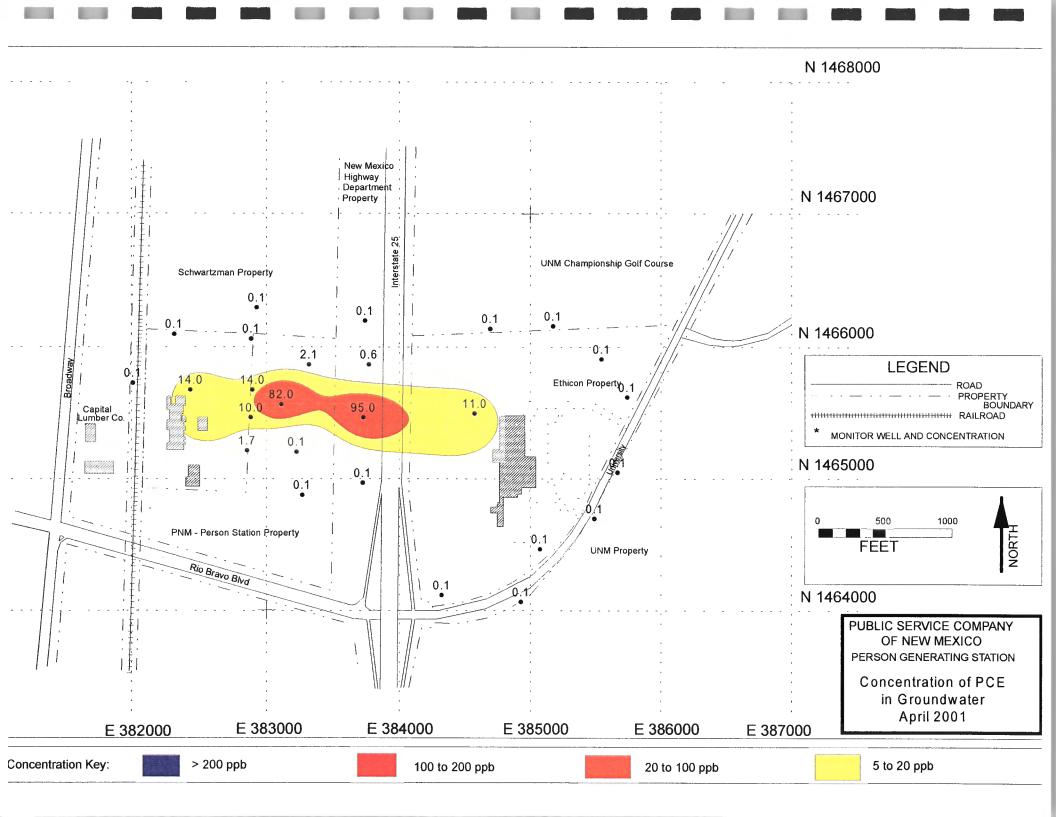
Date	Minimum pH	Maximum pH	Average pH
4/01	7.1	7.2	7.1
5/01	7.1	7.6	7.4
6/01	7.2	7.8	7.4

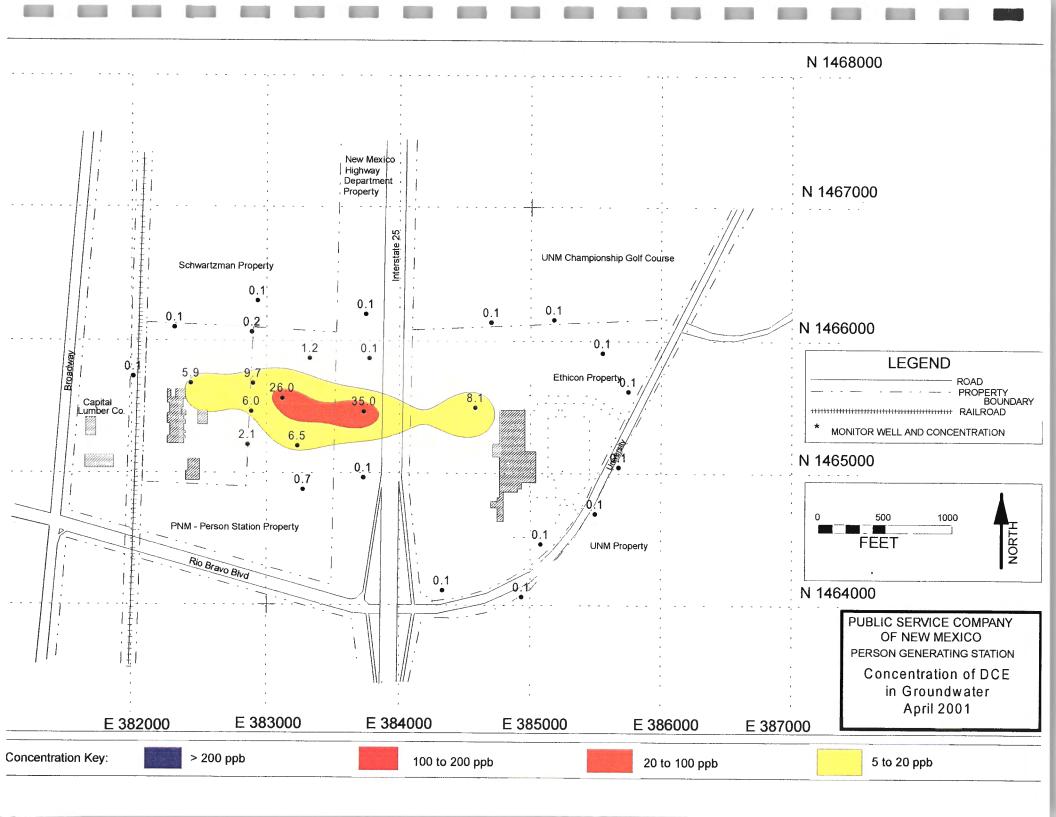
C. Golf Course Pond Sampling

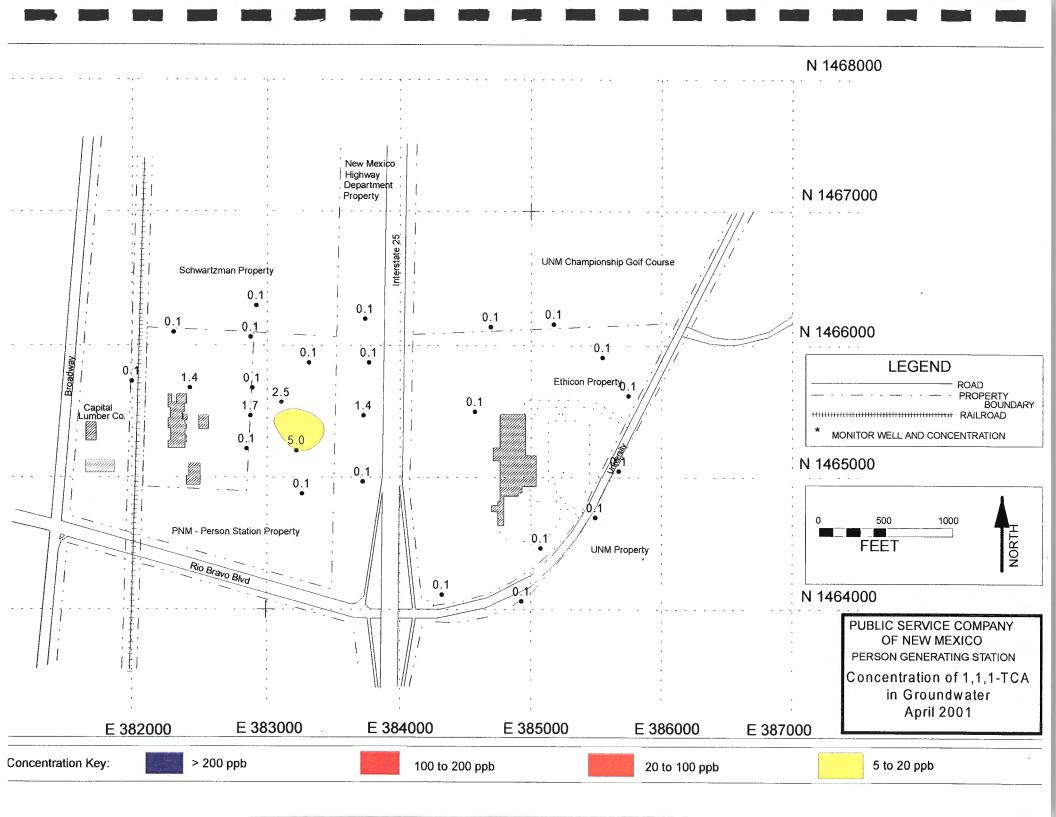
DP-1006 requires monthly sampling of the east and west ponds for 8021 (Halo) analysis during each month of operation. During the second quarter, the ponds were sampled three times pursuant to this requirement. No EPA Method 8021 (Halo) parameters were detected in the samples. Copies of the laboratory reports are contained in Appendix A.

VII. Groundwater Sampling

Under the RCRA permit, a network of groundwater monitoring wells are sampled on a twice per year schedule (normally in the spring and fall). Once sampling is complete and analytical results have been analyzed, contour maps showing the areal extent and concentration of the contaminants in the groundwater are prepared. Contour maps for PCE, DCE, and TCA for the 2001 spring sampling event are shown in Figures 10, 11, and 12, respectively.







Appendix A. Laboratory Reports



Pinnacle Lab ID number April 23, 2001

104018

PUBLIC SERVICE COMPANY **ALVARADO SQUARE-ER16** ALBUQUERQUE, NM

87158

Project Name

PERSON STATION

Project Number

REMEDIATION

Attention:

CHUAK ARATER

04/05/01 On Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Method 8021 Halo was performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

All other analyses were performed by Severn Trent Services, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.

General Manager

MR: ft

Enclosure



CLIENT	: PUBLIC SERVICE COMPANY	PINNACLE ID	: 104018
(*************************************	: REMEDIATION	DATE RECEIVED	: 04/05/01
OJECT NAME	: PERSON STATION	REPORT DATE	: 04/23/01
PINNACLE			DATE
**_ ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
4018 - 01	GTS-INFLUENT	AQUEOUS	04/05/01
104018 - 02	GTS-AIR STRIPPER EFFLUENT WEST	AQUEOUS	04/05/01
104018 - 03	GTS-GAC EFFLUENT WEST	AQUEOUS	04/05/01
4018 - 04	UNM EAST RESERVOIR	AQUEOUS	04/05/01
164018 - 05	UNM WEST RESERVOIR	AQUEOUS	04/05/01
104018 - 06	TRIP BLANK	AQUEOUS	04/05/01
^{. ~} 4018 - 07	VEW INFLUENT	AQUEOUS	04/05/01
4018 - 08	EW-1 INFLUENT	AQUEOUS	04/05/01
104018 - 09	PSMW 24,25,26 INFLUENT	AQUEOUS	04/05/01
4018 - 10	EW-2	AQUEOUS	04/05/01
4018 - 11	SURGE TANK DISCHARGE	AQUEOUS	04/05/01



2709-D Pan American Freeway NE Albuquerque, New Mexico 87107 Phone (505) 344-3777 Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

DATE

DATE

EST

: 8021 HALO

SAMPLE

: PUBLIC SERVICE COMPANY

EROJECT#

: REMEDIATION

ROJECT NAME

: PERSON STATION

PINNACLE I.D.: 104018

DIL.

