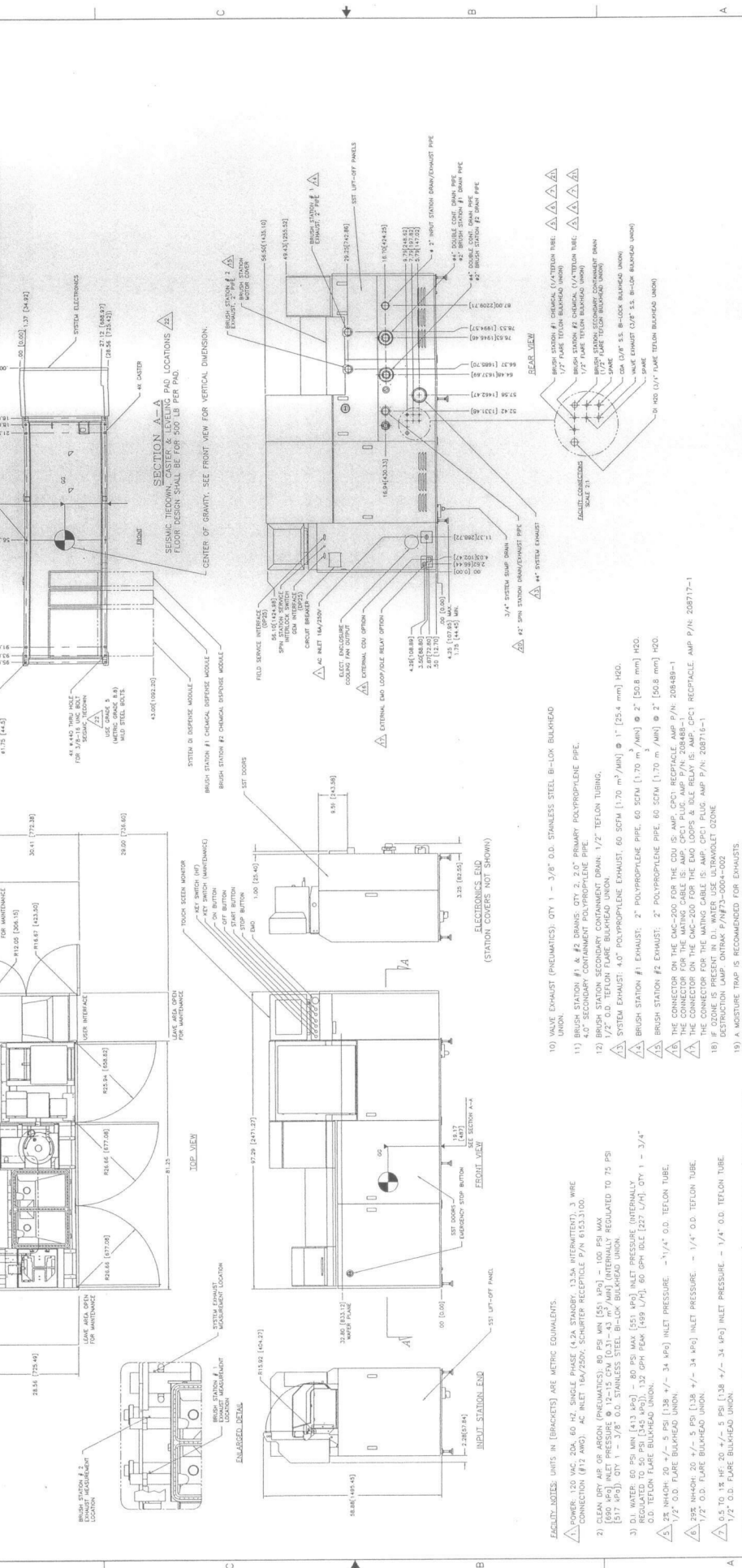


REV	DATE	BY	CHKD	DESCRIPTION
19-0200-058	10/04/96	T.G.		PROTOTYPE RELEASE
1	10/14/96	GB		N2 RADICATION
2	10/17/96	SMS		ADD NOTE 20 AND 21
3	10/17/96	MM		ADD SPIN STATION INTLK / NOTES
4	12/03/96	LL		CHG SYSTEM EXHAUST TO 1" AND BB
5				UPDATE DIMENSIONS
6				PROVIDE SPIN STATION
7				ADD LOCATION DETAIL
8				ADD LOCATION DETAIL
9				MOVE SPIN DRAIN
10				ADDED CENTER OF GRAVITY AND GB
11				ADDED CENTER OF GRAVITY AND GB
12				ADDED CENTER OF GRAVITY AND GB
13				ADDED CENTER OF GRAVITY AND GB
14				ADDED CENTER OF GRAVITY AND GB
15				ADDED CENTER OF GRAVITY AND GB
16				ADDED CENTER OF GRAVITY AND GB
17				ADDED CENTER OF GRAVITY AND GB
18				ADDED CENTER OF GRAVITY AND GB
19				ADDED CENTER OF GRAVITY AND GB
20				ADDED CENTER OF GRAVITY AND GB
21				ADDED CENTER OF GRAVITY AND GB
22				ADDED CENTER OF GRAVITY AND GB



