→ Tom Janisch-WR/2
FYI

Roy F. Weston, Inc.
Suite 400
3 Hawthorn Parkway
Vernon Hills, Illinois 60061-1450
708-918-4000 • Fax 708-918-4055

8 March 1996

Mr. Russell D. Hart
Remedial Project Manager (HSRW-6J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604

Work Order No. 02687-007-002

Re: Monthly Progress Report for February 1996
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

Roy F. Weston, Inc. (WESTON®) has prepared this monthly progress report on behalf of the Settling Defendant for the Moss-American Superfund site, Kerr-McGee Chemical Corporation (KMCC). This monthly progress report has been prepared to document progress during February 1996.

Progress During February 1996

On 15 February 1996, KMCC, WESTON, U.S. EPA, and WDNR convened a meeting to discuss a number of project issues. WESTON issued a minutes summary of this meeting in our letter to U.S. EPA and WDNR dated 1 March 1996.

On 21 February 1996, KMCC's Counsel issued a letter to the U.S. EPA Region V Deputy Administrator, Mr. David Ullrich, expressing concerns with WDNR's lead role in the river remedy management team and inconsistencies with the Consent Decree. KMCC is awaiting U.S. EPA response to this correspondence.

During this period, KMCC/WESTON commenced work on providing additional information as requested in U.S. EPA's 30 January 1996 letter. This letter requested additional cost evaluation of sediment removal techniques and a technical response to issues raised by WDNR regarding maximum probable background (MPB) determinations in river tributary sediments. Due to the magnitude of this request, KMCC/WESTON will respond in several partial submittals over the next 30 to 45 days. The first of these submittals will be sent out on 8 March 1996 under separate cover.

Activities Anticipated During March 1996

During March, KMCC/WESTON will continue to complete responses to U.S. EPA's 30 January 1996 request for information. KMCC anticipates receiving a response and resolution to concerns raised in their 21 February 1996 correspondence to Mr. Ullrich.

KMCC/WESTON will also begin planning and scheduling additional work related to the next level of groundwater remedial design.

Should further clarification of this progress report be required, please contact the undersigned at (847) 918-4000.

Very truly yours,

ROY F. WESTON, INC.

Gary J. Deigan
Principal Project Manager

Kurt S. Stimpson/slr

Kurt S. Stimpson
Project Director

GJD:KSS/slr

cc: Mr. A. Keith Watson
Kerr-McGee Chemical Corporation
Kerr-McGee Center
P.O. Box 25861
Oklahoma City, OK 73125

Mr. Richard Meserve
Covington & Burling
1201 Pennsylvania Avenue N.W.
P.O. Box 7566
Washington, D.C. 20044

cc: Regional Counsel
Attn: Moss-American Site Coordinator (5CS)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604

Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
Ref. D.J. #90-11-2-590

Section Chief (3 copies)
Environmental Response and Repair Section
Bureau of Solid and Hazardous Waste Management
Wisconsin Department of Natural Resources
101 S. Webster Street
P.O. Box 7921
Madison, WI 53707-7921

Mr. Jim Schmidt (2 copies)
Department of Natural Resources
Southeast District Office
P.O. Box 12436
Milwaukee, WI 53212

Will Be sent to Bill F. for comment

4 March 1996

Mr. Russell D. Hart
U.S. Environmental Protection Agency
Region V
77 W. Jackson Blvd.
Chicago, IL 60604

Work Order No. 02687-007-002-0070

Re: U.S. EPA's Request for Information Dated 30 January 1996
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

This transmittal represents a response, in part, to your letter dated 30 January 1996. In your letter, you requested information on behalf of the "WDNR-lead River Management Team" related to:

1. Further response to WDNR's comments on Predesign Task 2(b), and

2. An abbreviated engineering analysis/cost evaluation for sediment removal alternatives of dry excavation and hydraulic dredging in the Little Menomonee River.

During our 15 February 1996 group meeting with U.S. EPA and WDNR, we indicated that given the scope of this request, additional time would be necessary to conduct an accurate analysis and provide useful information. As we have embarked upon this work, we have prepared this interim information transmittal for review and consideration by the "River Management Team." We will continue our progress in fully responding to your information request and hope to have additional transmittals for you on Predesign Task 2(b) and the dredging alternatives cost analysis in late March 1996.

In the meantime, we propose that the U.S. EPA/WDNR management team consider the following information in support of developing a Little Menomonee River sediment remediation technique that is much less environmentally destructive and much more practicable and economical than WDNR's continued mandate to reroute the Little Menomonee River.

Please consider and evaluate:

Attachment 1: WESTON successfully completed sediment removal at the Lake Sandy Jo Landfill Superfund site in Gary, Indiana using flow diversion and dry excavation techniques. Approximately 3/4 mile of ditch and channel was excavated of sediment and transported across residential and public roads and redisposed on the landfill prior to capping. The subject channel required considerable flow diversion and water management as the Lake Michigan influenced water table in this floodplain area is only inches below the ground surface. In 1989, our unit price for removing, transporting, and placing the sediment on the existing landfill was $ per cubic yard (c.y.). The U.S. EPA RPM for this site was Dennis Dalga. The designer was CH2M HILL, Inc. (David Lane). WESTON was the prime contractor for remedial construction. The Louisville District of the Army Corps of Engineers oversaw the construction. WESTON completed the project in 1989.

Attachment 2: We have enclosed vendor information for dredging equipment that may have utility to smaller streams, rivers, and channels, such as the Little Menomonee River. We have not yet determined the feasibility or cost of this equipment, but we are merely pointing out that there have been advances in dredging equipment technology since the Rexnord dredging activity conducted at the site by U.S. EPA.

Attachment 3: We have enclosed a recent article published in the January/February 1996 issue of *Remediation Management*. This article presents a qualitative analysis and summary of various sediment removal techniques. As the reviewers will note, there are a number of sediment removal techniques that do not require river rerouting being employed at sites across the country.

Attachment 4: We have enclosed an excerpt from our October 1992 Predesign Work Plan, wherein KMCC and WESTON presented an evaluation of stream diversion and dewatering options that would provide for removal of stream sediments using more traditional "dry" excavation techniques. We believe the engineering analysis that went into this work plan continues to have technical merit in evaluating alternative river remediation techniques. Specifically, we believe that temporary sectional diversion of river flow and traditional excavation using track-

mounted hoes and dump trucks is feasible at this site. These techniques have been effectively utilized to remove sediment and restore capacity of drainage channels, impoundments, and waterways.

WESTON and KMCC encourage U.S. EPA and WDNR's review and consideration of this information as we continue to work toward fulfilling your 30 January 1996 information request. Should you have any questions, please contact me at (847) 918-4114.

Very truly yours,

ROY F. WESTON, INC.

Gary J. Deigan
Principal Project Manager

GJD/slr
Enclosures

cc: G. Edelstein, WDNR
K. Watson, KMCC

FROM:
SPECIFICATIONS
FOR LAKE SANDY JO LANDFILL
SUPERFUND SITE
GARY, INDIANA

Section 01010
LOCATION, OBJECTIVES, AND SUMMARY OF WORK

INDEX

1.0 LOCATION OF WORK

This project is located in Gary (Lake County), Indiana and consists of the following general areas:

- The old Lake Sandy Jo landfill site south of 25th Avenue, east of Wright Street, west of Jennings Street, and north of Interstate 80/94.
- The ditches adjacent to, parallel to, and on the north and south sides of Interstate 80/94, primarily between Wright and Jennings Streets.
- The ditch south of Interstate 80/94 flowing southeast from the Interstate 80/94 ditch to just beyond Jennings Street.

2.0 PROJECT OBJECTIVES

The primary objectives of this construction contract are to:

- Cover the landfill with soil to prevent direct contact with or offsite migration of contaminated surface soils.
- Remove contaminated sediments from offsite ditches and dispose of them onsite (under soil cover).
- Install additional monitoring wells to supplement existing wells to provide a long-term groundwater monitoring system.

Incidental objectives for performing the work are to:

- Prevent migration of contaminants from construction areas during construction by effective dust and erosion control.
- Provide an effective health and safety program, including air monitoring, to assure OSHA compliance as a minimum.

18.3 Areas where sediment is to be removed shall be dewatered prior to and during the sediment removal work. The Contractor shall provide equipment, materials, and labor as needed to divert and remove water from ditches during sediment removal. Silt fences or other measures shall be erected to prevent silt from moving away from the work area.

18.4 Hydraulic methods (e.g., water jet) may be used to remove sediment from the culverts at the Contractor's option. Sediment carried by or suspended in the wash water shall be prevented from leaving the limits of construction.

18.5 Excavate sediments, soils, and other debris to the depths shown on the Drawings. Load soil and non-soil (metal, plastic, wood) materials into watertight hauling equipment that is designed to prevent spillage of liquids or solids during offsite haul to the disposal area. The Contractor is responsible for selecting and using equipment that is suited for working with and on the wet silty sandy soils present in and around the ditches. Manifesting will not be required for transporting excavated sediments to the landfill site.

18.6 Spillage of sediments or other material being loaded or hauled to the disposal area shall be cleaned completely from roads or property. Spilled materials shall be reloaded into the Contractor's hauling equipment using shovels, brooms or other tools so that the spill is cleaned to the Contracting Officer's satisfaction.

18.7 Access to and from the sediment removal areas shall be arranged by the Contractor. Temporary haul roads shall be removed at the completion of work and the area restored to its natural condition.

18.8 Backfill shall be placed in ditches to return ditch grade and shape to the original condition. Typically, this shall consist of replacing excavated sediments with an equal thickness of backfill material compacted in place, except that thickness shall be no more than that required to provide drainage in the finished ditches. Backfill shall be compacted as described in this section. Soil excavation portions outside and adjacent to the ditches that are currently grass covered shall be constructed to grade with topsoil in the upper 4 inches of fill. The topsoil shall be seeded as specified in Section 02480, SEEDING. Below topsoil, site fill shall be used to restore soil excavation grade up to base of topsoil.

19.0 MEASUREMENT AND PAYMENT

19.1 Grading. The amount of grading as described herein shall be paid for (complete) at the lump sum price stated as item 5, Grading in the Contractor's proposal on the Unit Price Schedule.

FLUMP Standard Duty ST-3

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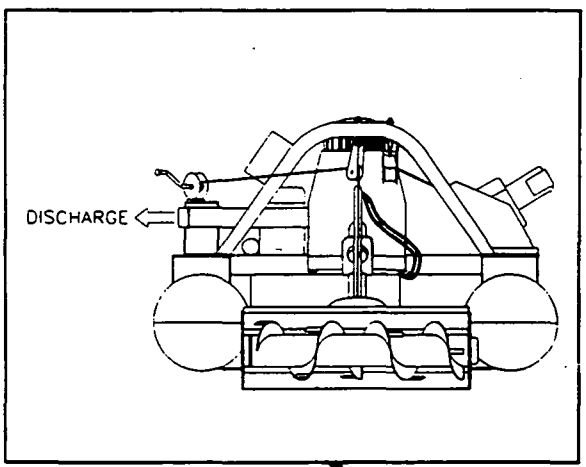
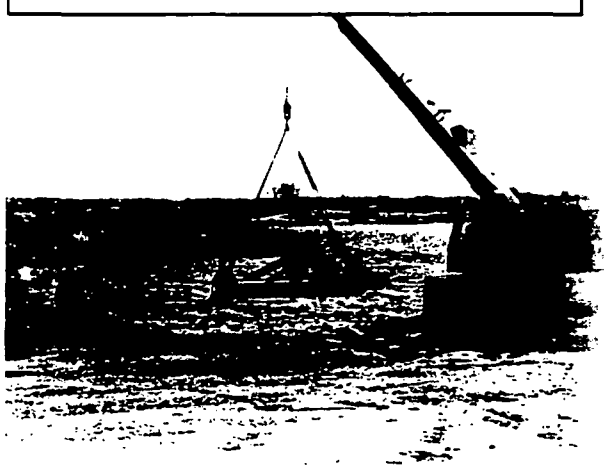
Toll-free 800-442-7867 inside the U.S.A., 406-365-3393 from abroad,
Fax 406-365-2249 or 406-365-8088 from anywhere in the world.

Standard Duty FLUMP Features

Length (Overall)	17.5 Feet (5.33 m)
Length (Pontoons)	15 Feet (4.57 m)
Width	83 inches (2.11 m)
Height	52 inches (1.32 m)
Weight	2,800 Lbs. (1,270 kg)
Draft	12 inches (305 mm)
Pump Motor HP	20 HP (14.9 kW)
Cutterhead Width	48 inches (1.22 m)
Cutterhead Torque	3,400 In.-Lbs. (384 Nm)
Cutterhead Drive	Single
Cutting Teeth	Hardened Steel
Dredging Depth	0 to 8 Feet (0 to 2.43 m)
Dredging Width	48 inches (1.22 m)
Dredging Speed	7.5 Ft./Minute (2.29 m./min.)
Sludge Pump	3" S-Series
Pump / Dredge Discharge	3X4 inches (7.62X10.16 cm)
Color	Standard Grey
Electrical Power	230/460 VAC, 3 Ph, 60 Hz
Pontoons	Foam Filled, 12 Gage Steel





Ask for the standard FLUMP to be specified for your pond cleaning projects. We will send your engineers the necessary specifications.

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SRS Crisafulli

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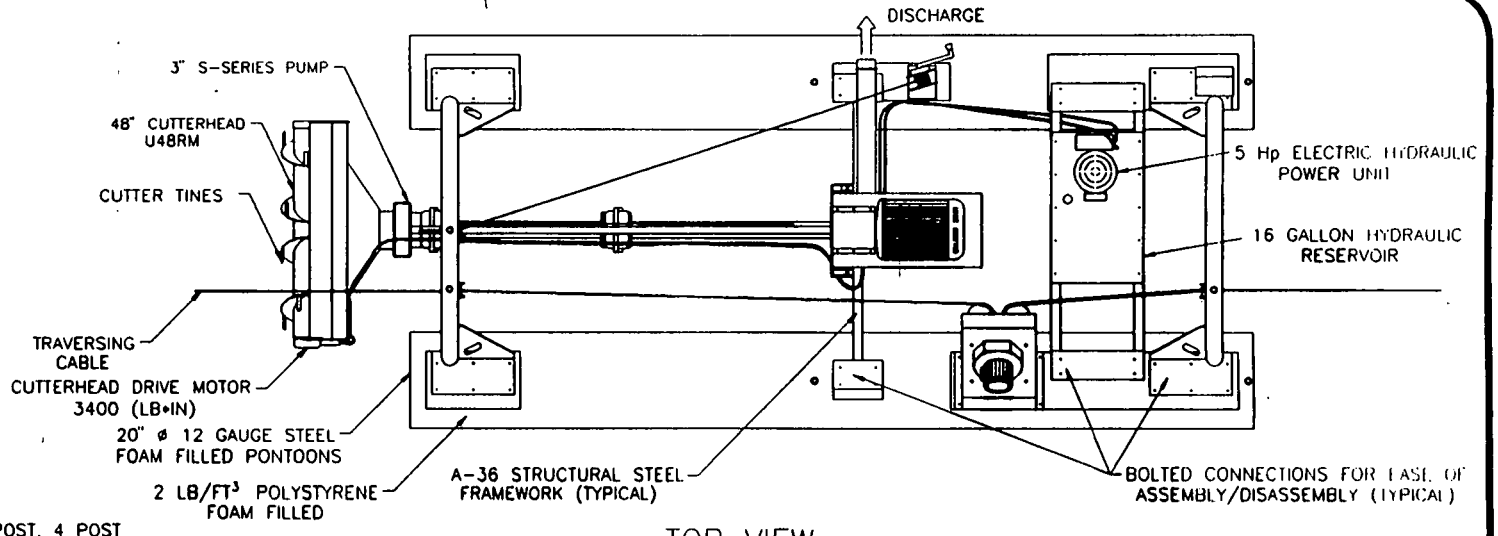
Toll-Free 800-442-7867 Phone 406-365-3393 Fax 406-365-2249, 406-365-8088

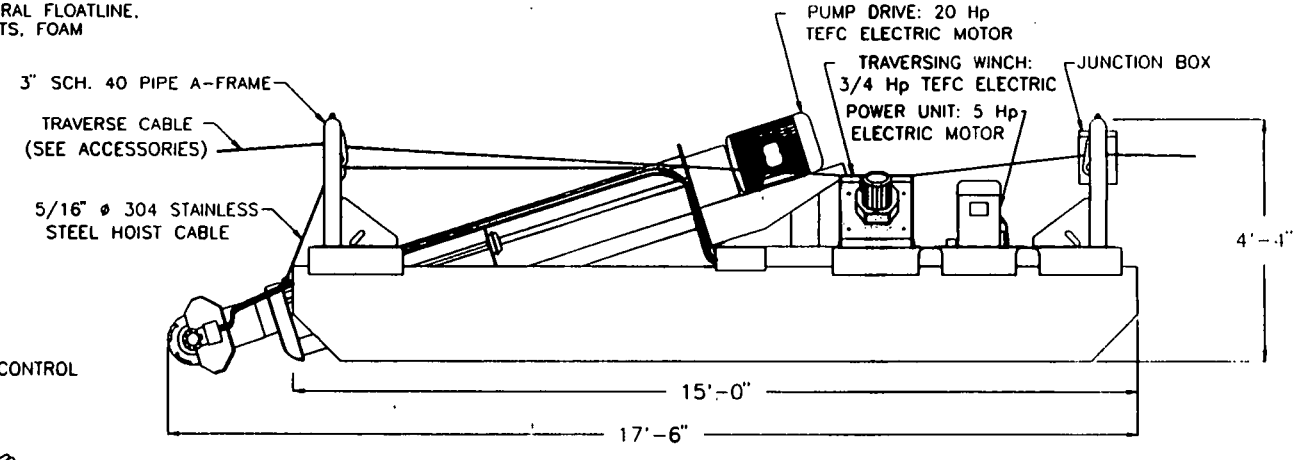
BOSS Printing, Glendive, MT / CP8-ST3Flump (8-95)



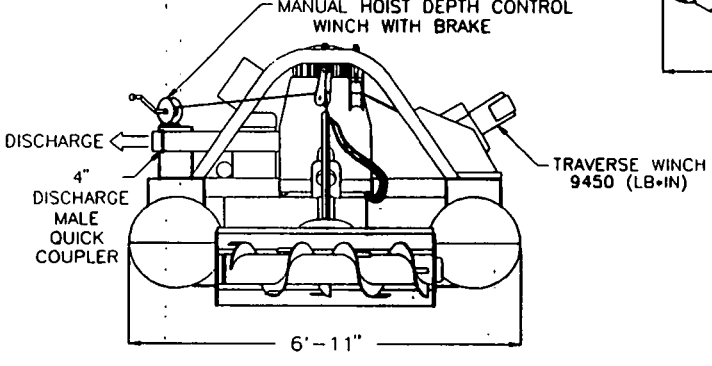
TOP VIEW

AVAILABLE ACCESSORIES:

TRAVERSE SYSTEMS.....2 POST, 4 POST
CONTROL PANEL.....NEMA 3R STANDARD
CONTROL CABLE.....TYPE SO
FLOATING DISCHARGE SYSTEMS.....ALUMINUM INTEGRAL FLOATLINE, BALL TYPE FLOATS, FOAM



SIDE VIEW



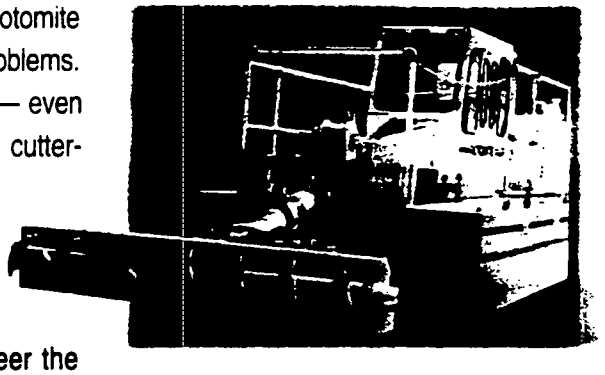
FRONT VIEW

SRS Crisafulli
PHONE: (406) 365-3393
FAX: (406) 365-8088
Sludge Removal Systems

STANDARD DUTY PUMP

Dwn By: MJB	Ckd.: D.R.T.	Date: 4-6-95	Dwg. #: CPC 94524

Rotomite



Proven performance in heavy sludges and slurries makes the Rotomite from SRS Crisafulli ideal for your waste transfer or removal problems. Silt, sediment, sewage, mine tailings, slimes, flyash, coal fines — even thick sludges are everyday operations for Rotomite's powerful cutterhead and high capacity pump. Rotomite is self-propelled — one person operates this dredging system. Convenient, responsive controls make Rotomite easy to maneuver. In irregularly shaped ponds where cabling is cumbersome, even through sludge, the self-propulsion feature allows you to steer the Rotomite. The need for cabling or traverse systems and the time-consuming tasks of moving and anchoring cables between each dredge cut are eliminated. Full instrumentation provides immediate information on critical equipment functions.

For more information about this rugged, high-performance solution to your sludge problems, call SRS Crisafulli today and specify the Rotomite. **1-800-442-7867**

Rotomite Features

Model Number	Rotomite 142P	Rotomite 180P
Length (Overall)	27 Feet (8.22 m)	27 Feet (8.22 m)
Length (Pontoons)	20 Feet (6.1 m)	20 Feet (6.1 m)
Width	97 inches (2.46m)	97 inches (2.46m)
Height	5 Feet (1.5 m)	5 Feet (1.5 m)
Weight	11,000 Lbs (4990 kg)	12,000 Lbs (5443 kg)
Draft	22 Inches (558 mm)	23 Inches (584 mm)
Engine Horsepower	120 H.P. (90 kW) Cont.	159 H.P. (119 kW) Cont.
Fuel Capacity	80 US Gal. (303L)	80 US Gal. (303L)
Cutterhead Width	8 Feet (2.4 m)	8 Feet (2.4 m)
Cutterhead Torque	4,500 In-Lbs (508 Nm)	9,000 In-Lbs (1016 Nm)
Cutterhead Drive	Single	Dual
Cutterhead Rotation	Birotational	Birotational
Cutting Teeth	Hardened Steel	Hardened Steel
Excavation Depth	0 to 15 Feet (0 to 4.5 m)	0 to 15 Feet (0 to 4.5 m)
Excavation Width	8 Feet (2.4 m)	8 Feet (2.4 m)
Excavation Speed	0 to 10 Feet Per Minute	0 to 10 Feet Per Minute
Sludge Pump	4" J-Series	6" J-Series

Model Number	Rotomite 142P	Rotomite 180P
Pump/Dredge Discharge	4X6 inches	6X8 inches
Bearing Frame	BL-76D	BL-87D
Steering	Hydraulically Controlled	Hydraulically Controlled
Propulsion	Outboard Hydraulic Drive	Outboard Hydraulic Drive
Electrical Power	12 VDC	12 VDC
Propeller	Low Speed / High Thrust	Low Speed / High Thrust
Pontoons	Foam Filled, 10 Gage Steel	Foam Filled, 10 Gage Steel
Walkway	Non-skid Surfacing	Non-skid Surfacing
Color	Standard Grey w/ White Trim	Standard Grey w/ White Trim
Lighting	Sealed Front Work Lights	Sealed Front Work Lights
Seat	Foam Padded, Vinyl Covered	Foam Padded, Vinyl Covered
Instrumentation	Tachometer, Hour Meter, Water Temperature, Oil Pressure, Hydraulic Pressure, Ammeter, *Flow Meter and Depth Indicator (Optional)*	
Controls	Engine Throttle, Key Start, Depth Control, Pump Speed Control, Cutterhead On/Off/Reverse, Winch Forward/Reverse, Winch Speed Control	

SRS Crisafulli

CRISAFULLI DRIVE P.O. BOX 1051 GLENDIVE, MT 59330-1051, USA
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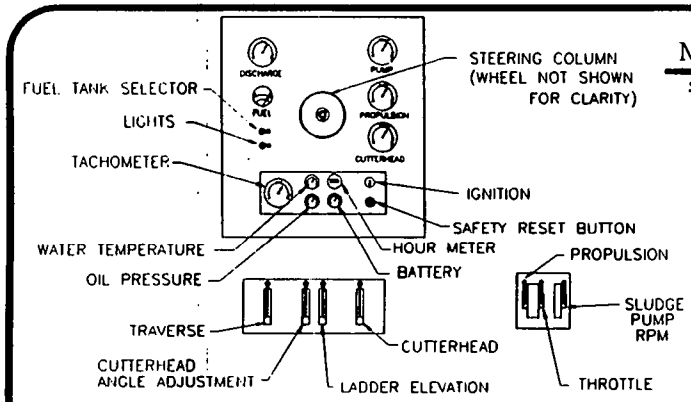
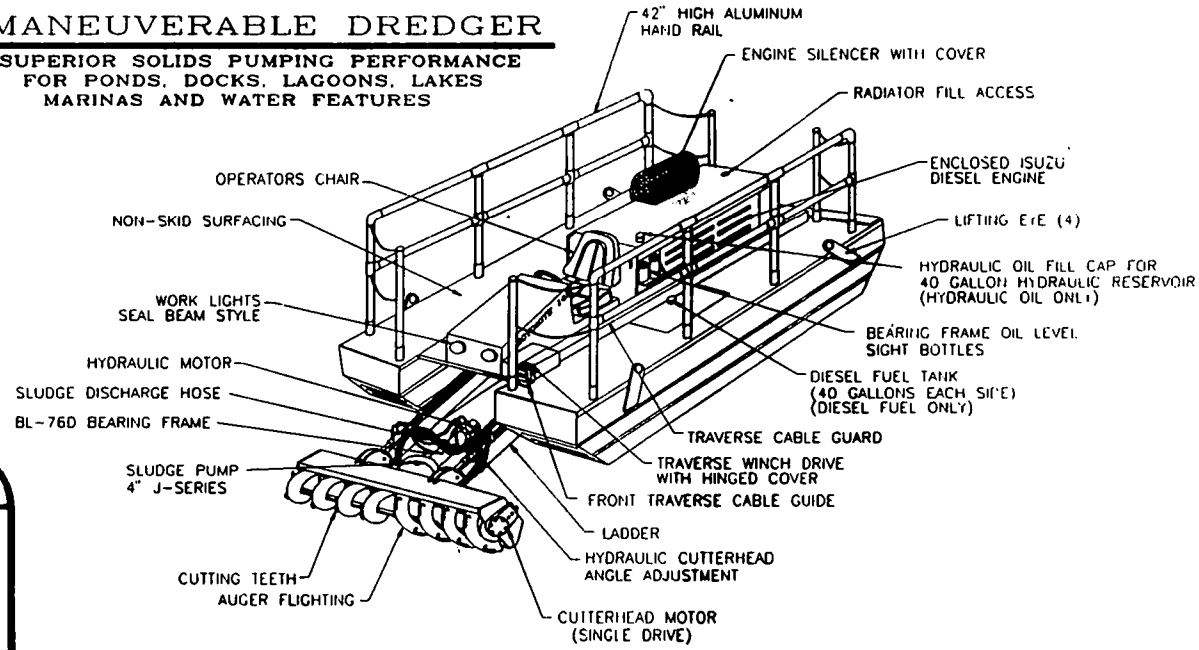


ROTOMITE CONTROL PANEL AND GAUGE LAYOUT



142P FEATURES

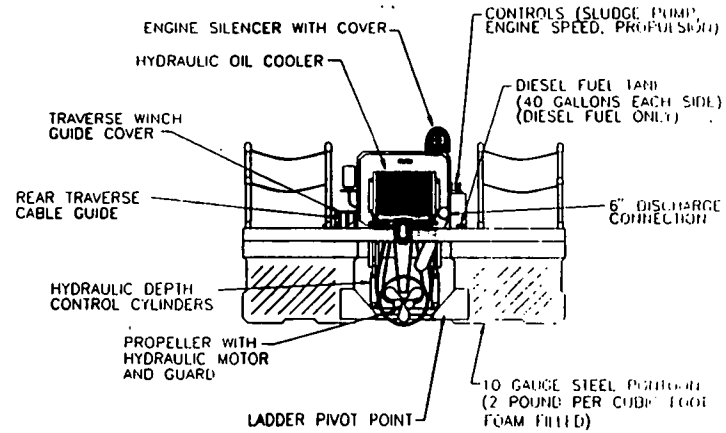
MODEL NUMBER	ROTOMITE 142P
LENGTH (OVERALL)	27 FEET (8.22 M)
LENGTH (PONTOONS)	20 FEET (6.1 M)
WIDTH	97 INCHES (2.46 M)
HEIGHT	5 FEET (1.5 M)
WEIGHT(LESS FUEL)	11,000 LBS (4990 Kg)
DRAFT	22 INCHES (558 MM)
ENGINE HORSEPOWER	120 H.P. (90 KW) CONTINUOUS
FUEL CAPACITY	80 US GALLONS (303 LITERS)
CUTTERHEAD WIDTH	8 FEET (2.4 M)
CUTTERHEAD TORQUE	4,500 IN-LBS (508 NM)
CUTTERHEAD DRIVE	SINGLE
CUTTERHEAD ROTATION	BIROTATIONAL
CUTTING TEETH	HARDENED STEEL
EXCAVATION DEPTH	0 TO 15 FEET (0 TO 4.5 M)
EXCAVATION WIDTH	8 FEET (2.4 M)
EXCAVATION SPEED	0 TO 10 FEET PER MINUTE
SLUDGE PUMP	4" J-SERIES
PUMP/DREDGE DISCHARGE	4" X 6"
BEARING FRAME	BL-76D
STEERING	HYDRAULICALLY CONTROLLED
PROPULSION	GUARDED OUTBOARD HYDRAULIC DRIVE
ELECTRICAL POWER	12 VDC
PROPELLER	LOW SPEED/HIGH THRUST
PONTOONS	FOAM FILLED, 10 GAGE STEEL
WALKWAY	NON-SKID SURFACING
COLOR	STANDARD GREY W/ WHITE TRIM
LIGHTING	SEALED FRONT WORK LIGHTS
SEAT	FOAM PADDED, VINYL COVERED
INSTRUMENTATION	TACHOMETER, HOUR METER, WATER TEMPERATURE, OIL PRESSURE, HYDRAULIC PRESSURE, AMMETER FLOW METER (OPTIONAL) DEPTH INDICATOR (OPTIONAL)
CONTROLS	ENGINE THROTTLE, KEY START, DEPTH CONTROL, PUMP SPEED CONTROL, CUTTERHEAD ON/OFF/ REVERSE, WINCH FORWARD/REVERSE WINCH SPEED CONTROL

NOTES:

FEATURES MAY CHANGE WITHOUT NOTICE.

ROTOMITE PERFORMANCE VARIES DEPENDING UPON SLUDGE TYPE.

PERFORMANCE CURVES ARE AVAILABLE SEPARATELY.



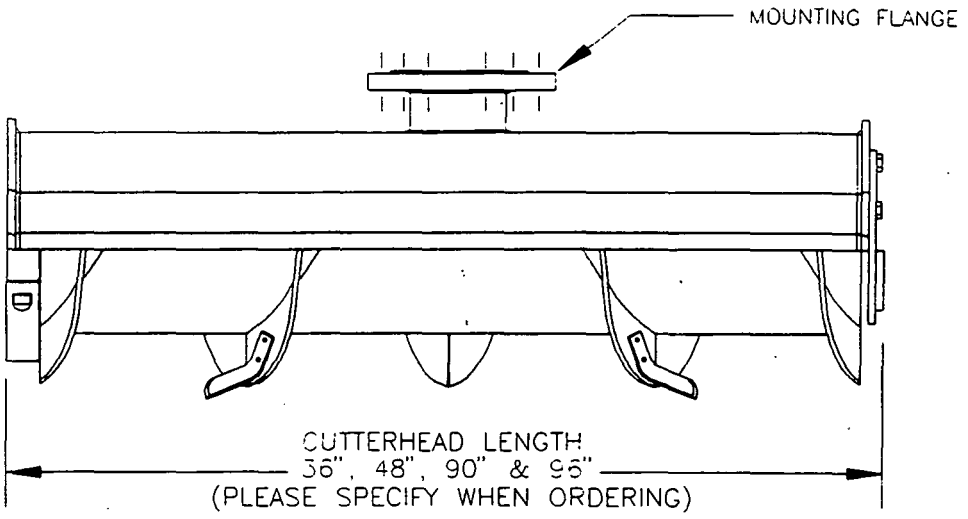
REAR VIEW

SRS Crisafulli — Sludge Removal Systems

142P ROTOMITE

10/27/93	REV # 1	REV. DATE 7/1/94	DWG. #CPC-934/6142

EXCAVATES • SLURRIES • BLENDS • HOMOGENIZES • FEEDS



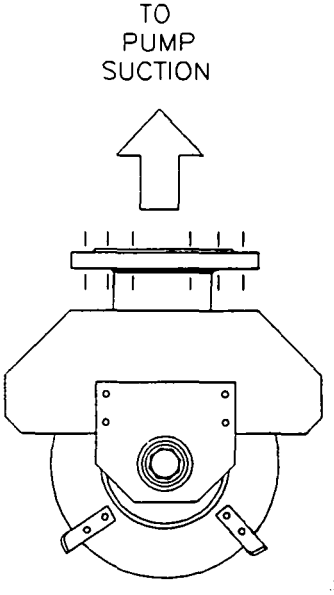
FRONT VIEW

*FEATURES

TOTAL HEIGHT	16-1/2"
TOTAL WIDTH	16-1/2"
TOTAL LENGTHS	36", 48", 90", 96"
TOTAL WEIGHT	150#, 200#, 375#, 400#
DIGGING TORQUE	2500 IN.LBS.
MATERIALS OF	A36 MILD CARBON STEEL
ROTATIONAL SPEED	60 RPM (STANDARD)
DRIVE MOTOR	LOW SPEED, HIGH TORQUE HYDRAULIC
MOTOR MOUNT	MACHINED 2-BOLT CLAMP
AUGER	12" DIA., 12" PITCH 3/16" MILD STEEL
TILLER TINES	SHARPENED, HARDENED, RIGHT ANGLE PLOW STEEL (REMOVABLE/REPLACEABLE)
SHROUD	SINGLE PIECE FORMED 1/8" MILD STEEL
OUTBOARD BEARING	WATERLUBRICATED TYPE

OPTIONAL FEATURES

MATERIALS OF CONSTRUCTION	STAINLESS STEEL, ABRASION RESISTANT ALLOY STEEL
CUTTERHEAD LENGTHS	UP TO 12' IN LENGTH
ROTATION SPEED	VARIABLE
DIGGING TORQUES	UP TO 10,000 IN/LBS



END VIEW

REV. (3) BY dfb 02/22/95

HYDRAULIC POWER REQUIREMENTS

THE CRISAFULLI U-SERIES CUTTERHEADS REQUIRE 5 GALLONS PER MINUTE AT 1500± P.S.I. OF HYDRAULIC FLUID PRESSURE. THE HYDRAULIC FLUID SHOULD BE FILTERED TO 10 MICRON AND SHOULD NOT EXCEED 180° FAHRENHEIT INLET TEMPERATURE. THE MINIMUM HYDRAULIC OIL VISCOSITY IS 50 SUS.

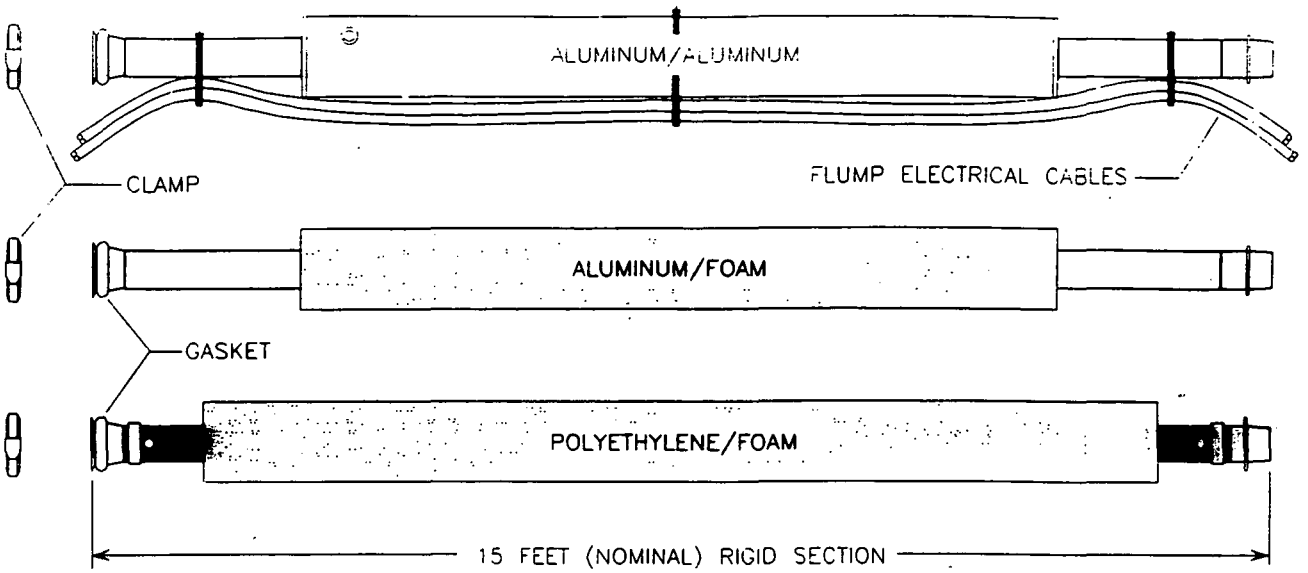
*THESE FEATURES MAY CHANGE WITHOUT NOTICE.

SRS Crisafulli — Sludge Removal Systems

U-SERIES CUTTERHEAD
FOR FLUMP & ROTOMITE
FLANGED MOUNT

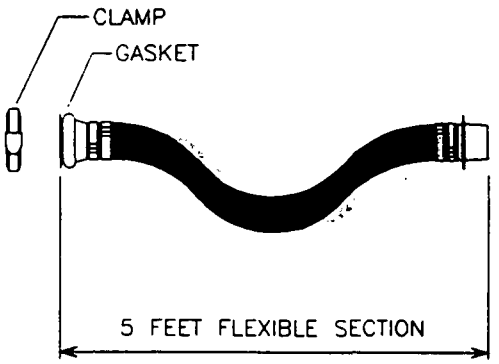
Dwn By: CKR | Ckd.: | Date: 6/24/91 | Dwg.#: CPC-91328

LIGHTWEIGHT • FLOATING • SLUDGE/SLURRY TRANSFER • BOLTLESS



*FEATURES

ASSEMBLED LENGTH	20 FEET (6.1 METERS)
RIGID SECTION	15 FEET LONG (4.57 METERS) RIGID PIPE SECTION WITH MALE/FEMALE IRRIGATION QUICK COUPLERS BANDED ON EACH END, RUBBER GASKET, LOCKING CLAMP, AND AN INTEGRAL 10 FOOT FLOAT.
MATERIALS OF CONSTRUCTION	ALUMINUM OR PE3408 UHMW POLYETHYLENE
FLEXIBLE SECTION	5 FEET LONG (1.52 METERS) FLEXIBLE 100 PSI HOSE SECTION WITH MALE/FEMALE IRRIGATION QUICK COUPLERS BANDED ON EACH END, RUBBER GASKET, AND A LOCKING CLAMP.
MATERIALS OF CONSTRUCTION	AN ABRASION RESISTANT CORE, NYLON (OR VYTACORD) REINFORCING AND AN EXTERIOR ABRASION RESISTANT COVER.
QUICK COUPLERS	GALVANIZED STEEL AND/OR ALUMINUM IRRIGATION QUICK COUPLERS.
CABLE CLAMPS	ADJUSTABLE ELASTOMERIC HOSE/CABLE CLAMPS (2 PER FLOAT ASSEMBLY)



OPTIONAL FEATURES

CORROSION RESISTANT	STAINLESS STEEL FASTENERS AND COUPLERS
ASSEMBLY LENGTH	10 FEET TO 40 FEET

*THESE FEATURES MAY CHANGE WITHOUT NOTICE.

LIGHTWEIGHT FLEXIBILITY

THE CRISAFULLI INTEGRAL FLOATING DISCHARGE LINE SOLVES THE PROBLEM GENERALLY ASSOCIATED WITH STANDARD DISCHARGE SYSTEMS. THE SYSTEM IS DESIGNED TO ALLOW MAXIMUM FLEXIBILITY WITHOUT HOSE KINKING OR WITHOUT FRETTING THE HOSE. THE INTEGRAL FLOATS REDUCE THE AMOUNT OF DRAG CAUSED BY THE FLOATS AS THEY MOVE THROUGH THE LIQUID OR SLUDGE. THE INTEGRAL FLOATS ALSO ALLOW THE SECTIONS TO BE STACKED WITHOUT THE QUICK DISCONNECTS BEING DAMAGED. EACH SECTION CAN BE HANDLED EASILY AND QUICKLY SET UP.

NOMINAL DIAMETER	RIGID SECTION						FLEX SECTION
	ALUM/ALUM		ALUM/FOAM		POLY/FOAM		
	RATED PSI	LBS.	RATED PSI	LBS.	RATED PSI	LBS.	LBS.
3"	125	30	125	30	160	40	10
4"	125	35	125	35	110	50	15
6"	125	40	125	40	80	90	20
8"	95	65	95	55	65	125	30
10"			75	75	50	165	45
12"			75	105	50	235	55

SRS
Crisafulli
Sludge Removal Systems

INTEGRAL FLOATING DISCHARGE PIPELINE

Dwn By: CKR | Cka.: | Date: 7/3/91 | Dwg.#: CPC-91338

Subsection 2.1. Predesign Task 10 has been initiated in accordance with the approved Interim Predesign Work Plan.

5.3 PREDESIGN TASK 11 - IDENTIFY AND PILOT TEST STREAM DIVERSION AND DEWATERING OPTIONS

5.3.1 Objective

"The objective of the predesign task is to determine the most effective option for diverting and dewatering the existing stream channel in order to determine the extent-of-contamination and examine options for removal of contaminated sediment.

Various stream diversion and dewatering options will be evaluated.

The results of the stream diversion/dewatering evaluation and pilot testing will be used to design the most appropriate means of diverting and dewatering the stream as well as to determine the extent to which it will be possible to remove contaminated sediment while minimizing impacts on existing wetlands."

5.3.2 Subtask Rationale

To accomplish the objectives of Predesign Task 11, the following goals will be addressed in the subtasks outlined in Subsection 5.3.3:

- Identify practical diversion methods and evaluate these methods with respect to the objectives of Predesign Task 11 and the overall project.
- Pilot test the preferred diversion method at one or more locations of the Little Menomonee River within the boundary of the Facility. This pilot diversion project should be of a one- to two-week duration.
- The pilot diversion project will be coordinated with other predesign tasks within this Work Plan and will include a planned overlap of both schedule and resources in order to maximize the efficiency of this activity.
- A cost-effective approach to the pilot river diversion effort will be maintained, while achieving the information objectives of the predesign task.

- The pilot diversion will be conducted during a timeframe of average low-flow conditions (i.e., during summer or fall).

Federal, state, and local agencies should review the approach to the pilot river diversion project outlined herein, and identify (consistent with the Consent Decree) any further requirements.

The discussions of subtasks presented in Subsection 5.3.4 detail the work scope that addresses these goals.

5.3.3 Subtasks

5.3.3.1 Identify Practical Diversion Methods

A preliminary engineering analysis of available diversion methods was conducted during the preparation of this work plan. This preliminary analysis considered various diversion structures placed within the riverbed (earthen cofferdam, sheet piling, and portable supported geomembrane structures), as well as alternate methods of conveying river flow around the diversion and back to its original downstream course.

Although several of these methods were determined to be infeasible for the scope of the pilot-scale diversion, further evaluations will be made during this predesign task to determine applicability to full-scale RA construction. Also, consideration will be given to evaluating methods that may be appropriate to only certain locations of the river (i.e., bridge underpasses, wide-bank, shallow flow areas, areas of multiple tributary inflows, and areas of significantly limited access).

The following section outlines alternative diversion methods that will be considered in Predesign Task 11.

Earthen Cofferdam

In accordance with the SOW, further analysis of the temporary river diversion option presented in the FS will be conducted to determine construction feasibility, environmental impact, and cost associated with this option. A preliminary analysis of this method showed an increased potential for sediment disturbance and sediment transport in and around the cofferdam construction location. This option would also require extensive clearing operations at many river locations to make the work site accessible to the heavy machinery necessary for construction of the diversion structure. This approach was eliminated for the

pilot-scale diversion project; however, this alternative will be further evaluated for full-scale operations and at certain river locations.

Sheet Pile Cofferdam with Geomembrane Seal

A sheet pile alternative will be evaluated because of the potential disadvantages of using soil as a construction material for the cofferdam. This alternative consists of driving sheet pile sections with a pile driver into the riverbed and sealing the sheet pile sections with geomembrane liners held in place by sandbags or clean gravel fill. This alternative does not introduce additional soil into the riverbed, but has the potential to cause significant, localized riverbed disturbance. This approach will be further evaluated for feasibility, environmental impact, and cost as a full-scale RA implementation method. However, this method does not appear feasible for the temporary pilot-scale diversion, due the requirement for heavy equipment access, and the cost of construction.

Portable Cofferdam

The feasibility of portable cofferdam structures will also be evaluated. The typical cross-sectional dimensions and flow rates of the Little Menomonee River site are amenable to a portable cofferdam structure. This alternative consists of a tubular steel and geomembrane structure that may be constructed in the riverbed to varying widths. The structure consists of 7- to 10-foot high frames spaced approximately 15 inches apart, which would span the riverbed from bank to bank. A vinyl-coated nylon geomembrane is secured to the top of the structure and extends 15 to 20 feet out from the toe of the cofferdam. The structure is relatively lightweight and readily assembled/disassembled with small equipment and hand labor. Because of its size and flexibility of installation, it appears to be adaptable and reusable at various sections of the river. The manner in which the portable cofferdam is installed does not introduce additional soil to the riverbed and minimizes disturbance and transport of the sediment.

The portable cofferdam option was chosen on the basis of a preliminary alternatives analysis, as being most effective for the temporary pilot diversion project. The detailed engineering and construction approach to the pilot test is presented in the next subsection. Results of the pilot diversion project will determine this method's feasibility for full-scale operations.