DATE

ID. #	CLIENT I.D.		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
- (200m)	GTS-INFLUENT		AQUEOUS	04/05/01	NA NA	04/06/01	1
· 🚙	GTS-AIR STRIPPER EFFLUEN	NT WEST	AQUEOUS	04/05/01	NA	04/06/01	1
03	GTS-GAC EFFLUENT WEST		AQUEOUS	04/05/01	NA NA	04/06/01	1
·						GTS-AIR	•
ward.						STRIPPER	GTS-GAC
PARAMETER		DET LUUT				EFFLUENT	EFFLUENT
	LOROMETHANE	DET. LIMIT	UNI		GTS-INFLUENT	WEST	WEST
OMOFORN		0.2 0.5	UG		< 0.2	< 0.2	< 0.2
BROMOMETH		1.0	UG UG		< 0.5	< 0.5	< 0.5
	RACHLORIDE	0.2	UG		< 1.0	< 1.0	< 1.0
ILOROBEN		0.5	UG		< 0.2	< 0.2	< 0.2
LOROETH		0.5	UG		< 0.5	< 0.5	< 0.5
CHLOROFOR		0.5	UG		< 0.5	< 0.5	< 0.5
MLOROMET		1.0	UG		< 0.5	< 0.5	< 0.5
	LOROMETHANE	0.2	UG		< 1.0	< 1.0	< 1.0
	ETHANE (EDB)	0.2	UG		< 0.2 < 0.2	< 0.2	< 0.2
	OBENZENE	0.5	UG		< 0.2 < 0.5	< 0.2	< 0.2
- J-DICHLOR		0.5	UG		< 0.5 < 0.5	< 0.5	< 0.5
-DICHLOR		0.5	UG		< 0.5	< 0.5 < 0.5	< 0.5
1,1-DICHLOR		0.3	UG		3.2	< 0.3	< 0.5
	OETHANE (EDC)	0.5	UG		< 0.5	< 0.5	< 0.3
-DICHLOR	OETHENE	0.2	UG		1.2	< 0.2	< 0.5 < 0.2
cis-1,2-DICHL		0.2	UG		< 0.2	< 0.2	< 0.2
	LOROETHENE	1.0	UG		< 1.0	< 1.0	< 1.0
	OPROPANE	0.2	UG		< 0.2	< 0.2	< 0.2
	OROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
	LOROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
THYLENE		2.0	UG		< 2.0	< 2.0	
	ACHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 2.0 < 0.5
TETRACHLOR		0.5	UG		2.1	< 0.5	< 0.5 < 0.5
1,1,1-TRICHLO		1.0	UG		< 1.0	< 1.0	< 1.0
	OROETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
CHLOROE		0.3	UG		< 0.3	< 0.3	< 0.2
	LUOROMETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
YNYL CHLOR		0.5	UG		< 0.5	< 0.5	< 0.5
		0.0	00,	_	~ 0.0	7 0.0	~ U.S
SÜRROGATE:	:						
	ROMETHANE (%)				115	122	113
RROGATE		(71 - 126)			110	144	110
	-	(11 120)					

IST NOTES:



GAS CHROMATOGRAPHY RESULTS

DATE

DATE

EST

: 8021 HALO

CLIENT

MAMPLE

: PUBLIC SERVICE COMPANY

PROJECT#

: REMEDIATION

ROJECT NAME

: PERSON STATION

PINNACLE I.D.: 104018

DIL.

DATE

SPECIVIE LL	ALIENIE I -			DATE	DATE	DATE	DIL.
ID.#	CLIENT I.D.		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
'	UNM EAST RESERVOIR		AQUEOUS	04/05/01	NA	04/06/01	1
06	UNM WEST RESERVOIR		AQUEOUS	04/05/01	NA	04/06/01	1
06	TRIP BLANK		AQUEOUS	04/05/01	NA NA	04/06/01	1
RAMETE	R	DET. LIMIT	LINI	ITS	UNM EAST RESERVOIR	UNM WEST	TD:0 01 4444
	HLOROMETHANE	0.2		3/L	< 0.2	RESERVOIR	TRIP BLANK
BROMOFOR		0.5		5/L	< 0.5	< 0.2	< 0.2
FROMOMET		1.0		3/L	< 1.0	< 0.5 < 1.0	< 0.5
	TRACHLORIDE	0.2	UG		< 0.2	< 0.2	< 1.0
#LOROBE		0.5	UG		< 0.5	< 0.5	< 0.2
CHLOROET	HANE	0.5	UG		< 0.5	< 0.5	< 0.5 < 0.5
(""ILOROFO	RM	0.5	UG		< 0.5	< 0.5	< 0.5 < 0.5
LOROME		1.0	UG		< 1.0	< 1.0	< 1.0
DIBROMOC	HLOROMETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
1₀2-DIBROM	OETHANE (EDB)	0.2	UG		< 0.2	< 0.2	< 0.2
	ROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
TICHLO	ROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
1, CHLO	ROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
· "-DICHLO	ROETHANE	0.3	ÜĠ		< 0.3	< 0.3	< 0.3
∵J-DICHLOI	ROETHANE (EDC)	0.5	UG		< 0.5	< 0.5	< 0.5
1,1-DICHLO	ROETHENE	0.2	UG		< 0.2	< 0.2	< 0.2
	LOROETHENE	0.2	ŪĠ		< 0.2	< 0.2	< 0.2
t ns-1,2-DIC	CHLOROETHENE	1.0	UG		< 1.0	< 1.0	< 1.0
172-DICHLO	ROPROPANE	0.2	UG		< 0.2	< 0.2	< 0.2
cis-1,3-DICH	LOROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
t [™] ns-1,3-DiC	CHLOROPROPENE	0.2	UG	i/L	< 0.2	< 0.2	< 0.2
l:THYLENE	E CHLORIDE	2.0	UG		< 2.0	< 2.0	< 2.0
1,1,2,2-TETF	RACHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5
TRACHLO	PROETHENE	0.5	UG		< 0.5	< 0.5	< 0.5
	LOROETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
1,7,2-TRICH	LOROETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
TRICHLORO	ETHENE	0.3	UG		< 0.3	< 0.3	< 0.3
1 CHLORO	FLUOROMETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
/ MYL CHLC	PRIDE	0.5	UG		< 0.5	< 0.5	< 0.5
S₩RROGATI	· =•						
	E: OROMETHANE (%)				4.40		
SURROGATI	CROWE I HANE (%)	/74 400 \			113	119	101
CONNOGATI	L LIMITO	(71 - 126)					

CHEMIST NOTES:



CLIENT I.D.

2709-D Pan American Freeway NE Albuquerque, New Mexico 87107 Phone (505) 344-3777 Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

MATRIX

DATE

SAMPLED

DATE

EXTRACTED

EST CLIENT

: 8021 HALO

ID. #

: PUBLIC SERVICE COMPANY

F-ROJECT#

: REMEDIATION

ROJECT NAME MPLE

: PERSON STATION

(71 - 126)

PINNACLE I.D.: 104018

DIL.

FACTOR

DATE

ANALYZED

VEW INFLUENT		AOUEOUO	04/05/61	EXTITATION	734771212	TACTOR
A PAA MAI POPIA!		AQUEOUS	04/05/01	NA	04/06/01	1
EW-1 INFLUENT PSMW 24,25,26 INFLUENT		AQUEOUS	04/05/01	NA	04/06/01	1
TOMITY 24,20,20 INFLUENT		AQUEOUS	04/05/01	NA NA	04/06/01	1
**************************************					E14/ 4	D01/11/04 07 77
RAMETER	DET. LIMIT	UNI	ITS	VEW INFLUENT	EW-1 INFLUENT	PSMW 24,25,26 INFLUENT
BROMODICHLOROMETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
RIPOMOFORM	0.5	UG		< 0.5	< 0.5	< 0.5
OMOMETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
RBON TETRACHLORIDE	0.2	UG		< 0.2	< 0.2	< 0.2
CHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
CILOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5
LOROFORM	0.5	UG		< 0.5	< 0.5	< 0.5
CHLOROMETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
NBROMOCHLOROMETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
-DIBROMOETHANE (EDB)	0.2	UG		< 0.2	< 0.2	< 0.2
100 CHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
1, .CHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
1, DICHLOROETHANE	0.3	UG		3.8	4.0	< 0.3
1,2-DICHLOROETHANE (EDC)	0.5	UG	/L	< 0.5	< 0.5	< 0.5
1.4-DICHLOROETHENE	0.2	UG.		0.3	1.6	0.9
्र-1,2-DICHLOROETHENE	0.2	UG		< 0.2	< 0.2	< 0.2
trans-1,2-DICHLOROETHENE	1.0	UG		< 1.0	< 1.0	< 1.0
1,2-DICHLOROPROPANE	0.2	UG		< 0.2	< 0.2	< 0.2
c [™] -1,3-DICHLOROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
tians-1,3-DICHLOROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
METHYLENE CHLORIDE	2.0	UG		< 2.0	< 2.0	< 2.0
1.4,2,2-TETRACHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5
TRACHLOROETHENE	0.5	UG		< 0.5	3.3	1.3
1,7,1-TRICHLOROETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
1,1,2-TRICHLOROETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
1 ICHLOROETHENE	0.3	UG.		< 0.3	< 0.3	< 0.3
Tale CHLOROFLUOROMETHANE	0.2	UG/		< 0.2	< 0.2	< 0.2
VINYL CHLORIDE	0.5	UG/		< 0.5	< 0.5	< 0.5
13/944		00,	-	- 0.0	7 0.0	~ U.S
F RROGATE:						
BROMOCHLOROMETHANE (%)				110	115	116
SURROGATE LIMITS	/71 126)			110	113	110

CMFMIST NOTES:

SURROGATE LIMITS



GAS CHROMATOGRAPHY RESULTS

ST

: 8021 HALO

PROJECT #

: PUBLIC SERVICE COMPANY

ROJECT NAME

: REMEDIATION : PERSON STATION

PINNACLE I.D.: 104018

SAMPLE			DATE	DATE	DATE	DIL.
ID. # CLIENT I.D.		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
EW-2		AQUEOUS	04/05/01	NA	04/06/01	1
RAMETER	DET. LIMIT	UNI	TS	EW-2		
BROMODICHLOROMETHANE	0.2	UG	i/L	< 0.2		
BROMOFORM	0.5	UG	6/L	< 0.5		
ROMOMETHANE	1.0	UG	i/L	< 1.0		
**RBON TETRACHLORIDE	0.2	UG	i/L	< 0.2		
CHLOROBENZENE	0.5	UG	i/L	< 0.5		
ILOROETHANE	0.5	UG	i/L	< 0.5		
ILOROFORM	0.5	UG		< 0.5		
CHLOROMETHANE	1.0	UG		< 1.0		
DIBROMOCHLOROMETHANE	0.2	UG		< 0.2		
2-DIBROMOETHANE (EDB)	0.2	UG	/L	< 0.2		
- DICHLOROBENZENE	0.5	UG	/L	< 0.5		
1,3-DICHLOROBENZENE	0.5	UG	/L	< 0.5		
-DICHLOROBENZENE	0.5	UG	/L	< 0.5		
-DICHLOROETHANE	0.3	UG	/L	5.4		
1 (CHLOROETHANE (EDC)	0.5	UG	/L	< 0.5		
1. ICHLOROETHENE	0.2	UG	/L	3.6		
(-1,2-DICHLOROETHENE	0.2	UG	/L	< 0.2		
trans-1,2-DICHLOROETHENE	1.0	UG	/L	< 1.0		
1,2-DICHLOROPROPANE	0.2	UG	/L	< 0.2		
· -1,3-DICHLOROPROPENE	0.2	UG	/L	< 0.2		
t_ns-1,3-DICHLOROPROPENE	0.2	UG		< 0.2		
METHYLENE CHLORIDE	2.0	UG		< 2.0		
1_1,2,2-TETRACHLOROETHANE	0.5	UG		< 0.5		
TRACHLOROETHENE	0.5	UG		4.5		
177,1-TRICHLOROETHANE	1.0	UG		1.5		
1,1,2-TRICHLOROETHANE	0.2	UG/		< 0.2		
CHLOROETHENE	0.3	UG/		< 0.3		
CHLOROFLUOROMETHANE	0.2	UG/		< 0.2		
VINYL CHLORIDE	0.5	UG/		< 0.5		
17 晚				•		
RROGATE:						
BROMOCHLOROMETHANE (%)				112		
SURROGATE LIMITS	(71 - 126)					
THE STATE OF THE S	• ,					

CHEMIST NOTES:



GAS CHROMATOGRAPHY RESULTS REAGENT BLANK

":ST BLANK I.D.

