

US EPA ARCHIVE DOCUMENT



# HEALY SYSTEMS, INC.

17 Hampshire Drive, Hudson, New Hampshire 03051 ■ Tel. (603) 882-2472 ■ Fax (603) 882-5189

E-Mail: sales@healysystems.com ■ Website: www.healysystems.com

September 15, 2004

Tom Driscoll  
USEPA/OAQPS/EMAD/EFPAG  
109 TW Alexander Drive (D243-02)  
Research Triangle Park, NC 27709

Re: Healy EVR Test Data Report 1/25/04

Dear Tom:

It was a pleasure to meet with you and your associates on Tuesday afternoon and to have the opportunity to review our testing history of the Healy EVR Phase II vapor recovery system. I look forward to the public meeting on September 20<sup>th</sup> and presenting my views on the question of the effectiveness of Phase II vapor recovery as we approach widespread use of ORVR equipped vehicles.

In an effort to assist you and your staff to have a clear picture of how our EVR Phase II vapor recovery system performs, I have enclosed a copy of the "ISD Daily Report Details" dated Jan. 25, 2004. The column heading abbreviations are described below:

- Gross 95% - 7 day 96 percentile pressure, " W.C.
- DGRD 75% - 30 day 76 percentile pressure, " W.C.
- Max. " W.C. - 20 second positive peaks, " W.C.
- Min. " W.C. - 20 second minimum peak, " W.C.
- A/L ratio - Actually is a V/L ratio
- Leak CFH - Failure leak rate is 8.5 CFH
- FPI Blend - Fueling position #1, blender
- DUR - Time of fueling (seconds)
- # EV - Number of hoses in operation
- FPS - Fueling position

In addition you will find three tank ullage pressure graphs showing the same pressure Data. These graphs clearly illustrate that our Clean Air Separator will prevent the ullage space pressure from exceeding CARB's maximum average positive pressure of 1/4" W.C.

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Please note that the pressure transducer used for containment data has a negative range of -5" W.C. Vacuum levels in excess of 5" will be recorded as 5".

Sincerely,

A handwritten signature in black ink, appearing to read "Jim", written in a cursive style.

James W. Healy

Cc: Arthur Boroff

Enclosure

IV0700  
 JAN 25, 2004 12:43 AM  
 102931-135868  
 8900 POCKET RD.  
 SACRAMENTO, CA 95831  
 80347398005001

ISD DAILY REPORT DETAILS

EVR TYPE: VACUUM ASSIST  
 ISD TYPE: 01.00  
 VAPOR PROCESSOR TYPE: NO VAPOR PROCESSOR

OVERALL STATUS :PASS EVR VAPOR COLLECTION :PASS  
 EVR VAPOR CONTAINMENT :PASS  
 ISD MONITOR UP-TIME : 99% STAGE I TRANSFERS: 18 of 18 PASS  
 EVR/ISD PASS TIME :100%

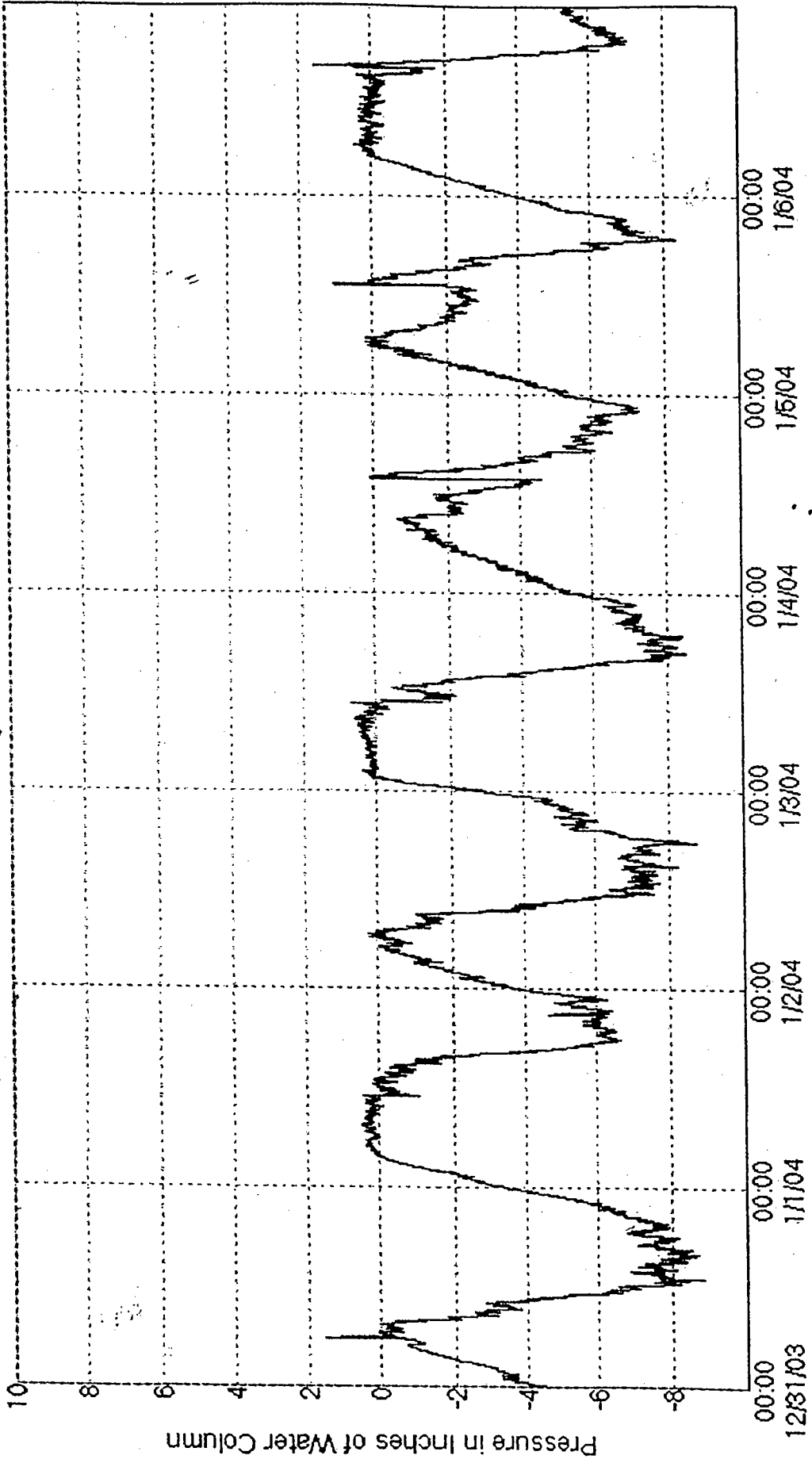
Status Codes: (W)Warn (F)Fail (D)Degradation Fail (G)Gross Fail  
 (ISD-W)ISD Self-Test Warning (ISD-F)ISD Self-Test Fail (N)No Test

---COLLECTION TESTS-DAILY AVERAGE HOSE V/L RATIO----

ISD	ISD	---CONTAINMENT TESTS---			STAGE	---COLLECTION TESTS-DAILY AVERAGE HOSE V/L RATIO----													
DATE	%UP	GROSS	DGRD	MAX	MIN	LEAK	FP1	FP2	FP3	FP4	FP5	FP6	FP7	FP8	FP9	FP10	FP11	FP12	
		95%	75%	"WC	"WC	CFH	XFR	BLEND	BLEND	BLEND	BLEND	BLEND	BLEND	BLEND	BLEND	BLEND	BLEND	BLEND	
12/31	PASS	100%	0.1	-0.4	1.4	-5.0	0	PASS	1.07	1.10	1.09	1.12	1.09	1.00	0.97	1.06	1.08	1.06	1.10
01/01	PASS	100%	0.2	-0.4	0.5	-5.0	0	PASS	1.06	1.16	1.09	1.12	1.03	1.00	0.95	1.07	1.08	1.09	1.16
01/02	PASS	100%	0.2	-0.4	0.2	-5.0	0	1.08	1.14	1.09	1.11	0.99	1.01	1.00	1.09	1.12	1.07	1.11	1.08
01/03	PASS	100%	0.3	-0.5	0.5	-5.0	0	PASS	1.06	1.14	1.07	1.07	1.05	1.00	1.03	1.07	1.11	1.07	1.11
01/04	PASS	100%	0.3	-0.5	0.1	-5.0	0	PASS	1.06	1.14	0.96	1.06	1.02	1.05	0.99	1.09	1.10	1.06	1.08
01/05	PASS	100%	0.2	-0.5	1.0	-5.0	0	PASS	1.10	1.14	1.07	1.06	1.05	1.03	1.04	1.08	1.05	1.10	1.17
01/06	PASS	100%	0.2	-0.4	1.5	-5.0	0	PASS	1.04	1.07	1.03	1.06	1.03	1.06	1.08	1.07	1.10	1.08	1.08
01/07	PASS	100%	0.2	-0.4	-0.5	-5.0	0	PASS	1.02	1.10	1.05	1.06	1.05	1.02	1.03	1.06	1.07	1.11	1.10
01/08	PASS	100%	0.2	-0.5	1.0	-5.0	0	PASS	1.06	1.10	1.05	1.07	1.02	1.02	1.06	1.06	1.09	1.14	1.06
01/09	PASS	100%	0.2	-0.6	0.6	-5.0	0	PASS	1.06	1.12	1.08	1.10	1.09	1.03	0.99	1.10	1.06	1.12	1.11
01/10	PASS	100%	-0.0	-0.6	1.6	-5.0	0	PASS	1.04	1.13	1.05	1.01	1.01	0.99	1.00	1.09	1.07	1.12	1.08
01/11	PASS	100%	0.1	-0.5	0.2	-5.0	0	1.07	1.12	1.06	1.02	1.00	1.00	1.05	1.10	1.11	1.07	1.11	1.06
01/12	PASS	100%	0.1	-0.6	5.0	-5.0	1	PASS	1.06	1.13	1.07	1.02	1.08	1.02	1.03	1.04	1.10	1.13	1.11
01/13	PASS	100%	0.1	-0.6	0.8	-5.0	2	PASS	1.05	1.12	1.08	1.02	1.08	0.99	0.94	1.08	1.11	1.11	1.11
01/14	PASS	99%	-2.3	-3.6	-1.5	-5.0	0	PASS	1.06	1.01	1.07	0.94	1.07	1.01	1.07	1.10	1.06	1.10	1.12
01/15	PASS	100%	-0.3	-2.2	0.7	-5.0	0	PASS	1.06	1.05	1.04	0.94	1.09	1.03	1.03	1.09	1.08	1.10	1.08
01/16	PASS	100%	-0.4	-2.0	1.2	-5.0	0	PASS	1.05	1.09	1.07	1.06	1.09	1.00	1.04	1.09	1.05	1.10	1.04
01/17	PASS	100%	-0.6	-2.1	-0.7	-5.0	0	1.07	1.16	1.05	1.10	1.07	1.02	1.05	1.09	1.10	1.12	1.15	1.07
01/18	PASS	100%	-0.0	-1.6	1.9	-3.9	1	PASS	1.05	1.11	1.08	1.08	1.07	1.00	1.07	1.08	1.08	1.14	1.11
01/19	PASS	100%	-0.0	-1.5	0.0	-5.0	3	PASS	1.09	1.15	1.09	1.09	1.11	1.00	1.04	1.09	1.10	1.12	1.10
01/20	PASS	100%	-0.1	-1.7	-0.8	-5.0	2	PASS	1.04	1.12	1.05	1.03	1.09	0.99	1.04	1.10	1.13	1.13	1.02

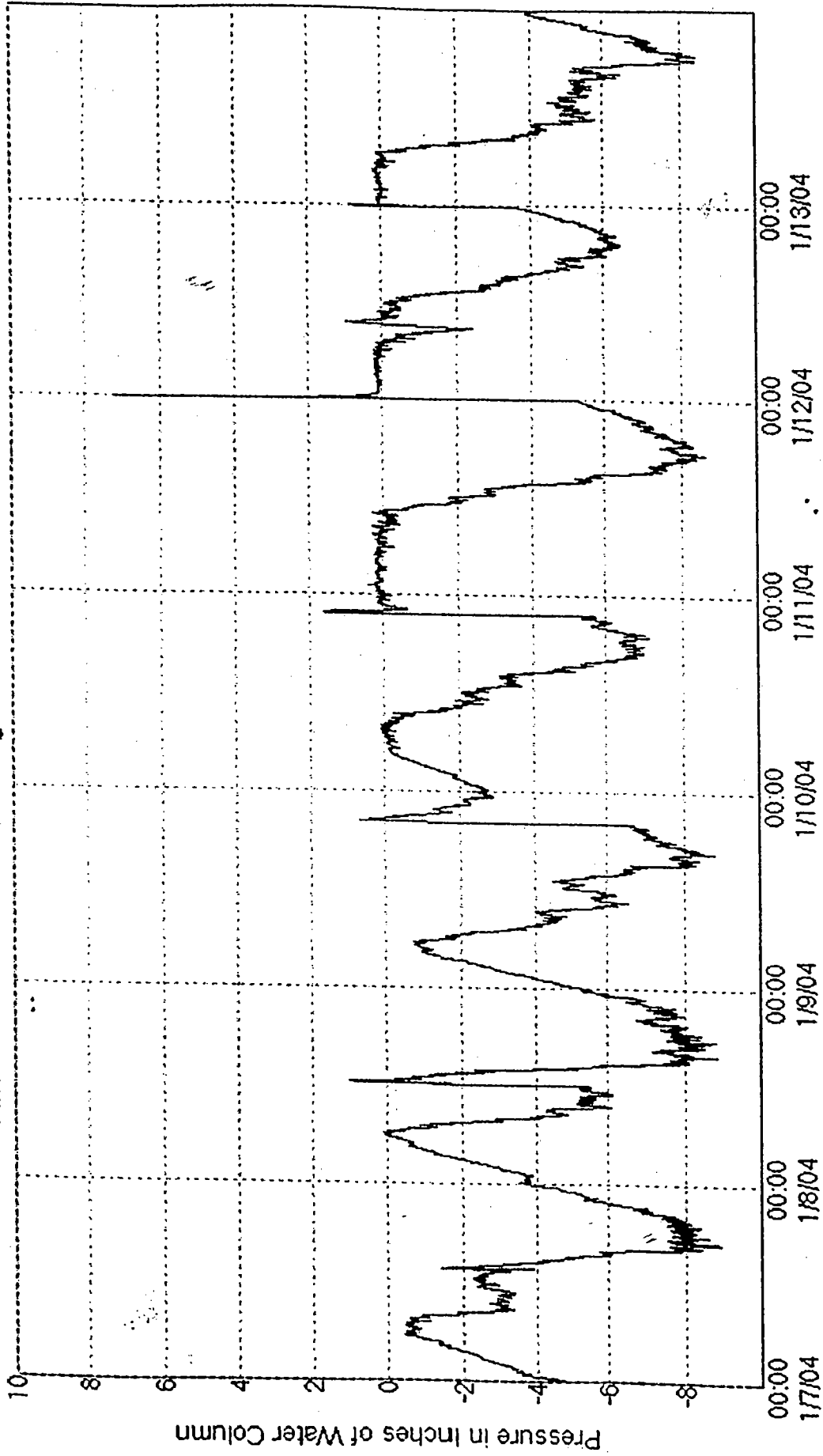
WINTER FUEL WITH CLEAN AIR SEPARATOR ON

Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8: 1/6/2004



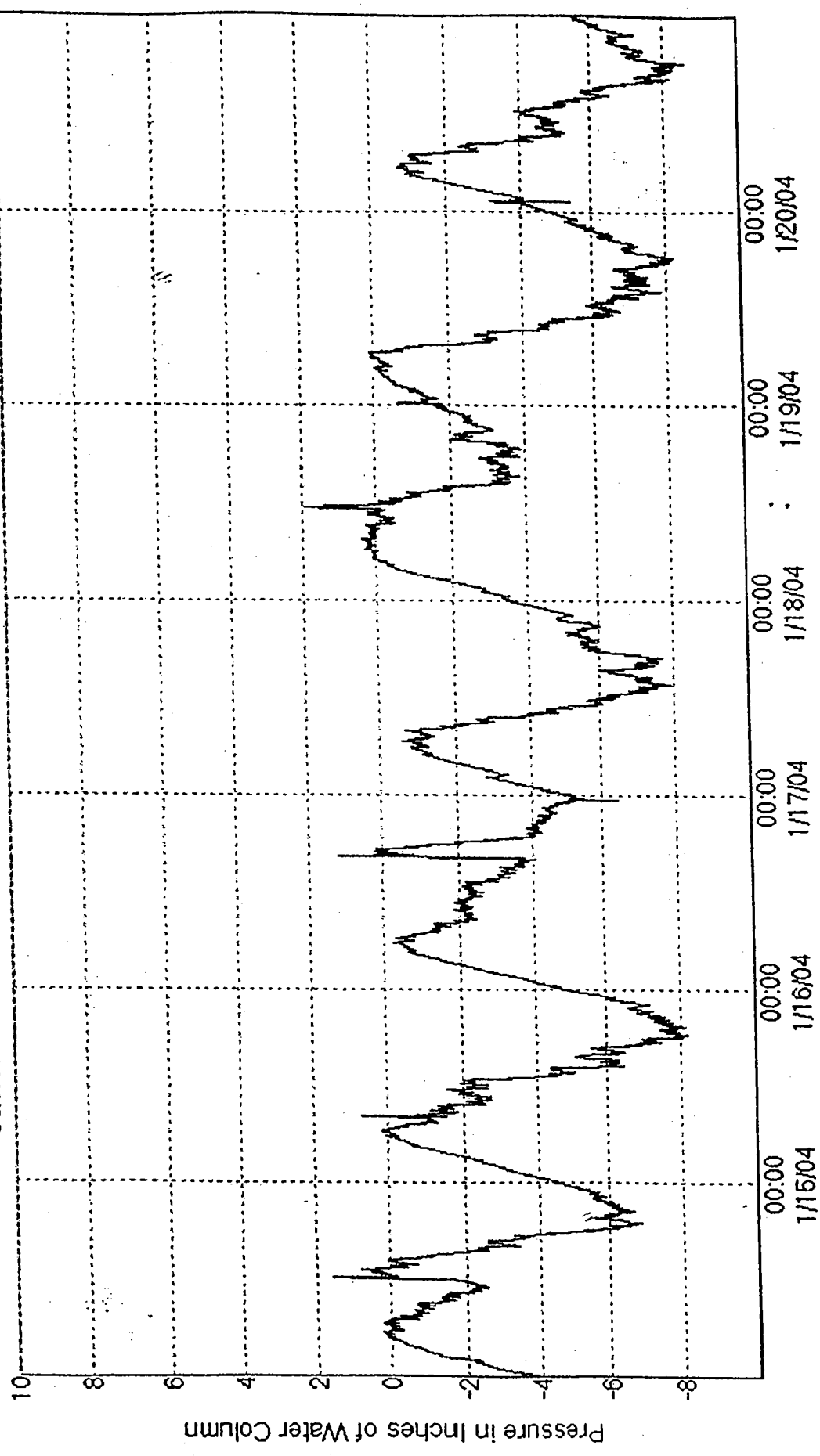
WINTER FUEL WITH CLEAN AIR SEPARATOR ON

Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8; 1/13/2004



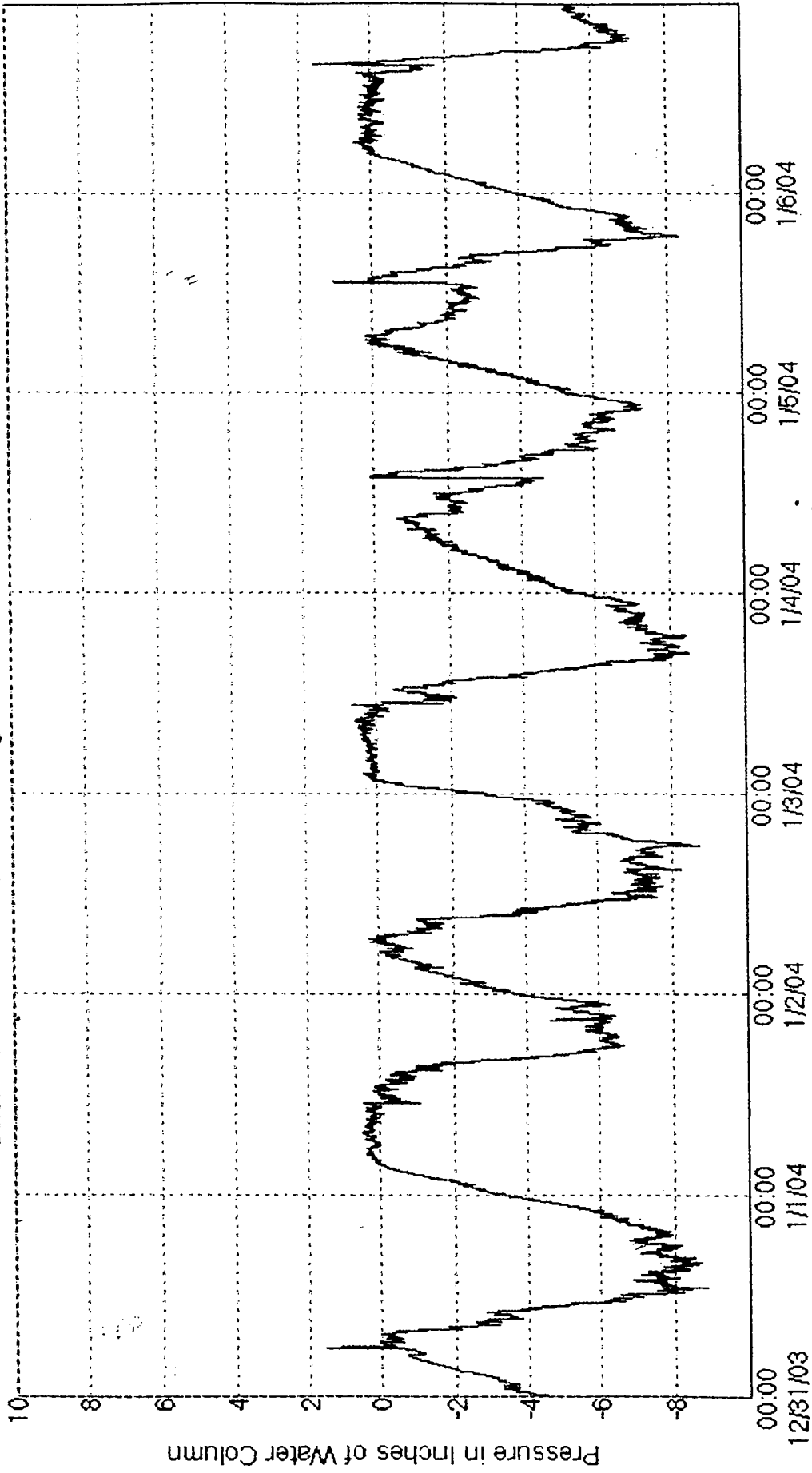
WINTER FUEL WITH CLEAN AIR SEPARATOR ON

Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8; 1/20/2004



WINTER FUEL WITH CLEAN AIR SEPARATOR ON

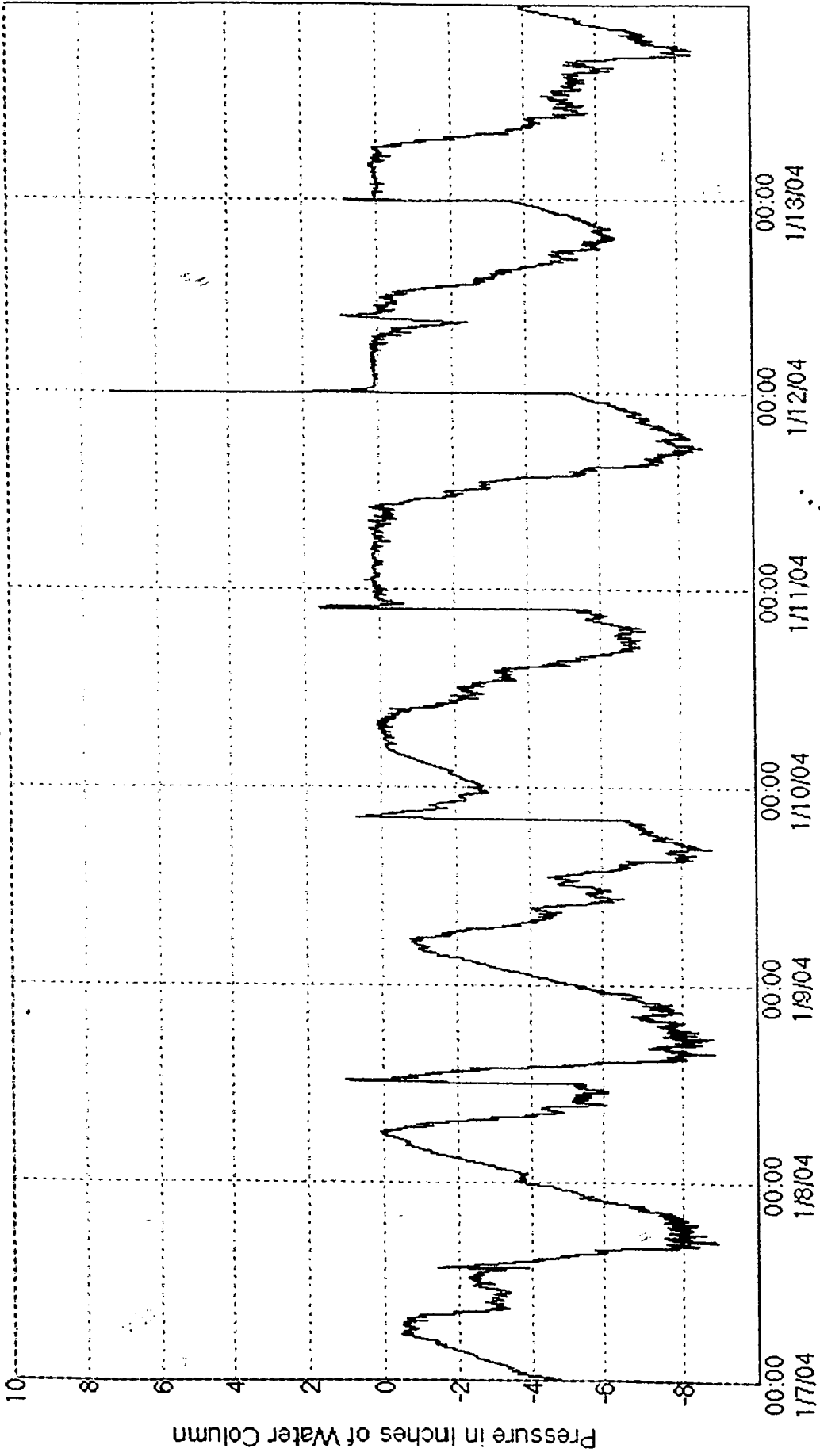
Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8: 1/6/2004





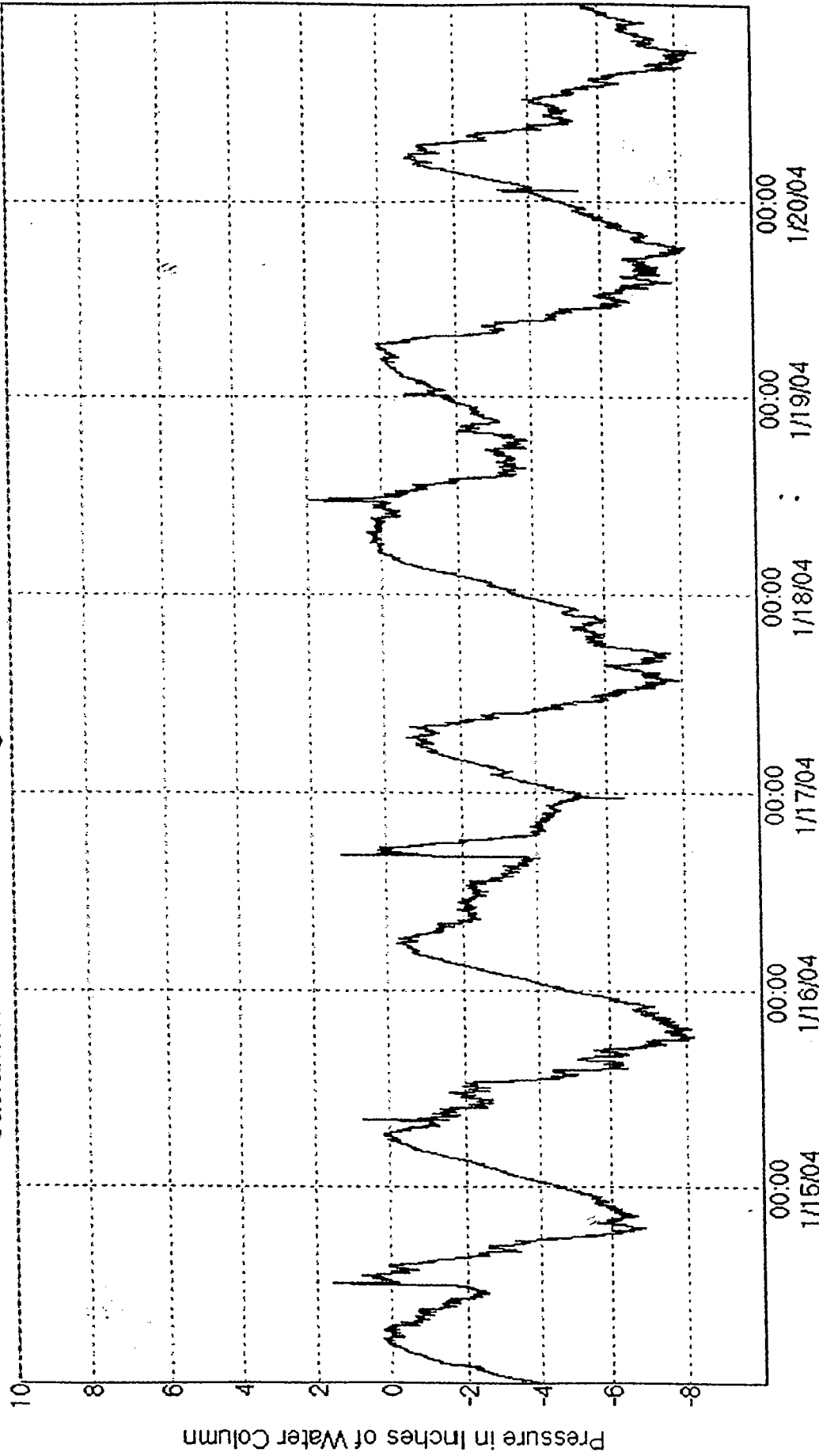
WINTER FUEL WITH CLEAN AIR SEPARATOR ON

### Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8; 1/13/2004



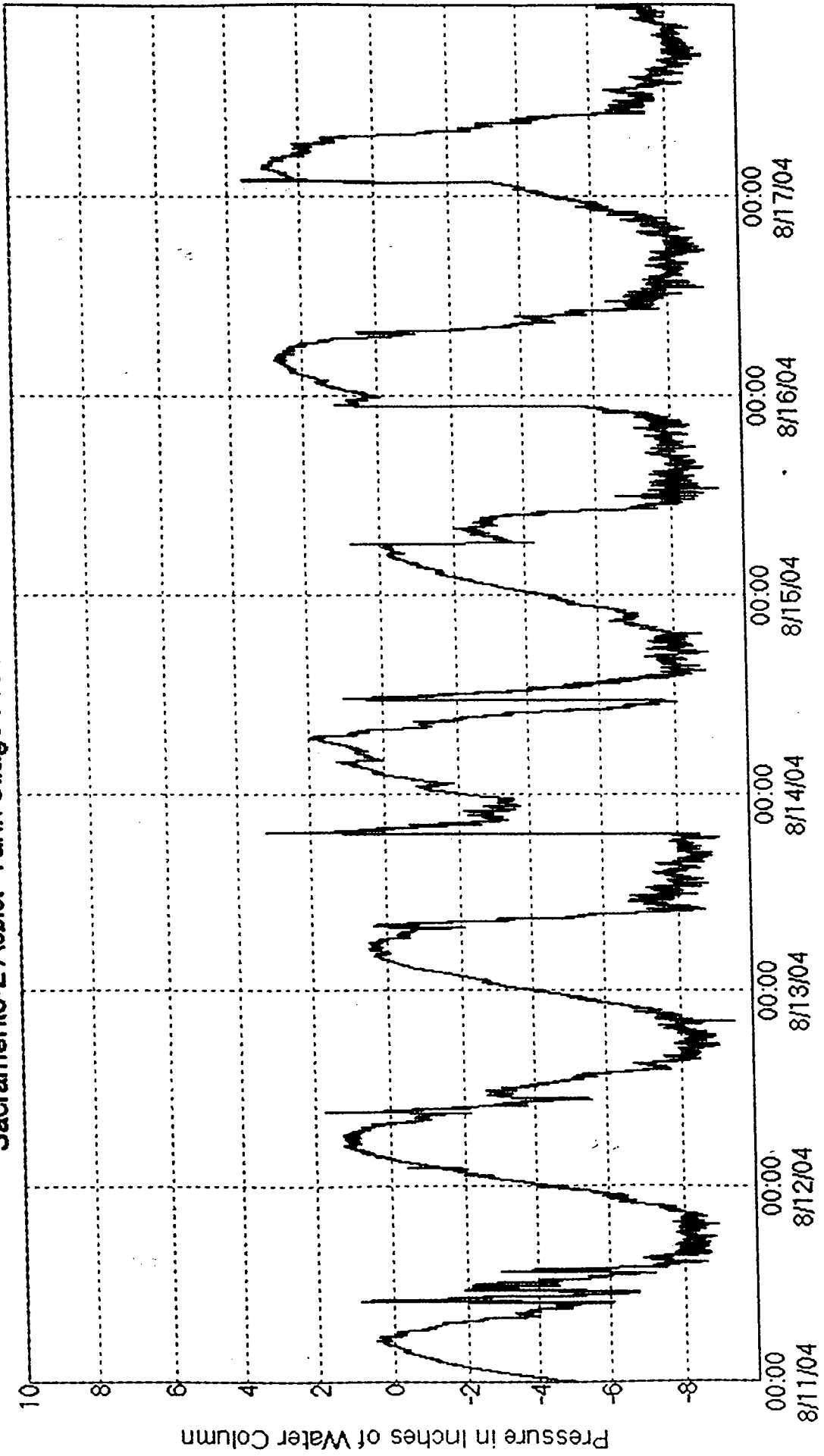
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Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8; 1/20/2004

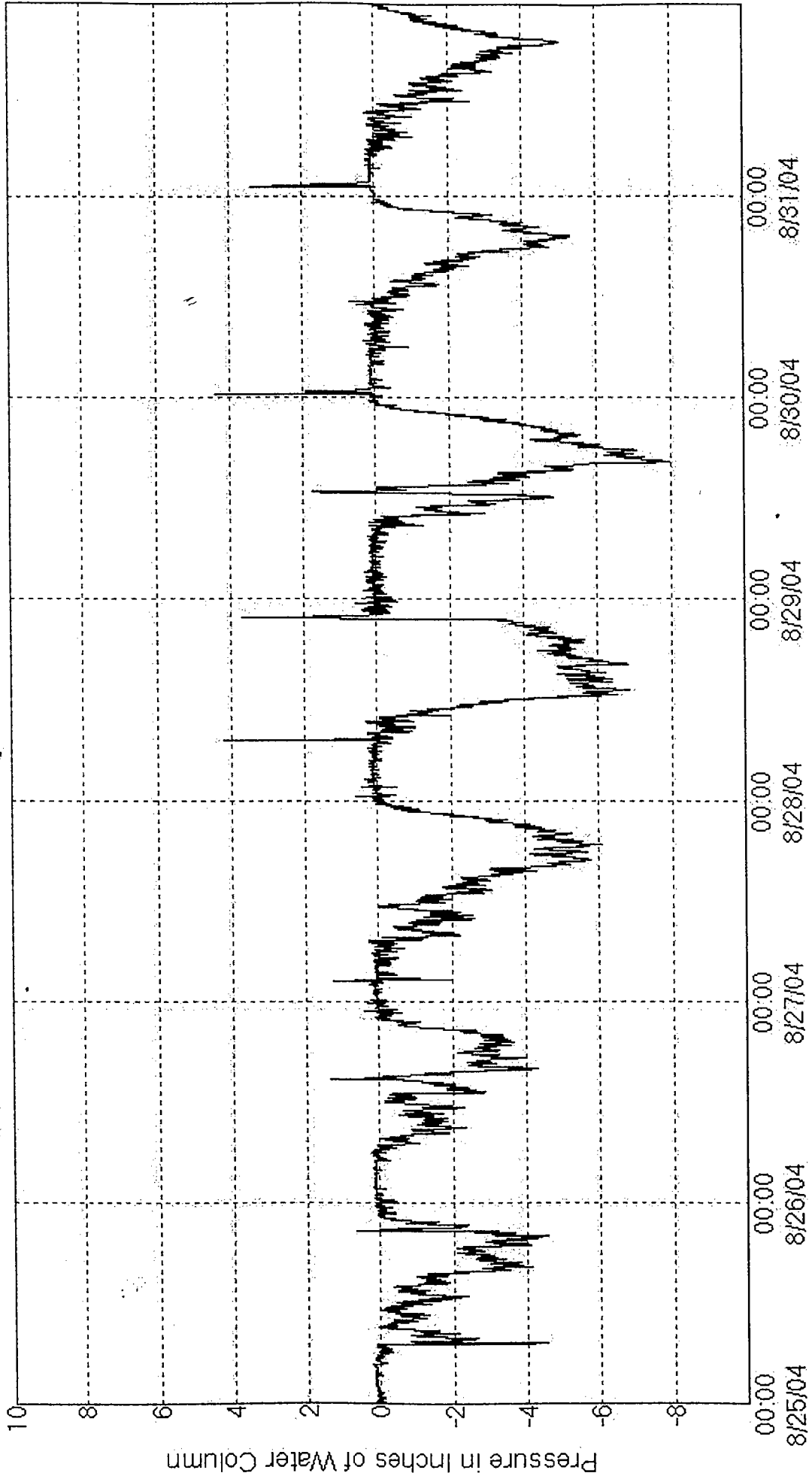


SUMMER FUEL WITH CLEAN AIR SEPARATOR OFF

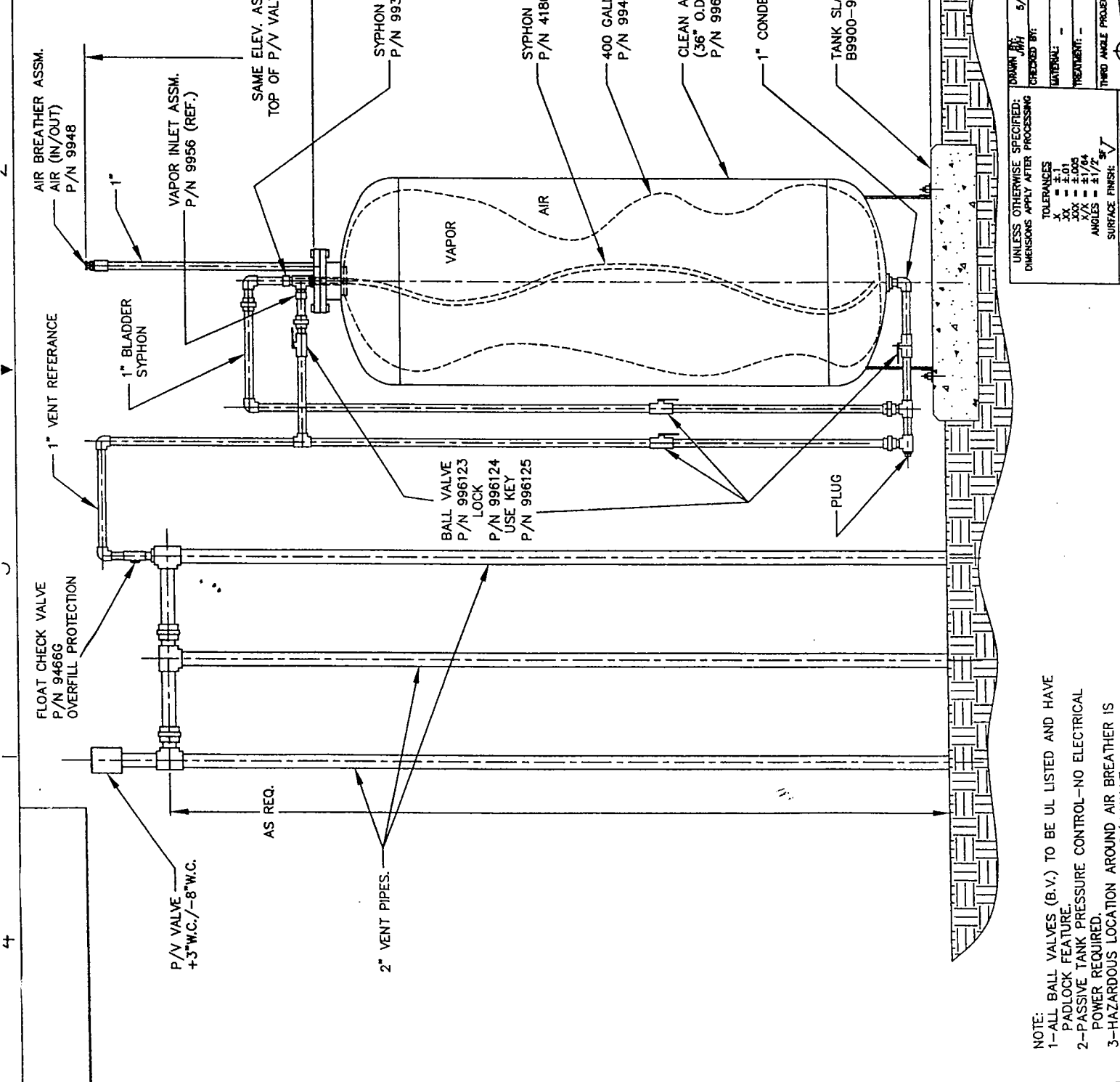
### Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8; 8/17/2004



### Sacramento-2 Assist Tank Ullage Pressure P2 FP7&8; 8/31/2004



REV	DESCRIPTION	DATE	APP
A	ORIG. ISSUE	5/14/02	JMH
B	GEN'L REV.	8/5/02	JMH
C	ADD FLOAT CHECK P/N 9466G	8/22/02	JMH
D	P/N 9948 WAS 9932	1/13/03	JMH
E	ADD FLAME ARRESTOR ASSM. P/N 9956	11/14/03	JMH
F	RELOCATE AIR BREATHER, P/N 9948	4/20/04	JMH
G	ADD P/N FOR LOCK, KEY & BALL VAL.	6/25/04	JMH



**HEALY** SYSTEMS, INC.  
17 Haverhill Drive  
Haverhill, Mass 01830-0081

DATE: 5/14/02  
DRAWN BY: JMH  
CHECKED BY: JMH

DWG TITLE: CLEAN AIR SEPARATOR INSTALLATION

SHEET NO.: 9900-9942

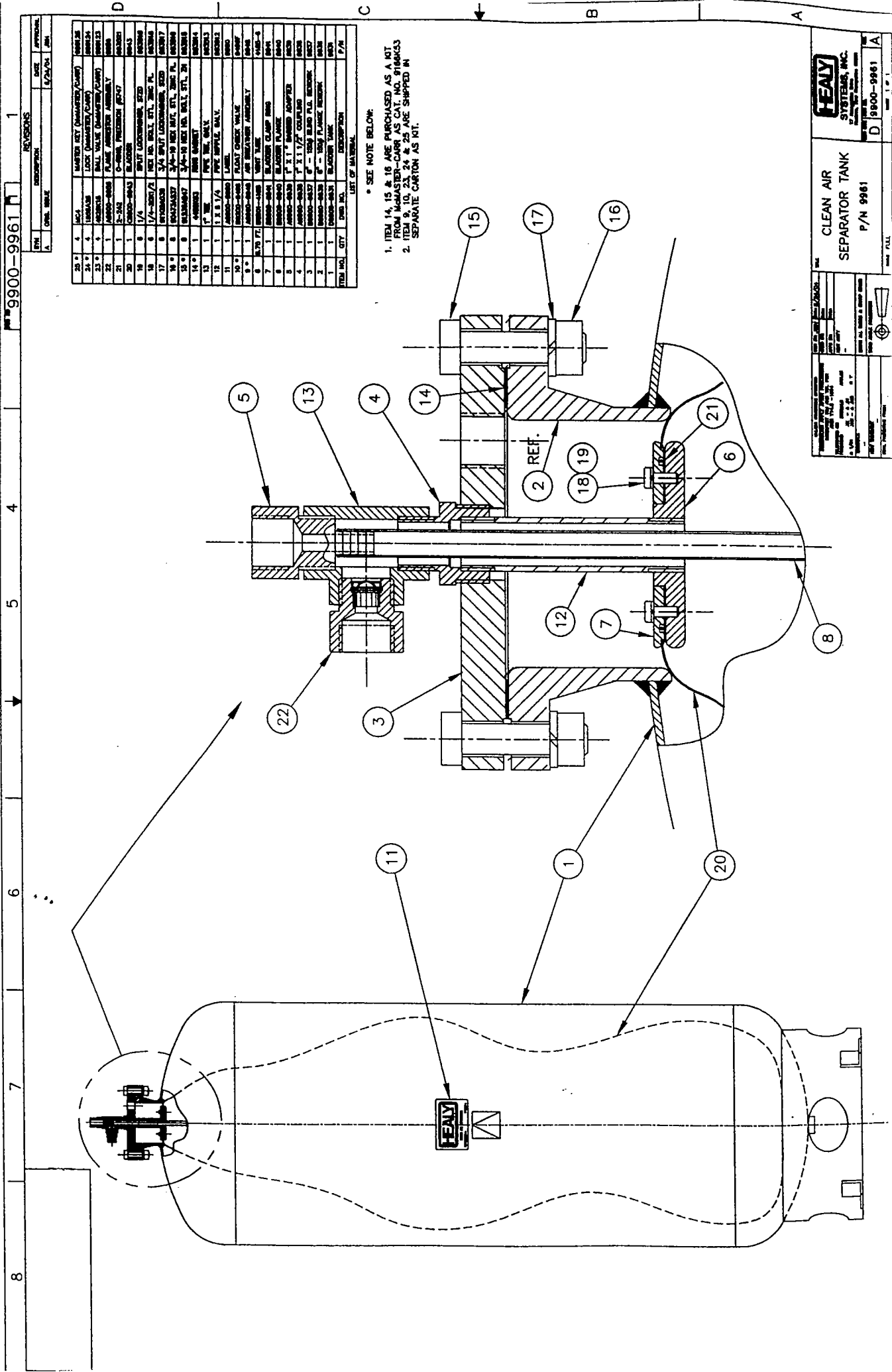
UNLESS OTHERWISE SPECIFIED: DIMENSIONS APPLY AFTER PROCESSING

TOLERANCES:  
X ±.1  
XX ±.01  
XXX ±.005  
XXX ±.0025  
ANGLES ±1/2°

SURFACE FINISH: 1/8" AND 1/16" PER ANSI 11.1-11.2

THIRD ANGLE PROJECTION

NOTE:  
1-ALL BALL VALVES (B.V.) TO BE UL LISTED AND HAVE PADLOCK FEATURE.  
2-PASSIVE TANK PRESSURE CONTROL-NO ELECTRICAL POWER REQUIRED.  
3-HAZARDOUS LOCATION AROUND AIR BREATHER IS CONSIDERED THE SAME AS P/V VALVE.



SEE NOTE BELOW:  
 1. ITEM 14, 15 & 16 ARE PURCHASED AS A KIT FROM MAHMASTER-CARR AS CAT. NO. 918AK35  
 2. ITEM 9, 10, 23, 24 & 25 ARE SHIPPED IN SEPARATE CARTON AS KIT.

ITEM NO.	QTY.	DESCRIPTION	UNIT	REV.	DATE	APPROVAL
23	4	MAHMASTER KIT (MAHMASTER/CARR)	MAHMASTER			
24	4	LOCK (MAHMASTER/CARR)	MAHMASTER			
25	4	BALL VALVE (MAHMASTER/CARR)	MAHMASTER			
22	1	FLANGE ASSEMBLY	MAHMASTER			
21	1	O-RING, PRESSION (P/N 917)	MAHMASTER			
20	1	BLACKEE	MAHMASTER			
19	6	1/4" SPIT LOCKWASHER, STD	MAHMASTER			
18	6	1/4" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
17	6	3/4" SPIT LOCKWASHER, STD	MAHMASTER			
16	6	3/4" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
15	6	3/4" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
14	6	3/4" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
13	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
12	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
11	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
10	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
9	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
8	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
7	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
6	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
5	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
4	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
3	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
2	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			
1	1	1" NUT, 1/2" DIA. ST. PL.	MAHMASTER			

**HEALY SYSTEMS, INC.**  
 CLEAN AIR SEPARATOR TANK  
 P/N 9961

DATE: 10/1/61  
 DRAWN BY: J. J. HEALY  
 CHECKED BY: J. J. HEALY  
 APPROVED BY: J. J. HEALY

ITEM NO. 9961  
 QTY. 1  
 UNIT: KIT

DATE: 10/1/61  
 DRAWN BY: J. J. HEALY  
 CHECKED BY: J. J. HEALY  
 APPROVED BY: J. J. HEALY

DATE: 10/1/61  
 DRAWN BY: J. J. HEALY  
 CHECKED BY: J. J. HEALY  
 APPROVED BY: J. J. HEALY