

Los Alamos

NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: January 29, 1998
In Reply Refer To: ESH-18/WQ&H:98-0037
Mail Stop: K497
Telephone: (505) 665-1859

Mr. Samuel Coleman, P. E., Director
Compliance Assurance and Enforcement Division (6-EN)
U. S. Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733

**SUBJECT: LOS ALAMOS NATIONAL LABORATORY, NPDES PERMIT NO.
NM0028355, NOTICE OF CHANGED CONDITION AT OUTFALL 05A055**

Dear Mr. Coleman:

The National Pollutant Discharge Elimination System (NPDES) Permit No. NM0028355 for the Los Alamos National Laboratory (Laboratory) requires the permittee to notify the U. S. Environmental Protection Agency (EPA) regarding any physical alteration or additions to the permitted facility that could significantly change the nature or increase the quantity of pollutants discharged. In accordance with Section III.D.1.a of the NPDES Permit issued to the Laboratory on August 1, 1994, I am providing this notification of change in the waste streams contributing to the effluent discharged and upgrades which should significantly improve effluent quality at the Technical Area 16, High Explosives Wastewater Treatment Facility (TA-16 HEWTF). Notifications on the TA-16 HEWTF Project have been provided in previous letters to EPA (Letter ESH-DO:97-319, dated November 3, 1997, and Letter ESH-18, WQ&H:97-0234, dated July 31, 1997) and in the AO/FFCA Quarterly Reports.

The Laboratory was required to upgrade the existing TA-16 HEWTF pursuant to Administrative Order (AO) Docket No. VI-96-1326 and Federal Facilities Compliance Agreement (FFCA) Docket No. VI-96-1327 issued by EPA on December 10, 1996, and December 12, 1996, respectively. The TA-16 HEWTF includes a new centralized treatment facility which should eventually eliminate all HE outfalls except NPDES Outfall 05A055 (TA-16 HEWTF) and 05A097 (TA-11, Building 52). The new TA-16 HEWTF will not utilize a collection system, and all wastewater from existing HE outfalls will be trucked to the new facility. Installation of recirculation equipment should reduce the existing HE wastewater discharged to the environment by 99 percent.

The initial testing and start-up have been completed at the new HEWTF (TA-16, Building 1508). New Waste Acceptance Criteria (WAC) have been developed for the new HEWTF based upon Resource Conservation Recovery Act (RCRA) Universal Treatment Standards (UTS) and NPDES Permit Requirements. All HE waste streams will be characterized under the Laboratory's Waste Profile Form (WPF) Process prior to discharge into the new HEWTF to insure the facility meets all NPDES Permit requirements. The existing HEWTF (TA-16, Building 363) will remain on-line and serve as a back-up treatment facility until the new system is fully functional. Both the new and the back-up HEWTF are currently meeting NPDES Permit limits. Enclosed is a copy of the TA-16 HEWTF Site Schematic, and process schematics for the new facility and back-up facility (See Attachment 1).



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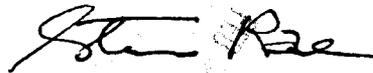
HSWA LANL G/M/SW/98
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Additionally, in the 1990 NPDES Permit Application, the Laboratory provided the most common types of HE compounds and organic compounds used in HE processing and experimental operations. Metal parameters, common in potable water, were included in the Form 2C Application but were not specifically listed. The Laboratory is now characterizing HE wastewater for RCRA constituents, as well as water quality parameters. Enclosed for your review is data collected from recent operational sampling of HE sumps (See Attachment 2). This information will also be provided in the Laboratory's NPDES Permit Re-Application to be submitted to EPA in May 1998.

Please contact me at (505) 665-1859 or Mike Saladen at (505) 665-6085 if you have any questions or need additional information.