: EPA 8021

○*.IENT

: 040601

∛OJECT# PROJECT NAME : PUBLIC SERVICE COMPANY

: REMEDIATION

: PERSON STATION

PINNACLE I.D.

: 104018

DATE EXTRACTED DATE ANALYZED

: NA

SAMPLE MATRIX

: 04/06/01 : AQUEOUS

I RAMETER		UNITS		
MOMODICHLOROMETHANE		UG/L	<0.2	
BROMOFORM		UG/L	<0.5	
I ROMOMETHANE		UG/L	<1.0	
CARBON TETRACHLORIDE		UG/L	<0.2	
CHLOROBENZENE		UG/L	<0.5	
(ILOROETHANE		UG/L	<0.5	
GMLOROFORM		UG/L	<0.5	
CHLOROMETHANE		UG/L	<1.0	
[3ROMOCHLOROMETHANE		UG/L	<0.2	
12-DIBROMOETHANE (EDB)		UG/L	<0.2	
1,2-DICHLOROBENZENE		UG/L	<0.5	
1 -DICHLOROBENZENE		UG/L	<0.5	
1, PICHLOROBENZENE		UG/L	<0.5	
1, CHLOROETHANE		UG/L	<0.3	
1 -DICHLOROETHANE (EDC)		UG/L	<0.5	
1#-DICHLOROETHENE		UG/L	<0.2	
cis-1,2-DICHLOROETHENE		UG/L	<0.2	
t: 1s-1,2-DICHLOROETHENE		UG/L	<1.0	
1,z-DICHLOROPROPANE		UG/L	<0.2	
cis-1,3-DICHLOROPROPENE		UG/L	<0.2	
tr ns-1,3-DICHLOROPROPENE		UG/L	<0.2	
METHYLENE CHLORIDE		UG/L	<2.0	
1,1,2,2-TETRACHLOROETHANE		UG/L	<0.5	
1 TRACHLOROETHENE		UG/L	<0.5	
1,7,1-TRICHLOROETHANE		UG/L	<1.0	
1.1,2-TRICHLOROETHANE		UG/L	<0.2	
I CHLOROETHENE		UG/L	<0.3	
TRICHLOROFLUOROMETHANE		UG/L	<0.2	
VINYL CHLORIDE		UG/L	<0.5	
Serrogate:				
3ROMOCHLOROMETHANE (%) 3 RROGATE LIMITS	(71 - 126)		110	
	, ,			

CHEMIST NOTES:

VIA.



GAS CHROMATOGRAPHY - QUALITY CONTROL **MSMSD**

**EST

: EPA 8021 MODIFIED

SMSD#

: 104018-05

CLIENT PROJECT# : PUBLIC SERVICE COMPANY

: REMEDIATION

PINNACLE I.D. DATE EXTRACTED

: 104018

DATE ANALYZED

: NA : 04/06/01

ROJECT NAME : PERSON STATION

SAMPLE MATRIX

: AQUEOUS

UNITS

: UG/L

	SAMPLE	CONC	CDUZED	0/					
7.04	SAMPLE	CONC	SPIKED	%	DUP	DUP		REC	RPD
ARAMETER	RESULT	SPIKE	SAMPLE	REC	SPIKE	% REC	RPD	LIMITS	LIMITS
HLOROBENZENE	<0.5	10.0	10.6	106	11.0	110	4	(87 - 124)	20
1,1-DICHLOROETHENE	<0.2	10.0	9.4	94	9.2	92	2	(80 - 120)	20
RICHLOROETHENE	<0.3	10.0	10.0	100	10.3	103	3	(89 - 127)	20
**************************************								,	

HEMIST NOTES:

% Recovery =

(Spike Sample Result - Sample Result)

Spike Concentration

(Sample Result - Duplicate Result)

-- X 100

PD (Relative Percent Difference) = ------X 100

Average Result



LOG NO: C1-04132 Received: 06 APR 01 Reported: 18 APR 01

Ms. Jacinta Tenorio Pinnacle Laboratories 2709-D Pan American Freeway Northeast Albuquerque, NM 87107

Project: 104018, PNM PERSON STATION

Sampled By: Client

Code: 150810418

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMP	LED
04132-1	SURGE TANK DISCHARGE/104018-11	04-05-01/	10:02
PARAMETER		04132-1	
Sulfate as Dilution Prep Date Analysis 1 Batch ID Prep Metho Analyst	SO4 (375.4), mg/l Factor Date	510 25 04.10.01 04.10.01 SEW037 N/A BE	



LOG NO: C1-04132 Received: 06 APR 01 Reported: 18 APR 01

Ms. Jacinta Tenorio Pinnacle Laboratories 2709-D Pan American Freeway Northeast Albuquerque, NM 87107

Project: 104018, PNM PERSON STATION

Sampled By: Client

Code: 150810418 Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC	REPORT FOR LIQUID		DATE/ TIME SAMPLED	
04132-2 04132-3 04132-4 04132-5	Method Blank Lab Control Standard % F Matrix Spike % Recovery Matrix Spike Duplicate %	-			
PARAMETER		04132-2	04132-3	04132-4	04132-5
Sulfate as Dilution 1 Prep Date Analysis 1 Batch ID Prep Metho Analyst	Date	<5.0 1 04.10.01 04.10.01 SEW037 N/A BE	91 % 1 04.10.01 04.10.01 SEW037 N/A BE	1 04.10.01	113 % 1 04.10.01 04.10.01 SEW037 N/A BE

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

Lange Larson, Project Manager

Final Page Of Report



Data Qualifiers for Final Report

	Data Guanners for I mai Keport
STL-Pensacola Inor	rganic/Organic
B1	The analyte was detected in the approximated with the constitution of the constitution
B2	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
	The analytic was detected in the sample(s) and in the associated method blank analytical as the de-
B3	
	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument
F	The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL: therefore, the quantitation is a significant to the state of the
_	
G	Sample and/or duplicate result is at or below 5 X (times) the STI. Reporting Limit and the absolute difference
114	
H1	Cample allulor duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the
un	and a second and a second in the control of the con
H2 J (description)	Sample and duplicate (or MS and MSD) RPD is above control limit
J4	The analyte was positively identified, the quantitation may be an estimation
J 4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J7	(or positive results) Loo or suffloate wat is 2 tipner control limit (1 (1)), receive may be blocked by the
	The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is
J8	degrees another control of the part of the
J9	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
M1	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low A matrix effect was present (1 sample, MS or MSD was cook and bridge the sample of
	A matrix effect was present (¹sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, ²sample and/or MS/MSD chromatogram(s) had interfering peaks, ³sample result was > 4 X spike added, ⁴metals serial dilution was
	performed, or ⁵ metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	cample and duplicate results are "out of control". The sample is nonhomogeneous
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (NAS) and/or during the control of the con
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (ass
D (deceded)	aigeston) spike.
R (description)	The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
R1	(FOI nondetects) Temperature limits exceeded (<2°C or > 6°C); non-reportable for NIDDES compliance monitoring
R2	improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt non-section.
R3	to represent the monitoring
R4	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R5	ribidity unle exceeded, non-reportable for NDPES compliance monitoring.
R6	Sample collection requirements not met, see case narrative.
R7	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R8	Internal standard area outside -50% to +100% of calibration verification standard. Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
\$1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes
T	Second-column or detector contirmation exceeded the SW-846 criteria of 40% RPD for this compound
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified
	Compound.
U	The reported value is ≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike
	ausurdance.
@ #	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
π	Elevated reporting limit due to insufficient sample size

The compound has been quantitated against a one point calibration.

* (Metals & Wet Chem) Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Elevated reporting limit due to insufficient sample size

QCSHAREVFLAGS&QUALIFIERS\STL PENSACOLA\QUALIFIERPAGE

Revised: 12/20/00

STL PENSACOLA STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL) Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater) Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental) State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater) State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater) Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater) Florida, Radioactive Materials License No. G0733-1 Foreign Soil Permit, Permit No. S-37599 Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste) Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water) State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water) Louisiana Department of Environmental Quality, Environmental Laboratory Accreditation Program, Agency Interest ID 30748 (Environmental -Accreditation Pending) State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida) Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater) State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida) New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater) State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster) New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste) North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater) North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Drinking Water, Wastewater and Hazardous Waste by Reciprocity with Florida) State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater) Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water) South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA) Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water) Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL) State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704 | word\certlist\condcert.lst revised 01/16/01

Reciprocity with FL)

Company

STL Pensacola PROJECT SAMPLE INSPECTION FORM

Lab Order #: (164132 Date Received: 4-6-01 **SERVICES** Was there a Chain of Custody? No⁺ 8. Were samples checked for No+ (N/A Yes preservative? (Check pH of all H2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)+ Was Chain of Custody properly No* 9. Is there sufficient volume for Yes) N/A filled out and relinquished? analysis requested? (Can. 3. Were samples received cold? No⁴ N/A 10. Were samples received within No* (Criteria: 2° - 6°C: STL-SOP Holding Time? (REFER TO STL-SOP 1040) 4. Were all samples properly No⁴ Is Headspace visible > ¼" in Yes* No (N/A labeled and identified? diameter in VOA vials?* If 5. Did samples require splitting or NO) any headspace is evident. compositing*? comment in out-of-control Reg By: PM Client Other* section. Were samples received in No⁺ If sent, were matrix spike Yes proper containers for analysis bottles returned? requested? Were all sample containers Was Project Manager notified Yes received intact? of problems? (initials: Airbill Number(s): 12878 168 0144014631 Shipped By:_仏/^ク\$ Shipping Charges: NA Cooler Number(s): (LIENT Cooler Weight(s): Cooler Temp(s) (°C): 2 °C LIST THERMOMETER NUMBER(S) FOR VERIFICATION) Out of Control Events and Inspection Comments: MULTIPLE PAOJUET SHIPMENT (USE BACK OF PSIFFOR ADDITIONAL NOTES AND COMMENTS) Logged By: LLK Date: 06-APR-0 Inspected By: Date: 4-6-ひ Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytici department will flag immediate hold time samples(pH, Dissolved O2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.

If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or

All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record

According to EPA, 1/4" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-

composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"

pH results (STL-SOP 938, section 2.2.9).

control (STL-SOP 938, section 2.2.12).

SEVERN

PLEASE FILL THIS FORM IN COMPLETELY.

Binnacle Laboratories Inc.