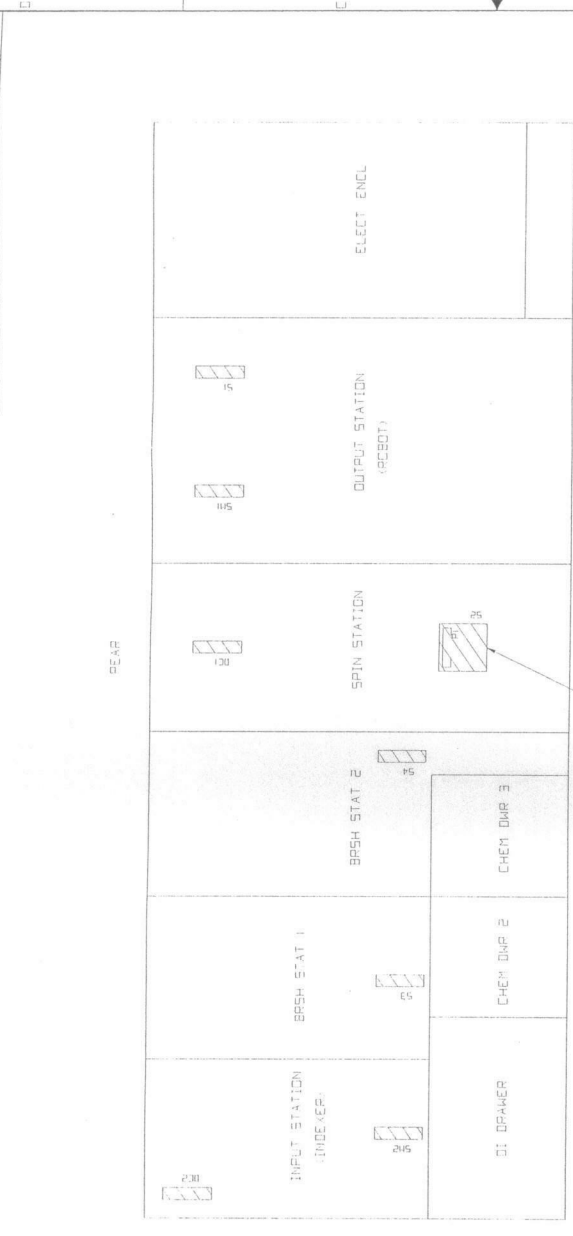
- FACILITY NOTES: UNITS IN [BRACKETS] ARE METRIC EQUIVALENTS.**
- POWER: 120 VAC, 20A, 60 HZ, SINGLE PHASE (4.2A STANDBY), 1.35A INTERMITTENT, 3 WIRE CONNECTION (R12 AMP), AC INLET 160/250V; SCHURTER RECEPTACLE P/N: 61531100.
 - CLEAN DRY AIR OR ARGON (PNEUMATICS): 80 PSI MAX (5.51 MPa) - 100 PSI MAX (6.89 MPa); 1/2" O.D. FLARE BULKHEAD UNION; REGULATED TO 75 PSI (5.17 MPa); QTY: 1 - 2" P/C PIPE.
 - DI. WATER: 60 PSI MAX (4.13 MPa) - 80 PSI MAX (5.51 MPa) INLET PRESSURE (INTERNALLY REGULATED TO 50 PSI (3.45 MPa)); 1.32 GPM FEAK (509 L/H); 60 GPM GLE (227 L/H); QTY: 1 - 3/4" O.D. TEFLON FLARE BULKHEAD UNION.
 - 2% NH₄OH: 20 +/- 5 PSI (1.38 +/- 0.34 MPa) INLET PRESSURE; -1/4" O.D. TEFLON TUBE, 1/2" O.D. FLARE BULKHEAD UNION.
 - 3% NH₄OH: 20 +/- 5 PSI (1.38 +/- 0.34 MPa) INLET PRESSURE; -1/4" O.D. TEFLON TUBE, 1/2" O.D. FLARE BULKHEAD UNION.
 - 0.5 TO 1.8 HF: 20 +/- 5 PSI (1.38 +/- 0.34 MPa) INLET PRESSURE; -1/4" O.D. TEFLON TUBE, 1/2" O.D. FLARE BULKHEAD UNION.
 - SPIN STATION DRAIN & EXHAUST: 50 +/- 10 SCFM (1.42 +/- 0.28 m³/MIN) @ 2" (50.8 mm) H₂O. QTY: 1 - 2" P/C PIPE.
 - INLET STATION DRAIN & EXHAUST: 5 (+/- 0.5) SCFM (0.14 (+/- 0.04) m³/MIN) @ 0.5" (12.7 mm) H₂O. QTY: 1 - 2" P/C PIPE.
 - VALVE EXHAUST (PNEUMATICS): QTY: 1 - 3/8" O.D. STAINLESS STEEL BI-LOW BULKHEAD UNION.
 - BRUSH STATION #1 & #2: DRINKS, QTY: 2, 2.0" PRIMARY POLYPROPYLENE PIPE, 1/2" O.D. SECONDARY CONTAMINANT POLYPROPYLENE PIPE.
 - BRUSH STATION SECONDARY CONTAMINANT DRINK: 1/2" TEFLON TUBING, 4.0" POLYPROPYLENE EXHAUST, 60 SCFM (1.70 m³/MIN) @ 1" (25.4 mm) H₂O.
 - SYSTEM EXHAUST: 4.0" POLYPROPYLENE EXHAUST, 60 SCFM (1.70 m³/MIN) @ 1" (25.4 mm) H₂O.
 - BRUSH STATION #2 EXHAUST: 2" POLYPROPYLENE PIPE, 60 SCFM (1.70 m³/MIN) @ 2" (50.8 mm) H₂O.
 - BRUSH STATION #2 EXHAUST: 2" POLYPROPYLENE PIPE, 60 SCFM (1.70 m³/MIN) @ 2" (50.8 mm) H₂O.
 - CONNECTOR TO THE CAC-200 FOR THE CPU IS AMP. CPCT RECEPTACLE AMP P/N: 208488-1 THE CONNECTOR FOR THE MATING CABLE IS AMP. CPCT PLUG AMP P/N: 208488-1
 - CONNECTOR ON THE CAC-200 FOR THE EMG LOOPS & ILE RELAY IS AMP. CPCT RECEPTACLE AMP P/N: 208717-1 THE CONNECTOR FOR THE MATING CABLE IS AMP. CPCT PLUG AMP P/N: 208717-1
 - ZONE IS FURNISHED WITH 1/2" (12.7 mm) DI. VIOLET OZONE.
 - 19) FURNISHED WITH 1/2" (12.7 mm) DI. VIOLET OZONE.
 - 19) A MOISTURE TRAP IS RECOMMENDED FOR EXHAUSTS.
 - SPIN STATION DRAIN IS TO BE FACILITATED TO AN ACID DRAIN.
 - IT IS RECOMMENDED THAT BRUSH STATION CHEMISTRY INPUTS BE FACILITATED TO THE TOOL VIA A 3-WAY MANUAL VALVE FOR THE PURPOSE OF DI FLUSHING OF THE INTERNAL CHEMISTRY LINE.
 - REFER TO 20-0001-037 SYNERGY, SEISMIC RESTRAINT ANALYSIS

UNLESS OTHERWISE SPECIFIED, THE DIMENSIONS ON THIS DRAWING SHALL BE IN INCHES. DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

DATE: 10/01/96
 DRAWN BY: T. G.
 CHECKED BY: T. G.
 SCALE: 1/16" = 1"

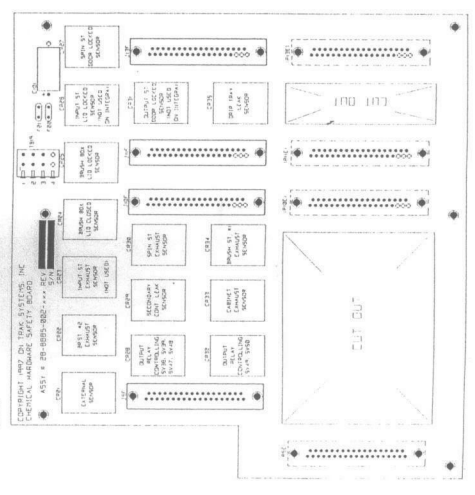
19-0200-058
 SHEET 1 OF 1

REV	DATE	DESCRIPTION	BY	CHKD	DATE
1	12/02/03	ISSUE	MSA	MSA	12/02/03
2	05/22	PRODUCTION RELEASE	MSA	MSA	05/22/04
3	05/22	UPDATE Dwg	MSA	MSA	05/22/04
4	05/22	UPDATE Dwg	MSA	MSA	05/22/04
5	05/22	UPDATE Dwg	MSA	MSA	05/22/04
6	05/22	UPDATE Dwg	MSA	MSA	05/22/04
7	05/22	UPDATE Dwg	MSA	MSA	05/22/04
8	05/22	UPDATE Dwg	MSA	MSA	05/22/04
9	05/22	UPDATE Dwg	MSA	MSA	05/22/04
10	05/22	UPDATE Dwg	MSA	MSA	05/22/04



SYSTEM TOP VIEW
NOT TO SCALE

for S2-93 complete



DETAIL A
NOT TO SCALE

- 1 DISTRIBUTION PANEL DESIGNATIONS:
S1 - SENSOR DIST PNL #1
S2 - SENSOR DIST PNL #2
S3 - SENSOR DIST PNL #3
S4 - SENSOR DIST PNL #4
SM1 - STEPPER MOTOR DIST PNL #1
SM2 - STEPPER MOTOR DIST PNL #2
DC1 - DC MOTOR DIST PNL #1
DC2 - DC MOTOR DIST PNL #2
- 2 DISTRIBUTION PANEL IS MOUNTED IN A HORIZONTAL POSITION AS INDICATED.
- 3 LABEL ALL CABLES WITH REFERENCE DESIGNATORS PLACING LABELS SO FROM CONNECTORS (EXAMPLE: S1-S-2 MEANS: S1 = SENSOR DIST PNL #1 S = LOCATION JS ON DIST PNL #1 I = FEMALE (JACK) CONNECTOR #1 OF CABLE ASSEMBLY)
- 4 DETAIL "A" ILLUSTRATES THE RELAY CONFIGURATION AS WELL AS THE SAFETY RELATED FUNCTION RELATIVE TO EACH RELAY OF PCB REFER TO ELECTRICAL SCHEMATIC 17-8865-002 FOR PCB CIRCUITRY
- 5 REFERENCE DOCUMENT 17-0200-003
- 6 FOR COMPLETE SENSOR INTERFACE CABLE ASSEMBLY INFORMATION

UNLESS OTHERWISE SPECIFIED	UNLESS OTHERWISE SPECIFIED
1. ALL DIMENSIONS ARE IN INCHES	1. ALL DIMENSIONS ARE IN INCHES
2. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY	2. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY
3. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY	3. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY
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9. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY	9. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY
10. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY	10. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY

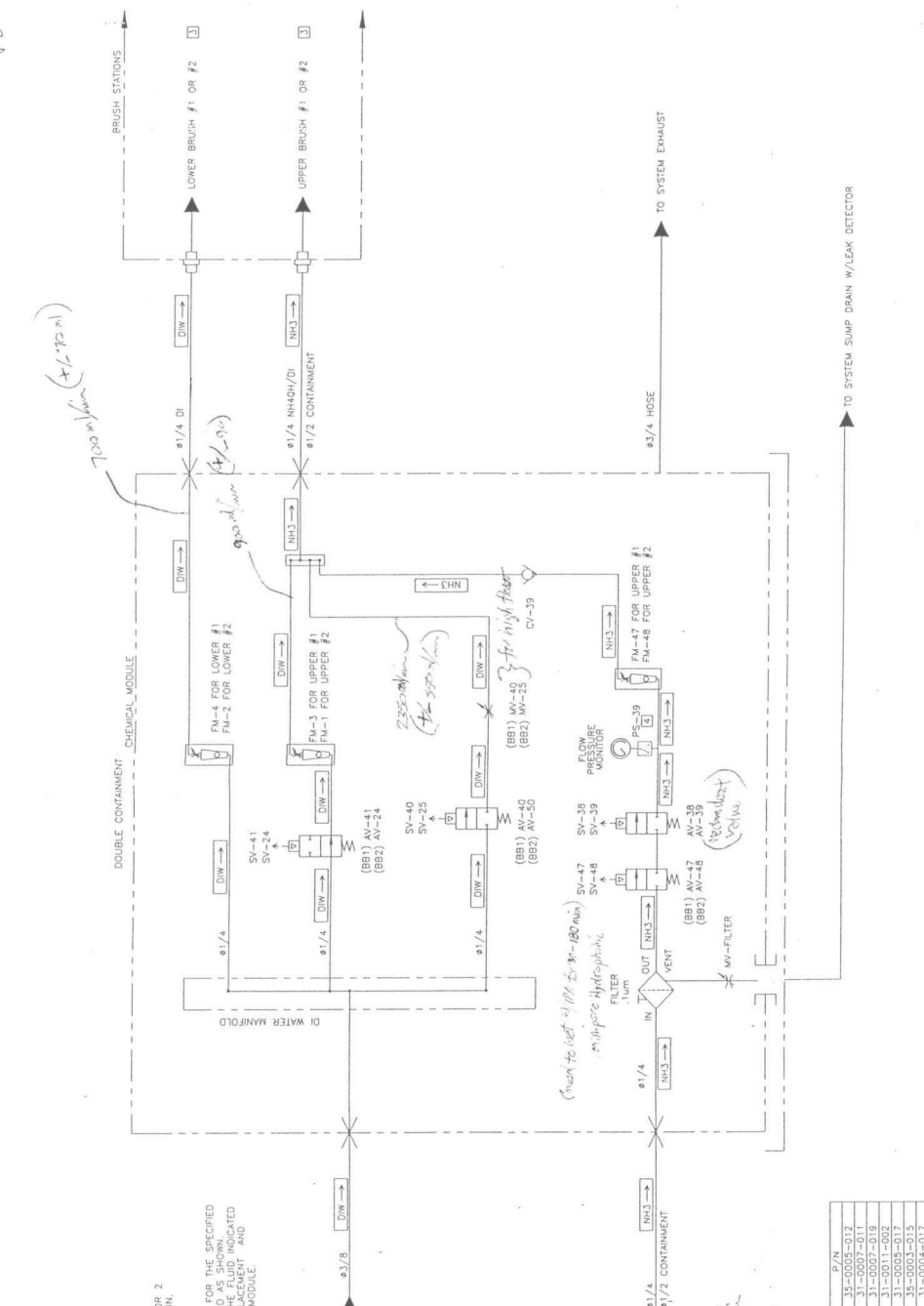
UNLESS OTHERWISE SPECIFIED	UNLESS OTHERWISE SPECIFIED
1. ALL DIMENSIONS ARE IN INCHES	1. ALL DIMENSIONS ARE IN INCHES
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10. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY	10. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY

UNIFRAK SYSTEMS, INC.
17-0200-013
SCALE: 1:1
DATE: 12/02/03

REV	DATE	DESCRIPTION	BY	DATE
1	6/2/97	ISSUE FOR PRODUCTION	J. B. V. [Signature]	6/2/97
2	6/2/97	DESCRIPTION	J. B. V. [Signature]	6/2/97

REV	DATE	DESCRIPTION	BY	DATE
1	6/2/97	ISSUE FOR PRODUCTION	J. B. V. [Signature]	6/2/97
2	6/2/97	DESCRIPTION	J. B. V. [Signature]	6/2/97

- NOTES:
- ALL LIQUID TUBING IS PFA (TEFLON AND UNLESS OTHERWISE INDICATED, IS $\frac{1}{4}$ "
 - COMPONENT CODES:
 SV: SOLENOID OPERATED VALVE
 AV: AIR VALVE
 FM: FLOW METER
 R: EXHAUST PORT 'A'
 FC: FLOW CONTROL
 MV: MANUAL VALVE
 CV: CHECK VALVE
 - ROUTE EXCLUSIVELY TO BRUSH STATION 1 OR 2 ACCORDING TO CUSTOMER'S OPTION SELECTION.
 - SET PRESSURE SWITCH TO 5 PSIG.
 - INSTALL THE FLUID LABELS ON THE TUBING FOR THE SPECIFIED RUNS WITH THE DIRECTIONAL ARROW POINTED AS SHOWN. USE THE APPROPRIATE LABELS TO MATCH THE FLUID INDICATED QUANTITY AS SPECIFIED ON THE ASSEMBLY MODULE.



2% upper brush flow 900 ml/min
 2% upper brush flow 450 ml/min

COMPONENT	P/N
FM-1	35-0005-012
AV-24	31-0007-011
AV-49	31-0007-019
MW-FILTER	31-0011-002
PS-39	35-0003-015
CV-39	31-0004-017

DATE	6/2/97
BY	J. B. V. [Signature]
DESCRIPTION	DESCRIPTION
DATE	6/2/97
BY	J. B. V. [Signature]
DESCRIPTION	DESCRIPTION
DATE	6/2/97
BY	J. B. V. [Signature]
DESCRIPTION	DESCRIPTION

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DATE	6/2/97
BY	J. B. V. [Signature]
DESCRIPTION	DESCRIPTION
DATE	6/2/97
BY	J. B. V. [Signature]
DESCRIPTION	DESCRIPTION

SCHEM. 2% NH4OH
 TTT BRUSH, SYN.
 18-8886-014
 18-8886-014

