

Vicksburg Chemical Company



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

Name:

Site Location:

County:

Contact Name:

Title:

Phone:

SIC1: SIC2: SIC3:

ECED Contact:

Air Facility Type:

HW Facility Type:

Water Facility Type:

SW Facility Type:

Site Basin:

Out of Business:

Permit Type	SubType	Permit Number	DEQ Contact	
<input type="checkbox"/> AIR	<input type="text" value="Title V"/>	<input type="text" value="2780-00041"/>	<input type="text" value=""/>	<input type="text" value=""/>
<input type="checkbox"/> AIR	<input type="text" value="Construction"/>	<input type="text" value="2780-00041"/>	<input type="text" value="Summers"/>	<input type="text" value="Jacqueline"/>
<input type="checkbox"/> AIR	<input type="text" value="Construction"/>	<input type="text" value="2780-00041"/>	<input type="text" value="Smith"/>	<input type="text" value="Adam"/>
<input type="checkbox"/> AIR	<input type="text" value="Construction"/>	<input type="text" value="2780-00041"/>	<input type="text" value="Smith"/>	<input type="text" value="Adam"/>
<input type="checkbox"/> GENERAL	<input type="text" value="Sara Title III"/>	<input type="text" value="MSR110030"/>	<input type="text" value="Lavallee"/>	<input type="text" value="Louis"/>
<input type="checkbox"/> HW	<input type="text" value="EPA ID"/>	<input type="text" value="MSD99071408"/>	<input type="text" value=""/>	<input type="text" value=""/>
<input type="checkbox"/> WATER	<input type="text" value="NPDES"/>	<input type="text" value="MS0027995"/>	<input type="text" value="Williams"/>	<input type="text" value="Becky"/>

August 14, 2000

Mr. Scott Mills
Mississippi Department of Environmental Quality
2380 Highway 80 West
Jackson, Mississippi 39204

RECEIVED
AUG 15 2000
Dept. of Environmental Quality
Office of Pollution Control

Re: Revision 2 to Figure 1 – SWMU Locations, RFI Soil and
Concrete Sample Points, GWA Monitor Well Locations
Vicksburg Chemical
URS File No. 35092B007C.00-01006

Dear Mr. Mills:

Attached is the referenced revision. Steve Boswell asked that I send copies to you to insert in the "Response to July 3, 2000 Comments by the U.S. EPA on the Amended and Supplemental Groundwater Assessment Work Plan, December 1999" in replacement of Revision 1 of Figure 1. The drawing reflects the expansion of the SWMU 2 investigation from three deep borings to five deep borings. The revision adds value in that it shows locations of closed ponds and investigative borings LS-1, LS-2, LS-3, and LS-4. The revision also shows boring LS-5, an investigative boring for the closed landfill. All the borings were advanced approximately 40 feet below ground surface to groundwater during the first week of August 2000. Three soil samples and one groundwater sample per boring are now being analyzed in a chemical laboratory.

SWMU 2 is a hill with a natural elevation approximately 30 feet above immediate surrounding areas. A closed landfill and four closed pits or ponds were constructed on the hill and utilized from 1972 to 1975. One pit was constructed to store dinoseb process wastewater. Three pits were used as disposal locations for pallets, empty fiber and steel drums. In 1977, many of the drums in the pits, but not the landfill, were removed and disposed off-site.

As noted, the location of the closed pits and closed landfill are shown on Figure 1. The locations are approximate and based on a 1979 aerial photograph. In actuality, the boundary lines of the pits were blurred during regrading efforts in 1979. In 1979 all the pits were drained, regraded so the hill was flattened and covered with a soil cap. Clay was obtained off-site and placed on the landfill area. In 1983, there was additional grading and capping of the entire area consistent with an engineered plan approved by the MSDNR. In 1988 the SWMU 3 wastewater ponds, which are adjacent to SWMU 2, were lined and a repository for pond sediments (SWACA) was constructed. The SWACA was constructed in the pond location denoted by boring LS-3. Most of the former sediments of the pond are within the SWACA. The pond lining and SWACA construction is consistent with RCRA guidelines.



Mr. Scott Mills- 35092B007C.00-01006
Mississippi Department of Environmental Quality
August 14, 2000
Page 2

I hope this drawing will be of use. Of course, a report on the investigation will be written. Borings LS-2 and LS-4 were plugged and abandoned since they are within the temporary bermed area. LS-1, LS-3 and LS-5 remain as piezometers. It does appear that the groundwater elevations in the borings are consistent with groundwater elevations projected from previous work surrounding SWMU 2.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Dick Karkkainen'.

Dick Karkkainen

RDK:cm

Attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

William County
RCRA, general corresp.

4WD-RCRA

JUN 28 1999

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Steven T. Boswell
Director of Environmental Affairs
Vicksburg Chemical Company
P.O. Box 821003
Vicksburg, Mississippi 39182

SUBJ: Vicksburg Chemical Company
MSD 990 714 081
Government Performance Results Act

JUL - 2 1999

Dear Mr. Boswell:

As you are likely aware, your facility is listed as a high priority for cleanup on the Resource Conservation and Recovery Act (RCRA) Corrective Action Baseline list of facilities. The United States Environmental Protection Agency (EPA), with input from many states, has developed this baseline list in response to the Government Performance Results Act (GPRA) which requires federal agencies to develop measures for tracking environmental results. This baseline list will be used to track progress of EPA, the states, and the listed facilities in accelerating corrective action at the 1700+ sites.

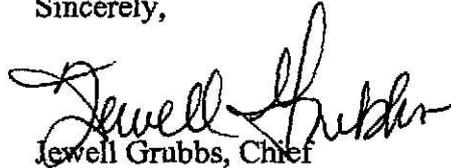
The purpose of this correspondence is to make you aware that a trade press briefing is currently planned for the end of June 1999, to announce a non-regulatory set of reforms to the RCRA Corrective Action program, referred to as the RCRA Cleanup Reforms. The announcement will be made in Washington, DC by the Acting Assistant Administrator of EPA's Office of Solid Waste & Emergency Response, Mr. Timothy Fields, Jr. The list of facilities on the baseline may be released during the press announcement.

The RCRA Cleanup Reforms will focus on increasing the pace of cleanup at the 1700+ high priority facilities. The Reforms are EPA's comprehensive effort to address the key impediments to cleanups, maximize program flexibility, and spur progress with a set of ambitious national cleanup goals. The national cleanup goals apply to 1700+ RCRA sites identified by EPA and the states as high priority for cleanup over the next several years. The goals, set by EPA under the GPRA, are that by 2005, the states and EPA verify and document that 95 percent of the 1700+ high priority RCRA facilities have "current human exposures under control," and 70 percent of these facilities have "migration of contaminated groundwater under control." To ensure that these ambitious goals are achieved, the RCRA Cleanup Reforms establish aggressive national cleanup targets for each of the next several years.

We are giving you this advanced notice of the trade press announcement, so that you have the opportunity to prepare for any questions that may arise, because your facility is included as one of the facilities in the baseline.

Please contact Dr. Judy Sophianopoulos, of my staff, at (404) 562- 8604, if you have questions or concerns.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jewell Grubbs".

Jewell Grubbs, Chief
RCRA Enforcement and Compliance Branch
Waste Management Division

cc: Don Watts, MDEQ

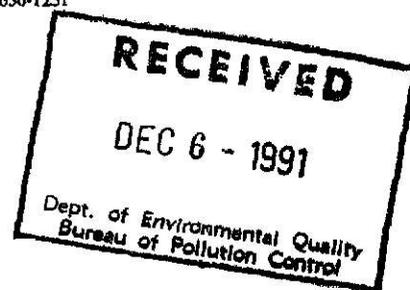
CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P.O. BOX 3
VICKSBURG, MS 39181
(601) 636-1231

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 413 276 237

Mr. John Taylor
Environmental Engineer
Mississippi Department of Environmental Quality
2380 Highway 80 West
Jackson, MS 39204



December 4, 1991

Re: Cedar Chemical Corporation
Groundwater Monitoring, 3rd Quarter, 1991

Dear Mr. Taylor:

As we discussed by telephone today, please find enclosed copies of the results of the re-sampling of Cedar groundwater well Nos. 1A, 2, 5, 6, 11 and 13, plus revised copies of the report of groundwater sampling conducted on September 29, 1991. The detection limits for toxaphene were mistakenly set by the laboratory (Analytical Technologies, Inc., of Pensacola, FL) at 0.5 ppm in the round of sampling performed on September 29th of this year. Upon re-evaluation of the laboratory data developed from that sampling, Well No. 6 was found to contain toxaphene at a concentration of 25 ppb.

(.003 mg/l (MCL))

The six wells mentioned above were re-sampled after analyses during the 3rd calendar quarter indicated the presence of certain halogenated and aromatic constituents. Well Nos. 1A, 2 and 11, after re-sampling, appear to contain trichloroethene. Carbon tetrachloride appeared in Well No. 1A and vinyl chloride appeared in Well No. 6. Well No. 2 was found to contain 1,2-dichloroethylene.

(.005 mg/l) (.002 mg/l)

The aromatic constituents which appeared in Well Nos. 5 and 6 did not repeat in the re-sampling. The acetone detected in Well No. 13 in the third quarter sampling did not repeat in that sample, but acetone was detected in the sample from Well No. 1A during the re-sampling. Analytical Technologies attributes the presence of acetone to inadequate drying of the bottles during their preparation for distribution to Cedar.

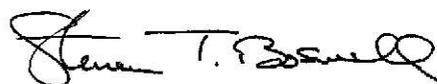
As an effort to evaluate the reliability of the data, Cedar split aliquots of each well resampled between Analytical Technologies, Inc., and Betz Laboratories, Inc., in Houston, TX. With the exception of 1,2-dichloroethylene in Well No. 2, and the acetone

detected in Well No. 1A, both labs agree closely on the presence of the other species. The lack of replication of results on acetone from lab to lab coupled with the sample to sample variability, makes it probable that the acetone is a laboratory artifact. The non-detection of 1,2-dichloroethylene by Betz Labs is inconclusive.

Additionally, Well No. 6 was re-sampled and re-analyzed for toxaphene by both labs. Results indicated the presence of toxaphene in this well at 8.5 ppb (the average of the two labs).

Cedar desires to discuss this situation with the Department at your earliest convenience. If there are any questions concerning this matter, please contact me.

Sincerely,



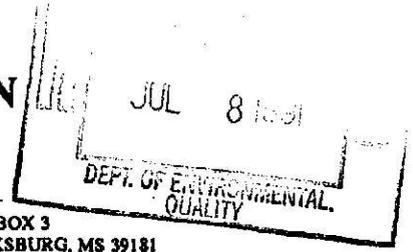
Steven T. Boswell
Director of Env. Affairs

STB: pc

xc: Mr. Miles
Mr. Madsen
Mr. Karkkainen, Woodward-Clyde

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348



REPLY TO: P.O. BOX 3
VICKSBURG, MS 39181
(601) 636-1231

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 413 276 220

Mr. Trey Fleming
Environmental Engineer
Mississippi Department of Environmental Quality
Bureau of Pollution Control
2380 Highway 80 West
Jackson, MS 39204

July 3, 1991

Re: Cedar Chemical Corporation
Groundwater Monitoring, 2nd Quarter, 1991

Dear Mr. Fleming:

Please find enclosed copies of the results of the 2nd Quarter Groundwater Monitoring analyses required by DEQ Commission Order 1253 87. As requested by Mr. Toby Cook in his letter of April 22, 1991, the chemicals chloroform, carbon tetrachloride, methyl ethyl ketone and trichloroethylene (trichloroethene) were added to the list of analyses to be performed.

Although not requested, methyl chloride was also analyzed and is included in this report. Water well sample "3B" is a blind, blank sample submitted to our contractor laboratory as a routine sample.

If there are any questions concerning this matter, please contact me.

Sincerely,

Steven T. Boswell
Director of Env. Affairs

STB: pc

xc: Mr. Ahlers
Mr. Madsen



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES
 Bureau of Pollution Control
 P. O. Box 10385
 Jackson, Mississippi 39209
 (601) 961-5171
MEMORANDUM



TO: File
 FROM: Toby Cook
 SUBJECT: Cedar Chemical, Vicksburg
 DATE: January 30, 1989

Steve Spengler and I met with Steve Boswell and Allen Malone representing Cedar Chemical on January 27, 1989. They reported that the contract has been let and the contractor has moved on site to begin partial closure and make modifications to the impoundment. They left us a copy of the contractor's performance bond.

Cedar had requested in a letter dated December 21, 1988, that we consider reducing the frequency of sampling and number of wells being sampled. We stated that further consultations with our hydrologist would be required, but that the following schedule would be considered:

	<u>Semi-annually</u>	<u>Annually</u>
Well #	1A	2
	5	4
	6	8
	7	9
	10	12
	11	13
	14	
	16	

We also pointed out that RCRA regs would require four replicates from each well and statistical analysis of the results.

A discussion took place regarding the vagueness of the order requiring groundwater monitoring and it was suggested that we would draft a new order containing more specific language, and likely a 30 year requirement for sampling.

A discussion also took place regarding the existing closure trust fund. It was stated that Cedar was not interested in making an additional immediate contribution to the trust fund, although additional contributions were not entirely ruled out. It appears that a clear definition of the trust fund use is also needed in any subsequent order.

The need for remedial action in monitoring well 1A was discussed. It was suggested that water could be pumped from well 1A, treated and discharged in accordance with their NPDES permit. It was pointed out that discharging the well water directly into the impoundment could potentially endanger the non-regulated status of the impoundment.

TC:lr

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 677 981 802

Mr. Steve Spengler, P.E.
Coordinator - TSD Branch
Hazardous Waste Division
Bureau of Pollution Control
2380 U.S. Highway 80 West
Jackson, Mississippi 39209



December 21, 1988

Subject: Cedar Chemical, Vicksburg Chemical Division
South Pond Closure and Retrofit Post-Closure Activities

Dear Mr. Spengler:

As we discussed by telephone December 19, 1988, Vicksburg Chemical desires to modify the current groundwater monitoring program it operates at the Vicksburg facility. We currently sample and analyze fourteen wells for total arsenic, methylene chloride, toxaphene and dinitro-butylphenol on a quarterly basis.

We wish to reduce the frequency of sampling from quarterly to bi-annually with the exception of Well No. 1A. Additionally, we wish to discuss the elimination of wells which may be redundant for sampling purposes and wish to discuss which parameters are appropriate for future monitoring.

As groundwater monitoring activities influence the post-closure care cost estimate, we would very much like to meet with you to discuss the details involved in calculating the required amount of funding to be held in trust and for what period.

Please advise if January 17, 1989, is a convenient date to meet and discuss these items. Thank you for your consideration.

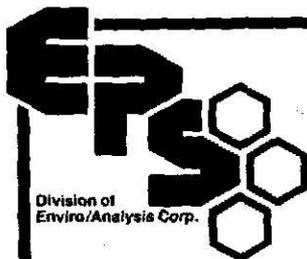
Sincerely,

A handwritten signature in cursive script that reads "Steven T. Boswell".

Steven T. Boswell
Director of Env. Affairs

STB: pc

xc: Mr. Ahlers
Mr. Madsen
Mr. Malone

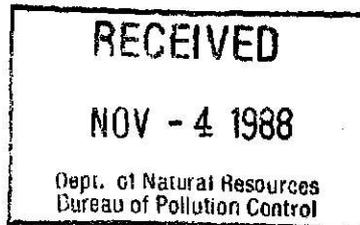


Environmental Protection Systems

Comprehensive Engineering Services and Analytical Testing

November 3, 1988
File No. 1.89.3.0733

Mr. Louis H. Crawford, P.E.
TDS Branch, Hazardous Waste Division
Bureau of Pollution Control
P. O. Box 10385
Jackson, MS 39209



Dear Mr. Crawford:

Subject: Vicksburg Chemical Results

The "not determined" results for the Well No. 1A at Vicksburg Chemical was a result of no qualitative recovery of surrogate standard for that sample. This was the probable result of new analysts doing this complicated esterification process for the first time. I have required our new Organic Group to successfully esterify dinitrobutyphenol and a surrogate standard on at least three sets of blank water samples before analyzing the next quarter's samples from these wells.

If you have any questions or comments, please do not hesitate to call.

Sincerely,

ENVIRONMENTAL PROTECTION SYSTEMS

John P. Broussard
John P. Broussard
Laboratory Coordinator

JPB/ncr

DIVISION OF SOLID WASTE

REVIEWED BY *[Signature]*

DATE 7 NOV 88

COMMENTS copy in Comp. file

copy to EPA



FILE COPY
FILE COPY

October 28, 1988

Mr. John Broussard
Environmental Protection Systems
P. O. Box 20382
Jackson, Mississippi 39209

Dear Mr. Broussard:

Re: Groundwater Monitoring Results
Cedar Chemical Corporation
(aka Vicksburg Chemical)

Thank you for explaining the results of the laboratory analysis for dinitrobutylphenol at well #1A at the referenced facility. In order to document the reason for the significant deviation from past results for the same parameter at this well, please provide us with this explanation in writing.

If you have any questions, please do not hesitate to call.

Sincerely,

Louis H. Crawford, P.E.
TSD Branch, Hazardous Waste Division

LHC:lr

cc: Mr. James H. Scarbrough, EPA
Mr. Steven T. Roswell



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES
Bureau of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39209
(601) 961-5171



MEMORANDUM

TO: Vicksburg Chemical (VCC) File
FROM: Jack McCord
THROUGH: Steve Spengler
SUBJECT: Status of Work Being Done at Vicksburg Chemical
DATE: July 15, 1988

Today, I spoke to Steve Boswell concerning the work being done at Vicksburg Chemical. During our telephone conversation Steve made me aware of the following items:

1. He had not yet received our letter granting a 30 day extension for their drums of mixed dinoseb and sulfuric acid wastes. However, they were expecting Cecos to approve the waste stream next week and be able to dispose of the waste shortly. They have received non-reacting drum liners and expect to receive 70 new drums on Monday. If Cecos does not approve the waste stream VCC will be able to repackage the waste for shipment anyway.
2. The wells and piezometers VCC proposed to remove in the letter dated June 21, 1988, have been removed and plugged. A new well has been added also as proposed in the letter. VCC will be submitting a plan for adding this well to their sampling and analysis plan.
3. VCC has recently changed primary contractors for finalizing their closure plan. The new contractor is IT Corporation. Although they are still about 1 month behind they are now making substantial progress.
4. They will be shipping the drums out of their returned product storage area to Chem Waste Management within the next couple of weeks. They will then rent a cement grinder and try and make some more progress on cleaning the floors both there and in the hazardous waste storage area. They ultimately would like to establish a new less than 90 day drum storage area in a more secure place.

JM:els
cc: Mr. James Scarbrough, EPA

July 5, 1988

FILE COPY

Mr. Steven T. Boswell
Director, Environmental Affairs
Cedar Chemical Corporation
P. O. Box 3
Vicksburg, Mississippi 39180

Dear Mr. Boswell:

Re: Removal of Monitoring Well MW-15
and Piezometers PZ-2 and PZ-3
at Cedar Chemical Corporation
Vicksburg, Mississippi
MSD990714081

The Bureau has reviewed the proposal submitted by Ware Lind Furlow Engineers on June 21, 1988, to remove and plug monitoring well MW-15 and piezometers PZ-2 and PZ-3. They also propose to install an additional monitoring well at the location shown on the piezometric contour maps submitted with their proposal. Although the Bureau does not object to Cedar Chemical implementing this proposal, you should be aware that sampling and analytical data from the proposed well would not be regarded as conclusive evidence that the contamination detected in MW-1 and MW-1A is not coming from the surface impoundment. If Cedar Chemical wishes to prove the surface impoundment is not the source of groundwater contamination, it may be necessary to install additional groundwater monitoring wells.

If you have any questions, please contact me at 961-5171.

Sincerely,

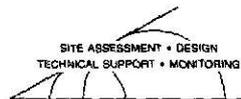
Jack B. McCord
Hazardous Waste Branch

JEMc:hdp

cc: Mr. James Scarbrough, Environmental Protection Agency

WARE LIND FURLOW ENGINEERS, INC.

GEOTECHNICAL AND EARTH SCIENCE CONSULTANTS



859 PEAR ORCHARD ROAD

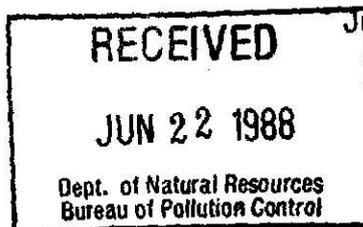
POST OFFICE BOX 10115

JACKSON, MISSISSIPPI 39206

AREA CODE 601: 956-4467

Bureau of Pollution Control
Post Office Box 10385
Jackson, Mississippi 39209

Attention: Ms. Kimberly Ehret
Mr. Jack McCord



June 21, 1988

Re: Monitor Well Replacement and Removal
Cedar Chemical Corporation
Vicksburg, Mississippi
Project No. 88021

Gentlemen:

As requested, we are submitting piezometric contours developed at the referenced project site for your review and comment regarding the location of a proposed monitoring well to replace Monitoring Well MW-15. This information was requested by Ms. Ehret and Mr. McCord at a meeting held at the Cedar Chemical Corporation facility in Vicksburg, Mississippi on May 20, 1988. This meeting was also attended by Mr. Steve Boswell of Cedar Chemical Corporation and Mr. Eugene G. Wardlaw, P. E. of Ware Lind Furlow Engineers.

Presently, Cedar Chemical Corporation is investigating the possibility of performing improvements to the surface impoundment ponds which will include removal of sludge materials, installation of a double synthetic liner and construction of a stabilized sludge storage cell. In anticipation of implementation of these improvements to the surface impoundment ponds, we have recommended to Cedar Chemical Corporation that all penetrations of the surface impoundment containment dikes be eliminated. Monitor Well MW-15 and Piezometers 2 and 3 were installed through the containment dikes of the surface impoundments. It is our opinion that these penetrations of the dikes reduce the overall structural integrity of the dikes and that the wells-piezometers are positioned in less than optimum locations for collection of data and monitoring groundwater.

Based on review of documents prepared by International Technology Corporation for Cedar Chemical Corporation, it is our understanding that Monitor Well 15 was installed at the project site to provide cross gradient information and a groundwater sampling point near the surface impoundment ponds. Piezometers 2 and 3 were installed at the project site prior to the installation of Monitor Well 15 to provide data collection points for piezometric levels.