CHAIN OF CUSTODY DATE: 4-5-31 PAGE: 1 OF 2

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	Section of Land	**************************************

PROJECT MANAGER: CHUCK						146		english.		A	NA	YS.	SE	ĖQ	JES	T.	被操 心			7.									
OCIVII AIVI.	UBLIC SERVICE COMPANY OF NEW MEXICO LVARADO SQUARE - ER16							Ä	□ TMB □ PCF												\equiv	(CIMIC)		T			Ē		
ALBUQUERQU	E, NM 8715	8			8.1) TRPH	ಕ್ಷ		\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\			1				ļ			છ	82)								띪		
PHONE: (505) 241-4744	NE: (505) 241-4744													- 1	٤	<u> </u>	<u>ਵ</u>	gani	98		§ §	<u>§</u>		€	8		ğ.		海流
FAX: (505) 241-2487	(505) 241-2487														182	gani	ğ	e Ori	8	_ :		3		Si	tas		\$		
BILL TO: SAME					ocart	Sel/D		urge (□ MTBE					/ DBCP	elit O elit	S S	latile	/olatil	/809	200	noduc	2	<u>خ</u> ا	Met	st Me		10LP		
COMPANY:					후	ă		S S							200	Sa Sa	\$		밁	ر د ا			181	Itali	i i	<u> </u>	<u>a</u>		E
ADDRESS: ATTN: CHUCK	ARATER				Ena	8015			BTEX	[권	(EDX)	¥	(CUST)	EDB 🗆 /			CUST	andf	des /F	oes (MTal/A		5	Poll	haby	Aetals	Netals		98.0
SAMPLIC		ranini.	. 连 信用:	GHE CHES	Petroleum Hydrocarbons (418.1)	(MOD.8015) Diesel/Direct Inject		(M8015) Gas/Purge & Trap 8021 (BTEX)/8015 (Gasoline) MTRE	8021 (BTEX)	8021 (TCL)	8021 (8021 (HALO)	8021 (504.1	8260 (TCI) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	baserneuma/Acid Compounds (5CMAS (6C5/82/0) Polyminolean Aramatica (510/8310/8070 511/6)	Coperal Chemister:	<u> </u>	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NIMBER OF CONTAINEDS
	4-5-01	1009	<u> </u>						+	1	3	∞ √	<u>~ '</u>	- 2	- 00	- 00	80	8	- -		ة ك	- 0	5	<u>-</u>	۳	Ē	<u>~</u>	≥	
GTS-AIR STRIPPER EFFLUENT EAST	10-7	7007				H		+	十	╁	\dashv	4	+	+	+	╁		\dashv	\dashv	\dashv	+	╁	+	+	H	\dashv	+	-	3
	4-5-01	1007	w					\top	1		1	χ		\dashv	+	+			\dashv	\dashv	\dashv	+	╁	+	Н	\dashv	\dashv	+	3
GTS-GAC EFFLUENT EAST							\top	1	T			+	\dashv	\top	+	╁			\dagger	+	+	╁	+	+	\vdash	\dashv	\dashv	+	
GTS-GAC EFFLUENT WEST 4-5-4 1006 W					A COLUMN TO COLU						7	χĺ	1	1		T		\exists	\dagger	\top	\dagger	十	+	+	H		\dashv	+	3
UNM EAST RESERVIOR 4-5-01 1017 W											·	χ	T		1	T	П	1	\top	\dagger	\top	+	\dagger	T	H	+	十	╁	13
UNM WEST RESERVOIR	4-5-01	1,33	W				\Box					X										1			\Box				13
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TRIP BLANK	4-5-01	1)930	W				-	-	-			X	+	+	+	╀		_	+	-	+	+	-	-	Ш	_	_		
PROJECT INFORMATION			HORIZA	TION IS RE		BED) FO	B Bu	en.	980			1	SEL I									M. Carl	No.	ᆜ				1
PROJ. NO.: Remediation		l) □ 24hr] 1 WE		1807	A solution		.1.15.17	MAL)		RELINQUISHED BY: 1 Signature: Time:						Signature: Time:										
PROJ. NAME: Person Station	CERTI	FICATION F	REQUIRED): NM)WA	Ĺ	OTHE		-			-						<i>IIJ</i>		\bot								
P.O. NO.:	METH	ANOL PRES	ERVATION	N 🗆 .										inted I Huy				ite: 4- 1	r-01		F	rinte	d Nam	1e:		Date	: :		
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ADDRESS:	ATTN: CHUCK	ARATER		77		Petroleum Hydrocarbons	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purne & Tran	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX)	8021 (TCL)	8021 (EDX)	8021 (CUST)	EDB 🗆 / DBCP 🗆	2 2	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GCA/IS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)		NUMBER OF CONTAINERS.
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Pinnacle Lab ID number May 18, 2001

105004

PUBLIC SERVICE COMPANY ALVARADO SQUARE-ER16 NM

ALBUQUERQUE.

87158

Project Name **Project Number**

PERSON STATION REMEDIATION

Attention:

CHUCK ARATER

On Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Method 8021 Halo was performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

All other analyses were performed by Severn Trent Services, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.

General Manager

MR: ft

Enclosure



CLIENT	: PUBLIC SERVICE COMPANY	PINNACLE ID	: 105004
ROJECT#	: REMEDIATION	DATE RECEIVED	: 05/01/01
ROJECT NAME	: PERSON STATION	REPORT DATE	: 05/18/01
PINNACLE			DATE
** ID#	CLIENT DESCRIPTION	MATRIX	COLLECTED
) 5004 - 01	GTS-INFLUENT	AQUEOUS	05/01/01
105004 - 02	GTS-AIR STRIPPER EFFLUENT WEST	AQUEOUS	05/01/01
195004 - 03	GTS-GAC EFFLUENT WEST	AQUEOUS	05/01/01
)5004 - 04	UNM EAST RESERVOIR	AQUEOUS	05/01/01
105004 - 05	UNM WEST RESERVOIR	AQUEOUS	05/01/01
105004 - 06	TRIP BLANK	AQUEOUS	05/01/01
)5004 - 07	VEW INFLUENT	AQUEOUS	05/01/01
r ⊎ 5004 - 08	EW-1 INFLUENT	AQUEOUS	05/01/01
105004 - 09	EW-2	AQUEOUS	
15004 - 10	SURGE TANK DISCHARGE	AQUEOUS	05/01/01 05/01/01



PINNACLE I.D.: 105004



GAS CHROMATOGRAPHY RESULTS

TEST

: 8021 HALO

**CLIENT

: PUBLIC SERVICE COMPANY

PROJECT #

: REMEDIATION

: PERSON STATION

-SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	GTS-INFLUENT	AQUEOUS	05/01/01	NA	05/02/01	1
02	GTS-AIR STRIPPER EFFLUENT WEST	AQUEOUS	05/01/01	NA	05/02/01	i
)3	GTS-GAC EFFLUENT WEST	AQUEOUS	05/01/01	NA NA	05/02/01	i i

PARAMETER	DET. LIMIT	UNITS	GTS-INFLUENT	GTS-AIR STRIPPER EFFLUENT WEST	GTS-GAC EFFLUENT WEST
BROMODICHLOROMETHANE	0.2	UG/L	< 0.2	< 0.2	< 0.2
BROMOFORM	0.5	UG/L	< 0.5	< 0.5	< 0.5
BROMOMETHANE	1.0	UG/L	< 1.0	< 1.0	< 1.0
CAPTON TETRACHLORIDE	0.2	UG/L	< 0.2	< 0.2	< 0.2
CH .OBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
CHLOROETHANE	0.5	UG/L	< 0.5	< 0.5	< 0.5
CHLOROFORM	0.5	UG/L	< 0.5	< 0.5	< 0.5
CHLOROMETHANE	1.0	UG/L	< 1.0	< 1.0	< 1.0
DIBROMOCHLOROMETHANE	0.2	UG/L	< 0.2	< 0.2	< 0.2
7,2-DIBROMOETHANE (EDB)	0.2	UG/L	< 0.2	< 0.2	< 0.2
,,2-DICHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
⊶4,4-DICHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
1,1-DICHLOROETHANE	0.3	UG/L	4.3	< 0.3	< 0.3
*1,2-DICHLOROETHANE (EDC)	0.5	UG/L	< 0.5	< 0.5	< 0.5
1,1-DICHLOROETHENE	0.2	UG/L	1.3	< 0.2	< 0.2
is-1,2-DICHLOROETHENE	0.2	UG/L	< 0.2	< 0.2	< 0.2
rans-1,2-DICHLOROETHENE	1.0	UG/L	< 1.0	< 1.0	< 1.0
1,2-DICHLOROPROPANE	0.2	UG/L	< 0.2	< 0.2	< 0.2
cis-1,3-DICHLOROPROPENE	0.2	UG/L	< 0.2	< 0.2	< 0.2
rans-1,3-DICHLOROPROPENE	0.2	UG/L	< 0.2	< 0.2	< 0.2
METHYLENE CHLORIDE	2.0	UG/L	< 2.0	< 2.0	< 2.0
1,1,2,2-TETRACHLOROETHANE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TETRACHLOROETHENE	0.5	UG/L	2.2	< 0.5	< 0.5
,1,1-TRICHLOROETHANE	1.0	UG/L	< 1.0	< 1.0	< 1.0
1,1,2-TRICHLOROETHANE	0.2	UG/L	< 0.2	< 0.2	< 0.2
RICHLOROETHENE	0.3	UG/L	< 0.3	< 0.3	< 0.2
RICHLOROFLUOROMETHANE	0.2	UG/L	< 0.2	< 0.2	< 0.3 < 0.2
VINYL CHLORIDE	0.5	UG/L	< 0.5	< 0.5	< 0.5
3U. JGATE:					
■BROMOCHLOROMETHANE (%)			101	108	94
SURROGATE LIMITS	(71 - 126)		101	100	J 4



PINNACLE I.D.: 105004



GAS CHROMATOGRAPHY RESULTS

TEST

: 8021 HALO

CLIENT

: PUBLIC SERVICE COMPANY

PROJECT #
PROJECT NAME

: REMEDIATION

: PERSON STATION

D. # CLIENT I.D. MATRIX SAMPLED EXTRACTED ANALYZED FACTOR #04 UNM EAST RESERVOIR AQUEOUS 05/01/01 NA 05/02/01 1 05 UNM WEST RESERVOIR AQUEOUS 05/01/01 NA 05/02/01 1 ***16 TPIP RI ANK AQUEOUS 05/01/01 NA 05/02/01 1	SAMPLE			DATE	DATE	DATE	DIL.
#04 UNM EAST RESERVOIR AQUEOUS 05/01/01 NA 05/02/01 1 05 UNM WEST RESERVOIR AQUEOUS 05/01/01 NA 05/02/01 1	D. #		MATRIX	SAMPLED	EXTRACTED		FACTOR
05 UNM WEST RESERVOIR AQUEOUS 05/01/01 NA 05/02/01 1		= ** *	AQUEOUS	05/01/01	NA	05/02/01	1
TPIP PLANK	05	UNM WEST RESERVOIR	AQUEOUS	05/01/01	NA	,	1
	76	TRIP BLANK	AQUEOUS	05/01/01		05/02/01	1

76 TRIP BLANK		AQUEOUS	05/01/01	NA NA	05/02/01	1
PARAMETER	DET. LIMIT	f INI		UNM EAST RESERVOIR	UNM WEST	•
BROMODICHLOROMETHANE				< 0.2	RESERVOIR 0.4	TRIP BLANK
BROMOFORM	0.5	UG		< 0.5	< 0.5	< 0.2 < 0.5
∂ROMOMETHANE	1.0	UG		< 1.0	< 1.0	< 0.5 < 1.0
CARBON TETRACHLORIDE	0.2	UG		< 0.2	< 0.2	< 0.2
CHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.2 < 0.5
CHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5 < 0.5
CH OFORM	0.5	UG		< 0.5	< 0.5	< 0.5
CHLOROMETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
DIBROMOCHLOROMETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
√,2-DIBROMOETHANE (EDB)	0.2	UG		< 0.2	< 0.2	< 0.2
1,2-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5 < 0.5
1,4-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5 < 0.5
1,1-DICHLOROETHANE	0.3	UG		< 0.3	< 0.3	< 0.3
1,2-DICHLOROETHANE (EDC)	0.5	UG		< 0.5	< 0.5	< 0.5
1,1-DICHLOROETHENE	0.2	UG		< 0.2	< 0.2	< 0.2
cis-1,2-DICHLOROETHENE	0.2	UG		< 0.2	< 0.2	< 0.2
trans-1,2-DICHLOROETHENE	1.0	UG		< 1.0	< 1.0	< 1.0
1,2-DICHLOROPROPANE	0.2	UG		< 0.2	< 0.2	< 0.2
is-1,3-DICHLOROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
trans-1,3-DICHLOROPROPENE	0.2	UG		< 0.2	< 0.2	< 0.2
METHYLENE CHLORIDE	2.0	UG		< 2.0	< 2.0	< 2.0
1,1,2,2-TETRACHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5
TETRACHLOROETHENE	0.5	UG		< 0.5	< 0.5	< 0.5
1,1,1-TRICHLOROETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
1,1,2-TRICHLOROETHANE	0.2	UG		< 0.2	< 0.2	< 0.2
FRICHLOROETHENE	0.3	UG		< 0.3	< 0.3	< 0.3
TRICHLOROFLUOROMETHANE	0.2	UG/		< 0.2	< 0.2	< 0.2
VINYL CHLORIDE	0.5	UG/		< 0.5	< 0.5	< 0.5
SURROGATE:						
BRC 10CHLOROMETHANE (%)				118	95	105
SU JGATE LIMITS	(71 - 126)				00	100