Sincerely,



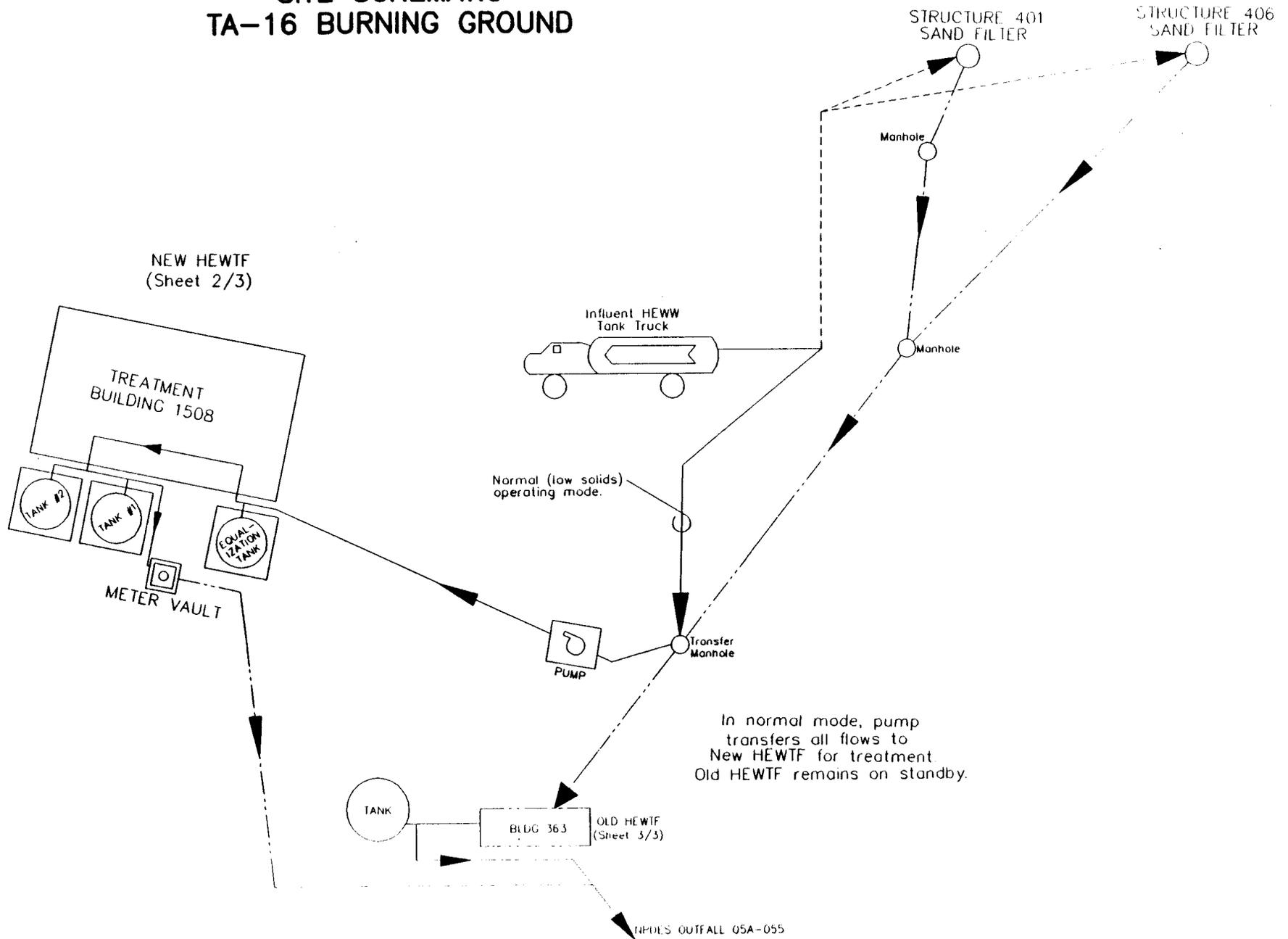
Steven Rae
Group Leader
Water Quality and Hydrology Group

MS:SR/mv

Attachments: a/s

Cy: M. Saladen, ESH-18, w/att., MS K497
B. Edeskuty, ESH18, w/att., MS K497
T. Sandoval, ESH18, w/att., MS K497
N. Williams, ESH-18, w/att., MS K497
D. Carathers, ESA-FM, w/att., MS C928
A. Sherrard, ESA-FM, w/att., MS C924
D. Woitte, LC-GEN, w/att., MS A187
A. Puglisi, ESH-19, w/att., MS K498
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WQ&H File, MS K497
CIC-10, MS A150

