UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

January 22, 2001

Mr. Michael Peterson, P.E.
Project Manager - Closed Sites
Waste Management, Inc.
W124 N9355 Boundary Road
Menomonee Falls, WI 53051

RE: Approval of the Hagen Farm Site Groundwater Control Operable Unit (GCOU) Low-Flow Air Sparging System Implementation & Monitoring Plan.

Dear Mike:

The United States Environmental Protection Agency (U.S. EPA), in cooperation with the Wisconsin Department of Natural Resources (WDNR), at this time approves of the Hagen Farm Site Groundwater Control Operable Unit (GCOU) Low-Flow Air Sparging System Implementation & Monitoring Plan (the Plan) dated January 18, 2001. However, if the U.S. EPA and/or the WDNR at any time in the future determine that implementation of any part of the Plan is no longer protective of human health and the environment, the U.S. EPA shall require modification(s) of the Plan upon written notification to you.

Please contact me at (312) 353-6755 if you have any questions regarding this matter or if you require additional information.

Sincerely,

Steven J. Padovani
Remedial Project Manager

cc: Paul Kozol, WDNR

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LOW-FLOW AIR SPARGE SYSTEM
IMPLEMENTATION & MONITORING PLAN
HAGEN FARM SITE
GROUNDWATER CONTROL OPERABLE UNIT

January 2001

Prepared For:
Waste Management, Inc.
Menomonee Falls, Wisconsin

•••

Prepared By:
Montgomery Watson
Madison, Wisconsin

Project No. 2081104.01090173

MONTGOMERY WATSON

MONTGOMERY WATSON

January 18, 2001

Mr. Steve Padovani
Remedial Project Manager
United States Environmental Protection Agency, Region V
Remedial and Enforcement Response Branch, MI/WI Section, HSRW-6J
77 West Jackson Boulevard
Chicago, IL 60604

Re: Hagen Farm Groundwater Control Operable Unit, Town of Dunkirk, Wisconsin
Final Low-Flow Air Sparge System Implementation & Monitoring Plan
(Revision 2)

Dear Mr. Padovani:

Please find enclosed five (3) revised final copies of the above-referenced plan. Apparently, several monitoring wells were omitted from the Additional Groundwater Monitoring column of Table 1 in the report submitted on January 11, 2001. This latest version contains the correct monitoring wells for that column.

We appreciate the opportunity to work with the USEPA and WDNR to bring this site one step closer to closure. If you have any questions, do not hesitate to contact us at 608.231.4747.

Sincerely,

MONTGOMERY WATSON

Douglas J. Bach, P.E.
Project Manager

cc: Paul Kozol, WDNR (2 copies – Table 1 only)
Mike Peterson, WMWI (2 copies – Table 1 only)

PHL/phl/vlr/DJB
N:\Jobs\208\1104\01\wp\ltr\98_Padovani.doc
2082338.02810101-MAD-1

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Delivering Innovative Projects and Solutions Worldwide

LOW-FLOW AIR SPARGE SYSTEM
IMPLEMENTATION & MONITORING PLAN
HAGEN FARM SITE
GROUNDWATER CONTROL OPERABLE UNIT

January 2001

Prepared by: _____ 1/9/01

Patrick H. Lytle
Project Engineer

Date

Approved by: _____ 1/9/01

Douglas J. Bach, P.E.
Supervising Engineer

Date

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1.0 INTRODUCTION

This plan describes the implementation and monitoring of the low-flow air sparge system at the Hagen Farm Site. Specifically, this plan addresses: (1) startup, operation, and maintenance activities for the system, (2) the schedule for the temporary removal from service of the pump and treat system, (3) performance monitoring of the air sparge system, and (4) contingency plans in the event that the pump and treat system needs to be reactivated.

Montgomery Watson (MW), on behalf of Waste Management of Wisconsin, Inc. (WMWI), recommended the implementation of an alternative groundwater treatment system in a technical memorandum dated August 21, 2000. This document concluded that, based on an historical review of site conditions, trends in groundwater quality, and other information presented, a low-flow air sparge system offers an effective and less costly alternative for remediating the remaining contaminated groundwater at the Hagen Farm Site.