PINNACLE I.D.: 105004



GAS CHROMATOGRAPHY RESULTS

TEST

: 8021 HALO

**CLIENT

: PUBLIC SERVICE COMPANY

PROJECT#

PROJECT NAME

: REMEDIATION

: PERSON STATION

SAMPLE DATE DATE DATE DIL. ID. # CLIENT I.D. **MATRIX** SAMPLED **EXTRACTED ANALYZED FACTOR ∞**07 **VEW INFLUENT AQUEOUS** 05/01/01 NA 05/02/01 08 **EW-1 INFLUENT AQUEOUS** 05/01/01 NA 05/02/01 1 **~**09 **EW-2 AQUEOUS** 05/01/01 NA 05/02/01 1 EW-1 *PARAMETER DET. LIMIT UNITS **VEW INFLUENT** INFLUENT EW-2 BROMODICHLOROMETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 BROMOFORM 0.5 UG/L < 0.5 < 0.5 < 0.5 **BROMOMETHANE** 1.0 UG/L < 1.0 < 1.0 < 1.0 CARBON TETRACHLORIDE 0.2 UG/L < 0.2 < 0.2 < 0.2 *CHLOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 CHI OROETHANE 0.5 UG/L < 0.5 < 0.5 < 0.5 "CF :OFORM 0.5 UG/L < 0.5 < 0.5 < 0.5 _CHLUROMETHANE 1.0 UG/L < 1.0 < 1.0 < 1.0 **JIBROMOCHLOROMETHANE** 0.2 UG/L < 0.2 < 0.2 < 0.2 -1,2-DIBROMOETHANE (EDB) 0.2 UG/L < 0.2 < 0.2 < 0.2 1,2-DICHLOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 *1,3-DICHLOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 1,4-DICHLOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 1,1-DICHLOROETHANE 0.3 UG/L 4.9 5.1 5.6 _1,2-DICHLOROETHANE (EDC) 0.5 UG/L < 0.5 < 0.5 < 0.5 1,1-DICHLOROETHENE 0.2 UG/L 0.4 1.6 3.3 →cis-1,2-DICHLOROETHENE 0.2 UG/L < 0.2 < 0.2 < 0.2 trans-1,2-DICHLOROETHENE 1.0 UG/L < 1.0 < 1.0 < 1.0 "1,2-DICHLOROPROPANE 0.2 UG/L < 0.2 < 0.2 < 0.2 _cis-1,3-DICHLOROPROPENE 0.2 UG/L < 0.2 < 0.2 < 0.2 trans-1,3-DICHLOROPROPENE 0.2 UG/L < 0.2 < 0.2 < 0.2 METHYLENE CHLORIDE 2.0 UG/L < 2.0 < 2.0 < 2.0 1,1,2,2-TETRACHLOROETHANE 0.5 UG/L < 0.5 < 0.5 < 0.5 **TETRACHLOROETHENE 0.5 < 0.5 UG/L 3.5 4.4 1,1,1-TRICHLOROETHANE 1.0 UG/L < 1.0 < 1.0 1.8 1,1,2-TRICHLOROETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 **TRICHLOROETHENE** 0.3 UG/L < 0.3 < 0.3 < 0.3 TRICHLOROFLUOROMETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 **VINYL CHLORIDE** 0.5 UG/L < 0.5 < 0.5 < 0.5 SURROGATE: BRC 'OCHLOROMETHANE (%) 121 103 96 **JGATE LIMITS** (71 - 126)





GAS CHROMATOGRAPHY RESULTS REAGENT BLANK

TEST

: EPA 8021

**BLANK I.D.

: 050201

CLIENT

: PUBLIC SERVICE COMPANY

PINNACLE I.D. DATE EXTRACTED : 105004

**PROJECT#

: REMEDIATION

DATE ANALYZED

: NA : 05/02/01

PROJECT NAME

: PERSON STATION

SAMPLE MATRIX

: AQUEOUS

#PARAMETER	UNITS		
BROMODICHLOROMETHANE	UG/L	<0.2	
*BROMOFORM	UG/L	<0.5	
BROMOMETHANE	UG/L	<1.0	
CARBON TETRACHLORIDE	UG/L	<0.2	
**CHLOROBENZENE	UG/L	<0.5	
"CHLOROETHANE	UG/L	<0.5	
CHLOROFORM	UG/L	<0.5	
*CHLOROMETHANE	UG/L	<1.0	
DIPTOMOCHLOROMETHANE	UG/L	<0.2	
1,2 3ROMOETHANE (EDB)	UG/L	<0.2	
-1,2-DICHLOROBENZENE	UG/L	<0.5	
1,3-DICHLOROBENZENE	UG/L	<0.5	
1,4-DICHLOROBENZENE	UG/L	<0.5	
-1,1-DICHLOROETHANE	UG/L	<0.3	
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5	
1,1-DICHLOROETHENE	UG/L	<0.2	
cis-1,2-DICHLOROETHENE	UG/L	<0.2	
trans-1,2-DICHLOROETHENE	UG/L	<1.0	
1,2-DICHLOROPROPANE	UG/L	<0.2	
cis-1,3-DICHLOROPROPENE	UG/L	<0.2	
trans-1,3-DICHLOROPROPENE	UG/L	<0.2	
"METHYLENE CHLORIDE	UG/L	<2.0	
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5	
TETRACHLOROETHENE	UG/L	<0.5	
1,1,1-TRICHLOROETHANE	UG/L	<1.0	
₄ 1,1,2-TRICHLOROETHANE	UG/L	<0.2	
TRICHLOROETHENE	UG/L	<0.3	
*TRICHLOROFLUOROMETHANE	UG/L	<0.2	
VINYL CHLORIDE	UG/L	<0.5	
«SURROGATE:			
BROMOCHLOROMETHANE (%)		94	

≅SI **DGATE LIMITS**

(71 - 126)

*CHEMIST NOTES:

"N/A



GAS CHROMATOGRAPHY - QUALITY CONTROL MSMSD

⊸TEST

: EPA 8021 MODIFIED

MSMSD#

: 105004-05

CLIENT

: PUBLIC SERVICE COMPANY

PROJECT #
PROJECT NAME

: REMEDIATION : PERSON STATION

: 105004

DATE EXTRACTED
DATE ANALYZED

: NA

SAMPLE MATRIX

PINNACLE I.D.

: 05/02/01 : AQUEOUS

UNITS

: UG/L

	SAMPLE	CONC	SPIKED	%	DUP	DUP		REC	RPD
PARAMETER	RESULT	SPIKE	SAMPLE	REC	SPIKE	% REC	RPD	LIMITS	LIMITS
-CHLOROBENZENE	<0.5	10.0	10.9	109	10.4	104	5	(87 - 124)	20
1,1-DICHLOROETHENE	<0.2	10.0	10.4	104	9.9	99	5	(80 - 120)	20
TRICHLOROETHENE	<0.3	10.0	11.0	110	11.9	119	8	(89 - 127)	20

-CHEMIST NOTES:

_N/A

(Spike Sample Result - Sample Result)

% Recovery =

-----X 100

Spike Concentration

(Sample Result - Duplicate Result)

RPD (Relative Percent Difference) = ------X 100

Average Result



LOG NO: C1-05052 Received: 02 MAY 01 Reported: 09 MAY 01

Ms. Jacinta Tenorio Pinnacle Laboratories 2709-D Pan American Freeway Northeast Albuquerque, NM 87107

Project: 105004, PNM PERSON STATION

Sampled By: Client

Code: 07571059

REPORT OF RESILITS

	REPORT OF RESUL	rs	Page 1
LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED	ı
05052-1	SURGE TANK DISCHARGE/105004-10	05-01-01/10:	57
PARAMETER		05052-1	
Sulfate as	SO4 (375.4), mg/l	790	
Dilution 1	Factor	25	
Prep Date		05.04.01	
Analysis I	Date	05.04.01	
Batch ID		SEW051	
Analyst		BE	



LOG NO: C1-05052 Received: 02 MAY 01 Reported: 09 MAY 01

Ms. Jacinta Tenorio Pinnacle Laboratories 2709-D Pan American Freeway Northeast Albuquerque, NM 87107

Project: 105004, PNM PERSON STATION

Sampled By: Client

Code: 07571059

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCR	IPTION ,	QC REPORT	FOR L	QUID	SAMPLES	DAT TIME	E/ SAMPLED	50 -
05052-2 05052-3 05052-4 05052-5	Method Blank Lab Control Matrix Spike Matrix Spike	% Recove	ery	_	· # = = = ·		•		
PARAMETER				0505	2-2	05052-	-3	05052- 4	05052-5
Sulfate as Dilution I Prep Date Analysis I Batch ID Analyst		mg/l		05.04 05.04		99 	*	113 %	115 %

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

Lance Larson, Project Manager

Final Page Of Report



Data Qualifiers for Final Report

STL-Pensacola Inorg	ganic/Organic
B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were
	extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not
	to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL; therefore, the quantitation is estimation (The
	31L-FINITE IS at or above lowest calibration standard in the initial calibration curve)
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the
	sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control"
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the regults
	exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (LICL), results may be biased bigh
J7	The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is an estimation (this
10	qualifier should only be used when the 51L-PN KL is below the lowest calibration standard in the initial calibration)
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form
J9	(FOF positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low.
M1	A matrix effect was present (sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, sample and/or
	M3/M3D Chromatogram(s) had interrering beaks. "sample result was > 4 X shike added. "metals social dilution was
M2	performed, or ⁵ metals post spike is < 40% R)
N/C	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
NH	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NoMS	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (predigestion) spike.
R (description)	The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
R1	(For nondetects) Temperature limits exceeded (<2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable
	for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects
R7	Internal standard area outside -50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
\$2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified
11	Compound.
U	The reported value is ≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike
@	absorbance.
@ #	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
π	Elevated reporting limit due to insufficient sample size

QCSHARE\FLAGS&QUALIFIERS\STL PENSACOLA\QUALIFIERPAGE

* (Metals & Wet Chem)

Revised: 12/20/00

Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Elevated reporting limit due to insufficient sample size

The compound has been quantitated against a one point calibration.