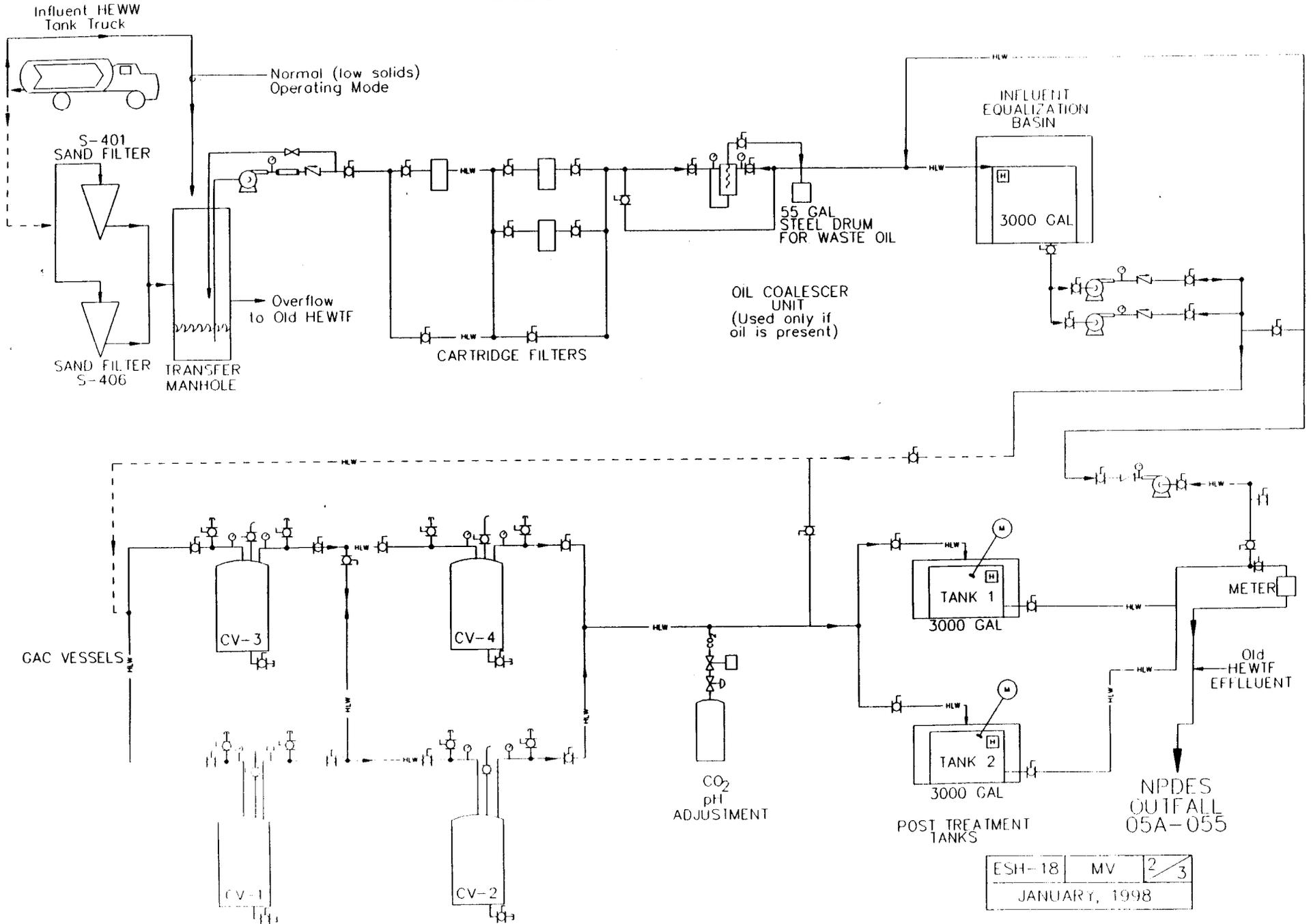
LANL HIGH EXPLOSIVES WASTEWATER TREATMENT FACILITY SITE SCHEMATIC TA-16 BURNING GROUND



In normal mode, pump transfers all flows to New HEWTF for treatment. Old HEWTF remains on standby.