The locations of existing monitor wells and piezometers are shown graphically on Plate 1. Additionally, piezometric contours were developed from water level data collected from the monitor wells and piezometers for December 27, 1987 and June 8, 1988. These piezometric contours indicate that Monitor Well 15 and Piezometer 3 are located cross gradient to Monitor Well 1A. Additionally, these piezometric contours indicate that Piezometer 2 is located down gradient from Piezometer 1 and up gradient from Monitor Well 5. Based on review of the piezometric data and the location of existing groundwater monitoring wells and piezometers, it is our opinion that removal of MW-15, PZ-2 and PZ-3, while maintaining the overall integrity of the groundwater monitoring system, would require the installation of one additional monitor well at the location shown on Plates 2 and 3. The location of the proposed monitor well would not place this monitor well in the dike section but would provide a cross gradient data collection point from Monitor Well 1A that is comparable to the location of MW-15. The location of the proposed monitor well is approximately 100 ft from the location of MW-15 and PZ-3. The location of MW-5 down gradient from the location of PZ-2 precludes the need for replacement of PZ-2.

Removal of MW-15, PZ-2 and PZ-3 would be accomplished by either pulling or drilling the PVC casing and screen with an oversized drag bit. If required, the drilling operation would be accomplished with a drag bit modified with a centralizing stinger. Cuttings from the drilling operation would be brought to the surface using rotary wash drilling techniques. After the PVC riser and screen had been removed, the remaining hole would be grouted from the bottom using a neat cement grout containing bentonite. After the cement-bentonite grout returns to the surface, the drill rod and bit will be removed from the boring. Upon completion of the well and piezometer removal, a letter would be submitted to you summarizing the removal procedures used.

Installation of the replacement monitor well would consist of installation of an 10-in. diameter Schedule 40 PVC surface casing, drilling and sampling of a boring, reaming of the bore hole to a 10-in. nominal diameter and installation of a 4-in. PVC monitor well. The 10-in. diameter PVC surface casing would extend down to the groundwater table. After the surface casing is placed in the boring, the casing would be pushed with hydraulic cylinders from the drill rig approximately 0.5 ft into the natural soil to insure a good seal for grout. After the surface casing is seated, the annulus between the bore hole and the surface casing would be grouted with a neat cement-bentonite grout. After the surface casing has been set and grouted, the drill rig would be decontaminated and positioned over the casing. A soil boring would then be advanced to a terminal depth of about 48

ft or 5 ft into the underlying Terrace Deposits using rotary wash drilling techniques. Soil samples would be obtained on about 5-ft depth intervals.

Representative undisturbed samples of cohesive soils encountered in the rotary wash boring would be taken by pushing a 3-in. OD thin-wall Shelby tube sampler a distance of approximately 2 ft into the soil with hydraulic cylinders from the drill rig (ASTM D 1587). After recovery from a boring, these samples would be carefully extruded in the field and examined visually. One representative portion would be selected and sealed with melted paraffin in a cylindrical cardboard container to prevent loss of moisture and to protect the sample during transportation to the laboratory. Another portion of each undisturbed sample would be selected and sealed in a glass jar for ease in subsequent visual examination.

Disturbed samples of sands and other near-cohesionless soils encountered in the rotary wash boring would be taken by driving a standard ASTM 2.5-in. OD split-spoon sampler. The number of blows required to drive the sampler the final 12 in. of penetration would be observed and recorded (ASTM D 1586). Appropriate samples from the split-spoon would be taken and sealed in glass jars to prevent loss of moisture. These samples would be placed in boxes for return to the laboratory.

Upon completion of the soil boring, the diameter of the bore hole would be increased using an 8-in. diameter drill bit. A 4-in. OD 10-ft long Schedule 40 PVC well screen with No. 10 slots would be set in the boring. The screen would be connected to the surface by 4-in. diameter PVC pipe. This pipe would have threaded flush-joint connections with an O-ring seal. After the screen has been set to the bottom of the hole, the annulus between the screen and the 8-in. diameter bore hole would be filled with No. 3 blasting sand filter material. This sand would be tremied into the annulus between the PVC pipe and bore hole wall until the top of the sand filter was at least 2 ft above the top of the well screen. Subsequently, bentonite pellets would be placed in the hole above the sand filter to create a 2-ft thick seal. The bentonite pellets would be allowed to swell for approximately 1 hour before proceeding with the installation. The annulus above the bentonite seal would be grouted with neat cement grout containing bentonite as a suspension agent. The 4-in. OD Schedule 40 PVC pipe would be extended approximately 2 ft above the ground surface and capped. Subsequently, a 6-in. square steel well protector would be set over the PVC riser and grouted in place with a 2 ft by 2 ft by 4-in. thick concrete slab. The protective steel shroud would have a hinged top for access to the riser and a means for locking.

After the well has been installed, the screen would be surged using a water jet. At least two full jetting cycles would be used to develop this well. Additionally, the monitor well would be pumped or bailed until clear water was obtained. A report would be submitted to Cedar Chemical Corporation and you that would detail the installation and development processes used for this monitor well and removal of Monitor Well MW-15 and Piezometers PZ-2 and PZ-3.

We would appreciate your review of this information and request that you notify us of any comments that you may have. If you should have any questions regarding this information, please give us a call.

Very truly yours,

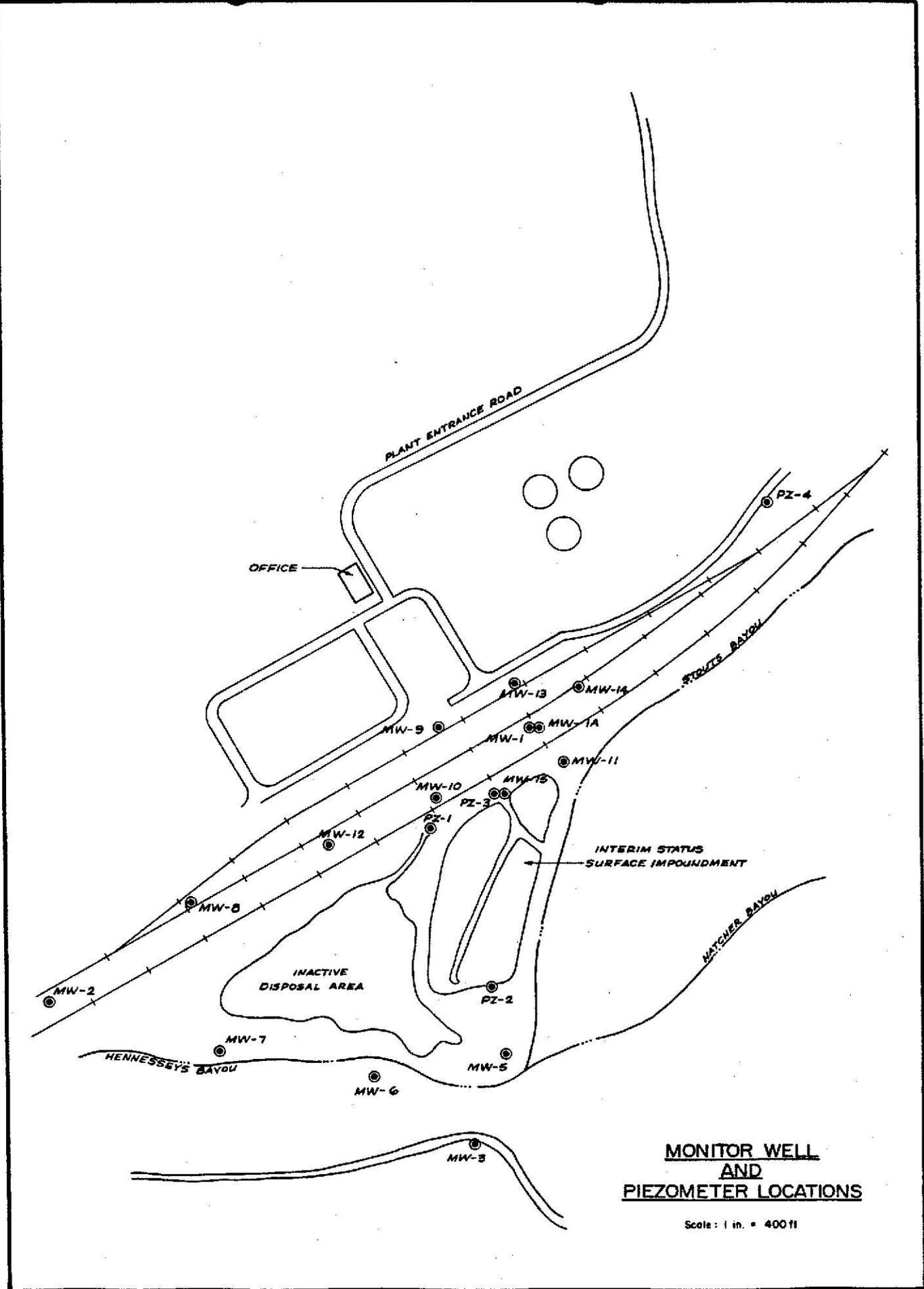
WARE LIND FURLOW ENGINEERS, Inc.

A handwritten signature in cursive script that reads "Eugene G. Wardlaw".

Eugene G. Wardlaw, P. E.

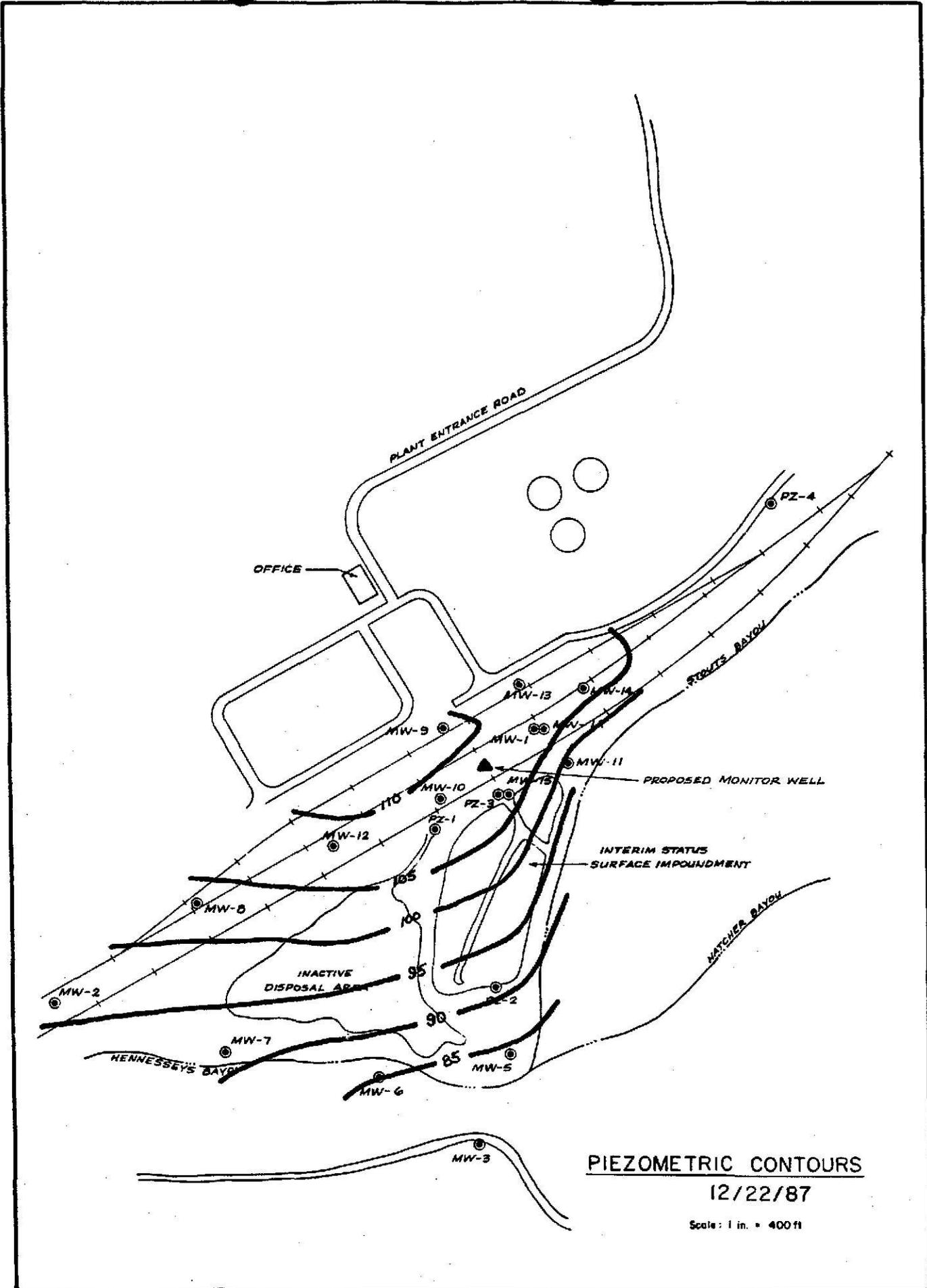
EGW/cw

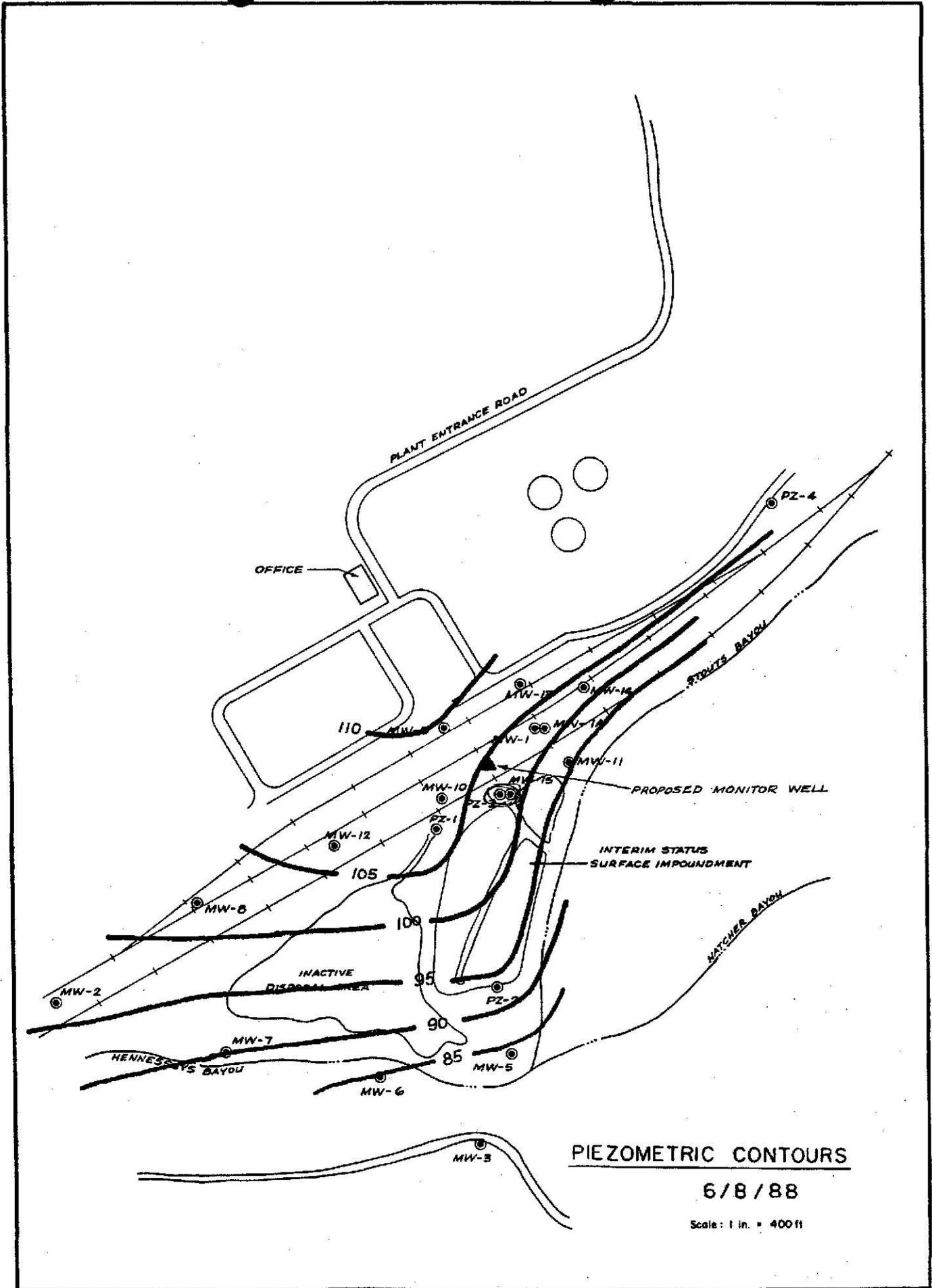
cc: Mr. Steve Boswell



**MONITOR WELL
AND
PIEZOMETER LOCATIONS**

Scale: 1 in. = 400 ft





PIEZOMETRIC CONTOURS

6/8/88

Scale: 1 in. = 400 ft

RECEIVED

JUN 23 1988

CEDAR CHEMICAL CORPORATION

DEPT. OF NATURAL RESOURCE
BUREAU OF POLLUTION CONTROL

VICKSBURG, MISSISSIPPI

PIEZOMETRIC DATA

<u>WELL NO.</u>	<u>RISER ELEV.</u>	<u>OBSERVATIONS</u>	
		12/2/87 6/8/88	6/8/88 12/2/87
MW-1	111.37	-	-
MW-1A	111.41	104.79	108.1
MW-2	109.27	97.19	96.3
MW-3	-	-	-
MW-4	-	-	104.9
MW-5	101.50	83.75	84.7
MW-6	101.06	85.94	85.7
MW-7	100.48	90.77	91.7
MW-8	109.66	101.79	102.6
MW-9	116.14	109.89	111.4
MW-10	114.53	107.36	108.8
MW-11	105.23	95.65	98.5
MW-12	111.86	107.78	109.6
MW-13	113.52	108.35	105.8
MW-14	113.90	104.61	106.8
MW-15	110.40	102.23	107.7
PZ-1	116.45	106.53	-
PZ-2	110.28	93.86	-
PZ-3	109.28	103.86	-
PZ-4	112.24	106.82	-

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

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MAY 11 1988

REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

Dept. of Natural Resources
Bureau of Pollution Control

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 113 213 020

May 9, 1988

Mr. Jack McCord
Environmental Engineer
Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

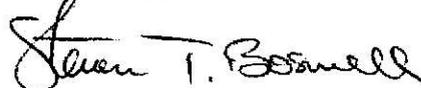
Please find enclosed copies of the analytical reports for Cedar's groundwater monitoring for the first quarter of 1988.

As was previously reported, Well No. 15 has been found to be contaminated with various halogenated compounds. Due to the sample matrix, our contractor cannot quantify accurately or with precision the presence of toxaphene or dinoseb. Previously, a GC-MS analysis did not confirm the presence of toxaphene in the well. Our own laboratory work indicates a dinoseb concentration of approximately 1.5 mg/l.

To define the extent of contamination at this site, Cedar will install at least one new groundwater monitoring well in the area of this well. The location and interval to be monitored will be selected by our contractor, Ware, Lind Furlow. We will certainly welcome discussion with Bureau staff concerning this matter.

If there are questions concerning this matter, please contact me.

Sincerely,



Steven T. Boswell
Director of Env. Affairs

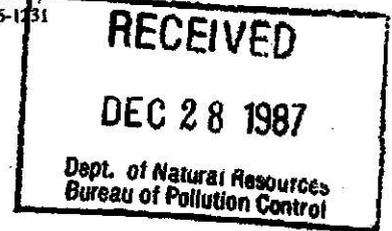
STB: pc

CEDAR CHEMICAL CORPORATION

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REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 113 213 008



December 23, 1987

Mr. Jack McCord
Environmental Engineer
Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone December 15, 1987, enclosed are the results and groundwater elevations for the November 4, re-sampling of Cedar's wells for dinitro-butyl-phenol (all wells) and methylene chloride (well 13 only).

Our laboratory contractor reported interference in several samples and is unable to report exact results in those samples. Maximum estimated concentrations are reported in those cases. Sampling for the last quarter of 1987 has been completed and samples are in route to a different contract laboratory at the time of this letter.

All wells will be analyzed for the parameters previously reported (DNBP, toxaphene, methylene chloride and arsenic).

If there are questions concerning this matter, please contact me.

DIVISION OF SOLID WASTE

REVIEWED BY SM

DATE 12-28-87

COMMENTS Sent Copies to EPA Week of 12-28-87

STB: pc

Sincerely,

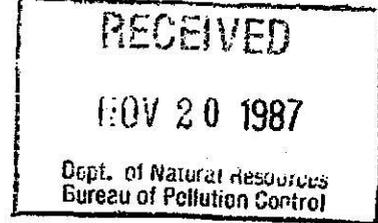
Steven T. Boswell
Director of Env. Affairs

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 113 212 999



November 16, 1987

Mr. Jack McCord
Environmental Engineer
Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone November 13, 1987, enclosed are the groundwater elevations for the September 29 sampling of Cedar's wells. The levels previously remitted were from the November 4, sampling and were mistakenly sent with the analyses for the September 29, sampling.

Also, as we discussed, our laboratory contractor lost the sample of MW-1A from the November sampling due to breakage of the sample bottle. Results for that well were reported for the September sampling at a level of 0.34 mg/l.

If there are questions concerning this matter, please contact me.

Sincerely,

Steven T. Boswell
Director of Env. Affairs

STB: pc

DIVISION OF SOLID WASTE
REVIEWED BY ST
DATE 11-23-87
COMMENTS Sent to EPA 11-23-87



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES
Bureau of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39209
(601) 961-5171



MEMORANDUM

TO: Vicksburg Chemical File
FROM: Jack McCord
SUBJECT: Quarterly Groundwater Sampling
DATE: November 13, 1987

Steve Boswell called to tell me that after Vicksburg Chemical re-sampled their wells because of previous elevated detection limits for dinoseb, that the lab had dropped and broken the sample for Well 1A. Since the previous analysis had shown detectable levels of dinoseb in Well 1A, I told Mr. Boswell that resampling 1A would not be necessary. Mr. Boswell also told me he had sent me the incorrect groundwater elevations, but that he was sending me the correct ones.