STL PENSACOLA STATE CERTIFICATIONS

'ama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL) Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater) Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental) State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater) State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater) Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater) Florida, Radioactive Materials License No. G0733-1 Foreign Soil Permit, Permit No. S-37599 Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste) Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water) State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water) Louisiana Department of Environmental Quality, Environmental Laboratory Accreditation Program, Agency Interest ID 30748 (Environmental -Accreditation Pending) State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida) .nonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater) State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida) New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater) State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster) New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste) North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater) North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Drinking Water, Wastewater and Hazardous Waste by Reciprocity with Florida) State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater) Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water) South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA) Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water) Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704 \word\certlist\condcert.lst revised 04/10/01

rocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

Pinnacie Labora	atories,	inc.				١	Inte	erta	h C	ha	in (of (Cus	toc	ly				Da	te:	<u> 277</u>	******	Pag	e:/		, /	_	
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SAMPLE ID	DATE	50	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL (23 N		TOX	тос	Gen Chemistry: SOU		Oil and Grease	Volatile Organics	ВОД	СОБ	PESTICIDES/PCB (608/8082)	Herbicides (615/8151)	PNA (8310)/8270 SIMS	8240 (TCLP 1311) ZHE		Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM (ICP-MS)	RADIUM 226+228	Gross Alpha/Beta	TO-14	
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Company

STLANS

Company

REQUIRED: YES NO

STL Pensacola PROJECT SAMPLE INSPECTION FORM

Lab Order #: (105052 Date Received	d: 5/2/01 SERVICES
1. Was there a Chain of Custody? Yes No ⁴	8. Were samples checked for Yes No* N// preservative? (Check pH of all H2O requiring preservative (STL-PN SOP 917) except VOA vials that require
2. Was Chain of Custody properly Yes No⁴ filled out and relinquished?	9. Is there sufficient volume for analysis requested? Ves No* N//
3. Were samples received cold? Yes No⁴ N/A (Criteria: 2° - 6°C: STL-SOP	10. Were samples received within Yes No* Holding Time? (REFER TO STL-SOP 1040)
 4. Were all samples properly labeled and identified? 5. Did samples require splitting or compositing*? 	11. Is Headspace visible > ¼" in Yes* No N/A diameter in VOA vials?* If any headspace is evident, comment in out-of-control
Req By: PM Client Other* 6. Were samples received in proper containers for analysis	section. 12. If sent, were matrix spike bottles returned? Yes No* (N//)
requested? 7. Were all sample containers received intact?	13. Was Project Manager notified Yes No* (N//) of problems? (initials:)
Airbill Number(s): 17876168 6/4394 2523	Shipped By: UPS
Cooler Number(s): Client	Shipping Charges:
Cooler Weight(s): 15#	Cooler Temp(s) (°C): 4°C
	(UST THERMOMETER NUMBER(S) FOR VERIFICATION)
Out of Control Events and Inspection Comments. Multiple proprit Cooler	:
•	
	(Use back of PSIFfor additional notes and comments)
Inspected By: MHS Date: 5/2/01	Logged By: LLK Date: 02-MAY-0
	n of this form. For holding times, the analytici department will flag immediate hold
time samples(pH, Dissolved O ₂ , Residual CL) as out of hold time, theref If Other, note who requested the splitting or compositing of samples or composited must be done in the Volatile Lab. Document: "Volatile samples"	n the Comment Section of this form. All voletile samples requested to be split or

All preservatives for the State of North Caroline, the State of New York, and other requested samples are to be recorded on the sheet provided to record

According to EPA, % of headspece is allowed in 40 ml viels requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-

WORDIGLKINGSAMPCTRLIPERF.DOC Nevember 20, 2000

pH results (STL-SOP 938, section 2.2.9).

control (STL-SOP 938, section 2.2.12).



PLEASE FILL THIS FORM IN COMPLETELY.

Pinnacle Laboratories Inc.

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PLEASE FILL THIS FORM IN COMPLETELY.

Pinnacle Laboratories Inc.

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ADDRESS:	ATTN: CHUCK	ARATER				Ē	35		E X	<u> </u>	्री	8	(O)	TSI S	EUB 🗆 / UBCP 🗆		<u> </u>	JST	ındfi	S/P	3) (6	≨	Ĭ	틝	1	3 <u>\$</u>	턞	stals		FC
	TT.					Petroleum	(MOD.8015) Diesel/Direct Inject		(M8015) Gas/Purge & Trap 8021 (RTEX)/8015 (Gasoline) MTRE				Ē	8021 (CUST)		8260 (TCL)	8260 (Full)	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	icid		8	힐	.≧	¥ 5	į	A Me	<u>is</u>	55
SAME)	(EID Sale)	i Dire	JIVE	AATHX	PAC D	Pet	<u>∑</u>			Ę	8021 (TCL)	8021 (EDX)	8021 (HALO)	88	¥/2	188	826(826	826(Pest	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Targ	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Meta	NUMBER OF CONTAINERS
VEW INFLUENT		5-1	1657	V									X			T					7	1	7	\dashv	+	十	+	Ħ	\dashv	3
PSMW-16 INFLU	ENT														\top	\top					_	\dashv	1	十	\top	+	+	H	\dashv	- 2
EW- 1 INFLUEN	T	5-1	1058	V			П						X		1	1						十	1	\dashv	+	+	+	H	+	3.
PSMW 24,25,26 I	INFLUENT									\dagger		\Box			十	1						\dashv	\dashv	\dashv	+	十	+	H	_	
EW-3											1				\top	†		\dashv			\dashv	_	\dashv	\dashv	十	+	+	H	\dashv	
EW-2		5-1	1059	V/				\dashv		T	1		abla f		\dagger	+				-	\dashv	\dashv	十	\dashv	十	+	+	\vdash	+	3
Surge Tank Dis	charge	5-1	1051	w	11/02					T			Z		X			\dashv			\dashv	+	+	\dashv	\top	+	+	\vdash	+	
										T			7		1	1			7	\dashv	7	\top	+	十	+	+	+	\vdash	\dashv	14.0
								$\neg \uparrow$	1		1		\dashv	\dashv	\top	 		1	\dashv	\dashv	\dashv	\dashv	+	\dashv	+	十	+	\vdash	\dashv	
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PROJECTI	NFORMATION	F en	IOR AUT	HORIZAT	ON IS RE	QU	REC) FO	R RU	SH	PRO	JEC	TS		QEI I	NQUI	GNE) by				<u> </u>	DE	1 10/	NUISH	븣	<u> </u>			
PROJ. NO.: Remed	liation		H) □ 24hr	***		1 W		24,411,412	<u> </u>		(NOF	نسخت	71.71			e:			ne	14)3,4		1.	_	alure		IEU	DT:			-2-1
PROJ. NAME: Perso		CERT	IFICATION F	REQUIRED:	□nm	□sı	OWA	C	OTHE	R	•	<u>_</u>				~	[15	<i>-</i>		_						_	
P.O. NO.:		METH	ANOL PRES	ERVATION	O .											lame: (CA)	rata		ite: 5-	1-01	1	ł	Prini	ted Na	ame:	/	Pai	e:		l
SHIPPED VIA:			MENTS:	FIXED FE	E 🖸				- Di						mpan	•	PL	امر					Com	pany		-				
, SAMPLE						•	≱ CC 3	ple	s Pl	eas	se			4200	Territor.	se side	Eps Line		See Sugar				DE	CEN.	E	V. 4	A D.V	Jacob (1975)		
O CONTAINERS (*	70		PI F	ASF P	ROVID	Fr	- ΔΤ	ΔΛ	N F	210				10000	nature	3- 35 2020		<u>S. ;</u> Tin	(60g : 1			3-4-1			ED B				Jaros.	2
USTODY SEALS SIT	against 1986				WELL															_		_	1	<u>Ml</u>	un	<u>لد</u>	HN	MO	<u> </u>	55
REGEIVED INTAGE		5			RON JO									Prir	nted N	lame:		∕ Da	te:				Print	ed Na	me: CLM	ē 1	Dat	e: ///	di	101
UE CHICE HELL SET AND THE SET												Cor	npans	î						í		780	c or series	P 3 1924	성격하다	torie		:		



Pinnacle Lab ID number June 19, 2001

106007

PUBLIC SERVICE COMPANY ALVARADO SQUARE-ER16 ALBUQUERQUE, NM 87158

Project Name

PERSON STATION

Project Number

REMEDIATION

Attention:

CHUCK ARATER

On 06/01/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8021 HALO analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Severn Trent Laboratories, Inc. Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.

General Manager

MR: jt

Enclosure



	: 106007
DATE RECEIVED	: 06/01/01
REPORT DATE	: 06/19/01
	DATE
MATRIX	COLLECTED
AQUEOUS	06/01/01
AST AQUEOUS	06/01/01
VEST AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
AQUEOUS	06/01/01
	MATRIX AQUEOUS AST AQUEOUS



CLIENT I.D.

GTS-INFLUENT

2709-D Pan American Freeway NE Albuquerque, New Mexico 87107 Phone (505) 344-3777 Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

MATRIX

AQUEOUS

DATE

SAMPLED

06/01/01

DATE

EXTRACTED

NA

__EST CLIENT

: 8021 HALO

SAMPLE

ID. #

: PUBLIC SERVICE COMPANY

PROJECT #

: REMEDIATION

ROJECT NAME

: PERSON STATION

DATE	DIL.

FACTOR

1

PINNACLE I.D.: 106007

ANALYZED

06/05/01

GTS-AIR STRIPPER E	FFLUENT EAST	AQUEOUS	06/01/01	NA	06/05/01	1	
03 GTS-AIR STRIPPER E	FFLUENT WEST	AQUEOUS	06/01/01	NA NA	06/05/01	1	
errozane				- 107	GTS-AIR	GTS-AIR	
************************************	•				STRIPPER	STRIPPER	
PARAMETER	DCT LIME				EFFLUENT	EFFLUENT	
ROMODICHLOROMETHANE	DET. LIMIT	UNI		GTS-INFLUENT	EAST	WEST	
ROMOFORM	0.2	UG		< 0.2	< 0.2	< 0.2	
BROMOMETHANE	0.5	UG		< 0.5	< 0.5	< 0.5	
CARBON TETRACHLORIDE	1.0	UG		< 1.0	< 1.0	< 1.0	
HLOROBENZENE	0.2	UG		< 0.2	< 0.2	< 0.2	
HLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5	
CHLOROFORM	0.5	UG		< 0.5	< 0.5	< 0.5	
**HLOROMETHANE	0.5	UG		0.8	< 0.5	< 0.5	
BRO**OCHLOROMETHANE	1.0	UG		< 1.0	< 1.0	< 1.0	
1,2-E OMOETHANE (EDB)	0.2	UG		< 0.2	< 0.2	< 0.2	
1,2-DICHLOROBENZENE	0.2	UG		< 0.2	< 0.2	< 0.2	
3-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5	
-4-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5	
1,1-DICHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5	
	0.3	UG		3.0	< 0.3	< 0.3	
P-DICHLOROETHANE (EDC)	0.5	UG		< 0.5	< 0.5	< 0.5	
cis-1,2-DICHLOROETHENE	0.2	UG		7.2	< 0.2	< 0.2	
	0.2	UG		< 0.2	< 0.2	< 0.2	
trans-1,2-DICHLOROETHENE	1.0	UG		< 1.0	< 1.0	< 1.0	
2-DICHLOROPROPANE	0.2	UG/		< 0.2	< 0.2	< 0.2	
	0.2	UG/		< 0.2	< 0.2	< 0.2	
trans-1,3-DICHLOROPROPENE	0.2	UG/		< 0.2	< 0.2	< 0.2	
ETHYLENE CHLORIDE	2.0	UG/		< 2.0	< 2.0	< 2.0	
1,2,2-TETRACHLOROETHANE	0.5	UG/	Ľ	< 0.5	< 0.5	< 0.5	
TETRACHLOROETHENE	0.5	UG/	L	16	< 0.5	< 0.5	
1,1,1-TRICHLOROETHANE	1.0	UG/	L	1.1	< 1.0	< 1.0	
1,2-TRICHLOROETHANE	0.2	UG/	L	< 0.2	< 0.2	< 0.2	
CHLOROETHENE	0.3	UG/	L	< 0.3	< 0.3	< 0.3	
TRICHLOROFLUOROMETHANE	0.2	UG/	L	< 0.2	< 0.2	< 0.2	
"NYL CHLORIDE	0.5	UG/	L	< 0.5	< 0.5	< 0.5	
SÜRROGATE:							
BROMOCHLOROMETHANE (%)				110	114	110	
URROGATE LIMITS	(71 - 126)	-		110	114	112	
	(11-120)						

I_IEMIST NOTES:

N/A



GAS CHROMATOGRAPHY RESULTS

DATE

DATE

EST CLIENT

MAMPLE

: 8021 HALO

ROJECT#

: PUBLIC SERVICE COMPANY

ROJECT NAME

: REMEDIATION

: PERSON STATION

PINNACLE I.D.: 106007

DATE

ID. # CLIENT I.D.			DATE	DATE	DATE	DIL.
		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
		AQUEOUS	06/01/01	NA	06/05/01	1
GTS-GAC EFFLUENT WES UNM EAST RESERVOIR	Τ	AQUEOUS	06/01/01	NA	06/05/01	1
06 UNM EAST RESERVOIR		AQUEOUS	06/01/01	NA	06/05/01	1
TO THE				GTS-GAC	GTS-GAC	•
ARAMETER	DET. LIMIT	1.76.1	ITO	EFFLUENT	EFFLUENT	UNM EAST
BROMODICHLOROMETHANE	0.2	UN		EAST	WEST	RESERVOIR
ROMOFORM	0.5	UC		< 0.2	< 0.2	< 0.2
ROMOMETHANE	1.0	UG		< 0.5	< 0.5	< 0.5
CARBON TETRACHLORIDE	0.2	UG		< 1.0	< 1.0	< 1.0
CHLOROBENZENE	0.2	UG		< 0.2	< 0.2	< 0.2
HLOROETHANE		UG		< 0.5	< 0.5	< 0.5
HLOROFORM	0.5	UG		< 0.5	< 0.5	< 0.5
CHLOROMETHANE	0.5	UG		< 0.5	< 0.5	< 0.5
BROMOCHLOROMETHANE	1.0	UG		< 1.0	< 1.0	< 1.0
2-DIPROMOETHANE (EDB)	0.2	UG		< 0.2	< 0.2	< 0.2
1,2-I LOROBENZENE	0.2	UG		< 0.2	< 0.2	< 0.2
1,3-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
4-DICHLOROBENZENE	0.5	UG		< 0.5	< 0.5	< 0.5
4-DICHLOROETHANE	0.5	UG		< 0.5	< 0.5	< 0.5
	0.3	UG		< 0.3	< 0.3	< 0.3
1,2-DICHLOROETHANE (EDC)	0.5	UG		< 0.5	< 0.5	< 0.5
1-1-DICHLOROETHENE	0.2	UG		< 0.2	< 0.2	< 0.2
3-1,2-DICHLOROETHENE	0.2	UG		< 0.2	< 0.2	< 0.2
trans-1,2-DICHLOROETHENE	1.0	UG	/L	< 1.0	< 1.0	< 1.0
1,2-DICHLOROPROPANE	0.2	UG	/L	< 0.2	< 0.2	< 0.2
3-1,3-DICHLOROPROPENE	0.2	UG	/L	< 0.2	< 0.2	< 0.2
ans-1,3-DICHLOROPROPENE	0.2	UG	/L	< 0.2	< 0.2	< 0.2
METHYLENE CHLORIDE	2.0	UG	/L	< 2.0	< 2.0	< 2.0
*1,2,2-TETRACHLOROETHANE	0.5	UG	/L	< 0.5	< 0.5	< 0.5
TRACHLOROETHENE	0.5	UG	/L		< 0.5	< 0.5
1,1,1-TRICHLOROETHANE	1.0	UG			< 1.0	< 1.0
1,1,2-TRICHLOROETHANE	0.2	UĢ			< 0.2	< 0.2
RICHLOROETHENE	0.3	UG			< 0.2	< 0.3
	0.2	UG			< 0.2	< 0.2
VINYL CHLORIDE	0.5	UG			< 0.5	
~ 19 <u>6</u>		00,	-	- 0.0	~ 0.5	< 0.5
JRROGATE:						
BROMOCHLOROMETHANE (%)				105	116	447
SURROGATE LIMITS	(71 - 126)			100	110	117
	(•				

THE NOTES:



PINNACLE I.D.: 106007

DIL.

DATE

GAS CHROMATOGRAPHY RESULTS

DATE

DATE

EST CLIENT

SAMPLE

: 8021 HALO

PROJECT#

: PUBLIC SERVICE COMPANY

: REMEDIATION

ROJECT NAME

: PERSON STATION

ID. # CLIENT I.D. **MATRIX** SAMPLED **EXTRACTED ANALYZED FACTOR UNM WEST RESERVOIR AQUEOUS** 06/01/01 NA 06/05/01 1 TRIP BLANK **AQUEOUS** 06/01/01 NA 06/05/01 1 09 **VEW INFLUENT AQUEOUS** 06/01/01 NA 06/05/01 1 **UNM WEST** ARAMETER DET. LIMIT **UNITS** RESERVOIR TRIP BLANK **VEW INFLUENT** ROMODICHLOROMETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 **BROMOFORM** 0.5 UG/L < 0.5 < 0.5 < 0.5 **ROMOMETHANE 1.0 UG/L < 1.0 < 1.0 < 1.0 ARBON TETRACHLORIDE 0.2 UG/L < 0.2 < 0.2 < 0.2 CHLOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 **CHLOROETHANE** 0.5 UG/L < 0.5< 0.5 < 0.5 HLOROFORM 0.5 UG/L < 0.5 < 0.5 < 0.5 **#HLOROMETHANE** 1.0 UG/L < 1.0 < 1.0 < 1.0 DIBROMOCHLOROMETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 **2-DIBROMOETHANE (EDB) 0.2 UG/L < 0.2 < 0.2 < 0.2 2-D'04LOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 1,3-1 LOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 1,4-DICHLOROBENZENE 0.5 UG/L < 0.5 < 0.5 < 0.5 1-DICHLOROETHANE 0.3 UG/L < 0.3 < 0.3 4.2 **2-DICHLOROETHANE (EDC)** 0.5 UG/L < 0.5 < 0.5 < 0.5 1,1-DICHLOROETHENE 0.2 UG/L < 0.2 < 0.2 0.2 *3-1,2-DICHLOROETHENE 0.2 UG/L < 0.2 < 0.2 < 0.2 ins-1,2-DICHLOROETHENE 1.0 UG/L < 1.0 < 1.0 < 1.0 1,2-DICHLOROPROPANE 0.2 UG/L < 0.2 < 0.2 < 0.2 cis-1,3-DICHLOROPROPENE 0.2 UG/L < 0.2 < 0.2 < 0.2 ins-1,3-DICHLOROPROPENE 0.2 UG/L < 0.2 < 0.2 < 0.2 ...ETHYLENE CHLORIDE 2.0 UG/L < 2.0 < 2.0 < 2.0 1,1,2,2-TETRACHLOROETHANE 0.5 UG/L < 0.5 < 0.5 < 0.5 TRACHLOROETHENE 0.5 UG/L < 0.5 < 0.5 < 0.5 1,1-TRICHLOROETHANE 1.0 UG/L < 1.0 < 1.0 < 1.0 1.1.2-TRICHLOROETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 TRICHLOROETHENE 0.3 UG/L < 0.3 < 0.3 < 0.3 RICHLOROFLUOROMETHANE 0.2 UG/L < 0.2 < 0.2 < 0.2 MNYL CHLORIDE 0.5 UG/L < 0.5 < 0.5 < 0.5 "JRROGATE: ROMOCHLOROMETHANE (%) 112 116 114 **SURROGATE LIMITS** (71 - 126)

CHEMIST NOTES:

**A



GAS CHROMATOGRAPHY RESULTS

EST

: 8021 HALO

CLIENT ROJECT# : PUBLIC SERVICE COMPANY

: REMEDIATION

ROJECT NAME SAMPLE

: PERSON STATION

PINNACLE I.D.: 106007

SAMPLE		LINOUNUIAIN	214	DATE	5.7=		
ID. # CLIENT	I.D.		MATRIX	DATE	DATE	DATE	DIL.
	IFLUENT		AQUEOUS	SAMPLED 06/01/01	EXTRACTED	ANALYZED	FACTOR
EW-3			AQUEOUS	06/01/01 06/01/01	NA	06/05/01	1
			AGUEOUS	06/01/01	NA EW-1	06/05/01	1
PARAMETER		DET. LIMIT	UNI	TS	INFLUENT	EW-3	
ROMODICHLOROME	THANE	0.2	UG		< 0.2	< 0.2	
ROMOFORM		0.5	UG		< 0.5	< 0.5	
BROMOMETHANE		1.0	UG	/L	< 1.0	< 1.0	
"ARBON TETRACHLO	DRIDE	0.2	UG		< 0.2	< 0.2	
HLOROBENZENE		0.5	UG		< 0.5	< 0.5	
CHLOROETHANE		0.5	UG		< 0.5	< 0.5	
CHLOROFORM		0.5	UG		< 0.5	0.5	
HLOROMETHANE		1.0	UG		< 1.0	< 1.0	
がBROMOCHLOROME		0.2	UG		< 0.2	< 0.2	
1,2-DIBROMOETHANE		0.2	UG		< 0.2	< 0.2	
⁷ 2-DICHLOROBENZE		0.5	UG		< 0.5	< 0.5	
3-L LOROBENZE	NE	0.5	UG		< 0.5	< 0.5	
1,4-L LOROBENZE		0.5	UG		< 0.5	< 0.5	
1.1-DICHLOROETHAN		0.3	UG		3.9	2.9	
2-DICHLOROETHAN	E (EDC)	0.5	UG		< 0.5	< 0.5	
デI-DICHLOROETHEN	E	0.2	UG		3.7	11	
cis-1,2-DICHLOROETH	IENE	0.2	UG		< 0.2	< 0.2	
ns-1,2-DICHLOROE	THENE	1.0	UG		< 1.0	< 1.0	
2-DICHLOROPROPA	NE	0.2	UG		< 0.2		
cis-1,3-DICHLOROPRO		0.2	UG/		< 0.2	< 0.2	
***ens-1,3-DICHLOROPE		0.2	UG/		< 0.2	< 0.2	
ETHYLENE CHLORIE		2.0	UG/			< 0.2	
1,1,2,2-TETRACHLORO		0.5	UG/		< 2.0	< 2.0	
TETRACHLOROETHE	NE	0.5	UG/		< 0.5 17	< 0.5	
1,1-TRICHLOROETH		1.0	UG/			25	
,2-TRICHLOROETH		0.2	UG/		< 1.0	1.3	
TRICHLOROETHENE	· · · · -	0.3	UG/		< 0.2	< 0.2	
TRICHLOROFLUORON	/ETHANE	0.2			< 0.3	< 0.3	
NYL CHLORIDE		0.5	UG/		< 0.2	< 0.2	
. of		0.5	UG/	L	< 0.5	< 0.5	
SURROGATE:							
ROMOCHLOROMETH	JANE (%)						
JRROGATE LIMITS	IDI4E (70)	(74 400)			111	100	
MINUOGATE FIMILS		(71 - 126)					

CHEMIST NOTES:





HE T NOTES:

GAS CHROMATOGRAPHY RESULTS REAGENT BLANK

EST LANK I.D. CLIENT ROJECT # ROJECT NAME PARAMETER	: EPA 8021 : 060401-B : PUBLIC SERVICE COMPANY : REMEDIATION : PERSON STATION		PINNACLE I.D. DATE EXTRACTED DATE ANALYZED SAMPLE MATRIX	: 106007 : NA : 06/05/01 : AQUEOUS	
PROMODICHLOROMETHANE		UNITS			_
ROMOFORM		UG/L	<0.2		
BROMOMETHANE		UG/L	<0.5		, .
CARBON TETRACHLORIDE		UG/L	<1.0		
HLOROBENZENE		UG/L	<0.2		
CHLOROETHANE		UG/L	<0.5		
GHLOROFORM		UG/L	<0.5		
HLOROMETHANE		UG/L	<0.5		
DIBROMOCHLOROMETHANE		UG/L	<1.0		
1-2-DIBROMOETHANE (EDB)		UG/L	<0.2		
2-P'OHLOROBENZENE		UG/L	<0.2		
1,3-L HLOROBENZENE		UG/L	<0.5		
4-4-DICHLOROBENZENE		UG/L UG/L	<0.5		
1-DICHLOROETHANE		UG/L	<0.5		
1,2-DICHLOROETHANE (EDC)		UG/L	<0.3		
1-DICHLOROETHENE		UG/L	<0.5		
s-1,2-DICHLOROETHENE		UG/L	<0.2		
trans-1,2-DICHLOROETHENE		UG/L	<0.2		
1∞2-DICHLOROPROPANE		UG/L	<1.0		
s-1,3-DICHLOROPROPENE		UG/L	<0.2		
trans-1,3-DICHLOROPROPENE		UG/L	<0.2		
METHYLENE CHLORIDE		UG/L	<0.2		
1,2,2-TETRACHLOROETHANE		UG/L	<2.0		
TETRACHLOROETHENE		UG/L	<0.5		
1-1,1-TRICHLOROETHANE		UG/L	<0.5		
1,2-TRICHLOROETHANE		UG/L	<1.0		
TRICHLOROETHENE			<0.2		
RICHLOROFLUOROMETHANE		UG/L UG/L	<0.3		
NYL CHLORIDE			<0.2		
·····································		UG/L	<0.5		
SURROGATE: ROMOCHLOROMETHANE (%) SURROGATE LIMITS	(71 - 126)		115		



GAS CHROMATOGRAPHY - QUALITY CONTROL **MSMSD**

TEST

: EPA 8021 MODIFIED

MSMSD#

: 106007-07

LIENT

PROJECT#

PROJECT NAME

: REMEDIATION : PERSON STATION

: PUBLIC SERVICE COMPANY

DATE ANALYZED

PINNACLE I.D.