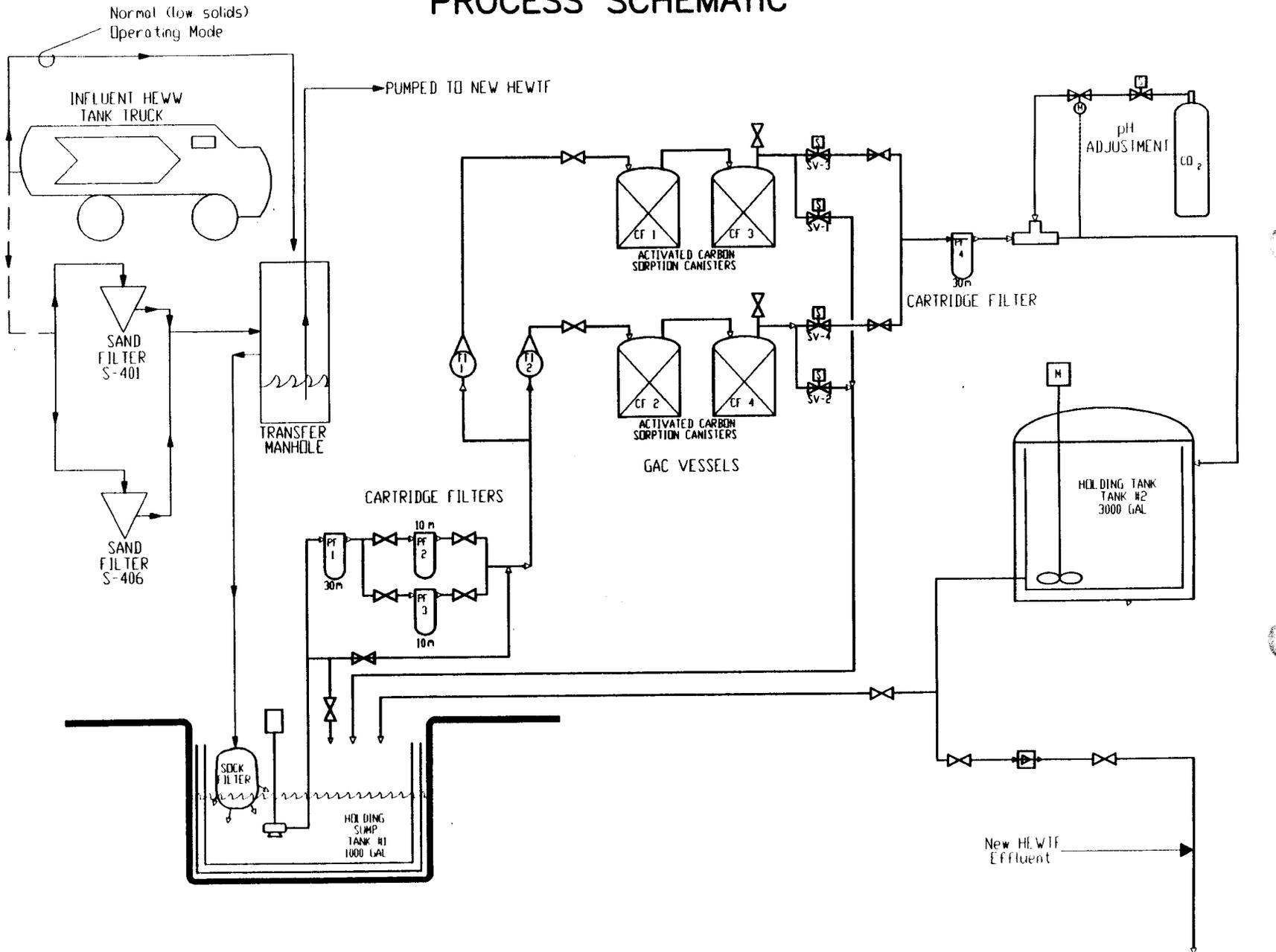
EST 18 NOV 03
JANUARY, 1998

LANL HIGH EXPLOSIVES WASTEWATER TREATMENT FACILITY NEW FACILITY – Bldg. 1508 PROCESS SCHEMATIC



ESH-18	MV	2/3
JANUARY, 1998		

LANL HIGH EXPLOSIVES WASTEWATER TREATMENT FACILITY FLOW DIAGRAM OLD FACILITY – Bldg. 363 PROCESS SCHEMATIC



ESH-18	MV	3/3
JANUARY, 1998		

ATTACHMENT 2

Recent operational sampling of HE sumps has shown the following types of constituents.

Category	Compound Detected	Possible HE-Related Compounds Not Detected But Being Screened For	Comments
Solvents	acetone	n-butyl alcohol cyclohexanone ethyl acetate ethyl ether formaldehyde methanol methylene chloride methyl ethyl ketone methyl isobutyl ketone toluene any other RCRA solvents in process	acid solvents (e.g., nitric acid, sulfuric acid, etc.) are also used but they are measured only indirectly through pH
HE or HE Impurities	ammonia 2,4-dinitrotoluene 2,6-dinitrotoluene HMX RDX TNT nitrate nitrite		<ul style="list-style-type: none"> • the ammonia, nitrate, and nitrite are probably from HE decomposition/dissolution in water • numerous experimental HE are used but are not specifically analyzed
Metals	aluminum	cadmium	<ul style="list-style-type: none"> • aluminum is probably

Category	Compound Detected	Possible HE-Related Compounds Not Detected But Being Screened For	Comments
	barium chromium copper iron nickel zinc	cobalt lead mercury	from degradation of sump liners <ul style="list-style-type: none"> • others of the detected metals are present in incoming processing water