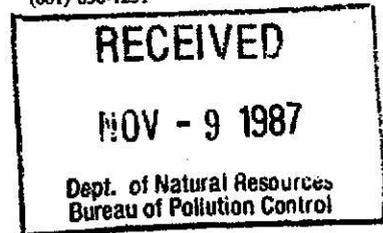
JM:cm
cc: Mr. James H. Scarbrough, EPA

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 113 212 998



November 6, 1987

Mr. Jack McCord
Environmental Engineer
Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone November 5, 1987, please find enclosed the results of the sampling of Cedar's groundwater monitoring wells as described in my letter of September 24.

The wells have been re-sampled for dinitro-butylphenol as those analyses were not done by a method having great enough sensitivity. We will repeat the sampling of well MW-13 for methylene chloride. The resampling was conducted on November 4. As no other sample contained methylene chloride, we suspect the sample was contaminated.

Also, please find enclosed the plan locations of wells 13, 14 and 15. If there are questions concerning this matter, please contact me.

Sincerely,

Steven T. Boswell
Director of Env. Affairs

STB: pc

DIVISION OF SOLID WASTE

REVIEWED BY STB

DATE 11-9-87

COMMENTS detection limits

too high for DABP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

001 & 9 1987

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NOV - 2 1987
Dept. of Natural Resources
Bureau of Pollution Control

4WD-RCRA

ENFORCEMENT
CONFIDENTIAL

Mr. Sam Mabry, Director
Hazardous Waste Division
Bureau of Pollution Control
Department of Natural Resources
Post Office Box 10385
Jackson, Mississippi 39209

Re: Vicksburg Chemical Company (VCC)
EPA ID No.: MSD990714081

Dear Mr. Mabry:

By this letter, EPA is providing notice to you, per the Memorandum of Agreement, of our intent to issue a 3008(a) Complaint and Compliance Order to the referenced facility.

We have determined this facility to be in violation of certain requirements of RCRA. Specifically, the facility lost interim status on November 8, 1985, due to its failure to certify compliance with all applicable financial requirements. Subsequently, VCC failed to complete a groundwater assessment program or monitor existing wells. Additionally, VCC failed to operate its storage area so as to comply with 40 CFR Part 262.34(a)(1). Therefore, the unit is not considered less than ninety (90) day storage and cannot operate without interim status or a permit.

If you have any questions regarding this matter, please contact Jeaneanne M. Gettle of my staff at (404) 347-7603.

Sincerely yours,

James H. Scarbrough, P.E.
Chief, RCRA Branch
Waste Management Division

DIVISION OF SOLID WASTE

REVIEWED BY DM

DATE 11-9-87

COMMENTS Spoke to Jeaneanne
11-9-87

CEDAR CHEMICAL CORPORATION

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CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 113 212 993

REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

September 24, 1987

Mr. Jack McCord
Environmental Engineer
Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39209



Subject: Commission Order No. 1253 87
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone yesterday, Cedar will immediately begin a groundwater sampling program to comply with Condition No. 9 of the above Order.

For the first round of sampling, well numbers 1A, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 will be sampled and analyzed for toxaphene, dinitro-butylphenol, arsenic and methylene chloride. Groundwater elevations will be determined prior to bailing and sampling.

Sampling will be conducted on a quarterly schedule as required by the Order. We request that if no significant levels of methylene chloride are found that this analysis be reduced in frequency or eliminated. Incidentally, sampling conducted by the USEPA in February of this year did not detect methylene chloride in wells 1, 2, 4, 6 or 8.

The first sampling should have been conducted by the time you have received this letter. We will report the results to you promptly as they are received.

If there are questions concerning this matter, please contact me.

DIVISION OF SOLID WASTE

REVIEWED BY JM

Sincerely,

DATE _____

Steven T. Boswell

STB: pc

COMMENTS sent to

Steven T. Boswell

EPA 11-16-87

Director of Env. Affairs



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES
Bureau of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39209
(601) 961-5171



MEMORANDUM

TO: Vicksburg Chemical File

FROM: Jack McCord

SUBJECT: Vicksburg Chemical Sludge Sampling Results

DATE: June 1, 1987

FILE COPY

The attached is analytical data on Vicksburg Chemical's impoundment sludge, hand delivered to the Bureau on May 26, 1987. The data is a combination of data obtained by both the Bureau and Vicksburg Chemical and is the data that Vicksburg Chemical would stipulate to at the May 27, 1987 hearing.

JMc:hdb
Attachment

DIVISION OF SOLID WASTE

REVIEWED BY SM

DATE _____

COMMENTS sent to

EPA 11-16-87

<u>Laboratory Number</u>	<u>Sample Marked</u>	<u>Toxaphene</u>
726,113	A	334 <i>PPA</i>
726,114	B EP EXT	244 ND @ 0.004
726,115	C	167
726,116	D	322
726,117	E	487
726,118	F EP EXT F TCLP	56 ND @ 0.1 ND @ 0.04
726,119	G	62
726,120	H	6.3
726,121	I	84
726,122	J EP EXT	18.1 ND @ 0.04
726,123	K	1.8
726,124	L	1.2
726,125	M	ND @ 1
726,126	N	ND @ 1
726,127	O	ND @ 1
726,128	P	22
726,129	Q	29
726,130	R	4.6
726,131	S	42.9

*Results Reported in parts per
Million —*

Well Samples

Analysis for Toxaphene

87053026 - Location 1A	<0.24
87053027 - Location 2	<0.24
87053028 - Location 4	<0.24
87053029 - Location 5	<0.24
87053030 - Location 6	<0.24
87053031 - Location 8	<0.24
87053032 - Location 9	<0.24
87053033 - Location 10	<0.24
87053034 - Location 11	<0.24
87053035 - Location 12	<0.24
87053036 - Location 14	<0.24
87053037 - Location 15	<0.24

Results reported in mg/l

CEDAR CHEMICAL CORPORATION

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REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

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MAR 10 1987

March 9, 1987

DEPT. OF NATURAL RESOURCE
BUREAU OF POLLUTION CONTROL

Mr. Jack McCord
Mississippi Department of Natural Resources
Bureau of Pollution Control
Industrial Wastewater Control Section
2380 Highway 80 West
Jackson, MS 39204

Re: Commission Order No. 1046-86
Correction of Our Letter Dated 2/16/87
Groundwater Monitoring Data

Dear Mr. McCord:

Attached is the corrected copy of the groundwater monitoring analysis in the above-referenced letter. In the original letter the "less than" symbols were inadvertently left off. The 40 ppb is the detection limit for DNBp.

Sincerely,

G. D. Madsen

G. D. Madsen

GDM/ld
Enc.

cc - Fred Ahlers

DIVISION OF SOLID WASTE

REVIEWED BY JA

DATE _____

COMMENTS Sent to

EPA 11-16-87

TABLE 1

Samples Collected 2-6-87

Sample Location Monitor Well No.	DNBP ppb
1A	290
9	<40
11	<40
13*	<40
14*	<40
15*	1130