The United States Environmental Protection Agency (USEPA) and the Wisconsin Department of Natural Resources (WDNR) concurred with the recommendations contained in this report, based upon the following modifications being made to the proposal: implementation of a slightly more aggressive monitoring program (discussed in detail in Section 3 of this report), a six-month period of concurrent operation, and preparation of this plan.

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2.0 SYSTEM STARTUP AND OPERATION PLAN

This section discusses the purpose of the air sparge system, describes the system components, and provides a schedule for the concurrent operation of the air sparge and pump and treat systems.

2.1 LOW-FLOW AIR SPARGE SYSTEM DESCRIPTION

The purpose of a low-flow air sparge system is to introduce air into a groundwater aquifer. This is typically accomplished by a series of injection wells, screened below the water table. As air is added at these points, the dissolved oxygen (DO) level is increased in portions of the aquifer near the injection points. The oxygenated groundwater then begins to travel outward from the point through normal means of transport, including advection and dispersion.

Low-flow air sparge systems have been shown to dramatically increase DO levels in groundwater. Such systems have been demonstrated to enhance naturally occurring degradation of a variety of contaminants. The installation of such a system at the Hagen Farm site will accelerate progress toward remedial goals by producing an aerobic environment downgradient of the landfill. The two primary compounds of concern at the site, tetrahydrofuran and vinyl chloride, degrade most rapidly in aerobic environments.

2.2 SYSTEM COMPONENTS

The addition of air to groundwater at the Hagen Farm Groundwater Control Operable Unit (GCOU) is intended to raise the DO level and promote natural degradation, not to physically strip compounds from the liquid to the vapor phase. As a result, much lower flowrates are being used at this site than for typical air sparge systems.

The air sparge wells were installed to a depth of approximately 42 to 50 feet below ground surface, or to the top of the weathered bedrock at the site. Boring logs and well completion diagrams are included in Appendix A. The screened portion of each well is located at the bottom 5 feet of the boring, well below the water table. This configuration allows the injected air to diffuse more thoroughly as it rises through the aquifer. A typical well construction detail is shown in Figure 1. Experience at sites with similar geology has shown these wells typically have a radius of influence of 40 to 50 feet. The wells were installed approximately 60 feet on center across the anaerobic zone just downgradient of the landfill, as shown in Figure 2.

The existing air compressors at the site have ample capacity to provide a flow of 50 cubic feet per minute (cfm) to the sparge wells. Airflow rates for this low-flow system will range from 5 to 10 cfm to each low-flow sparge well. Flowrates will be set using the flowmeter and ball valves shown in Figure 3. Due to the relatively low air requirements of this

application, airflow will initially cycle between the six wells over a period of three hours. The controls for the air sparge system will be incorporated into the existing PLC at the site. Programming will allow the operator to adjust cycle times based on monitoring results.

2.3 STARTUP AND CONCURRENT OPERATION PLAN

Following final installation and testing of the system components, startup of the air sparge system is scheduled for January 15, 2001. The air sparge system will operate concurrently with the pump and treat system for a period of six months. During and after this period, the efficacy of the air sparge system will be assessed. Evidence of this efficacy will include increased DO levels, decreased contaminant concentrations, or a combination of the two at the observation points discussed in Section 3. A timeline for these activities is shown in Figure 4.

The startup process for the air sparge system will involve the following steps:

1. Compressed air from the existing system will be allowed to pressurize the header of the sparge system.

2. The solenoid valves will be energized via the existing PLC, and will be set to operate each sparge point for a period of 30 minutes.

3. As each solenoid valve is opened, the flowrate through the header will be monitored and the ball valves will be adjusted by hand to provide between 5 and 10 cfm of stabilized airflow. The pressure gauge at each sparge line will also be monitored and recorded to verify stabilized flow to the sparge well.

4. Once this process is completed for each well, the system will operate without interruption, with the monitoring described in Section 3.

Montgomery Watson and Waste Management of Wisconsin understand that the removal from service of the pump and treat system is on a trial and temporary basis in accordance with the RD/RA Scope of Work, Section II.B.2.b.11. The projected schedule calls for temporary removal from service of the pump and treat system on July 9, 2001. The USEPA and WDNR will be notified within 24 hours by telephone of this event, with confirmation in writing to follow within five days of the telephone notification.

The temporary removal from service of the groundwater extraction system will necessitate a number of steps to ensure readiness in the event the system needs to be restarted. These steps will include:

1. Draining of all the system tanks and discharging this treated water to the infiltration gallery. Any remaining sludges will be tested and transported to an appropriate disposal facility.

2. Pumps and valves will be serviced and stored according to their manufacturer's recommendations to ensure proper operation in the event of a system restart. The groundwater pump in EW-1 will be pulled and stored to prevent fouling.

3. The bacteria population in the aerobic reactor will be disposed of with the remaining sludge. A similar population exists at WMWI's City Disposal treatment system, and could be used to seed this reactor if needed.

By taking these steps, WMWI and Montgomery Watson believe the system could be restarted in a relatively short timeframe, and operating again at full current capacity within one month. This startup would follow the recommendations outlined in this plan and the GCOU's original startup plan.

2.4 SHUTDOWN OF THE AIR SPARGE SYSTEM

While it is difficult to estimate the timeframe for shutdown of the air sparge system, degradation rates observed previously at the site indicate significant reductions of contaminant concentrations in groundwater are likely to occur once aerobic conditions are established in the portion of the aquifer directly downgradient from the source area. Actual termination of the air sparge system will occur only after all groundwater cleanup standards are achieved and the approval of a petition to cease operations. This petition should include documentation of the achievement of groundwater standards, post-shutdown monitoring plan, and appropriate post-shutdown documentation, as described in the RD/RA Scope of Work.

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3.0 MONITORING PLAN

3.1 MONITORING SCHEDULE AND LOCATIONS

As discussed in the technical memorandum, and as shown in Figure 4, the primary monitoring activity during startup of the low-flow air sparge system will consist of DO measurements at MW22 (background), OBS-1A, OBS-1B, EW1, and EW2. These readings will be taken weekly for four weeks, then bi-weekly for the remainder of the six-month startup period. Additional system checks will be performed at the same time, including pressure and flowrate checks on the individual sparge lines. Following the temporary stopping of the pump and treat system, ongoing DO and air sparge system monitoring will occur on a monthly basis for the wells listed above.

The additional groundwater monitoring required by the USEPA and WDNR will also occur for a period of two years after startup of the air sparge system. This monitoring will consist of quarterly sampling and analysis for VOCs and natural attenuation parameters for a select group of wells as shown in Table 1. After two years of system operation and monitoring, the sampling frequency for the select group of wells will return to the current semiannual (on-site) and annual (off-site) sampling frequency.

In addition, at the end of the two-year quarterly monitoring period, an overall evaluation of the efficiency of the air sparge system will be completed. This evaluation will include a discussion of the necessity for further groundwater treatment.

3.2 BASELINE MONITORING

The two rounds of baseline monitoring for VOCs and natural attenuation parameters at OBS-1A, OBS-1B, and EW2 recommended in the technical memorandum will also be used to compare aquifer conditions before and after startup of the air sparge system. The first round of this sampling was completed on December 15, 2000.

3.3 SAMPLING METHODS AND PROCEDURES

All sampling activities will be performed in accordance with the existing Quality Assurance Project Plan (QAPP) for the Hagen Farm GCOU.

Samples will be shipped to Severn Trent Laboratories utilizing standard chain of custody documents. All analytical work will be completed in accordance with the QAPP.

3.4 REPORTING

The semi-annual GCOU operation and maintenance reports will continue to include information on both the pump and treat and air sparge systems. Results from the regular sampling and additional performance monitoring will be reported in the regular annual groundwater monitoring report.

The quarterly monitoring data will be evaluated and submitted to the USEPA and WDNR for their records upon receipt of the analytical results.

