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Meeting Minutes Transmittal/Approval
Unit Manager's Meeting: N-Area Operable Unit
639 Cullum Ave, Room 129, Richland, Washington
July 28, 1994

FROM/APPROVAL: _____ Date 8/25/94
Bryan Foley, N-Area Unit Manager, RL (A5-19)

APPROVAL: _____ Date 8/25/94
Phil Staats, N-Area Unit Manager, WA Dept of Ecology

APPROVAL: _____ Date 8/25/94
Pamela Innis, N-Area Unit Manager, EPA (B5-01)

Meeting Minutes are attached. Minutes are comprised of the following:

Attachment #1	-	Meeting Summary
Attachment #2	-	Attendance Sheet
Attachment #3	-	Action Item Status List
Attachment #4	-	Groundwater Monitoring Network
Attachment #5	-	BHI Presentation on N-Area Groundwater Modeling
Attachment #6	-	BHI Presentation on N-Area Spring Well Useability Testing

Prepared by: _____ Date: 8/25/94
Avi Tayar, GSSC (B1-42)

Concurrence by: _____ Date: 8/25/94
Merl Lauterbach, WHC Coordinator (H6-02)

Attachment #1
N-AREA UNIT MANAGERS MEETING
Meeting Minutes

Meeting Date: July 28, 1994 (9:00 AM)

Location: 639 Cullum Ave, Richland, WA (Room #129)

1. **SIGNING OF THE APRIL AND MAY N-AREA UNIT MANAGERS MEETING MINUTES:** June meeting minutes were reviewed and approved, except for Ms. P. Innis who did not attend the meeting.

2. **ACTION ITEM UPDATE:**

   NA.1 WHC has conducted the field test for the 100 N Spring Well Useability Testing (see Information Item: N-Springs Groundwater Modeling).

   NA.2 The 1301-N/1325-N Liquid Waste Disposal Facility Closure Plan will be issued by September 1, 1994 as a BHI draft report for "informational purposes". The document will not undergo RL review.

   NA.3 The NR-1 and NR-2 Limited Field Investigation and Qualitative Risk Assessment Reports will be issued as BHI for "informational purposes". They are expected to be issued by August 31.

   NA.4 BHI is preparing an assessment of chemical data which was not collected from monitoring wells for inclusion into the NR-2 Limited Field Investigation and Qualitative Risk Assessment reports. The monitoring wells and chemical data were specified in the 100 NR-2 Operable Unit Groundwater Monitoring Network agreement dated September 23, 1992 (Attachment #4). The assessment will be presented by RL to Ecology and EPA.

3. **NEW ACTION ITEMS (Initiated June 23):**

   NA.5 N-Springs EE/CA - RL requested that the ADM and response to public comments on the N-Springs Expedited Response Action EE/CA be released. Action: Phil Staats

4. **INFORMATION ITEMS:**

   Monitoring well data for NR-2 LFI/QRA - It was realized by BHI that two monitoring wells were not sampled as specified in the 100 NR-2 Operable Unit Groundwater Monitoring Network agreement dated September 23, 1992 (Attachment #4). A complete assessment of the impact of missing data has been completed, and it appears that monitoring wells N-18 and N-66 were not sampled. Data from these monitoring wells were intended to be used in the NR-2 Limited Field Investigation and Qualitative Risk Assessment reports. Ecology was provided with the completed assessment

along with a recommendation from DOE (see Action Item NA.4). Ecology will consider the DOE recommendation and provide response prior to next UMM.

N-Springs EE/CA - The ADM and response to public comments on the N-Springs Expedited Response Action EE/CA are still pending release by Ecology. This item was changed to an action item (see Action Item NA.5).

NR-1 and NR-2 Workplans - RL, EPA and Ecology will perform a concurrent review of the NR-1 and NR-2 Workplans. The review is expected to take 45 days.

N-Area Pilot Project Management - Bryan Foley reasserted that he will continue as the point-of-contact and maintain responsibility for the N-Area Pilot Project as it pertains to 100-NR-1, 100-NR-2, and N-springs ERA until the N-Area Project Manager is appointed by the ER program at RL.

N-Springs Groundwater Modeling - BHI has initiated field tests in preparation for the N-Springs Groundwater Modeling specified in Action Item NA.1. These field tests have included groundwater extraction from wells N-3, N-14 and N-75 (Attachment #6). Concentrations of Sr-90, tritium, and Appendix 9 Constituents in wells N-3 and N-75, and Sr-90 and tritium in well N-14 were assessed as a function of extraction volume. Also, water level drawdown was monitored in each well.

Letter Report to Ecology and EPA (TPA-milestone M-16-010) - BHI presented progress of the N-Spring Modeling for the Vertical Barrier. A meeting to discuss technical issues was scheduled for August 3, 1994, to include Ecology, EPA, BHI, and Rl.

Next UMM - The next UMM is scheduled for 9:00 AM on August 28 (room #109, 639 Cullum Ave, Richland, WA)

N Area
Official Attendance Record
~~June 23,~~ July 28 1994

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Edwin F. Shorey	CH2M HILL Hanford	CH2M Hill Project Manager	375-9431
Ronald L. Jackson	CHI	Geosciences, Mgr	372-3501
GEORGE JACKSON	CH2M HILL HANFORD	CHI, PROJ ENGR.	372-2657
M.P. CONNELLY	@ BECHTEL HANFORD CO	BECHTEL ENGINEERING OVERSIGHT ~ MODELING	376-6869
Brian Drost	USGS	EPA Support	206-593-6510
TONY BURGESS	GOLDER	Support to GW Modeling	206-883-0777
Reed Simpson	IT Corp	Proj. Sci 100N	376-1097
RALPH GIMERA	BHI	N PILOT PROJ. MGR.	373-4164
MERL LAUTERBACH	BHI	N Remediation Project Mgr.	376-5257
Phil Aleb	Ecology	OUM	736-3029
BRYAN FOLEY	DOE-RL	DOE-RL UM	376-7087
AVI TAYAR	Dames & Moore	DOE-Support	946-3690
Rick McCain	CH2M Hill	Proj-Eng-ERA	376-0777

Attachment #3
Unit Manager's Meeting: N-Area Operable Unit
July 28, 1994

Action Item Status List

Item No.	Action/Source of Action	Status
NA.1	Develop a groundwater model which determines the optimal sheet pile barrier configuration as well as the wellfield design and pumping rates such as to maximize the reduction of Sr-90 flux to the river. Groundwater modeling studies are scheduled to start June 1, 1994 with a letter report being submitted by July 11, 1994. Action: G.J Jackson	Initiated 04/28/94
NA.2	The 1301-N/1325-N Liquid Waste Disposal Facility Closure Plan will be issued by July 15, 1994 as a BHI draft report for "informational purposes". The document will not undergo RL review. Action: Merl Lauterbach.	Initiated 06/23/94
NA.3	The NR-1 and NR-2 Limited Field Investigation and Qualitative Risk Assessment Reports will be issued as BHI draft reports for "informational purposes". NR-1 and NR-2 are expected to be issued by August 31. Action: Merl Lauterbach.	Initiated 06/23/94
NA.4	BHI will prepare an assessment of chemical data which was not collected from monitoring wells for inclusion into the NR-2 Limited Field Investigation and Qualitative Risk Assessment reports. The monitoring wells and data were specified in the 100 NR-2 Operable Unit Groundwater Monitoring Network agreement dated September 23, 1992 (Attachment #4). The assessment with a recommendation was presented by RL to Ecology and EPA. Ecology will consider the DOE recommendation and provide response prior to next UMM. Action: Merl Lauterbach.	Initiated 06/23/94
NA.5	RL requested that the ADM and response to public comments on the N-Spring Expedited Response Action EE/CA be released. Action: Phil Staats.	Initiated 07/28/94

ATTACHMENT #4

100 NR-2 OPERABLE UNIT
GROUNDWATER MONITORING NETWORK

This 100 NR-2 monitoring network coordinates the CERCLA and the RCRA groundwater sampling programs and consists of the following wells. Their locations are shown on the attached map.

N-16	*N-54
*N-17	N-64
N-18	*N-66
N-19	*N-67
N-20	*N-70
*N-21	*N-71
N-25	*N-73
N-26	*N-74
*N-3	*N-75
*N-32	*N-76
N-49	*N-77
N-50	N-80
N-51	

* denotes wells currently sampled by the RCRA program.

This network addresses: well fitness-for-use, sample methods, analytes of interest, sample frequency, QA/QC requirements and data validation.

FITNESS-FOR-USE

WHC will evaluate all wells in the network, then clean and redevelop suitable wells as part of a WHC fitness-for-use program.

SAMPLE METHODS

All wells will be tested using SW-846 methods. The RCRA program has extensive data using SW-846 methods and analyzing all wells using SW-846 methods will provide consistency.

ANALYTES OF INTEREST

Analytes that have not been detected in the N Area are not included on the three network sample lists outlined below. Note that the RCRA program will sample additional analytes not on these lists to meet data requirements specific to the RCRA program.

LIST 1

The wells on List 1 monitor the 1301-N, 1324-N/NA and the 1325-N sites. Volatiles, semi-volatiles and pesticides/PCB's have previously been analyzed for but not detected in wells monitoring these sites, therefore they will not be analyzed in these wells.

LIST 1.

WELLS	ANALYTES
N-51	pH (field and laboratory)
N-50	specific conductance (field and laboratory)
N-49	turbidity
N-70	temperature (field)
N-32	
N-67	ICP Metals
N-64	Anions
N-66	
N-71	Gross Alpha
N-73	Gross Beta
N-74	Sr-90
N-75	Tritium
N-76	Gamma Spec
N-77	

LIST 2

The wells on List 2 generally monitor wells from the 100 N Reactor Area. Diesel fuel contamination has been detected throughout the 100 N Reactor Area and therefore total petroleum hydrocarbons and oil and grease analyses have been added to the list. Wells N-18, N-19 and N-20 will also be sampled, but only for total petroleum hydrocarbons and oil & grease. If floating product is found in any well, total petroleum hydrocarbons and oil and grease analyses will not be conducted.

LIST 2.

WELLS	ANALYTES
N-3	pH (field and laboratory)
N-17	specific conductance (field and laboratory)
N-21	turbidity
N-25	temperature (field)
N-26	
N-16	Total Petroleum Hydrocarbons (418.1)
N-54	Oil & Grease (413.2)
	ICP Metals
	Anions
	Gross Alpha
	Gross Beta
	Sr-90
	Tritium
	Gamma Spec

LIST 3

Well N-80 monitors the first confined aquifer in the 100 N Area. Because this aquifer has never been monitored in the 100 N Area, a full list of analytes will be sampled for two quarters. If compounds are not detected in either round, the compounds will be eliminated from the list.

LIST 3.

WELLS	ANALYTES
N-80	pH (field and laboratory) specific conductance (field and laboratory) total organic carbon total organic halogen phenols turbidity temperature (field) alkalinity chemical oxygen demand dissolved oxygen total dissolved solids ICP Metals Other metals (Pb, Hg, Se, As,Cn) Anions VOA's/Semi-VOA's Pesticides/PCB's Gross Alpha Gross Beta Sr-90 Tc-99 C-14 Tritium Gamma Spec Alpha Spec (U-235, U-238, Pu-239, Pu-240 & Am-241) Hydrazine

SAMPLE FREQUENCY

All wells will be sampled quarterly.

QA/QC REQUIREMENTS

The following QA/QC samples will be taken from the above wells.

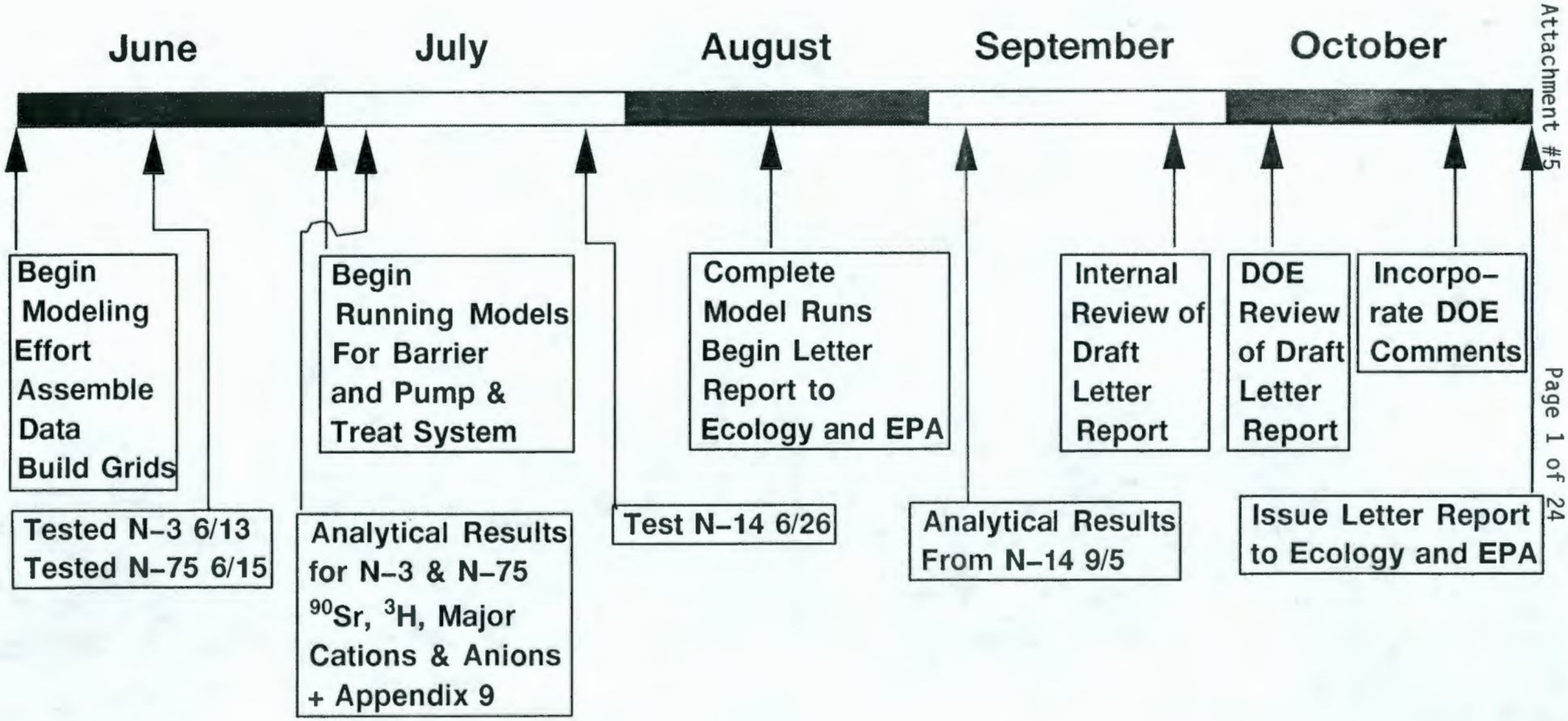
1. Three duplicates.
2. One split sample.
3. Three field blanks.
4. Three equipment blanks.

DATA VALIDATION

All groundwater data and QA/QC data from the above wells will be validated according to WHC-SD-EN-QAPP-001 Rev. 1 "Quality Assurance Project Plan for RCRA Groundwater Monitoring Activities". Well N-80 will be validated to Level C and all other wells will be validated to Level B. After data from the 300 Area is validated, the validation of 100 N Area data will be reevaluated.

TPA–MILESTONE M–16–01O

Submit letter report to Ecology and EPA on: (i) The results of pumping tests at three existing wells to evaluate Strontium–90 concentration response to pumping (effluents will be managed in accordance with the Hanford Purgewater Strategy); and (ii) necessary documentation justifying barrier placement and location of extraction wells and discharge point(s).



Modeling in Support of the N-Springs ERA

2-Dimensional Plan View Model of the 100-N Area

- Developed by Golder Associates
- Uses the Computer Code FLOWPATH
- Models Flow and Particle Tracks
- Estimates Contaminant Fluxes from Flow Tubes
- Model Dimensions are 12000 ft x 8000 ft

2-Dimensional Cross-Sectional View Model of the Columbia River and Sheet Piling

- Developed by Bechtel Hanford Inc.
- Uses the Computer Code POREFLOW
- Models Both Steady-State and Transient Flow & Contaminant Transport
- Fluxes are Calculated within Model
- Model Dimensions are 100 ft x 100 ft

2-Dimensional Plan View Analyses

Assumptions

- Steady State-Flow Conditions
- Average Yearly Columbia River Elevation = 383 ft
- Constant Head Boundaries except at Sheet Piling
- Zero Flux Boundary at Sheet Piling
- Retardation Factor (R_f) = 100

Analyses

1.) Sensitivity to Hydraulic Conductivity (100, 261,500 ft/day)
2.) Length of Wall (3800, 3000, 2000 ft)
3.) Examine the Effect of a Gap in the Sheet Piling (i.e. an Obstruction Preventing the Driving of a Limited Number of Sheet Piles)
4.) Capture and Injection Zone Analyses for Pump-and-Treat Operations of ^{90}Sr Distribution
    - Assumes Equilibrium Between Mineral Grains and Pore Water
    - Locate Wells in the Highest ^{90}Sr Concentration
    - Examine the Interference between Wells
    - Examine 50, 100, 150 gpm Withdrawal Rates with Multiple Wells for each Withdrawal Rate

Status to Date

- Items 1 and 2 are complete
- Modeling has started for Item 3
- Modeling will be started for Item 4 early next month

PRELIMINARY

2-D PLAN VIEW

FLOWPATH MODELING

Note Results are preliminary and have not been through QA review

168%

Hartman & Lindsey 1993 Fig 3-21

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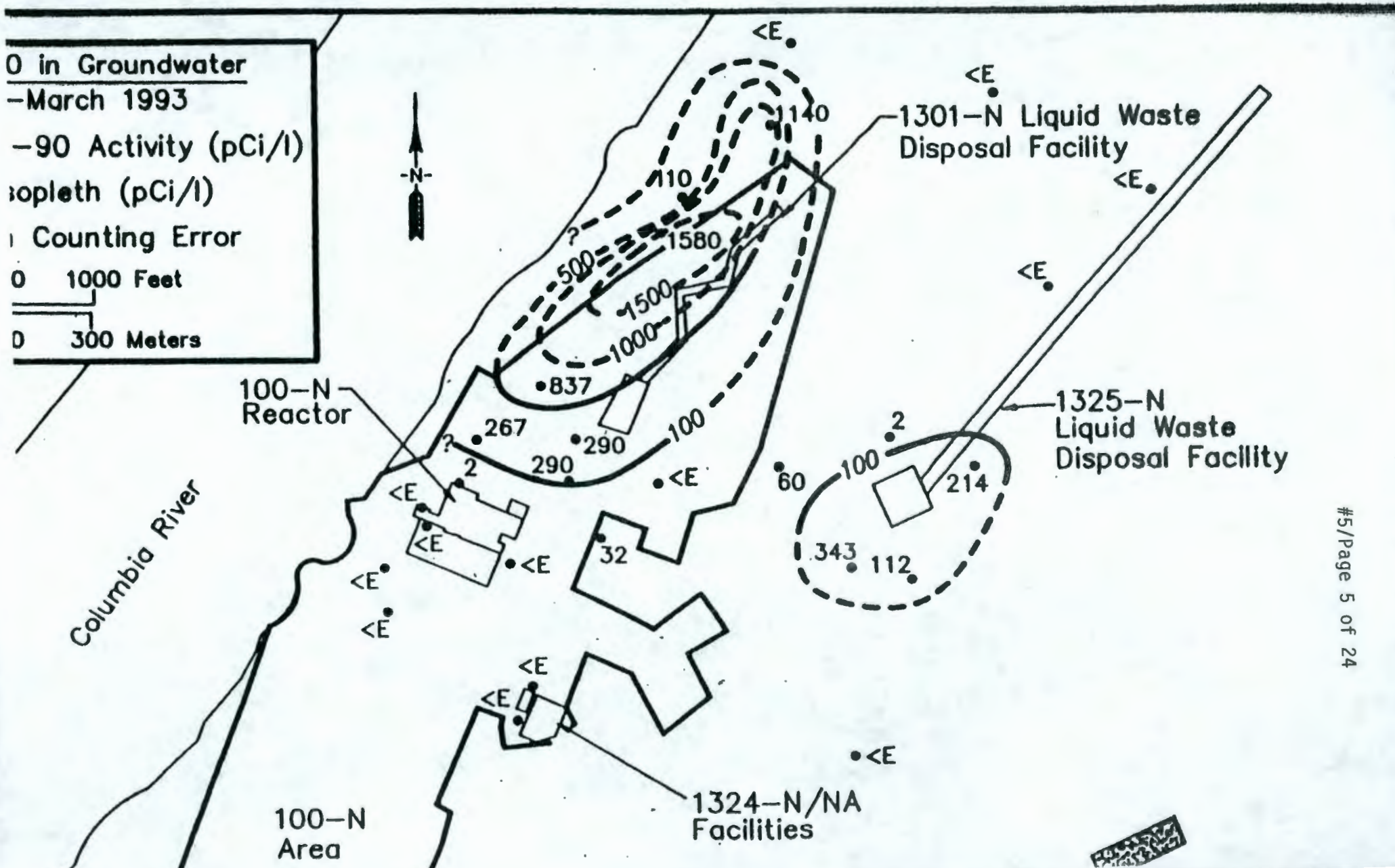

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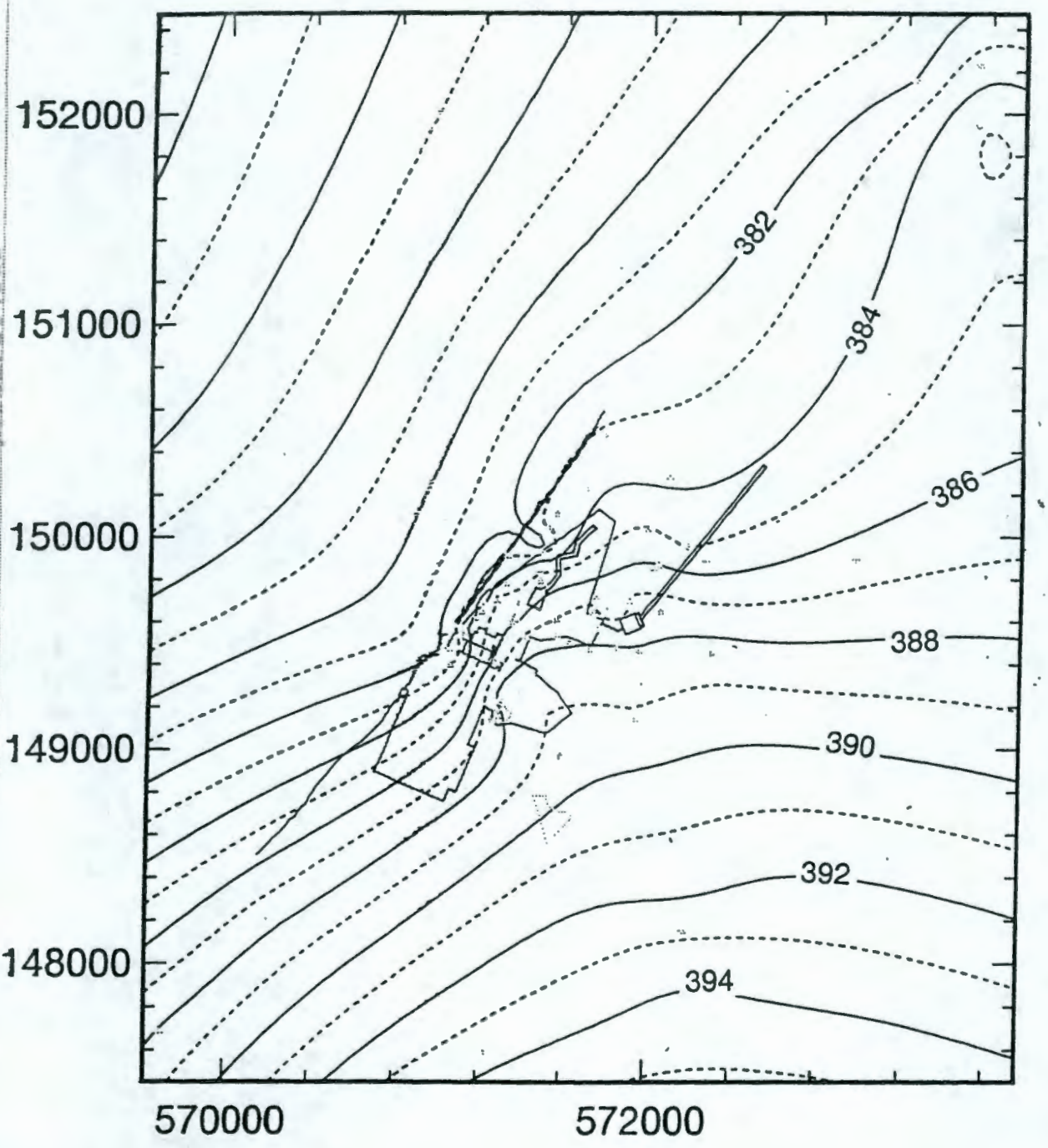

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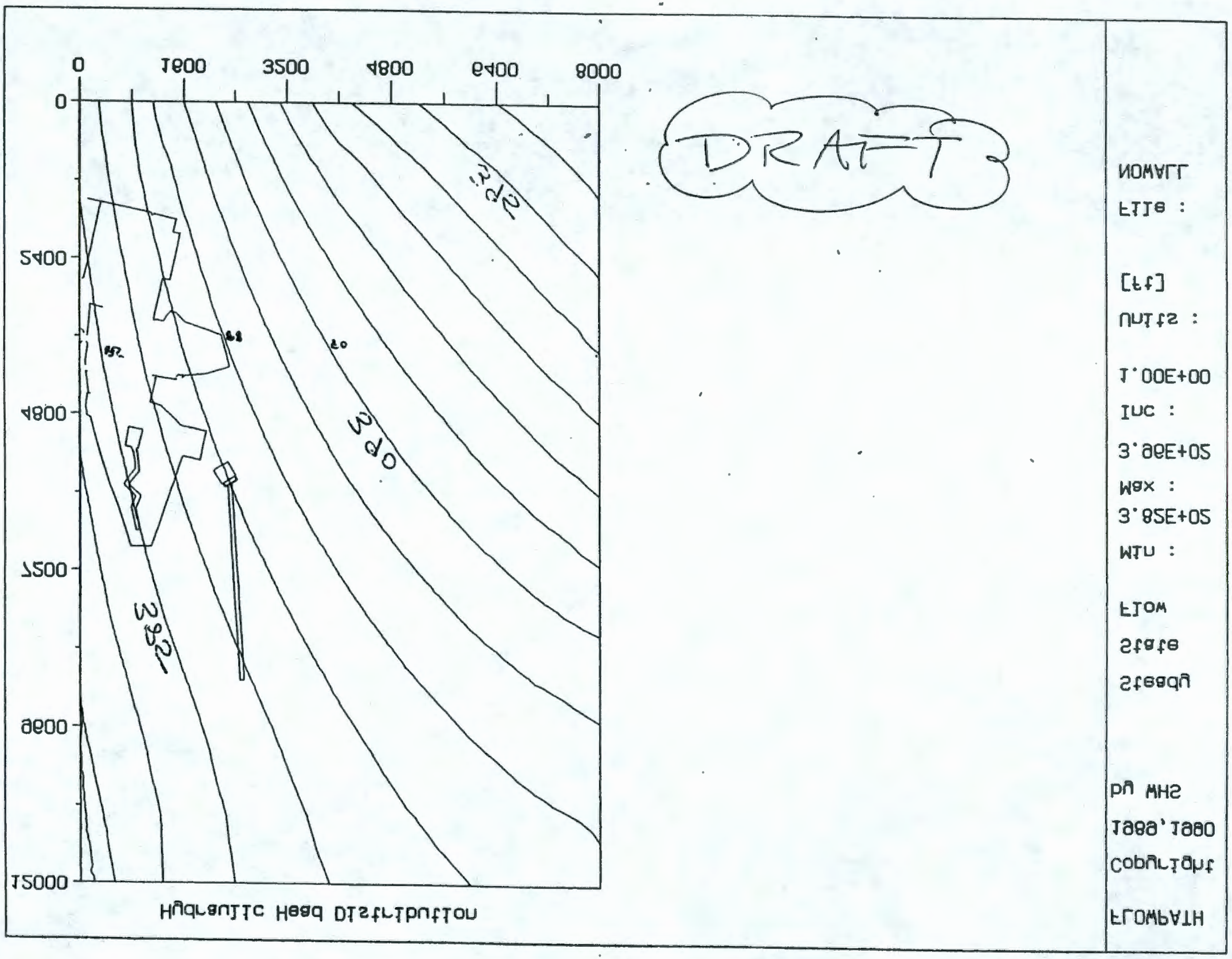

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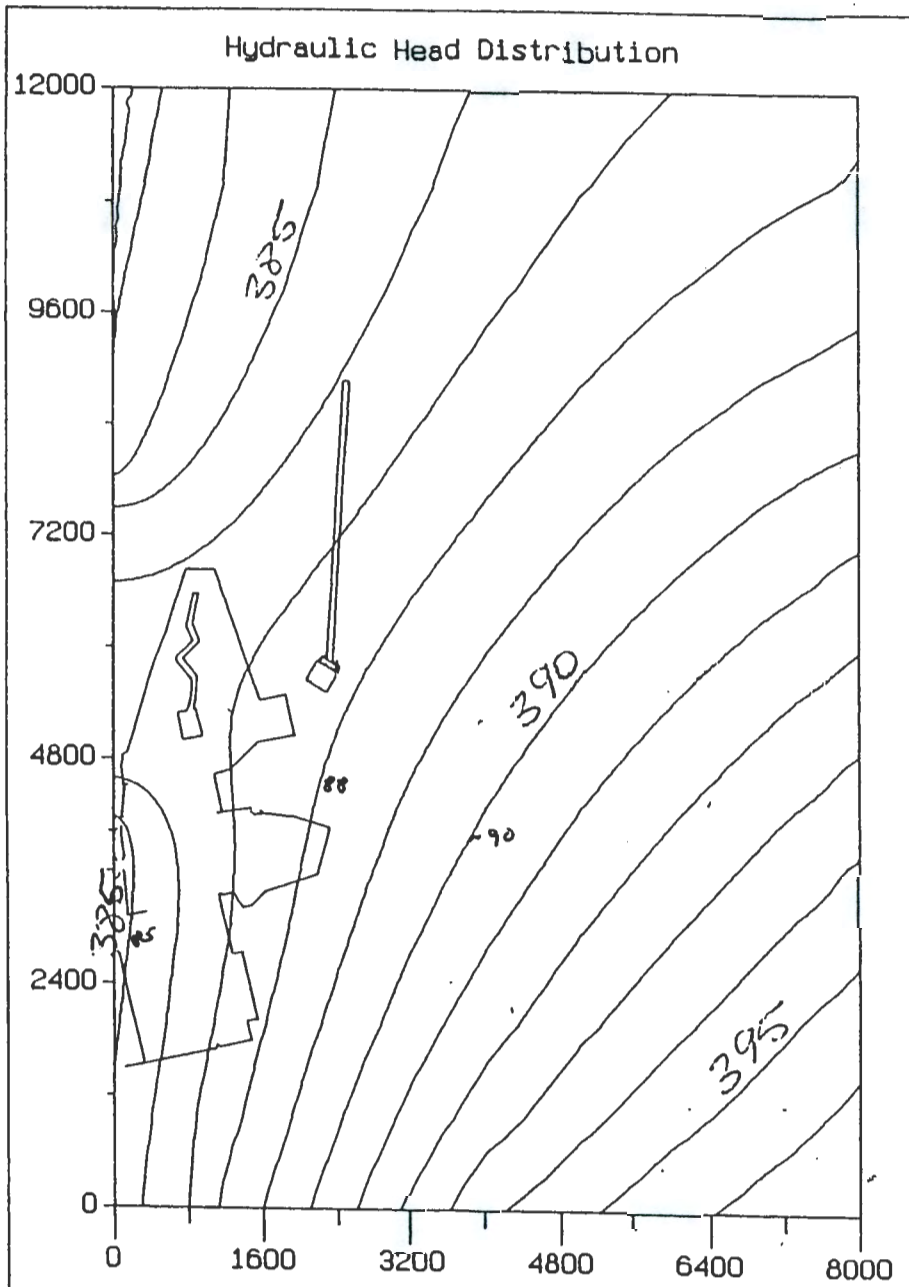

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FLOWPATH

Copyright 1989,1990 by WHS

Steady State Flow

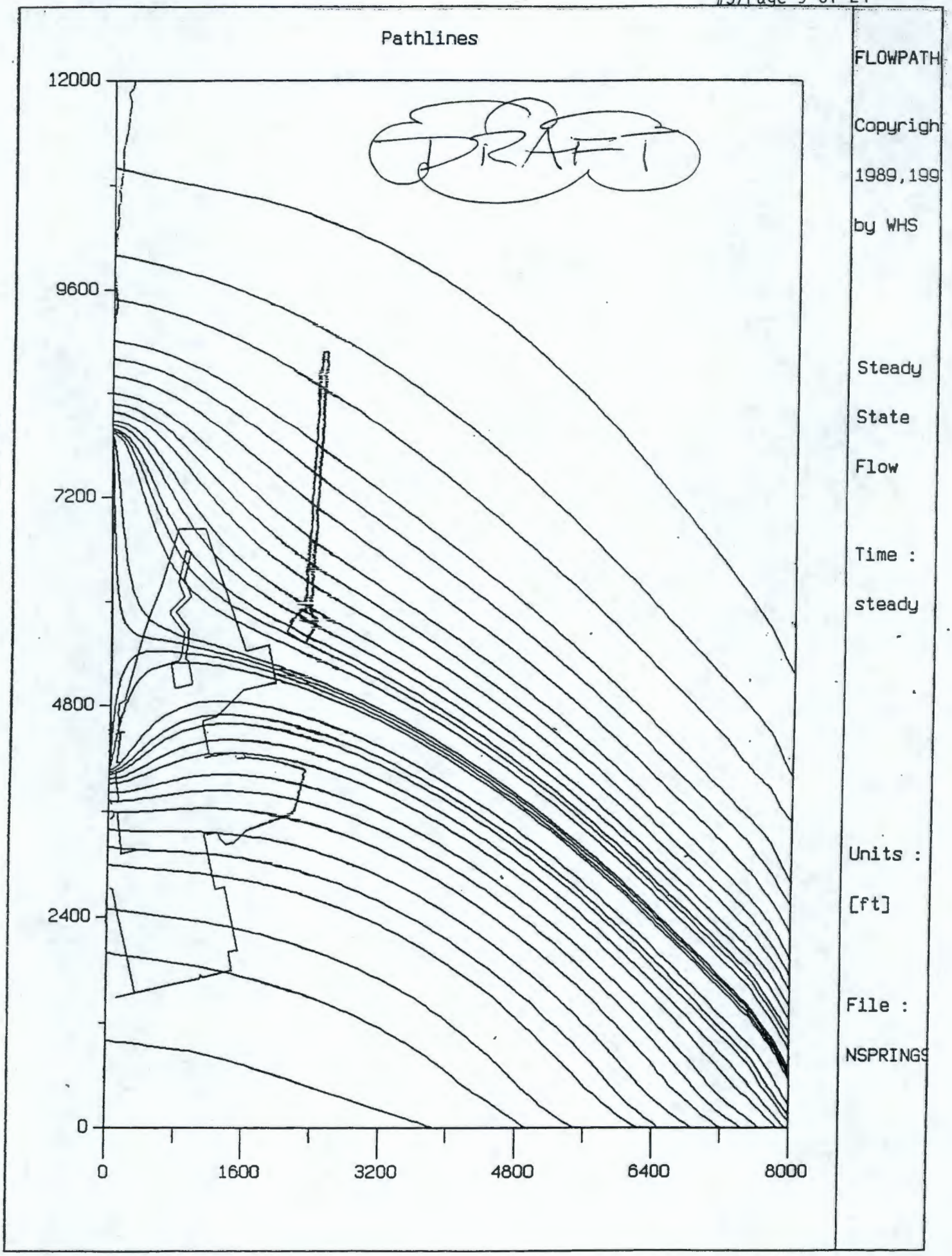
Min : 3.82E+02

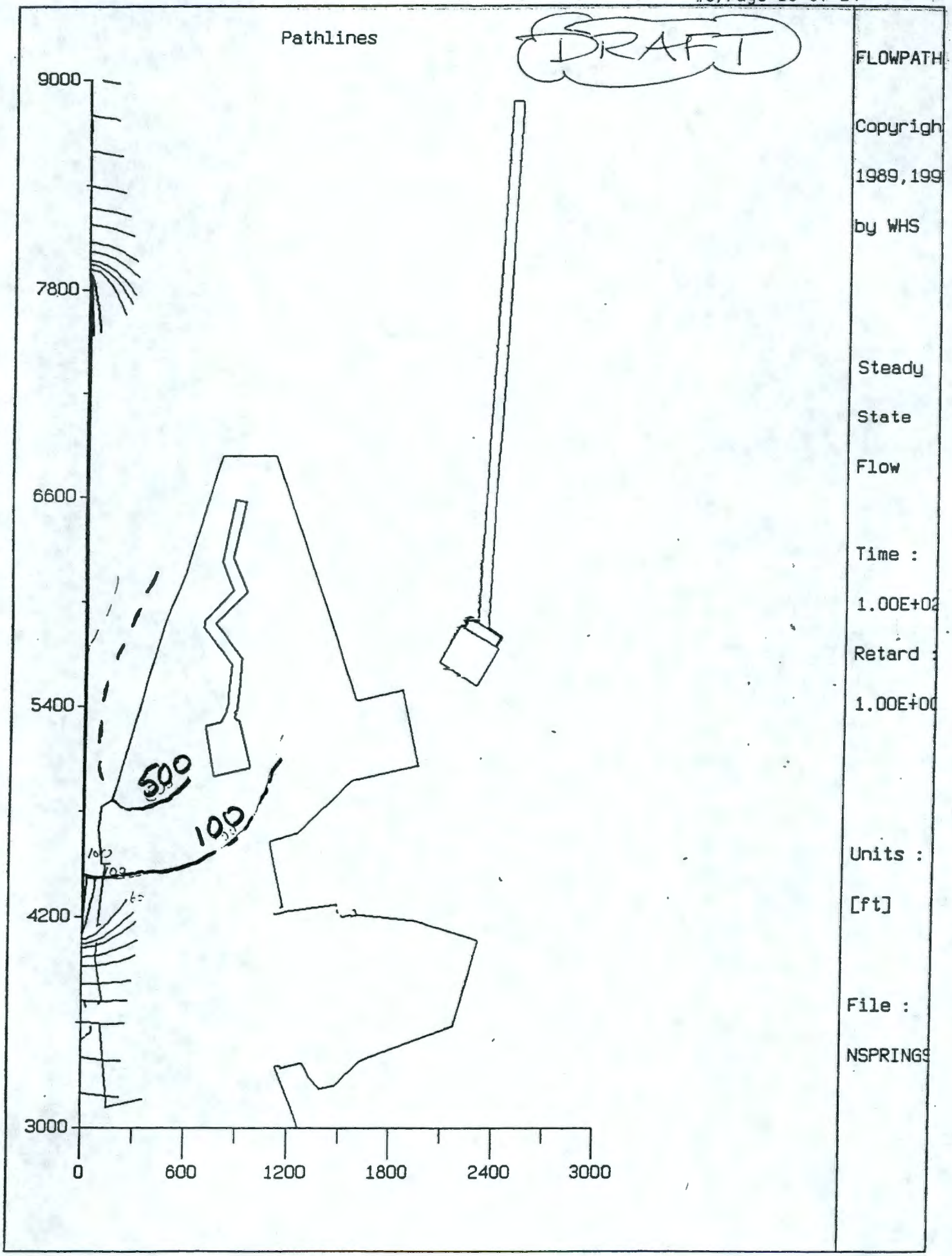
Max : 3.96E+02

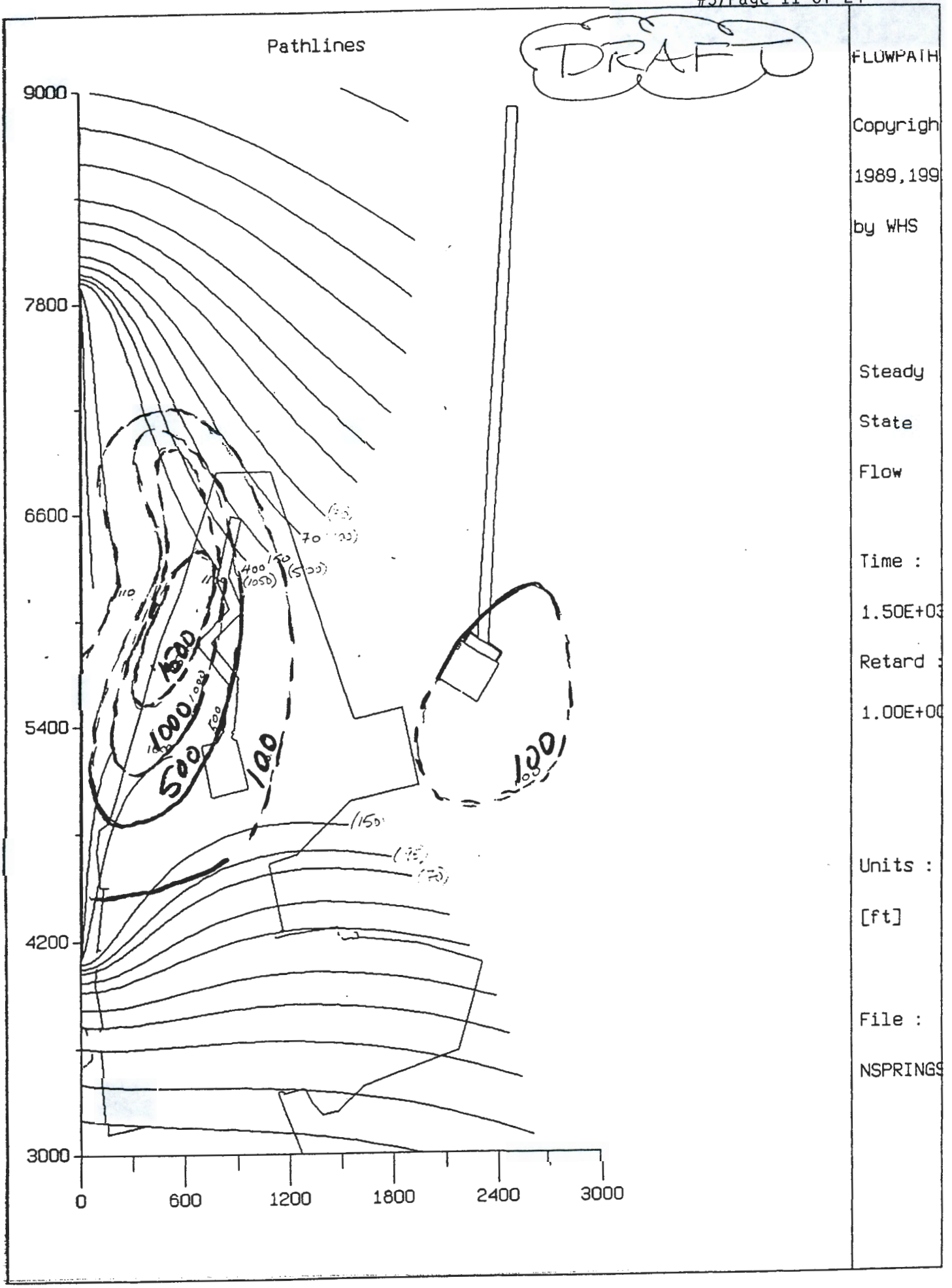
Inc : 1.00E+00

Units : [ft]

File : NSPRINGS







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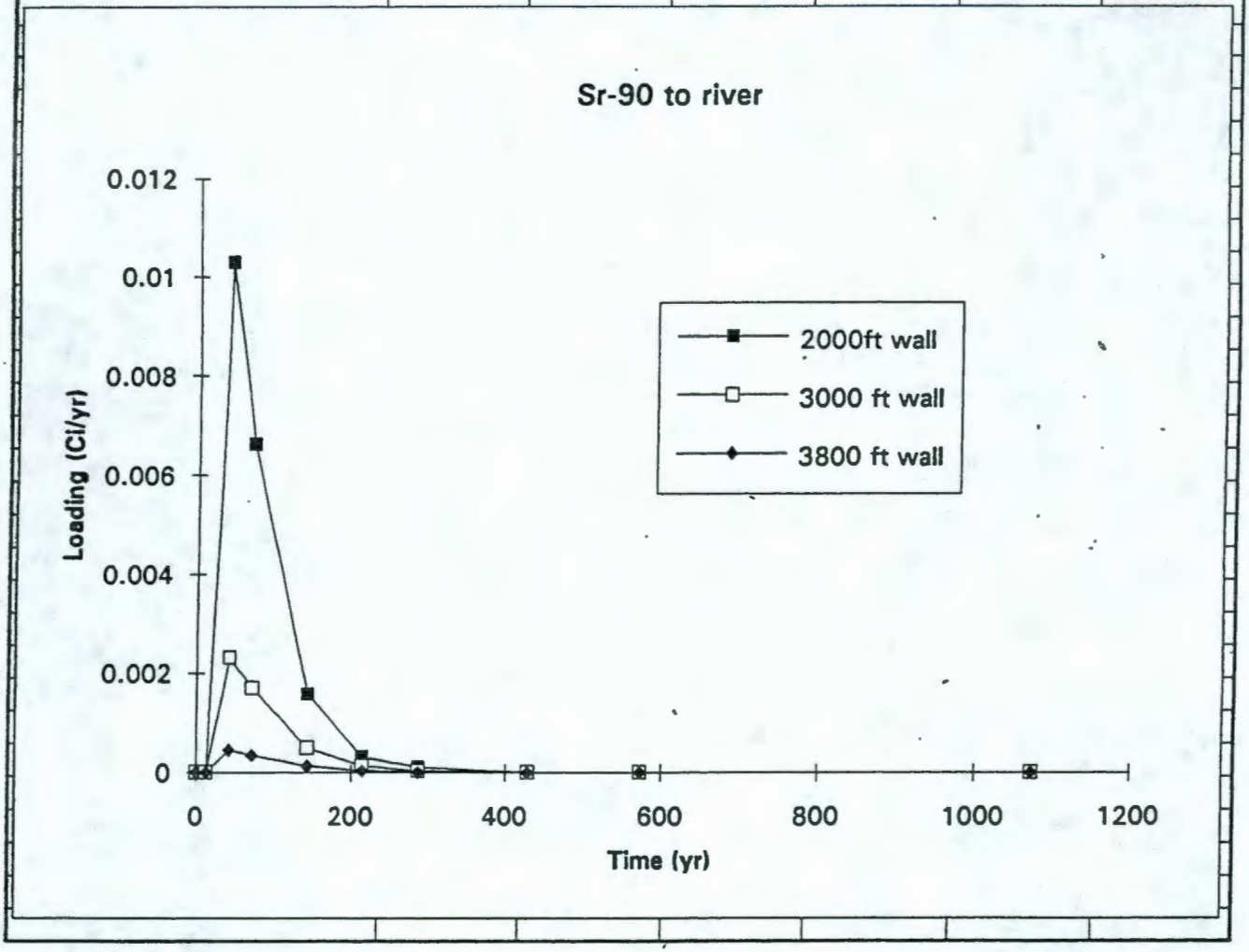
modeled gw travel time d	K-adjustd gw travel time d	source conc pCi/l	contam trav time d	contam trav time y	discharge conc pCi/l	mass discharge pCi/d
				57.21		
400	208.80		20880	57.21		
400	208.80		20880	57.21		
400	208.80		20880	57.21		
400	208.80		20880	57.21		
400	208.80		20880	57.21		
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80	70	20880	57.21	16.99	1494831
400	208.80	95	20880	57.21	23.06	1646529
400	208.80	150	20880	57.21	36.41	3342817
400	208.80	450	20880	57.21	109.23	24251320
400	208.80		20880	57.21	0.00	0
						0.011218
400	208.80		20880	57.21	0.00	0
400	208.80	90	20880	57.21	21.85	4162737
400	208.80	100	20880	57.21	24.27	1843827
400	208.80	95	20880	57.21	23.06	1388949
400	208.80	80	20880	57.21	19.42	1541620
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
400	208.80		20880	57.21	0.00	0
						0.003262
						0.014481
					109.23	

Summary of Sr-90 fluxes to river						
	Wall length (ft)					
	2000	3000	3800			
K used in FLOWPATH (ft/d)	261	261	261			
K for these calcs (ft/d)	100	100	100			
Retardation coefficient	100	100	100			
Radionuclide	Sr-90	Sr-90	Sr-90			
Half-life (yr)	28	28	28			
Total release (Ci)	0.774411	0.199447	0.04313			



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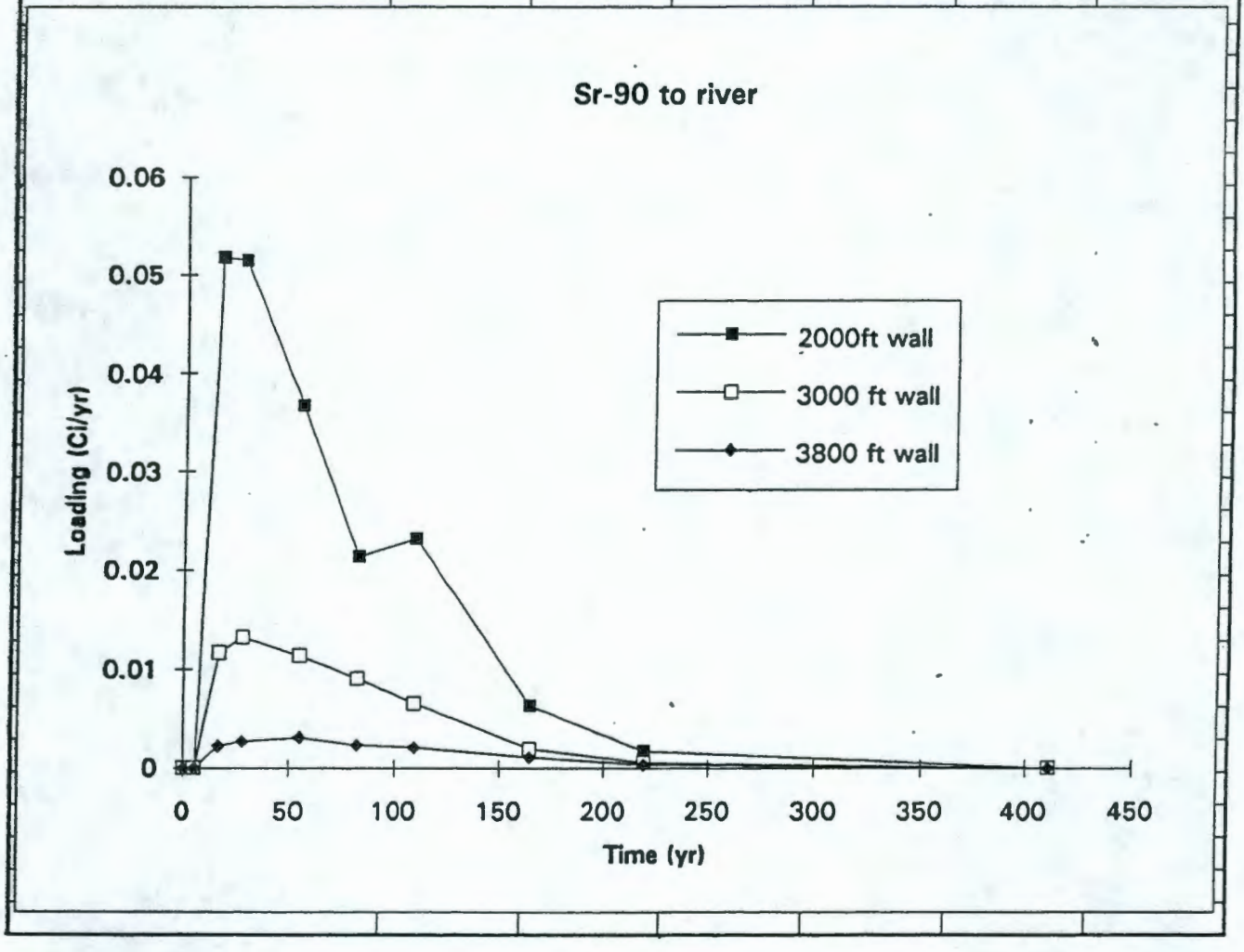
Summary of Sr-90 fluxes to river						
	Wall length (ft)					
	2000	3000	3800			
K used in FLOWPATH (ft/d)	261	261	261			
K for these calcs (ft/d)	261	261	261			
Retardation coefficient	100	100	100			
Radionuclide	Sr-90	Sr-90	Sr-90			
Half-life (yr)	28	28	28			
Total release (Ci)	4.663318	1.384428	0.414137			



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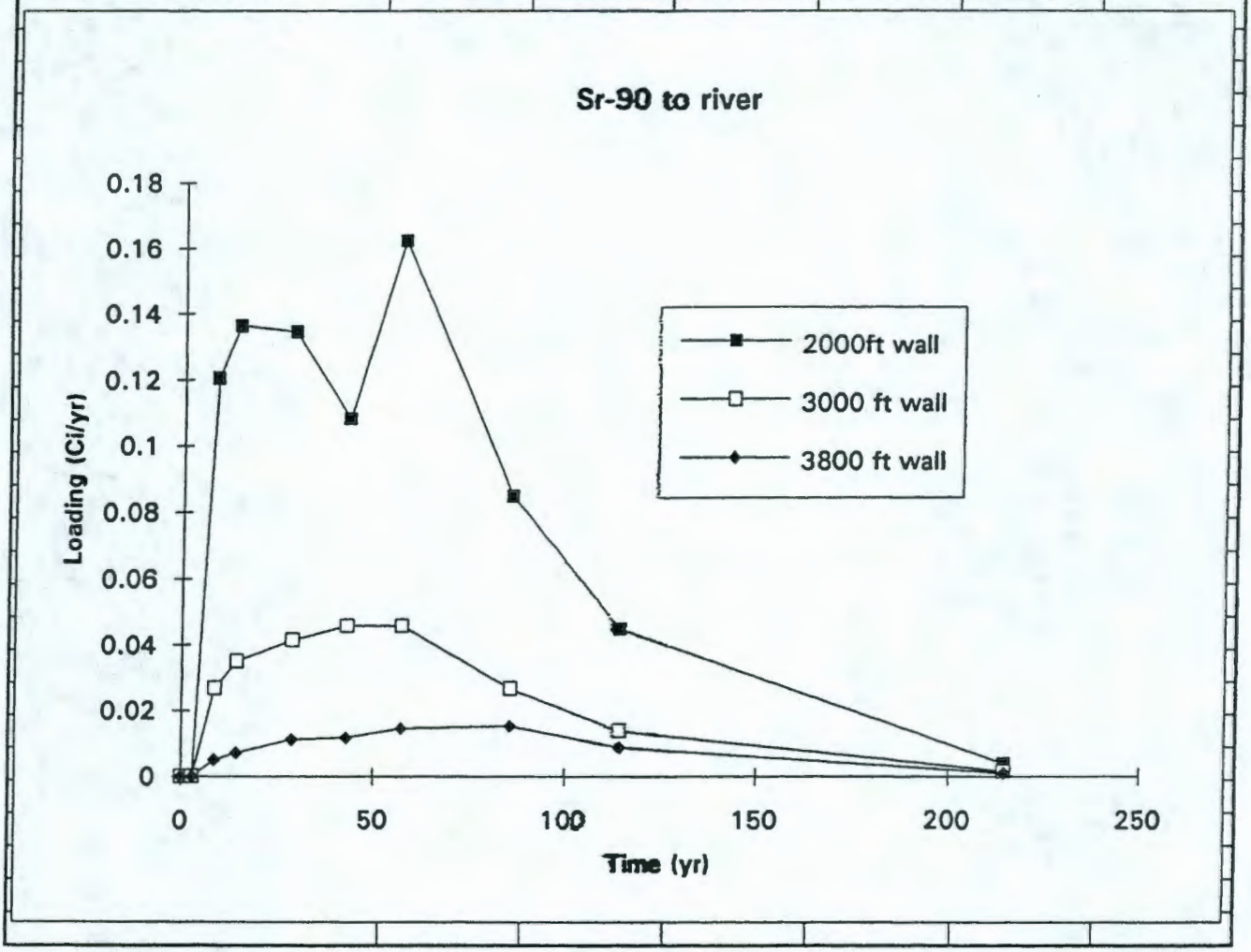
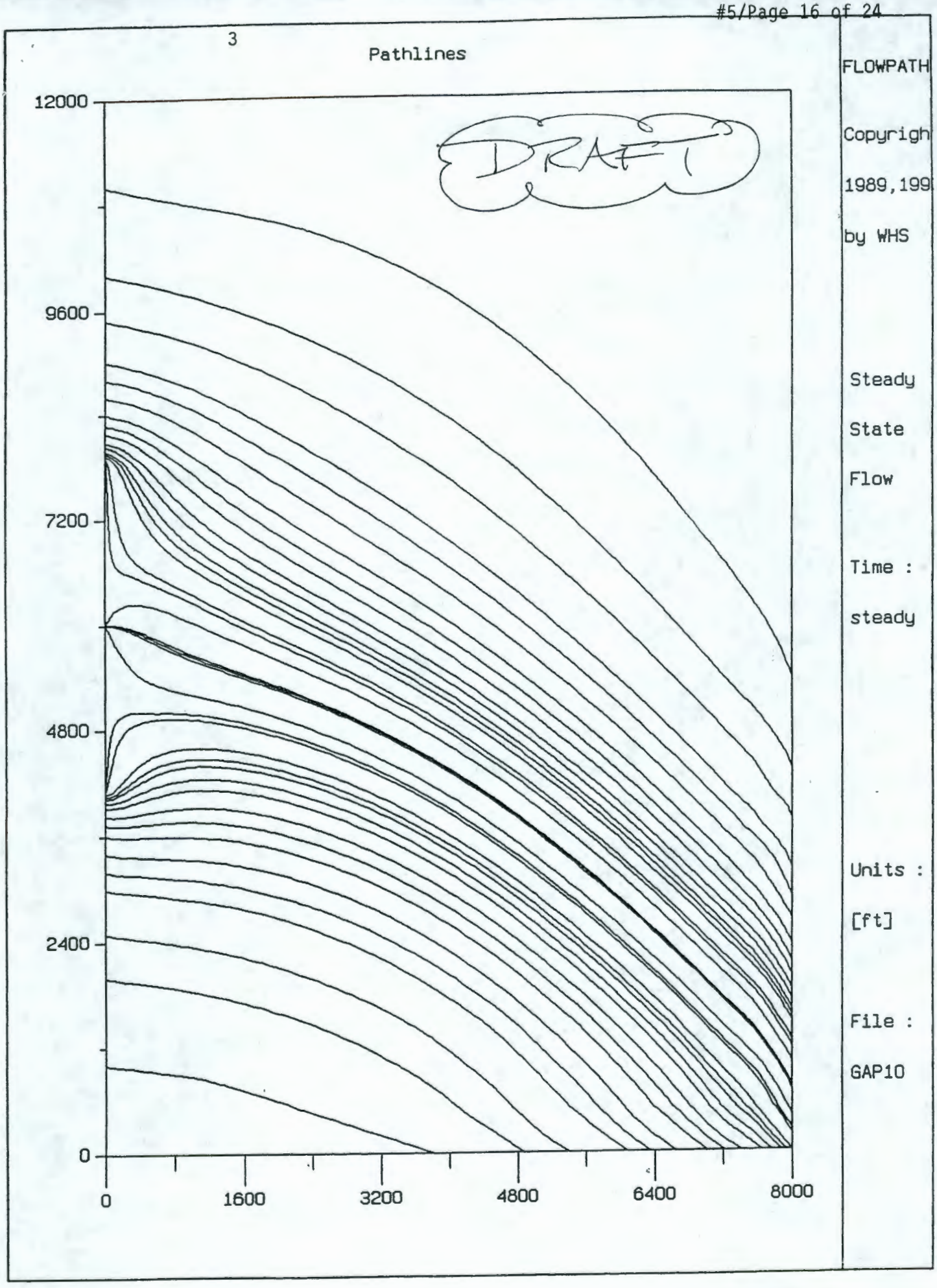
Summary of Sr-90 fluxes to river						
	Wall length (ft)					
	2000	3000	3800			
K used in FLOWPATH (ft/d)	261	261	261			
K for these calcs (ft/d)	500	500	500			
Retardation coefficient	100	100	100			
Radionuclide	Sr-90	Sr-90	Sr-90			
Half-life (yr)	28	28	28			
Total release (Ci)	14.51625	4.466388	1.791954			





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To Be Done

- Complete gap modeling
- Interceptor / recharge well locations and modeling
- QA all calculations
- Report

2-Dimensional Cross-Sectional View Analyses Steady-State Flow

Assumptions

- Steady State-Flow Conditions
- Average Yearly Columbia River Elevation = 383 ft
- Constant Head Boundaries at Columbia River and and to the Right of Sheet Piling
- No Flux Boundary under the Columbia River
- Model Transient Contaminant Transport for 200 Years
- Retardation Factor (R_f) = 100

Analyses

1.) Base Case Scenario (see next slide for parameters)
2.) Horizontal Hydraulic Conductivity increase by a factor of 10 for Ringold Silts over Base Case
3.) Anchor Sheet Piling at the Top of the Ringold Silts
4.) Anchor Sheet Piling 2 Ft above the Ringold Silts

Status to Date

- Flow has been modeled for all four cases
- Contaminant Transport Modeling is complete for cases 1 & 2
- Contaminant Transport Modeling will be completed for cases 3 & 4 by the end of July

Assumptions Used in Base Case Sheet Pile Numerical Analysis

Physical Properties

	K_x(cm/s)	K_y(cm/s)	Eff. Por	R_f
Ringold Gravel	9.2E-02	9.2E-03	0.24	100
Ringold Muds	1.0E-04	1.0E-04	0.24	100
Sheet Piling	1.0E-08	1.0E-08	~	~

River and Gradients

- Time Averaged River Level ≅ 383 ft
- Water Level Behind Sheet Piling Will Not Exceed 387.2 ft

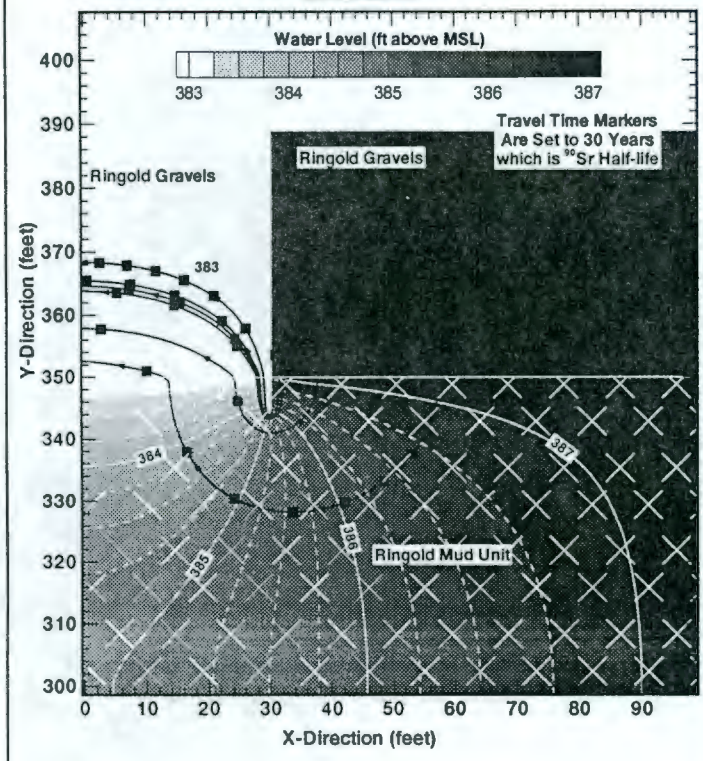
Sheet Piling

- Sheet Piling is Anchored 4 ft into the Ringold Silts

R_f = Retardation Factor for ^{90}Sr

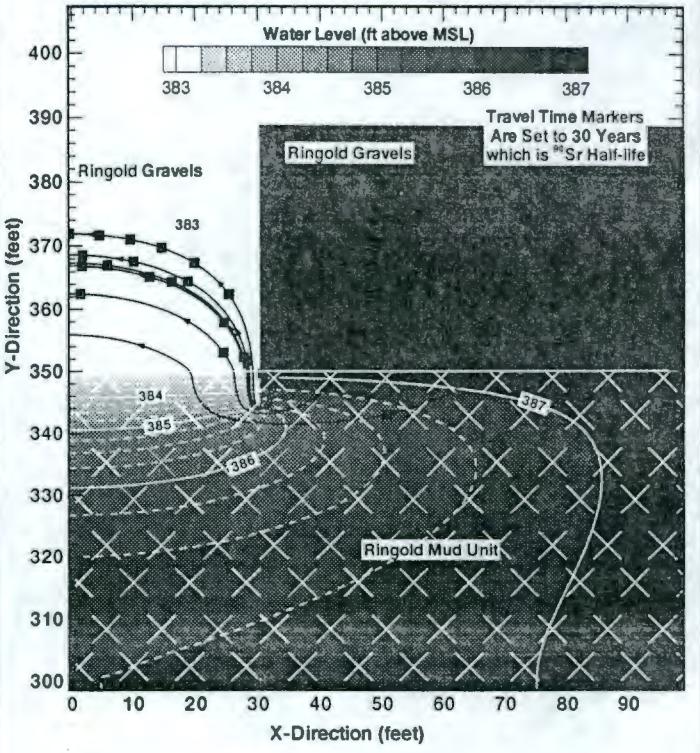
Model Results for Travel Time Underneath the Sheet Piling

Base Case



Model Results for Travel Time Underneath the Sheet Piling

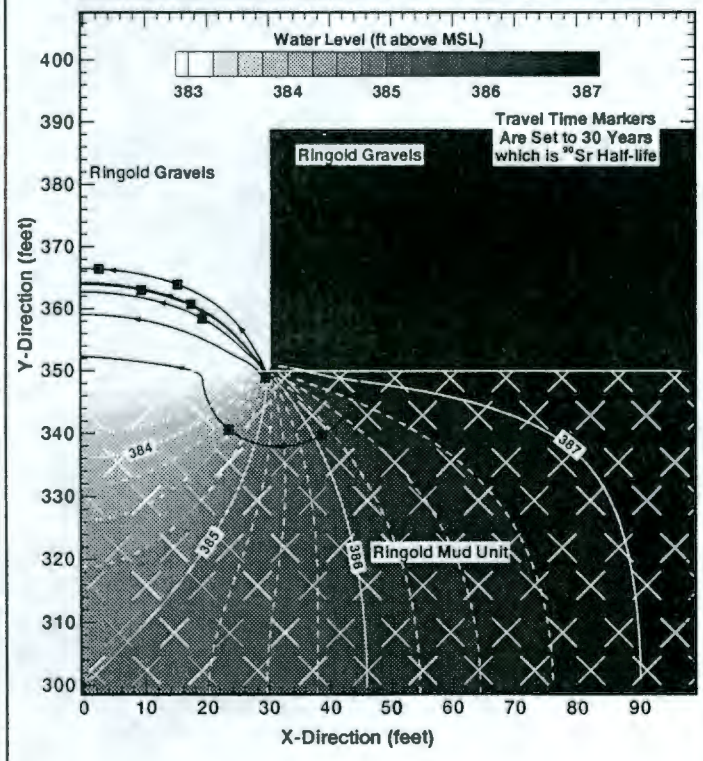
Case 2 K_h for Ringold Silt a factor of 10 Higher than Base Case



PRELIMINARY

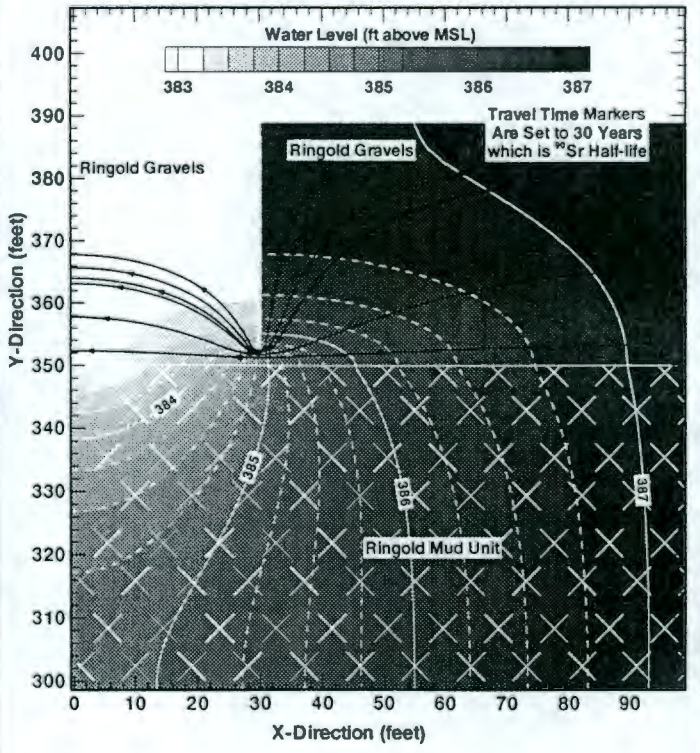
Model Results for Travel Time Underneath the Sheet Piling

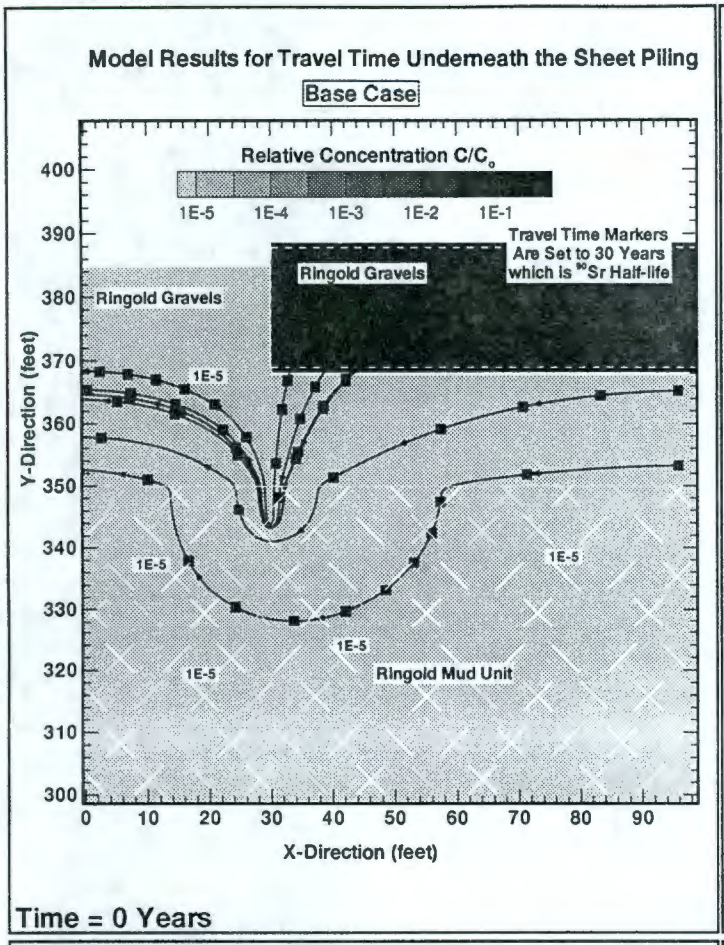
Case 3 Sheet Piling Anchored At the Top of the Ringold Silt

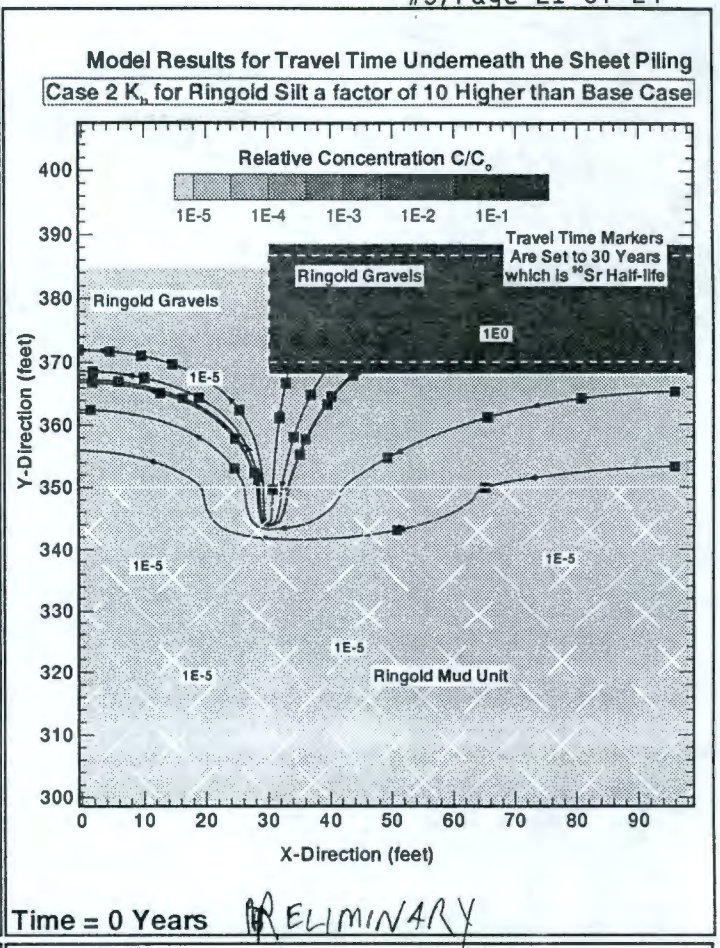


Model Results for Travel Time Underneath the Sheet Piling

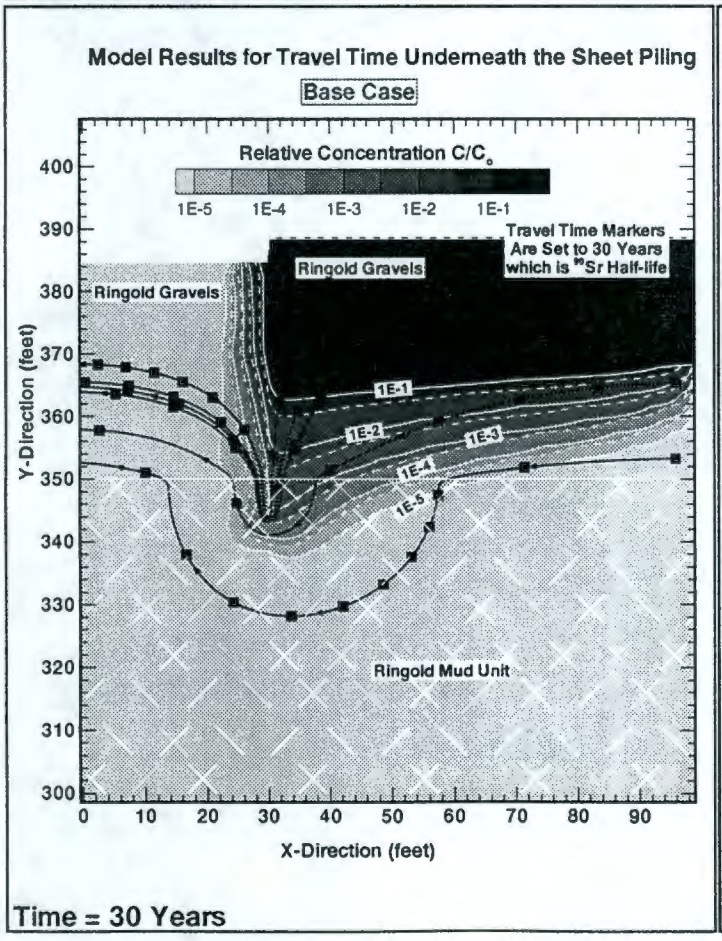
Case 4 Sheet Piling Anchored At 2 ft Above the Ringold Silt

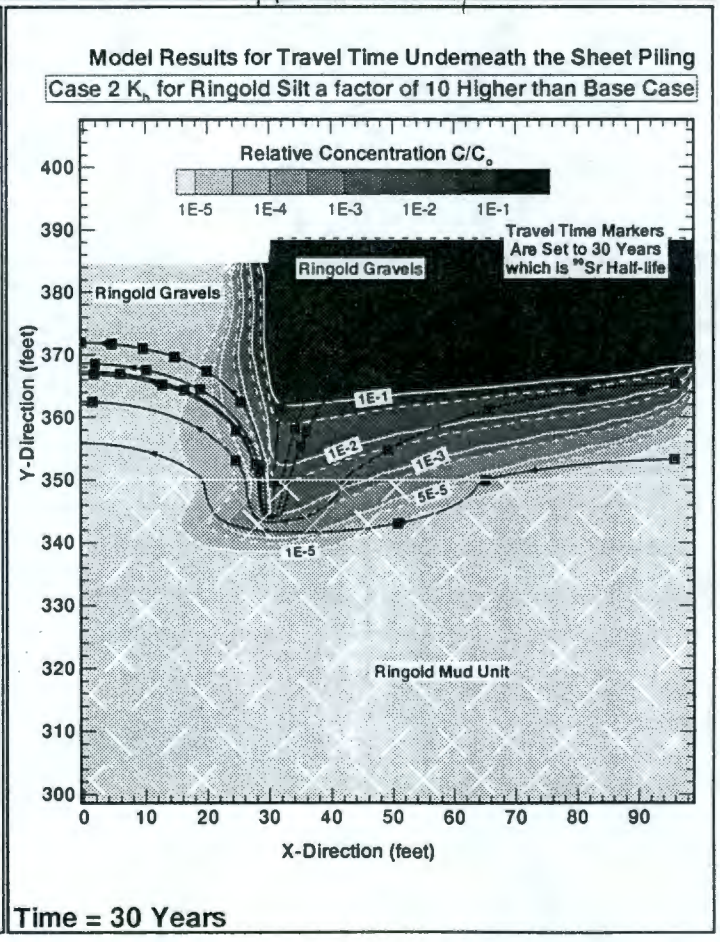


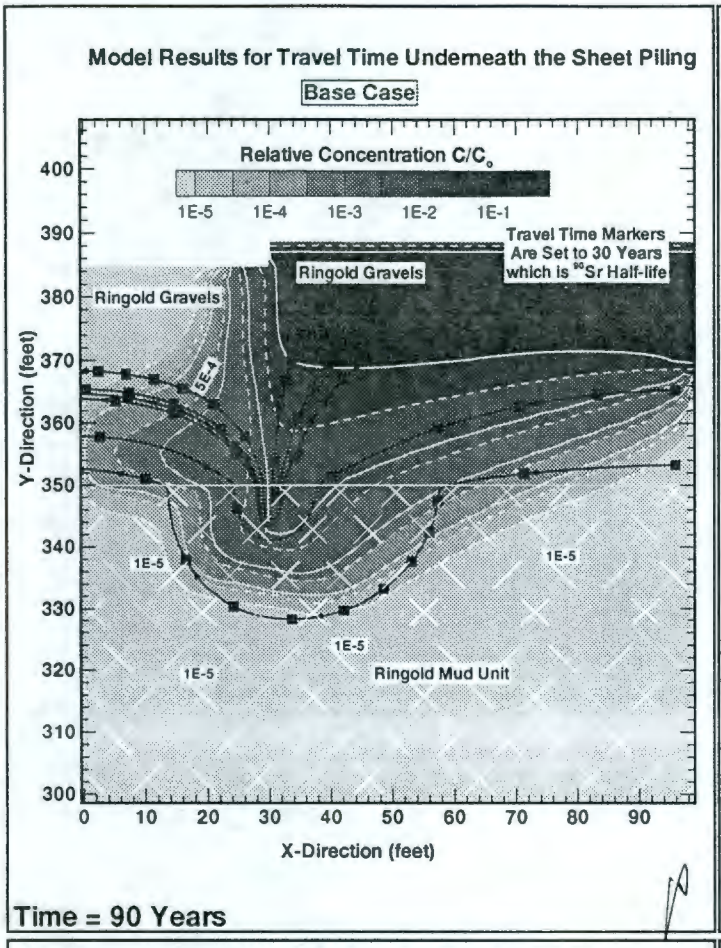


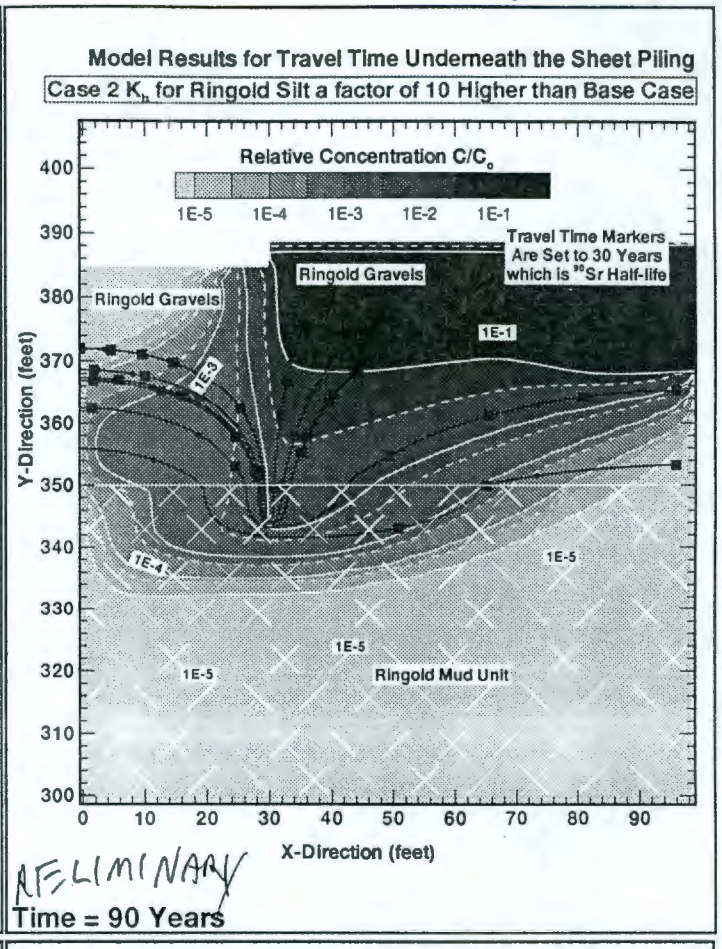


PRELIMINARY

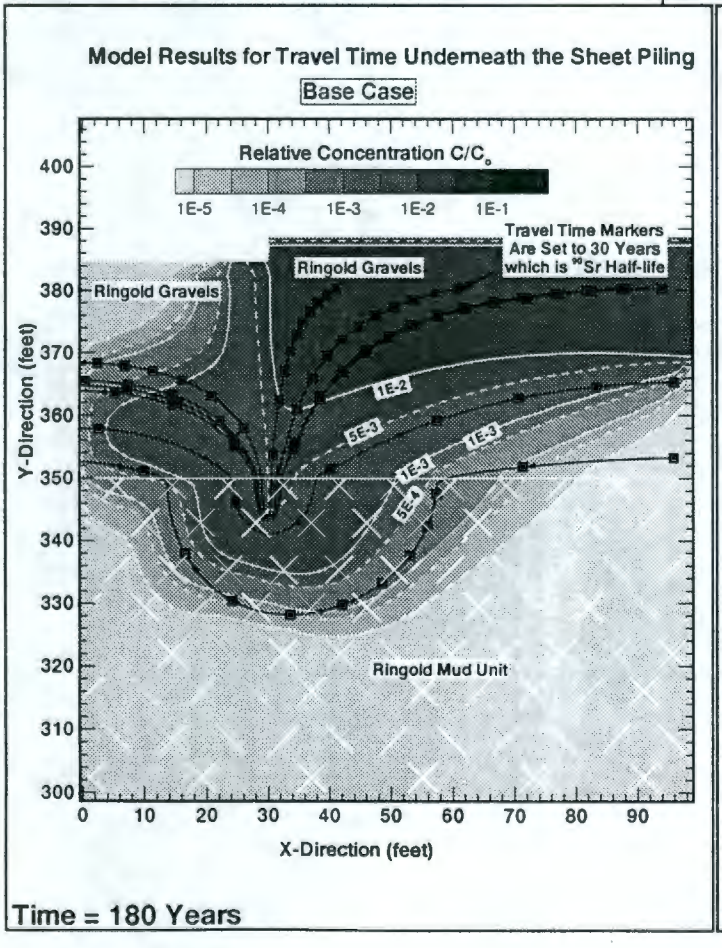


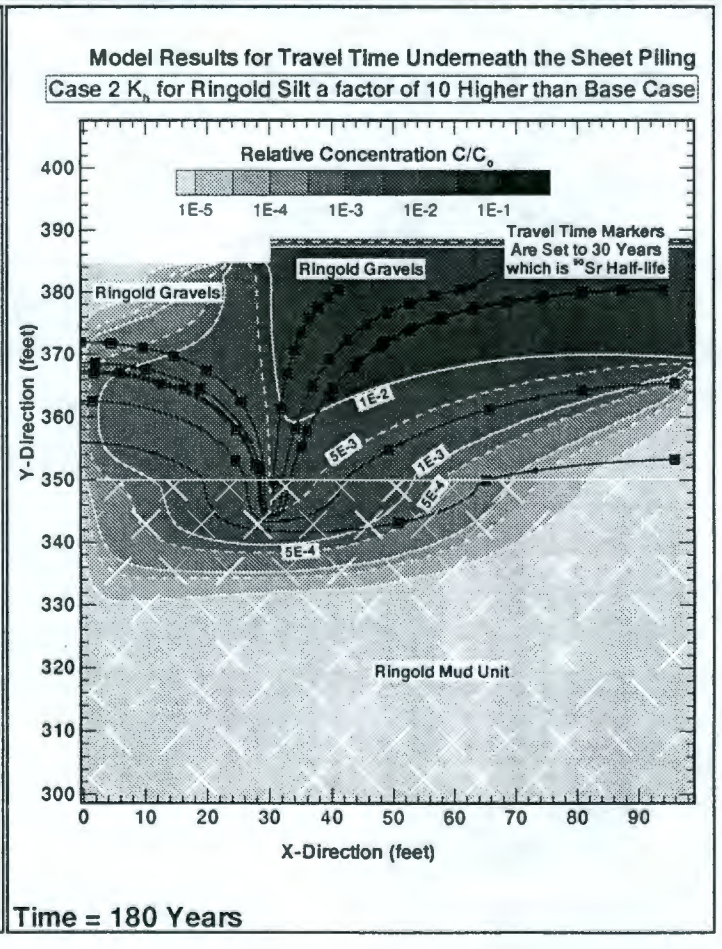






PRELIMINARY





2-Dimensional Cross-Sectional View Analyses Transient Flow

Assumptions

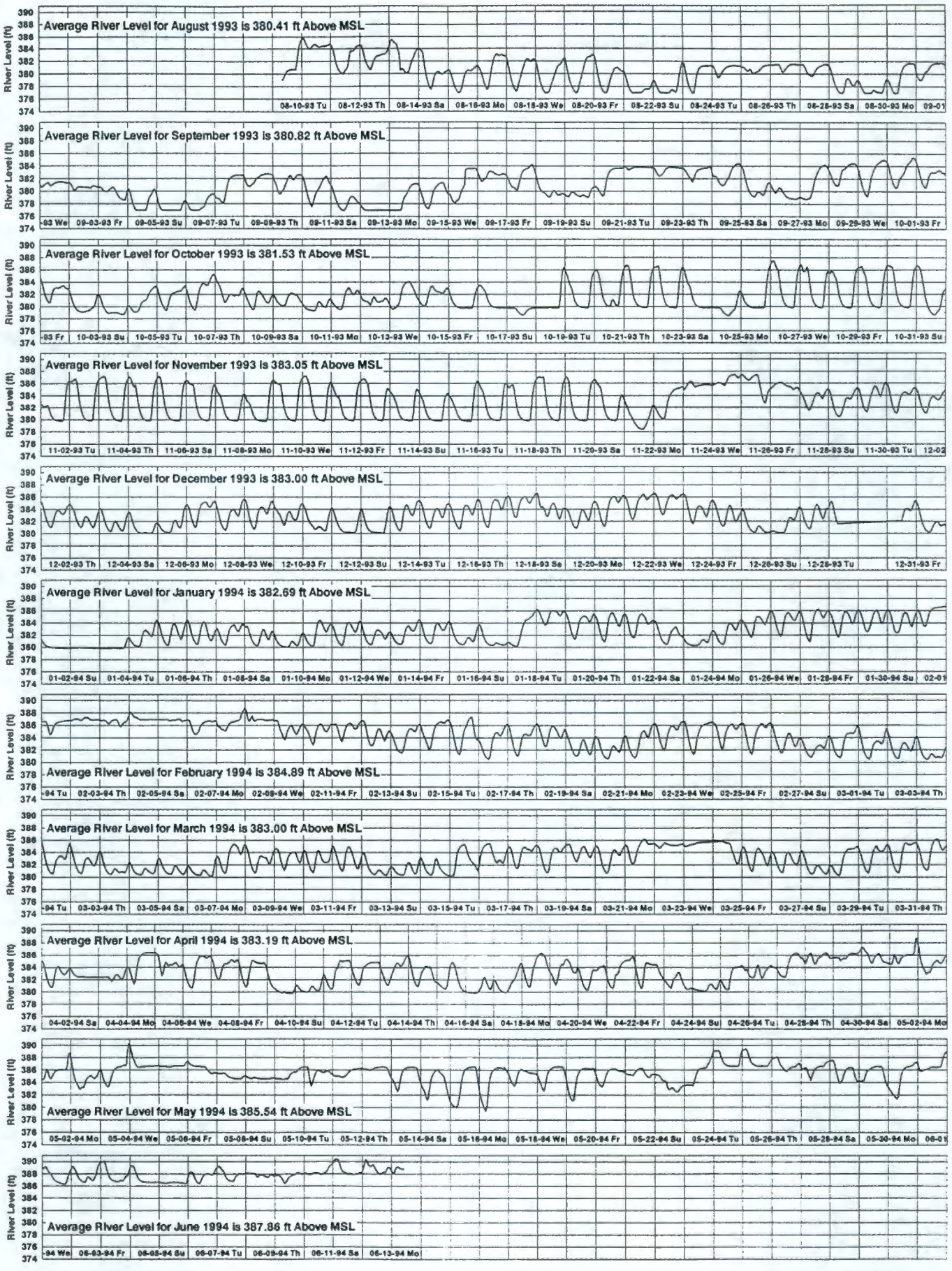
- Transient Flow Conditions
- Flow and Contaminant Transport Model Simultaneously
- Columbia River Elevation Varies with Time using 10/93 to 9/93 100-N River Stage Information
- Constant Head Boundaries at Columbia River and to the Right of Sheet Piling
- No Flux Boundary under the Columbia River
- Model Transient Flow and Contaminant Transport for 10 Years
- Retardation Factor (R_f) = 100

Analyses

1.) Transient Flow and Contaminant Transport with a Fluctuating River Boundary Condition to Estimate the Time Required to Remove ^{90}Sr from between the Sheet Piling and the River

Status to Date

- Preliminary work at defining the boundary conditions using the daily river fluctuations of the Columbia River has been started
- Modeling will be completed by 8/15/94



100 N Springs Well Useability Testing Summary

Purpose was to evaluate strontium concentration response to pumping in 3 wells

Find wells that might support pump and treat program

Supports TPA milestone M-16-010

Tested 3 wells (199-N-3, -N-14 and - N-75)

1.5 hp pump

Test length ranged from 2 to 5 hrs

Limited to 3500 gallon regulated purge truck

Pumped water at the highest rate possible maintaining a constant head

Sampled for strontium, tritium and appendix 9 constituents in wells N-3 and - N-75

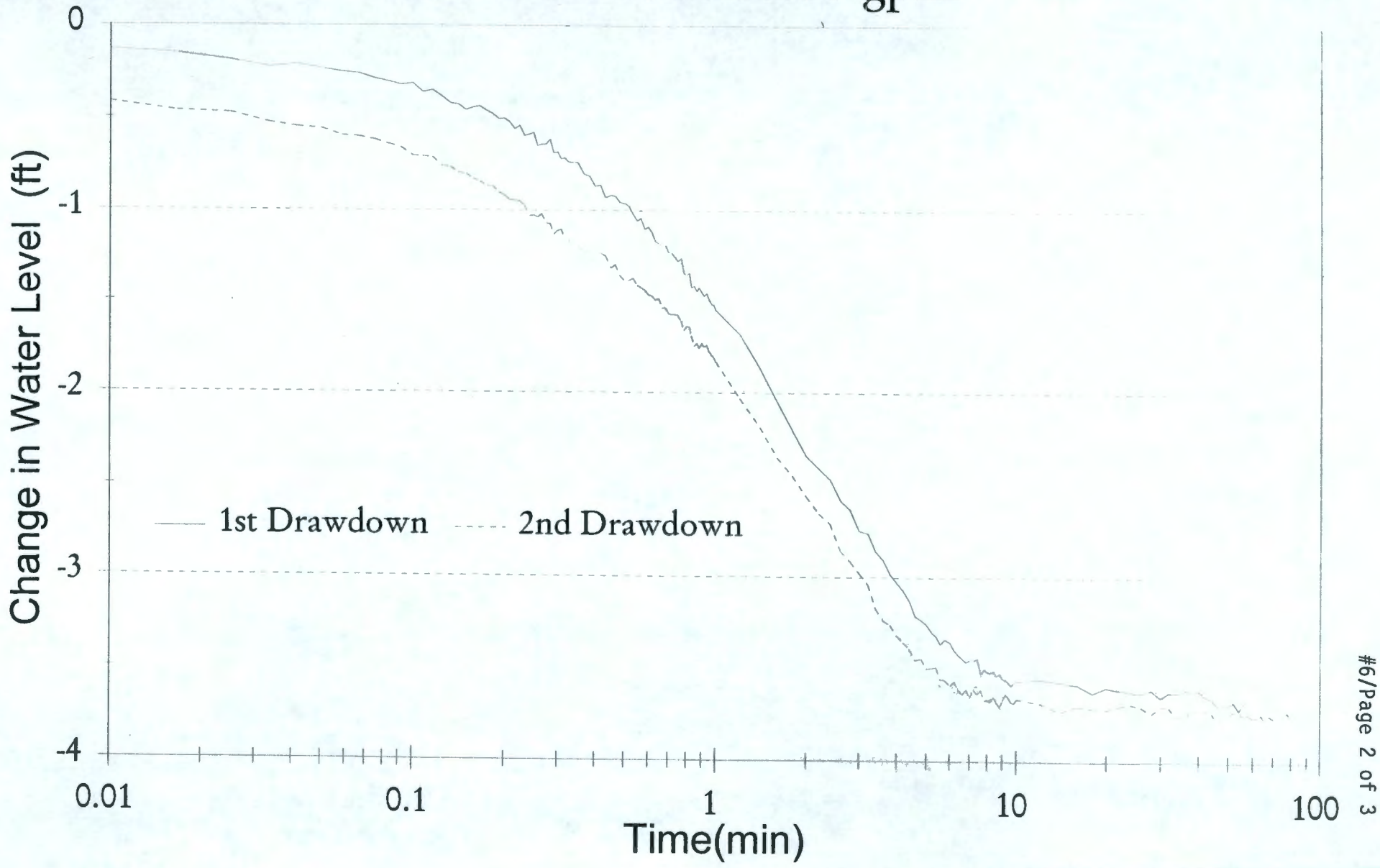
Sampled for strontium and tritium in N-14

Sample rate:

5 min of pumping
30 minutes
60 minutes
120 minutes
240 minutes (only one test went long enough)
End of test

Well Useability Test 199-N-14

Drawdowns at 20.80 gpm



N-75, N-3, and N-14 Sampling and Testing Results

N-75	Tritium	Strontium	Strontium	Pumping	15-Jun-94	Total	Discharge	Specific	50% of	Estimated
SWL = 69.57	Unfiltered	Filtered	Unfiltered			Drawdown	Rate	Capacity	Screen	Production
	PCI/L	PCI/L	PCI/L	Discharge	Drawdown				(feet)	
Sample 1 1055	71300	1080	1060	14 gpm	3.3 ft					
Sample 2 1125	72700	1130	1170	19.5 gpm	5.1 ft					
Sample 31155	70500	1070	1090	19.5 gpm	5.3 ft					
Sample 4 1225	72000	1060	1050	19.5 gpm	5.5 ft					
Sample 5 1255	70500	1050	1060	19.5 gpm	5.5 ft	5.51 feet	19.5 gpm	3.45 gpm/ft	9.17 feet	25.96 gpm
N-3	Tritium	Strontium	Strontium	Pumping	13-Jun-94					
SWL = 72.40	Unfiltered	Filtered	Unfiltered							
	PCI/L	PCI/L	PCI/L	Discharge	Drawdown					
Sample 1 1032	16500	406	368	14 gpm	12 ft					
Restart 1041				14 gpm	12 ft					
Sample 2 1111	17400	682	675	10 gpm	15 ft					
Sample 3 1141	17200	674	678	10 gpm	15 ft					
Sample 4 1241	17100	701	714	9 gpm	20 ft					
Sample 5 1441	18000	739	719	9 gpm	20.3 ft					
Sample 6 1541	17700	726	746	9 gpm	20.3 ft	20.3 feet	9 gpm	0.44 gpm/ft	12 feet	4.26 gpm
N-14	Tritium	Strontium	Strontium	Pumping	26-Jul-92					
SWL = 68.54	Unfiltered	Filtered	Unfiltered							
	PCI/L	PCI/L	PCI/L	Discharge	Drawdown					
Sample 1 0812	NA	NA	NA	20.8	0.022 ft					
Sample 2 0842	NA	NA	NA	20.8	3.6 ft					
Pump shut down for 1 minute, groundwater fully recovered										
Sample 3 0912	NA	NA	NA	20.8	3.7 ft					
Sample 4 1016	NA	NA	NA	20.8	3.8 ft					
Sample 5 1034	NA	NA	NA	20.8	3.7 ft	3.7 feet	20.8 gpm	5.62 gpm/ft	8 feet	36 gpm
Notes:	Specific capacity = Discharge rate/Total drawdown									
	Estimated production = 80% x specific capacity x 50% of screen									

Distribution

Unit Manager's Meeting: N-Area Operable Unit
July 28, 1994

Bryan Foley . . . . . DOE-RL, PRD (A5-19)
Heather Trumble . . . . . DOE-RL, OTD/FTB (A5-19)
Steve Balone . . . . . DOE-HQ (EM-442)

Pamela Innis . . . . . N-Area Manager, EPA (B5-01)
Brian Drost, USGS . . . . . Support to EPA
Jeffrey Ross, PRC . . . . . Support to EPA

Phil Staats . . . . . N-Area Manager, WDOE (Kennewick)

Merl Lauterbach, BHI . . . . . (H6-01)
Ralph Gimera, BHI . . . . . (X5-54)
Diana Sickle, BHI . . . . . (H6-27)
Edwin Shorey, CH2 . . . . . (H4-79)

Original Sent To: ADMINISTRATIVE RECORD: ~~N-Area~~ Care of EPIC, WHC (H6-08)

100-NR-1, 100-NR-2
DAI 9/27/94

Please inform Avi Tayar (946-3690) of Mactec/Dames & Moore (B1-42) of deletions or additions to the distribution list.