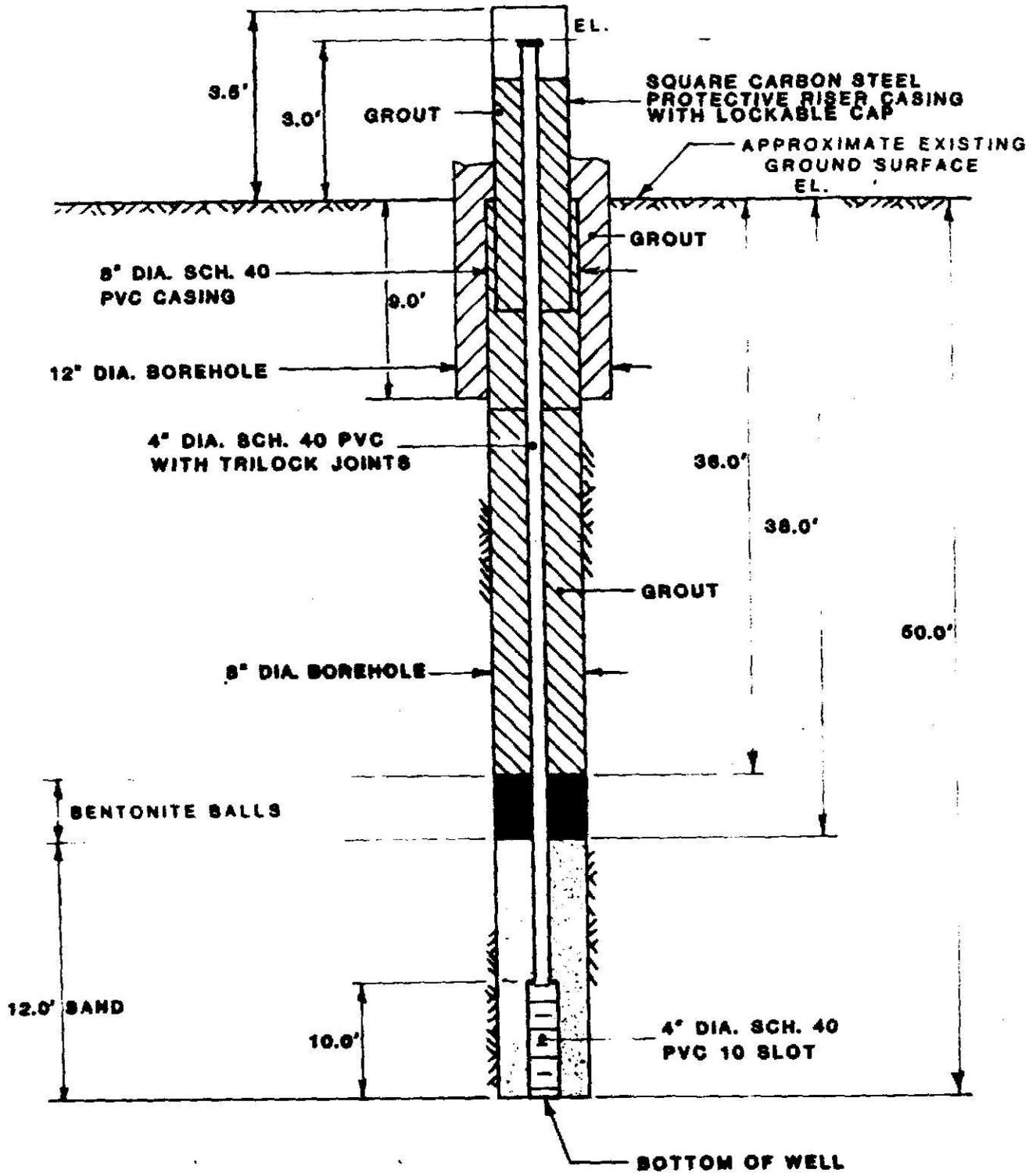
Detection Limit 40 ppb

* New well



MONITOR WELL INSTALLATION SKETCH

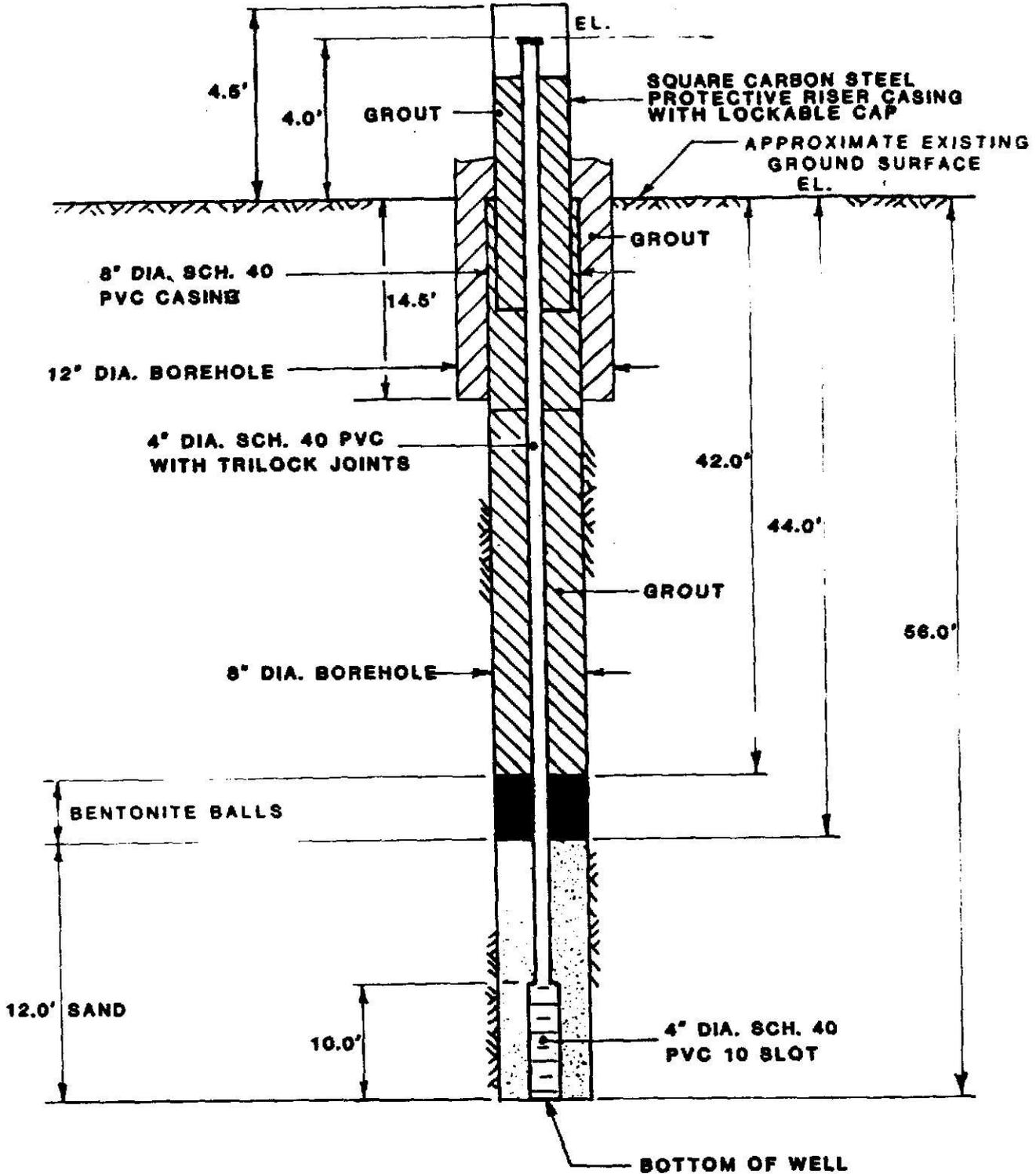
PROJECT NAME CEDAR CHEMICAL INSTALLED BY HES DATE 12-3-86
 PROJECT NO. 436130 CHECKED BY _____ DATE _____
 BORING NO. MW-13
 MONITOR WELL NO. MW-13





MONITOR WELL INSTALLATION SKETCH

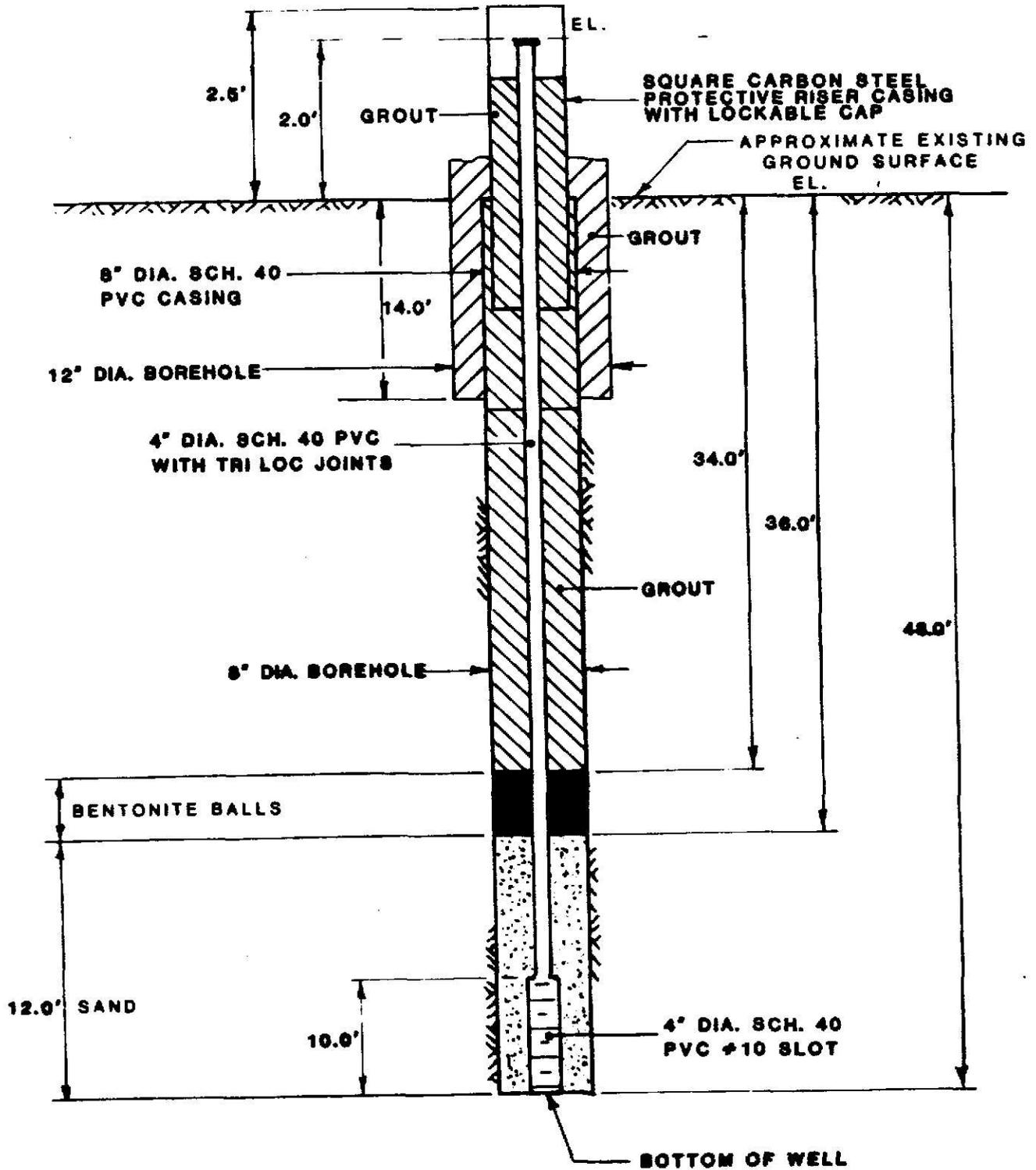
PROJECT NAME CEDAR CHEMICAL INSTALLED BY HES DATE 12-4-86
 PROJECT NO. 436130 CHECKED BY DATE
 BORING NO. MW-14
 MONITOR WELL NO. MW-14



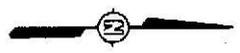
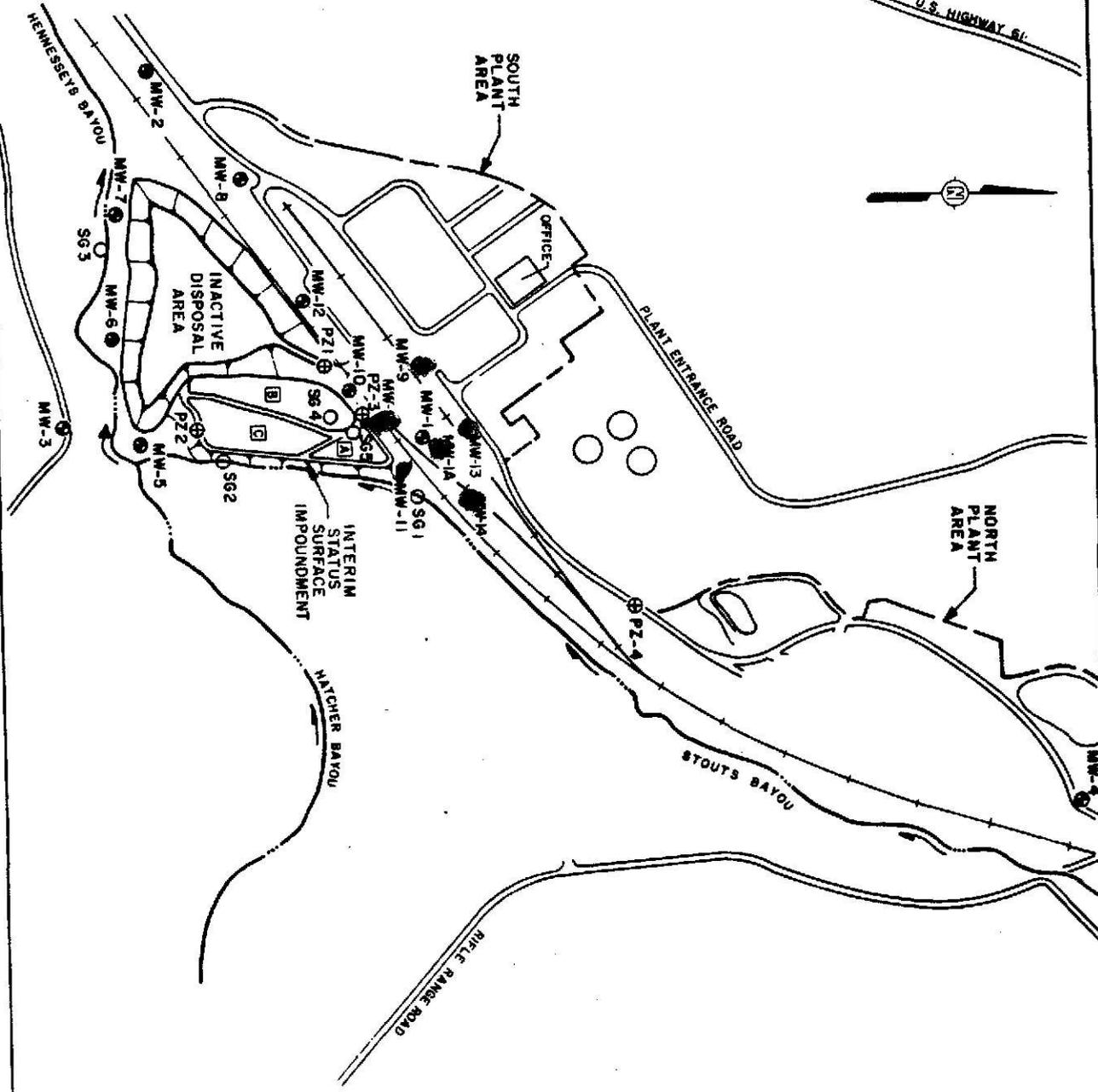


MONITOR WELL INSTALLATION SKETCH

PROJECT NAME CEDAR CHEMICAL INSTALLED BY HES DATE 12-2-88
 PROJECT NO. 435130 CHECKED BY DATE
 BORING NO. MW-15
 MONITOR WELL NO. MW-15



32803



LEGEND

- ⊕ PIEZOMETER
- ⊙ MONITOR WELL
- STAFF GAUGE
- ▭ PONDS
- STREAM FLOW DIRECTION
- NEW WELLS INSTALLED WEEK OF DEC. 1, 1986



FIGURE 1
MONITOR WELL
LOCATION MAP
PREPARED FOR

CEDAR CHEMICAL COMPANY
VICKSBURG, MISSISSIPPI



FILE COPY

March 3, 1987

Mr. Fred Ahlers
Plant Manager
Vicksburg Chemical Corporation
P. O. Box 3
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

Re: Groundwater Monitoring Data
Submitted February 19, 1987
Vicksburg Chemical Corporation
MSD990714081

The Mississippi Bureau of Pollution Control (MBPC) has received the additional groundwater monitoring data submitted by Cedar Chemical Corporation in response to Commission Order No. 1046-86 (submission date modified in Commission Order No. 1153-86).

A preliminary review of the data indicates DNEP contamination in all sampled wells, with the well closest to the impoundment containing the highest levels of DNEP. The submitted data fails to define the extent of contamination, and does not eliminate the wastewater lagoon as the source of groundwater contamination.

The Bureau may require additional work to further define the groundwater problems at Vicksburg Chemical based on more extensive evaluation of the available data, and the determination of the regulatory status of the surface impoundment.

If you have any questions, please contact me at 961-5171.

Sincerely,

Jack B. McCord
Hazardous Waste Division

JBM:els
cc: Mr. James Scarbrough, EPA

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3
VICKSBURG, MS 39180
(601) 636-1231

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P 113 206 271

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FEB 19 1987

February 16, 1987

DEPT. OF NATURAL RESOURCE
BUREAU OF POLLUTION CONTROL

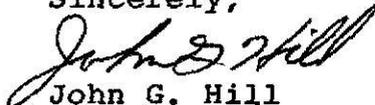
Mr. Jack McCord
Mississippi Department of Natural Resources
Bureau of Pollution Control
Industrial Wastewater Control Section
2380 Highway 80 West
Jackson, MS 39204

Re: Commission Order No. 1046-86

Dear Mr. McCord:

Per requirement number 4 of the subject Order (submission date as subsequently modified) attached is the additional monitoring data (Table 1) and documentation of the installation of the three new wells (Appendix 4)

JGH/ld
Enc.

Sincerely,

John G. Hill
Environmental Engineer

cc - F. Ahlers

TABLE 1

Samples Collected 2-6-87

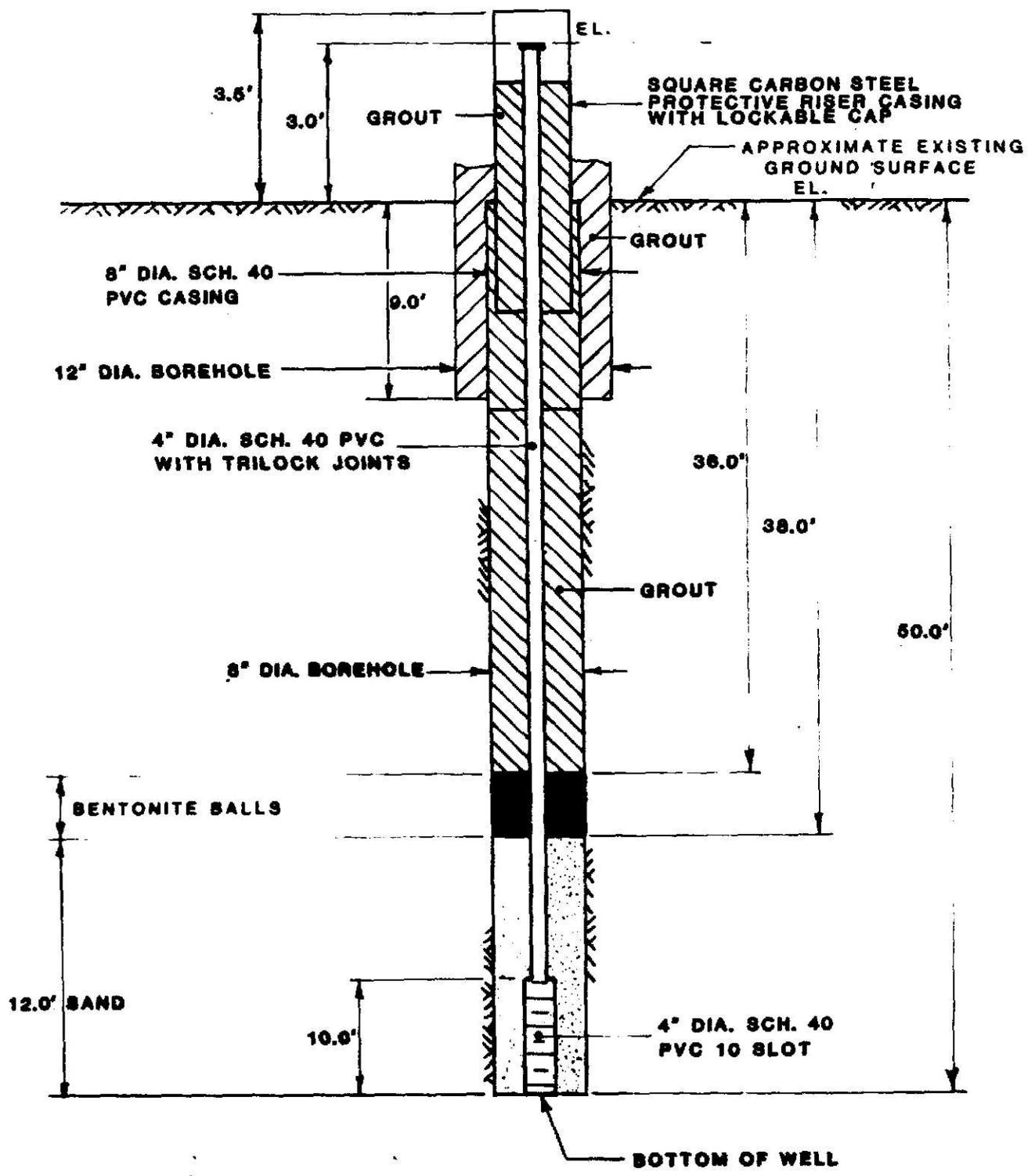
Sample Location Monitor Well No.	DNBP ppb
1A	290
9	40
11	40
13*	40
14*	40
15*	1130

* New well



MONITOR WELL INSTALLATION SKETCH

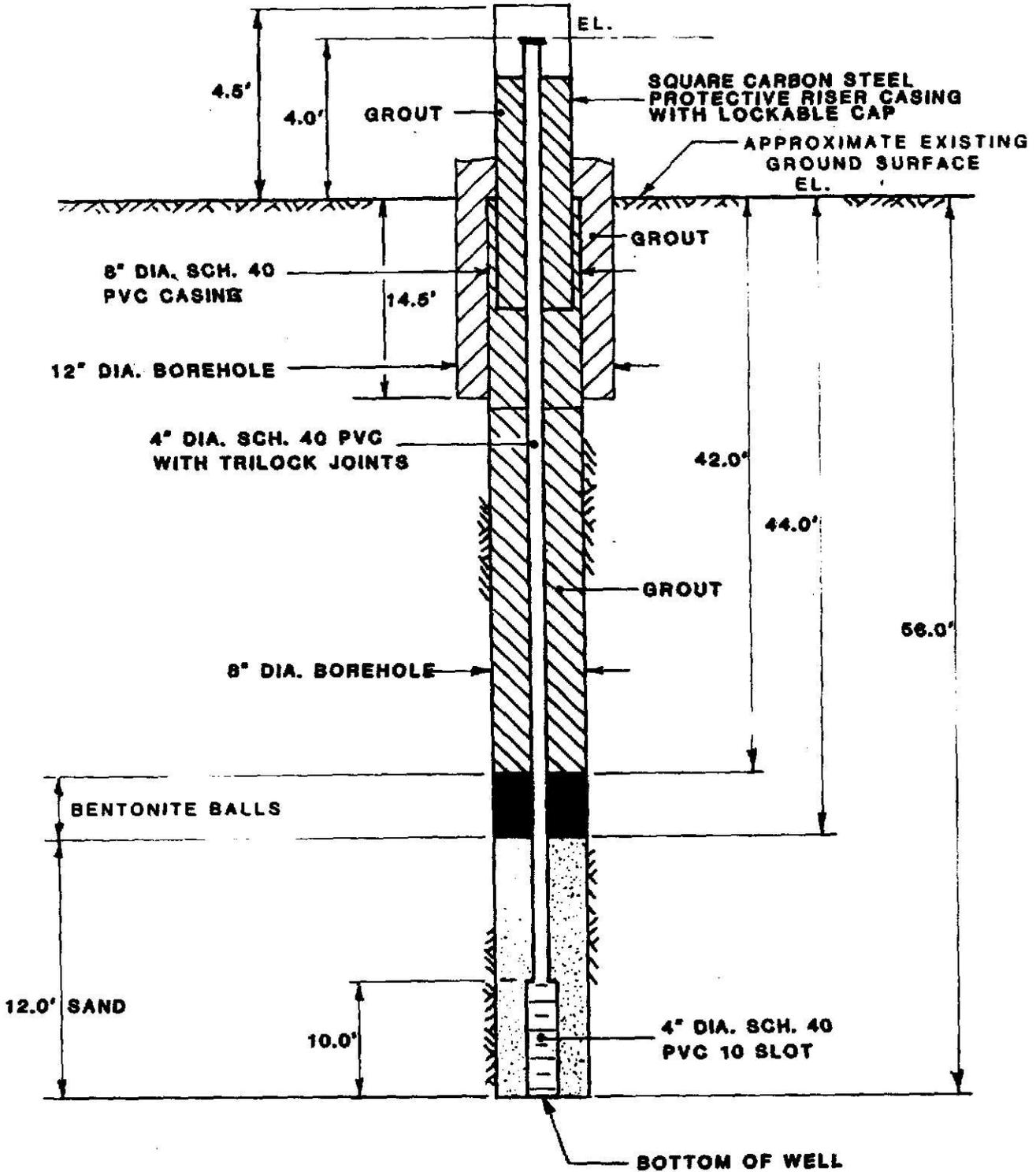
PROJECT NAME CEDAR CHEMICAL INSTALLED BY HES DATE 12-3-89
 PROJECT NO. 435130 CHECKED BY DATE
 BORING NO. MW-13
 MONITOR WELL NO. MW-13





MONITOR WELL INSTALLATION SKETCH

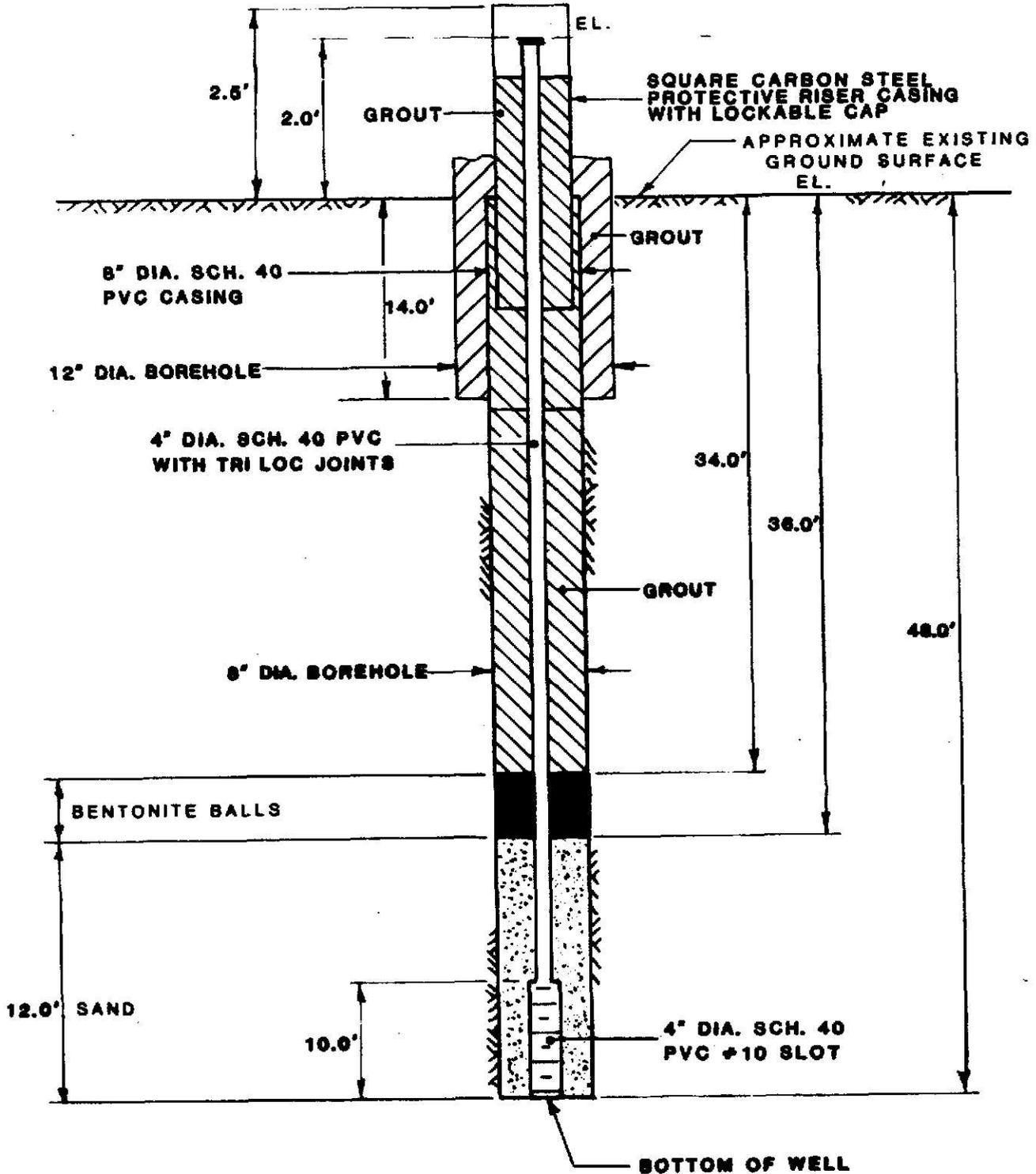
PROJECT NAME CEDAR CHEMICAL INSTALLED BY HES DATE 12-4-86
 PROJECT NO. 435130 CHECKED BY _____ DATE _____
 BORING NO. MW-14
 MONITOR WELL NO. MW-14



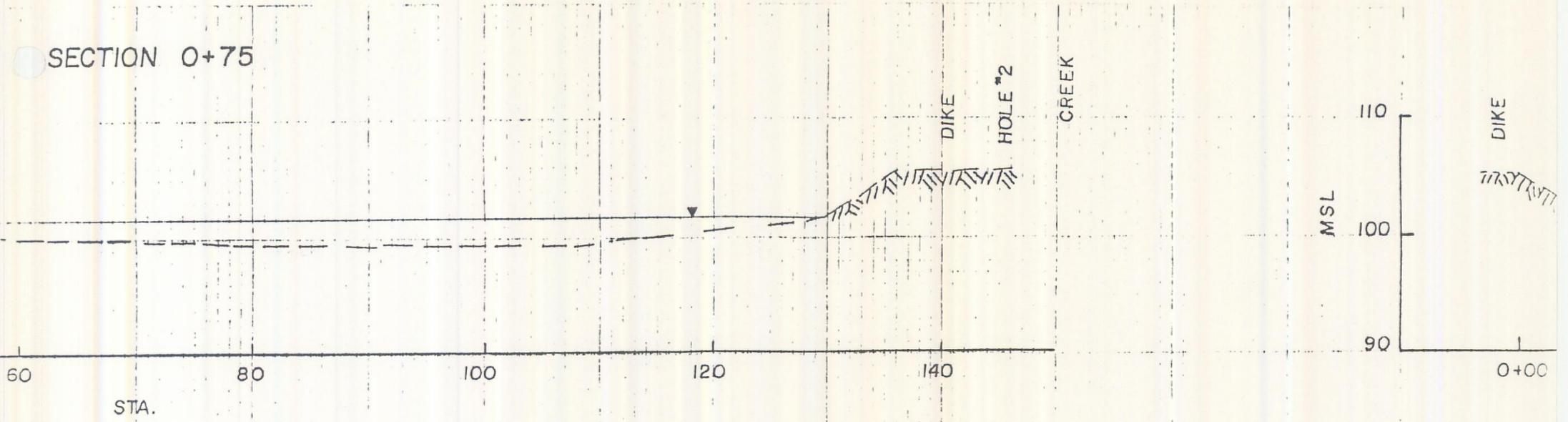


MONITOR WELL INSTALLATION SKETCH

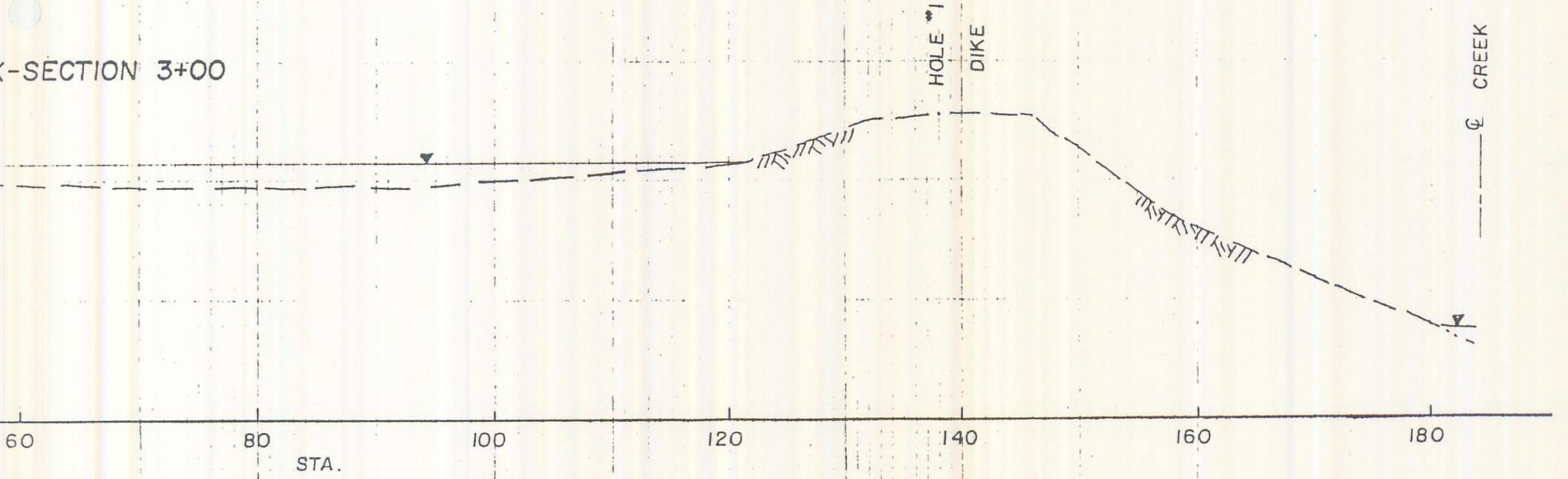
PROJECT NAME CEDAR CHEMICAL INSTALLED BY HES DATE 12-2-86
 PROJECT NO. 435130 CHECKED BY _____ DATE _____
 BORING NO. MW-15
 MONITOR WELL NO. MW-15



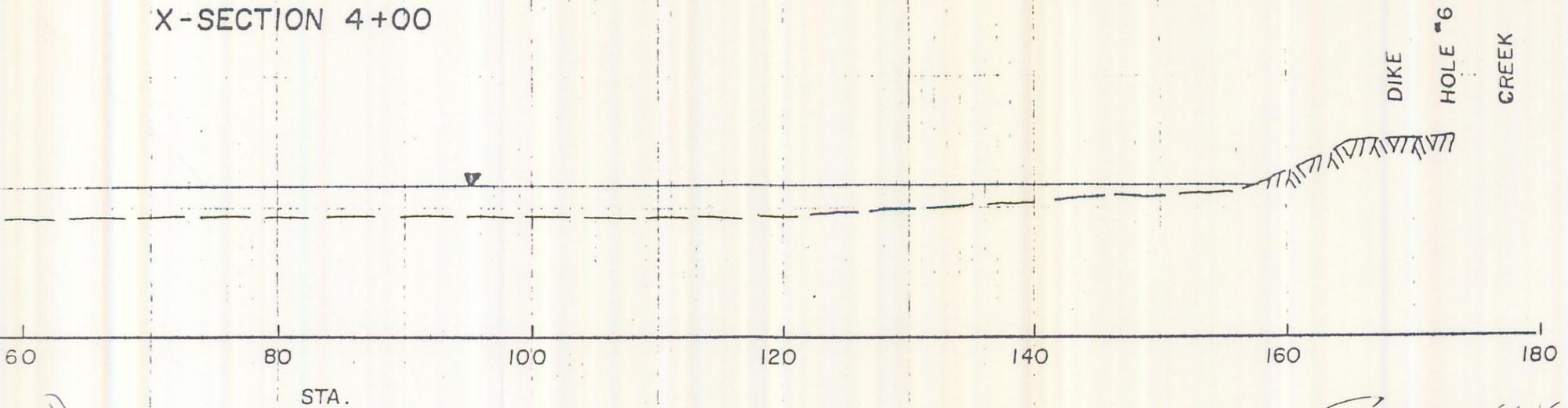
SECTION 0+75



X-SECTION 3+00



X-SECTION 4+00



AL/3/11

SKETCH (b)(3) - II
CROSS SECTIONS