: 106007

DATE EXTRACTED

: NA : 06/05/01

SAMPLE MATRIX

: AQUEOUS

UNITS

· 116/

39 4					UG/L					
	SAMPLE	CONC	SPIKED	%	DUP	DUP		REC	RPD	
PARAMETER	RESULT	SPIKE	SAMPLE	REC	SPIKE	% REC	RPD	LIMITS	LIMITS	
HLOROBENZENE	<0.5	40.0	44.4			70 INEQ	INFD	LIMIT 13	LIMIT 5	
• • =	~0.5	10.0	11.1	111	11.0	110	1	(87 - 124)	20	
1-DICHLOROETHENE	<0.2	10.0	10.3	103	40 E	400	_	` ,		
TOICH ODOETHERS			10.5	103	10.5	105	2	(80 - 120)	20	
TRICHLOROETHENE	<0.3	10.0	11.1	111	11.2	112	1	(89 - 127)	20	
- 5 89			••		11.2	112	1	(89 - 127)	20	

CHEMIST NOTES:

ery =

₩R

(Spike Sample Result - Sample Result)

-X 100

Spike Concentration

(Sample Result - Duplicate Result)

RPD (Relative Percent Difference) = ----- X 100

Average Result



LOG NO: C1-06044 Received: 02 JUN 01 Reported: 12 JUN 01

Ms. Jacinta Tenorio Pinnacle Laboratories 2709-D Pan American Freeway Northeast Albuquerque, NM 87107

Project: 106007, PNM-PERSON STATION

Sampled By: Client

Code: 143710612

REPORT OF RESULTS

	REPORT OF RESULTS			Page 1
LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES		ATE/ ME SAMPLED	
06044-1	SURGE TANK DISCHARGE/106007-12	06	-01-01/10:45	
PARAMETER		06044-1		
Sulfate as Dilution I Analysis I Batch ID Analyst		640 20 06.11.01 SEW068 BE		



LOG NO: C1-06044 Received: 02 JUN 01 Reported: 12 JUN 01

Ms. Jacinta Tenorio Pinnacle Laboratories 2709-D Pan American Freeway Northeast Albuquerque, NM 87107

Project: 106007, PNM-PERSON STATION

Sampled By: Client

Code: 143710612

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , QC REPORT	FOR LIQUID	SAMPLES	DATE/ TIME SAMPLED	_
06044-2 06044-3 06044-4 06044-5	Method Blank Lab Control Standard % Recover Matrix Spike % Recovery Matrix Spike Duplicate % Recov	-			
PARAMETER		06044-2	06044-3	06044-4	06044-5
Sulfate as Dilution 1 Analysis 1 Batch ID Analyst		<5.0 1 06.11.01 SEW068 BE	95 % SEW068	117 %	116 % SEW068

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

Lance Larson, Project Manager

Final Page Of Report



Data Qualifiers for Final Report

	- and Galamero for I mar report
STL-Pensacola Inorganic/0	Organic
B1	
B2	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank on well so link analyzed with the samples.
	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	
D	Sample results were corrected due to contaminants in Fractionation Blank
Ē	Diluted out (surrogate or spike due to sample dilution)
F	Compound concentration exceeds the upper calibration range of the instrument.
•	The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL; therefore, the quantitation is estimation (The
G	STL-PN RL is at or above lowest calibration standard in the initial calibration curve).
9	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the
H1	sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
•••	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results
H2	exceeds the STL Reporting Limit; therefore, the results are "out of control"
J (description)	Sample and duplicate (or MS and MSD) RPD is above control limit.
J4	The analyte was positively identified, the quantitation may be an estimation
J6	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J7	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
JI	The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is an estimation (this
J8	qualifier should only be used when the STL-PN RL is below the lowest calibration standard in the initial calibration).
J9	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
M1	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
IVI I	A matrix effect was present ('sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, 2sample and/or
	MS/MSD chromatogram(s) had interfering peaks, ³ sample result was > 4 X spike added, ⁴ metals serial dilution was
M2	performed, or ometals post spike is < 40% R) The MS and (see MSD % B and BBB)
N/C	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
NH	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NoMS .	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
Q	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-
description)	digestion) spike.
R1	The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
R2	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
NZ	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable
R3	for NDPES compliance monitoring
R4	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R5	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R6	Sample collection requirements not met, see case narrative.
	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
\$1 \$2	The Method of Standard Additions (MSA) has been performed on this sample.
\$2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified
	Compound.
U	The reported value is ≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike
	absorbance.

Revised: 12/20/00

* (Metals & Wet Chem)

The compound has been quantitated against a one point calibration.

Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis). Elevated reporting limit due to insufficient sample size

STL PENSACOLA

STATE CERTIFICATIONS Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL) Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater) Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental) State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater) State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hagardous Waste and Wastewater) Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater) Florida, Radioactive Materials License No. G0733-1 Foreign Soil Permit, Permit No. S-37599 Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste) Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water) State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water) Louisiana Department of Environmental Quality, Environmental Laboratory Accreditation Program, Agency Interest ID 30748 (Environmental -Accreditation Pending) State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida) nmonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater) State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida) New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater) State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster) New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste) North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater) North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Drinking Water, Wastewater and Hazardous Waste by Reciprocity with Florida) State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater) Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water) South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA) Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water) Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL) State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704 \text{\text{word\certlist\condcert.lst}} revised 04/10/01

ciprocity with FL)

STL Pensacola PROJECT SAMPLE INSPECTION FORM

PROJECT SAMPLE INSPECTIO	TRENT
Lab Order #: (106094) Date Receive	d: 6- みつ/ SERVICES
1. Was there a Chain of Custody? Yes No*	8. Were samples checked for Yes No* N/A preservative? (Check pH of all H2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*
2. Was Chain of Custody properly fes No* filled out and relinquished?	9. Is there sufficient volume for Yes No* N/A analysis requested?
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP	1
 4. Were all samples properly labeled and identified? 5. Did samples require splitting or Yes No compositing? Reg By: PM Client Other 	11. Is Headspace visible > ¼ " in Yes* No N/A diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.
6. Were samples received in Proper containers for analysis	12. If sent, were matrix spike Yes No* N/A bottles returned?
requested? 7. Were all sample containers received intact?	13. Was Project Manager notified Yes No* N/A of problems? (initials:)
Airbill Number(s): 17878/6844 4379 9564	Shipped By: <u>しい</u> ら
Cooler Number(s): CUENT	Shipping Charges: N/A
Cooler Weight(s): 15#	Cooler Temp(s) (°C): 22 (C(K)) (LIST THERMOMETER NUMBER(S) FOR VERIFICATION)
Out of Control Events and Inspection Comments	s:
MULTIPLE PROJECT SHIRMENT	
	(Use back of PSIFFOR Additional notes and comments)

Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytic department will flag immediate hold time samples(pH, Dissolved O₂, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.

DC

Date: 6-2-0 (

Logged By:

0€ Date:6.2.01

- If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"
- + All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).
- * According to EPA, ¼" of headspace is allowed in 40 ml viels requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).

Inspected By:

	Pinnacle Laboratories, Inc.								Ct Ct	hai	n o	f C	usto	dy	æ.	24	*	Dat	te:			Page	e:	<u>/</u>	<u> </u>	_	-3
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Date:

SPECIAL CERTIFICATION REQUIRED: YES NO

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Pinnacle Laboratories Inc.

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Pinnacle Laboratories Inc.

IN OF CUSTODY DATE: 0-1-01 PAGE: 2 OF 2

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	COMPANY: ADDRESS:	PUBLIC SERVICE COMPANY OF NEW MEXICO ALVARADO SQUARE - ER16 ALBUQUERQUE, NM 87158					(418.1) TRPH	·I I		JOTAN	MIDE PCF									٤	3 6		(R25/R270)	270-SIMS)	, , , , , ,					d 1311)		in the second
PHONE: FAX:		(505) 241-4744 (505) 241-2487						5) Diesel/Direct Inje		ge & Trap	MTRF TWR					/ DBCP 🗆		Volatile Organics	Volatile Organics	life Organic	08/8081/80	151)	nounds GCAA	s /610/8310/8			Aetals (13)	Metals (23)		CLP (Metho		NERS
	BILL TO: SAME COMPANY: ADDRESS: ATTN: CHUCK ARA			TER				(MOD.8015) Diesel/Direct Inject	4	(M8015) Gas/Purge & Trap	(BTEX)	(TOT)	8021 (EDX)	8021 (HALO)	(CUST)	EDB	201	_ (-	- -	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Pesticides /PCB (608/8 Herhicides (615/8151)	Base/Neitral/Acid Compounds (9CA/IS (625/897/))	Polyniclear Aromatics (610/8310/8970-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	ıls:	NUMBER OF CONTAINERS
	SAMP.	EDD A	1 3	TIME	1	TO CALL	Petroleum	8		(M80	80.	8021	802	805.	805	5. t	10.T.	020	928	826	Pest	불	88. 88.	Poky	Gene		Prio	Targ	RCR	RCR	Metals:	NC.
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	PSMW-16 INFLUENT		<u> </u>		ļ	260	90	Ш																								
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	PROJECT INFORMATION PRIOR AUTHORIZATION IS RE) FQ	R RI	JSH	PR(OJE	CTS		REL	JNQ	UISH	EQ.	3Y:	- 1 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		1,		RELI	NQU	ISHE				· · · · · · · · · · · · · · · · · · ·	2.
li	PROJ. NO.: Remediation (RUSH) 24hr 48hr 72hr					31 W	VEEK (NORMAL) Signature:									Time		<u> </u>	`	Signature: Time:												
		ERTIFICATION	RTIFICATION REQUIRED: NM SDWA C								OTHER						Printed Name: Date:							D-4-4N								
PROJ. NO.: Remediation PROJ. NAME: Person Station P.O. NO.:															CHUCK ANTER 6-1-01							١	Printed Name: Date:									

METHANOL PRESERVATION □ SHIPPED VIA: COMMENTS: FIXED FEE **≰**copies Please *∃* SAMPLERIER NO CONTAINERS PLEASE PROVIDE DATA ON DIS-CUSTODY SEALS KETTE AS WELL AS EXTRA HARD **COPY TO RON JOHNSON MS-0408**

See reverse side (Force Majeure) RECEIVED BY RECEIVED BY: (LAB)

Signature: Time: Time: Printed Name: Date: Date:

sale JIBACE Company: Pinnacle Laboratories Inc.

Company: