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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: OCT 07 1986

SUBJECT: Meeting Summary - Johns-Manville, Waukegan, Illinois

FROM: Brad Bradley, Remedial Project Manager BB
Ill/Ind Unit

TO: Johns-Manville-Waukegan, Illinois Site File

Thru: Russell E. Diefenbach, Chief
Illinois/Indiana Unit

Date of Meeting: September 12, 1986 at 9:00 A.M.

Personnel Participating

The list of participants in the meeting is shown as Attachment I to this report.

Purpose

The initial purpose of the meeting was to negotiate the appropriate cover thickness to remediate the asbestos air contamination at the site; however, after the September 10, 1986 site visit (see associated report), it was evident that more information was needed for U.S. EPA's consultant to calculate the appropriate cover thickness. The purpose of the meeting was then redefined to meet the information needs of U.S. EPA.

Summary

Relevant information presented at the meeting is outlined below:

- clarification of the soil cover with vegetation remedy recommended in the FS report was provided, as follows:

  - all dry areas (areas of the 120 acre plant waste area which are not associated with the wastewater treatment system) except the sludge pit and the miscellaneous waste pit will be filled and graded to a uniform 630 foot elevation and covered with nine inches of clean soil with vegetation. The drainage from this area will flow to the south side of the site and then around to the east side.

  - a 24 inch cover and gravel will be provided for all roads.

- limestone riprap will be placed over all berms in the wastewater treatment system. The riprap will extend two feet below the water surface and will be maintained if slippage occurs.

- the road on the north side of the site will be moved further northward, and the northern edge of the site will be sloped until a 1:1.5 ratio is achieved and covered with clean soil. A drainage ditch will be dug next to the road.

- all slopes on the south side of the site will be brought to 1:1.5.

- the soil used for cover will be obtained from an offsite supply.

- there is very little data concerning the site available for the period 1910 - 1960.

- the use of asbestos in manufacturing activities at the plant has been discontinued; it has been replaced with fiberglass.

- with the exception of the sheeting operation, which will be discontinued, Johns-Manville intends to keep the plant operating at its present capacity in the future (which translates to at least the next 10 years.

- only sludge is deposited in the sludge pit. The sludge consists of the materials dredged from the bottom of the ponds and waterways of the wastewater treatment system. Dredging is not necessarily performed to a continuous depth. There is a high turnover rate of sludge such that sludge deposited on any given day is only from a few weeks of deposition. The amount of water passing through the system and the amount of sludge deposited has decreased significantly since J-M's April 1983 response to U.S. EPA's information request.

- the water in the wastewater treatment system is at an elevated temperature; the exact temperatures are included in a document that J-M previously transmitted to U.S. EPA.

After much discussion, it was determined that, due to a communication problem, Johns-Manville did not bring the appropriate personnel to adequately address U.S. EPA's questions. It was agreed that another meeting, attended by appropriate Johns-Manville technical personnel, should be arranged. The meeting was tentatively scheduled for October 2, 1986 at 10:00 a.m.

Necessary Follow-ups

U.S. EPA's goal for the next meeting is to obtain all information necessary to determine the appropriate cover thickness and other relevant parameters to effectively remediate the airborne contamination at the site. It was pointed out at the meeting that much of the information needed may have been previously submitted to U.S. EPA; therefore, in order to ensure that this goal is met, the Johns-Manville file must be reviewed, and relevant information must be copied and sent to Richard McGaw, U.S. EPA's expert consultant. Mr. McGaw will then request any additional information needed at the meeting. It may be useful to make a list of information needed and read the list to J-M over the telephone to allow them to bring necessary documents and information to the meeting. The written waste disposal practices for the site, mentioned during the meeting, should be included in any such list.

After the next meeting, Richard McGaw will determine the appropriate remedy for the site and submit a written report to U.S. EPA. Based on discussions at the meeting, J-M will propose a remedy, and U.S. EPA will, with Mr. McGaw's assistance, evaluate this proposal. If the proposal is acceptable, J-M will insert it in the final FS report. If the proposal is unacceptable and it appears that significant delays will be involved in negotiating an acceptable proposal, U.S. EPA will write an addendum to the FS report based on Richard McGaw's report. The FS report will then go final, with addendum, as negotiations continue. As stated to J-M at the meeting, any acceptable proposal must also include an effective groundwater monitoring program, including the addition of wells north of the site and closer to the eastern site boundary than the existing eastern wells (J-M was amenable to this).

Johns-Manville presented a proposed agenda for the meeting, which was not addressed due to the change in the scope of the meeting. This agenda is included in this report as Attachment II. One of the items should be addressed prior to the next meeting; with the exception of the final remedy selected/U.S. EPA addendum, the FS report should be finalized. To achieve this, U.S. EPA should comment on J-M's August 25, 1986 comment letter prior to the next meeting.

Attachments

Attachment I

Johns-Manville 9/12/86 Meeting List of attendees

Name + Title	Representing	Phone
Brad Bradley, Remedial Project Manager	U.S. EPA	(312) 886-4742
Larry L. Johnson	EPA - Reg. Counsel	(312) 886 6235
Dick McGaw	Consulting (EPA)	(603) 643-2650
S.K. MALHOTRA	KMA, INC CONSULTING ENGS	(614) 3615092
DAVE N[illegible]S, Environmental Eng.	MANVILLE	303 978-312[illegible]
Stephen H. Moser	Manville	303-978-2672
Mark Climpus	Manville	303-978-2790
Donald E. Mandry	Manville	(312) 623-2900
Donald Gimbel	IEPA - Maywood - atty.	312/345-9780
KURT MEIBERGALL	IEPA - RPM; SPFLD	217-782-6760

Attachment II

REVIEW OF FS REPORT COMMENTS AND RESPONSES

JOHNS-MANVILLE DISPOSAL AREA

WAUKEGAN, ILLINOIS

Agenda for Meeting on September 12, 1986

I. INTRODUCTION

II. REVIEW OF JOHNS-MANVILLE RI AND EA RESULTS

III. REVIEW OF REMEDIAL ALTERNATIVES EVALUATED IN DETAIL

IV. DISCUSSION OF SELECTED ALTERNATIVE

V. REVIEW OF FS COMMENTS AND RESPONSES

VI. DISCUSSION OF SOIL COVER THICKNESS PROPOSED IN THE SELECTED REMEDIAL ALTERNATIVE

J-M Meeting

10/2/86
10 a.m.
BB

depth to sludge

11/2/81 map 1981 soundings
- 1st part of wet syst. ~ .5' to northernmost pond ~20 - settling pond - anywhere from .5' to 10' → very inaccurate for assessing exact present situation

dredging - no set schedule - when needed (no set pattern)
use mudcat (for center) - clamshell or backhoe
to sludge disp pit
to truck to sludge disp pit

areas btwn canals - used to be dumped (w/ clamshell) at site of dredging - now transported by truck

- AB pit - leave a portion open - waste from building demo - corrugated AB siding - no other demo wastes (steel, etc) - if need more room, would move it west (not disturb existing pit)
W corner would be cleared + beach area cleaned - pick up all litter.
- major roads - 24" clean maths - gravel on top

ind. canal used to be waterway to lake - filled in E end - will clean this up, too

- surf H_2O MISC PIT pathway - will be collected via peripheral ditch - will not close off the open area @ NE corner of pit, however

misc. ditch by Editch - to be filled

- no AB wastes to go in misc pit

- bldg cleanup - ~~10-20,000 yd³~~ depends on what Phase II scope is - Phase I complete - could be 2 years before Phase II begun - PI could generate up to 200,000 yd³ → (exceeds AB pit capacity) or as little as 10,000 (would not exceed)

capacity to store sludge - if ~~can~~ use settling pond - 33 acres ~30 yrs sludge
@ present rate of deposition: 1' sludge depth over 33 acres ~50 yrs life

15-16 yrs cap (for 1') in collection basin

settling pond has elevated pipe into collection basin - basically overflow

- will put berms on N side ind canal where depressed fingers emanate - will prevent type of "crittflow" seen during visit

20% makeup

- ind canal - @ ~ same level as lake surf H₂O would tend not to flow from ind. canal

- Lake is high, now - unusually high H_2O table

June '83 - testing by IEPA of wastewater

present materials used

manuf.

N portland cement, H_2O based paint, AB replacem
- red H_2O-based paint was what was seen @ site visit
muratic acid - cleaning

major 2 oage composed of this

center - roofing - sand + granite - roofing binder (asphalt) does not go to waste

S - pipe ins + refr. fiber
Ca Silicate - fiberglass
aluminosilicate
Chromium - starts as CrO_2 but reacts

Rubber-making operation - solvents - being discontinued - solvents recycled - little lost in evaporation

Landfill - Magnesia ~~carbona~~ insulation - structural
principally Mg, transite pipe, AB + non AB roofing

Don interviewed persons who worked @ J-M in '40's - plant started in '20's

wind erodible

S slope - principally tranite
W " " " magnesia

1922 - powerhouse, paper mill, roofing

H_2O ponds - were there in date 40's
- orig elev 585 - went up from there

final elev of restored areas - not exactly known -
will minimize grading - will always ~~keep~~ prevent erosion
down sides of boundary - H_2O to flow in + around

- will add fill on N side settling pond

- riprap - settling pond - entire - any long
berms - riprap - not sure about
fingers - may just cover w/ soil
↳ cover outside + corners of fingers -
fingers - are using machinery
↳ built in 70's from pipe + shingles -
AB fibers in these - AB cement

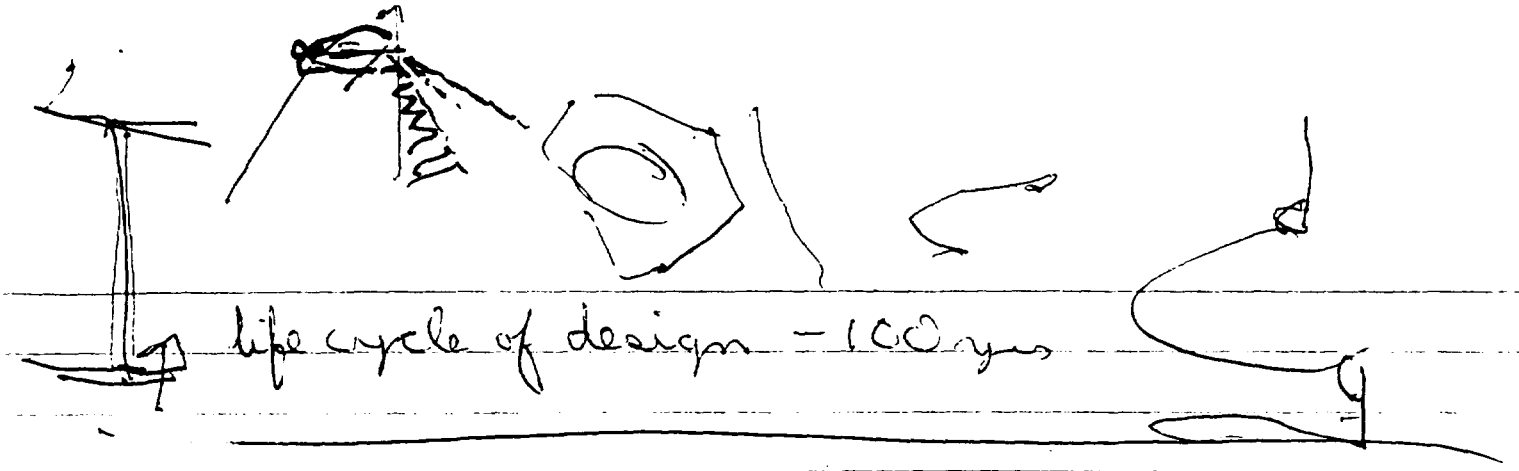
Maynard Parker interview - constr. foreman - worked @ J-M since 1947

- soils to be borrowed from outside - clay
+ sandy loam
↳ samples to be taken of borrow
prior to placement

- Dick suggested clay for fingers - keeps ice lenses from forming
- avoid old flooded soils - soils from anaerobic conditions does not support growth

Dick: Outline of actual RA recommended
⇒ Don did test digs on S slope
1', 1', 8", 6" → bottom
→ top
½ way up slope

- beach - remain normal + natural after cleaning
  - full protection @ all boundaries
  - berms - full protection - must be done compatibly w/ operations → dredging may disturb riprap
⇒ - contingency plan needed for dredging - insure that don't go deep enough to reach AB - must dig to uniform depth → if go deeper, treat as AB waste.
⇒ - plan not to disturb settling pond → need to det. sludge elevations, need to know depth of AB layer - soundings + sampling - est. grid pattern
⇒ - AB out of sludging operations ~ 4-5 yrs ago



life cycle of design - 100 yrs

side slopes - excluding S boundary
↳ acceptable
thickness of cover @ top to be determined

wet areas - 4" base (bedding matt), 12" riprap → no soil cover
↳ acceptable
full coverage

dry areas - will come back w/ thickness of cover ~~- need soil type~~
↓ for sandy soil - borrow pit
will differ for different soil types
- w

- w/in week will get soil type + NOA info
- data set back to them in a week

- cover all areas but wet, sluge, misc, AB pit w/ time limit for closure w/ stipulation that it will be deposited off-site after closure
- misc pit - close end w/ proper drainage ctrl. - written waste handling procedures for all pits
- cleanup of beach + SW site area + fence along swale + more signs
- detection mon. network
- GW mon. ~4 wells on N, ~3 wells on E
~~- none to w of~~ mobility indicate

Chuck's presentation
- freezing effects
  - length time freezing to get down to AB
  - time for particle to upfreeze to surface - 50 yrs.
    - worst case
    - ↳ 100 yrs. ~~acceptable~~ reasonable

- critical element: time for upfreezing
  18" - for Waukegan climate for reasonable worst case - saturated soil

I 25% error for Kirsten eg.
⇒ 22.5" max.

~24" mean frost depth used
1'6" worst case 6" for 9 yrs
particle worst case worst case 18" for 50 yrs.

Chuck will send McGaw his procedures for cover thickness & McGaw will review
- Burman to give soil types → soil gradation + atterberg limits
- NOAA info. to Dick

→ our recommendation w/in a week of sending

to do:
break apart FS + cover thickness

FS
⇒ send comments
⇒ call Chumpus - say can do 3 scenarios, but EPA will attach a chapter or addendum recommending theirs
⇒ write up our guidelines for an acceptable FS + send to Chumpus
⇒ review final FS in light of guidelines
⇒ write addendum

Cover thickness
⇒ Kumar to send Dick soil data, Rita to send procedures + NOA data
⇒ Dick to come up w/ thickness recommendation
⇒ review report
⇒ negotiate

10/3/86

where conflicts exist, this supercedes the FS comments

J-M Meeting - ~~Proposal~~ U.S. EPA Guidelines for an Acceptable Remedy 10/2/86

side slopes - North + West - acceptable as proposed, except the cover thickness at the top remains to be determined

wet areas - full coverage of all berms + dikes with riprap - 4" bedding material, 12" thick riprap
includes southern boundary

dry areas - exact cover thickness remains to be determined - J-M will provide soil-type data to Dick to enable him to calculate the thickness for the soil to be used at the site

- areas proposed to be covered acceptable except ~~the~~ a time limit for closure of the asbestos pit must be provided, with the stipulation that any asbestos material generated after closure must be deposited offsite

- the open area at the NE corner of the miscellaneous pit to be closed and provided with proper drainage control

- written waste handling procedures to be provided for each waste pit

- roof cover acceptable as proposed

miscellaneous - cleanup of beach and southwest site area to be included in the report

- fence to be provided along swale parallel to lake

- low areas along north side of industrial canal to be diked
- more signs along boundary fences as per NESHAPS requirement

groundwater monitoring - detection monitoring network consisting of ~4 wells to the north and ~3 wells to the east of the site to be provided - parameters for which to be analyzed: ~10 metal ~5 organics, mobility indicators (pH, etc)

Note: Dick has determined that the local exposure of the site will be considered to be <u>moderate</u>, because of warmer-than-average groundwater (owing to heating influence of utility plant to the south. (This will in effect will require ~3" less cover). Without warm groundwater, the exposure would have been severe)

10/2/86 Johns-Manville - U.S. EPA Meeting
- List of Attendees -

Name + Title	Representing	Phone #
Brad Bradley, Remedial Project Mgr.	U.S. EPA	(312) 886-4742
KURT NEIBERGALL PROJECT MANAGER	I EPA	217-782-676
MR. McGAN,	Consulting Engineer	603-643-2650
Chuck Vita	Golder Assoc	206-883-0777
DONALD MANDRY	MANVILLE	(312) 623-2900
S. Kumar Malhotra CONSULTINGENGS	KMA, INC	(616) 361 5092
LARRY L. JOHNSON	U.S. EPA - Regional	312 886 6235
MARVIN CLUMPUS	Manville	303-978-2790
James H. Whipple	Manville	" - " - 3750
DAVE NOYES Environmental Engineer	Manville	303-978-3125

Date: OCT 23 1986

Subject: Meeting Summary - Johns-Manville, Waukegan, Illinois Site

From: Brad Bradley, Remedial Project Manager
Illinois/Indiana Unit

To: Johns-Manville-Waukegan, Illinois Site File

Thru: Russell Diefenbach, Chief
Illinois/Indiana Unit

Date of Meeting: October 2, 1986 at 10:00a.m.

Personnel Participating

The list of participants in the meeting is included in this report as Attachment I.

Purpose

The meeting was held so that U.S. EPA could obtain all necessary information to determine the appropriate remedy for the contamination at the site. Once this information was obtained, guidelines for an acceptable remedy were presented to Johns-Manville.

Summary

The list of questions U.S. EPA asked at the meeting is shown in Attachment II to this report. Johns-Manville's responses are outlined in the following paragraphs:

- Johns-Manville (J-M) presented a map dated November 2, 1981, which indicated the depth to sludge in the ponds comprising the front end of the wastewater treatment system, including the settling pond. A site map is included as Attachment III to this report. The depth to sludge gradually increased from about six inches in the first receiving pond to approximately two feet in the

northernmost pond (see Attachment III). In the settling pond, the depth to sludge ranges from six inches to ten feet. It must be noted that these 1981 soundings are inaccurate for assessing the exact present situation, but are useful in gaining a general understanding.

- There is no set schedule or pattern for dredging the sludge at the site. Dredging is performed as needed, using a mudcat for the centers of the ponds and a clamshell or backhoe for the edges. The sludge is loaded into trucks and dumped into the sludge disposal pit. Sludge was formerly dumped in the areas between the canals (see Attachment III).

- J-M plans to leave a portion of the asbestos disposal pit open to receive future building demolition wastes. Only corrugated asbestos siding will be deposited in the pit. If the capacity of the asbestos pit is insufficient, J-M would extend the pit further west without disturbing the existing waste material. The quantity of asbestos-containing material deposited in the future depends on the scope of Phase II (the final phase) of J-M's building cleanup project. It could be two years before Phase II is initiated, and it could generate as little as 10,000 yd^3 or as much as 200,000 yd^3 of asbestos waste material.

- As part of the soil cover remedy outlined in the draft FS report, the southwest corner of the site (see Attachment III) would be cleared of all debris and planted, and the beach area would be cleaned up.

- All site roadways will be covered with 24 inches of clean soil.

The entire surface of the well-travelled roads will be covered with gravel, whereas two strips (tire tracks) of gravel will be provided for the less utilized roads on site.

- The industrial canal was once a waterway to the lake. The east end was later filled in, creating a mounded area near the beach (see Attachment III). This mounded area will be cleaned up, and dikes will be constructed along the depressions on the north side of the industrial canal to prevent surface water from migrating across the site boundary. Surface water would tend to flow into the industrial canal due to its surface elevation; however, during high water conditions, the potential exists for the canal water to intermix with off-site surface water. Twenty percent of the water used in J-M's manufacturing processes is pumped from Lake Michigan; the balance comes from the wastewater treatment system.

The surface water flowing toward the lake from the northeast corner of the miscellaneous disposal pit will be collected in a peripheral ditch; the northeast corner of the pit will not be closed off.

- The small ditch by the east ditch (see Attachment III) will be filled in.

- No asbestos-containing wastes will be deposited in the miscellaneous disposal pit. A provision to prevent this practice is included in present, written waste handling procedures.

- At the present rate of sludge deposition, it would take approximately 50 years to deposit a uniform sludge layer one foot thick in the settling pond and 15 to 16 years to deposit a one foot thickness of

sludge in the collection basin. There is an elevated overflow pipe in the settling pond leading into the collection basin; thus, the level of water in the collection basin is incidental. Asbestos was phased out of the sludging operations approximately four to five years ago.

- The following is a list of materials that comprise the major percentage of materials used in all manufacturing processes at the Waukegan plant
  - north manufacturing building: flexboard manufacturing - portland cement, water-based paint, and asbestos replacement (proprietary)
  - center manufacturing building: roofing manufacturing - sand and gravel, roofing binder (does not go to waste)
  - south manufacturing building: pipe insulation and refractory fiber manufacturing - calcium silicate, fiberglass, aluminosilicate, and chromium (as chrome oxide)
  - the rubber manufacturing operation, which will soon be discontinued, generates rubber and solvents, which are recycled

- Based on interviews that Don Mandry conducted with persons who were employed at Johns-Manville since the 1940's, the waste disposal area boundaries are composed principally of magnesia insulation, structural magnesia, transite pipe, and asbestos and non-asbestos roofing. The south slope is composed principally of transite pipe, and the west slope is composed principally of magnesia.

- Historical perspective: In 1922, the plant consisted of the powerhouse, the paper mill, and the roofing manufacturing building. The wastewater treatment system existed in the late 1940's. The original site elevation was 585 feet.

- The final elevation of the restored areas is not yet known; J-M will minimize grading activities and will build up the edges of the site to prevent erosion along the sides of the site.

- Riprap will be placed along the entire settling pond and any long berms in the wastewater treatment system. J-M was not sure of what would be done with the series of internal levees at the front end of the system (see Attachment III). Due to dredging machinery traffic, the levees might be covered with soil, or only the corners may be covered with riprap. The levees were built in the 1970's from pipe and shingles, some of which contained asbestos cement.

- The soils to be borrowed from offsite would consist of clay and sandy loam. Samples of the borrow material will be taken prior to placement.

- Test digs were performed on the south slope of the site. The result of four test digs was that asbestos-containing material was encountered at six inches at the bottom of the slope, at eight inches at the top, and at one foot at two separate locations in the middle of the slope.

After a break, U.S. EPA presented Johns-Manville with guidelines for an acceptable remedy for the Waukegan site. These guidelines were formalized in a follow-up letter to J-M. A copy of this letter, included in this report as Attachment IV, will serve to summarize the guidelines presented at the meeting.

Dick McGaw and Chuck Vita then discussed their respective approaches and calculation procedures to determine the appropriate soil cover thickness to remediate the contamination at the site. The basics of Mr. Vita's presentation were that, using a 24 inch mean frost depth and under a worst case scenario, a six inch soil cover would prevent asbestos-containing material from being exposed to the atmosphere for nine years, and an 18 inch cover would provide protection for 50 years. Mr. Vita also stated that a 25% error can be assumed for his calculations, making the maximum cover thickness 22.5 inches. J-M's final statement was that six inches of cover would be adequate for the site, and 18 inches would adequately address the worst case scenario (this assumes that 50 years is an appropriate cover lifetime).

Dick McGaw outlined his reasoning and method of calculation, but did not recommend a cover thickness to J-M. Some relevant information presented by Mr. McGaw included the fact that he bases his calculations on a 100 year cover lifetime, he has determin for the purpose of calculation, that the local exposure of the site is moderate due to the relatively warm groundwater, and old lakebed soils should not be used for cover since these soils do not support vegetative growth. Mr. McGaw stated that the following data would be helpful to him in calculating the required cover thickness: National Oceanic and Atmospheric Association (NOAA) data, a copy of Chuck Vita's soil cover thickness calculations, and data on the borrow soil to be used, including soil gradation and Atterberg limits.

The final result of the soil cover thickness discussions was that J-M would recommend an 18 inch thickness in the final FS Report but would provide cost estimates and numerical

ratings for 24 inch and 30 inch cover thickness options, as well as for the 18 inch thickness.

Necessary Follow-ups

Based on the results of the meeting, the following actions are necessary to finalize the FS Report and work toward establishing a final cover thickness for the site:

Feasibility Study:

- comments to J-M's August 25, 1986 response letter regarding U.S. EPA's draft FS Report comment letter must be sent.
- Marvin Clumpus must be informed that utilizing three cost scenarios for soil cover (18", 24", and 30" thickness) is acceptable; however, U.S. EPA must attach an addendum to the report outlining its preferred remedy before the report can go final.
- the guidelines for an acceptable remedy given to J-M by U.S. EPA during the meeting must be formalized in writing.
- subsequent to the above actions, the final FS Report must be reviewed, and the U.S. EPA addendum must be drafted. The FS Report can then go final, and the public comment period will commence.

Cover Thickness:

- Kumar Malhotra will send soil data to Dick McGraw, and Chuck Vita will send NOAA data and his calculation procedures to Dick McGraw.
- Dick McGraw must then determine the appropriate cover thickness to remediate the airborne contamination at the site and submit a summary report to U.S. EPA.
- U.S. EPA must review Mr. McGraw's report.
- another meeting to negotiate cover thickness will then be scheduled.

Attachments

bcc: R. Diefenbach w/o Attachments
N. Niedergang w/o Attachments

Attachment I

10/2/86 Johns-Manville - U.S. EPA Meeting
- List of Attendees -

Name + Title	Representing	Phone #
Brad Bradley, Remedial Project Mgr.	U.S. EPA	(312) 886-4742
KURT NEIBERGALL PROJECT MANAGER	I EPA	217-782-676
DICK McGAW,	Consulting Engineer	603-643-2650
Chuck Vita	Golder Assoc	206-883-0777
DONALD MANORY	MANVILLE	(312) 623-2900
S. Kumar Malhotra CONSULTINGENGS	KMA, INC	(616) 361 5092
LARRY L. JOHNSON	U.S. EPA - Reg Counsel	312 886 6235
[illegible]	Manville	[illegible]
[illegible]	Manville	" - " - 3750
DAVE NOYES Environmental Engineer	Manville	303-973-3125

Attachment II

List of U.S. EPA Questions

1. What are the sludge elevations (i.e. depth of water above upper sludge surfaces) in the ponds and waterways of the wastewater treatment system?

2. What are the dredging procedures utilized at the site?

3. What materials are presently used in J-M manufacturing processes?

4. What is the depth of soil cover on the south site boundary?

5. Clarify, on a site map, the areas of the site which will be included under the various remediation schemes (e.g. dry areas, wet areas, etc.).

6. What will be the final elevation of the restored dry areas?

7. What is the direction of flow in the depressed areas, which contained water during the site visit, on the north side of the industrial canal?

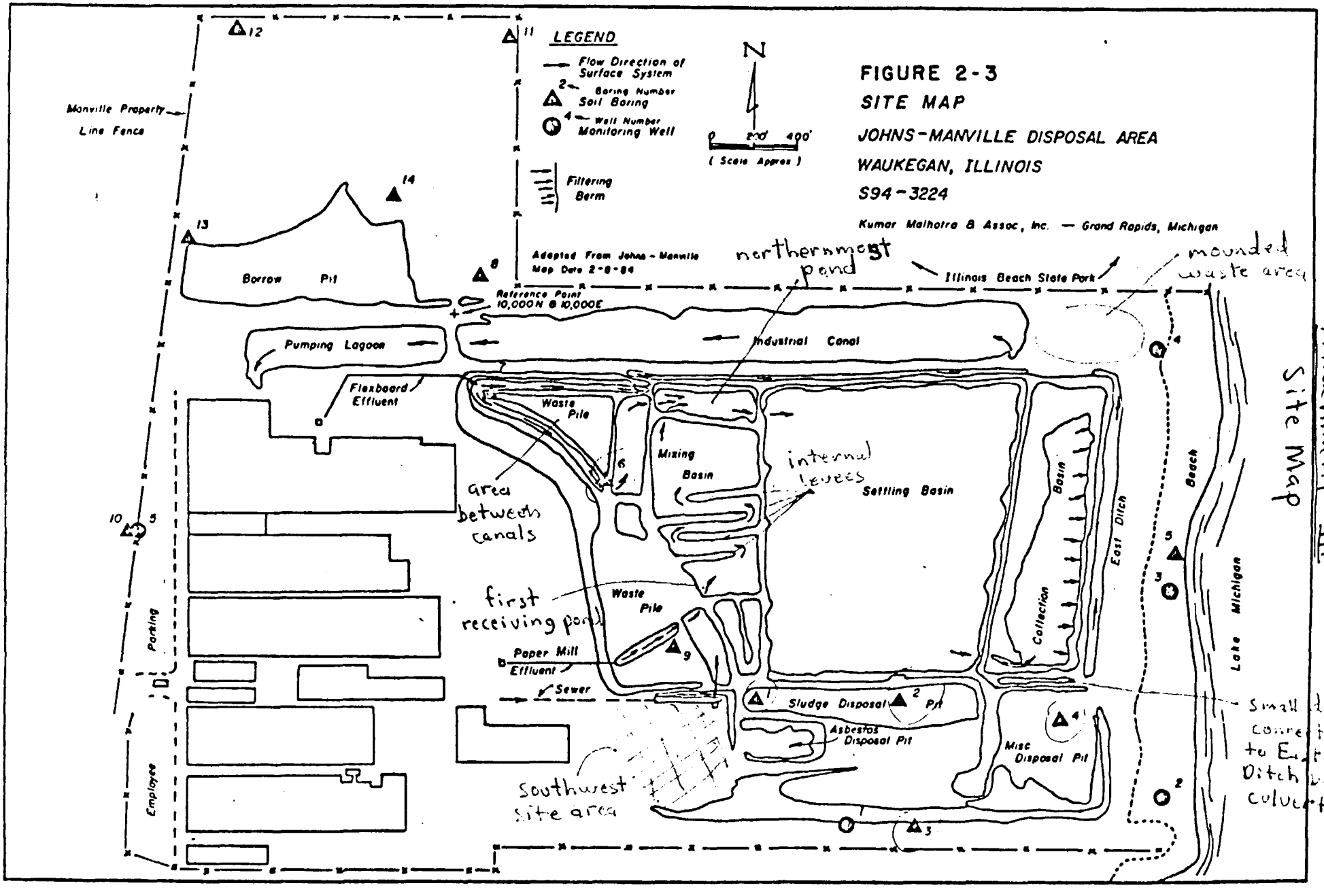
8. What are J-M's plans for closure of the asbestos disposal pit?

9. What does J-M propose to do with the surface runoff that flows from the northeast corner of the miscellaneous disposal pit?

10. Once the sludge disposal pit has been filled, where will sludge be deposited

11. What are the composition and characteristics of the soil to be borrowed from off-site?

12. Clarify which internal slopes of the wet areas will be covered with



Attachment III
Site Map

Attachment IV

U.S. EPA Guidelines For An Acceptable Remedy For The Johns-Manville-Waukegan Disposal Area

DRE-12

OCT - 9 1986

Mr. Marvin Clumpus
Project Coordinator
Manville Service Corporation
P.O. Box 5108
Denver, Colorado 80217

Re: The Johns-Manville Waukegan Disposal Area

Dear Mr. Clumpus:

This letter will serve to formalize the guidelines for an acceptable remedy for the Waukegan site presented to Johns-Manville by U.S. EPA at the October 2, 1986 meeting concerning said site. The guidelines, arranged in categories for clarity, are as follows:

North and West Waste Disposal Area Boundaries

The remedy for these areas is acceptable as proposed, with the exception that the cover thickness at the top of the slopes must still be determined.

Wet Areas

Full coverage of all interior slopes with 12-inch thick riprap underlain by four inches of bedding material must be provided.

Dry Areas (This includes the southern waste disposal area boundary)

- The exact cover thickness must still be determined.

- A time limit and provisions for closure of the asbestos disposal pit must be provided, with the stipulation that any asbestos-containing material generated after closure must be deposited off-site in an approved landfill.

- The open area at the northeast corner of the miscellaneous disposal pit must be closed, and the pit must be provided with proper drainage control.

- Written waste handling procedures must be provided for the asbestos disposal pit, the miscellaneous disposal pit, and the sludge disposal pit.

- The remedy proposed for the site roadways is acceptable as outlined in the FS Report.

Miscellaneous Provisions

- As described at the October 2, 1986 meeting, the provisions to clean up the beach and the southwest portion of the waste disposal area must be included in the FS Report.

- If possible, fence must be provided along the eastern site boundary, preferably along the elevated area near the beach.

- As described at the October 2, 1986 meeting, the provision to construct dikes at the depressed areas along the north side of the industrial canal must be included in the FS Report.

- Per the NESHAPS requirement, additional warning signs must be posted along the waste disposal area boundary fences.

Groundwater Monitoring

A detection monitoring system must be provided, including the drilling of additional wells to the north and the east of the site. As a rough guideline, such a monitoring system would consist of approximately four additional wells north of the site and approximately three additional wells slightly west of the existing eastern wells to be monitored for approximately 10 metals, approximately five organics, and all mobility indicator parameters, such as ph.

The only outstanding issue is the appropriate cover thickness for the dry areas, which will be determined through subsequent discussions with Johns-Manville. Any portion of the "soil cover with vegetation" remedy that was not addressed in the above guidelines is acceptable as stated in the draft FS Report.

If you have any questions concerning this letter, please contact me at (312) [illegible].

Sincerely yours,

Brad Bradley, Remedial Project Manager
Region V CERCLA Enforcement Section

cc: Kurt Neidergall
Federal Site Management Section
Division of Land Pollution Control, IEPA

bcc: N. Niedergang, CES
R. Diefenbach, CES
L. Johnson, 5C-16

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