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4.0 CONTINGENCY PLAN

Montgomery Watson and Waste Management of Wisconsin understand that the USEPA and WDNR retain the right to require the shutdown of the air sparge system and/or the restarting of the pump and treat system if the agencies conclude that the situation is no longer protective of human health and the environment. In addition, the USEPA and WDNR retain the right to modify (in accordance with the RD/RA Scope of Work) the monitoring program if the agencies conclude that the current monitoring program is inadequate to characterize the groundwater contamination at the site.

Performance monitoring, including DO measurements and groundwater sampling, will provide the best indication of the efficacy of the air sparge system. As discussed in the technical memorandum, small increases in contaminant concentrations at the P17 and nearby well nests may be noted upon shutdown of the groundwater extraction system. During operation of EW1, less contaminated water from downgradient is drawn past the P17 nest to the extraction well. When this flow ceases and natural groundwater flow is reestablished, concentrations may rebound slightly at this location, before again decreasing with the establishment of aerobic conditions.

In general, a notable increase in contaminant concentrations following the temporary removal from service of the pump and treat system at the downgradient off-site monitoring locations will prompt re-sampling of suspect well(s) within a period of two months, providing the increase is above the Wisconsin Administrative Code Chapter NR 140 PAL. If the re-sampling confirms the initial increase and the increase can reasonably be attributed to the temporary cessation of the pump and treat system, restarting of the pump and treat system will be considered after consultation with the USEPA and WDNR.

PHL/phl/djh/DJB
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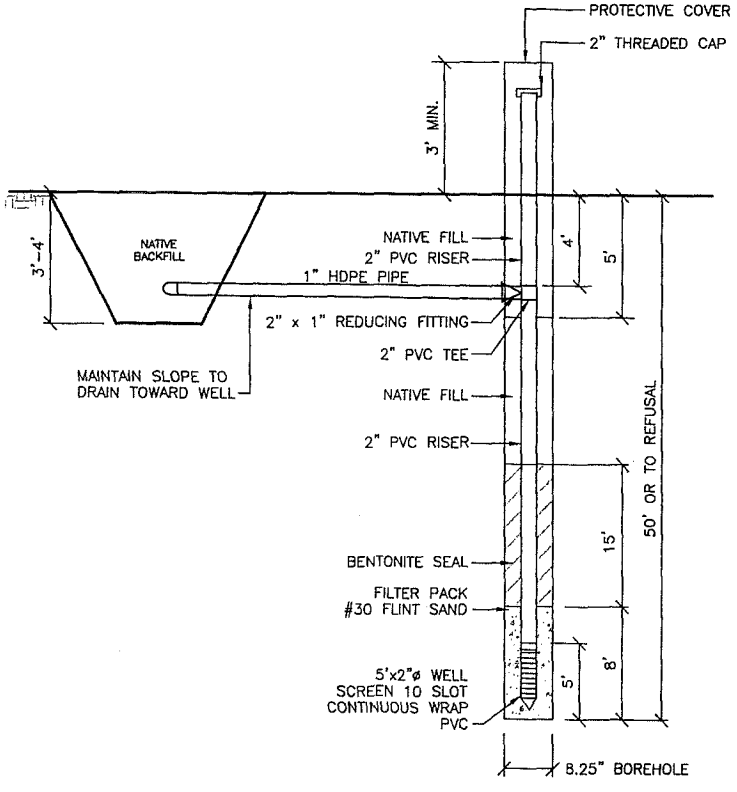
2081104.01090173-MAD-1

TABLES

FIGURES

A

BORING LOGS



AS POINT AND TRENCH DETAIL (6 TYP.)

NOT TO SCALE

FIGURE 1

QUALITY CONTROL					
Graphic Standards	DLF	12-20-00	Technical Review	CRM	11-6-00
Lead Professional	PHL	12-20-00	Project Manager	DJB	12-21-00

Management Review
Other

This document has been developed for a specific application and may not be used without the written approval of Montgomery Watson.

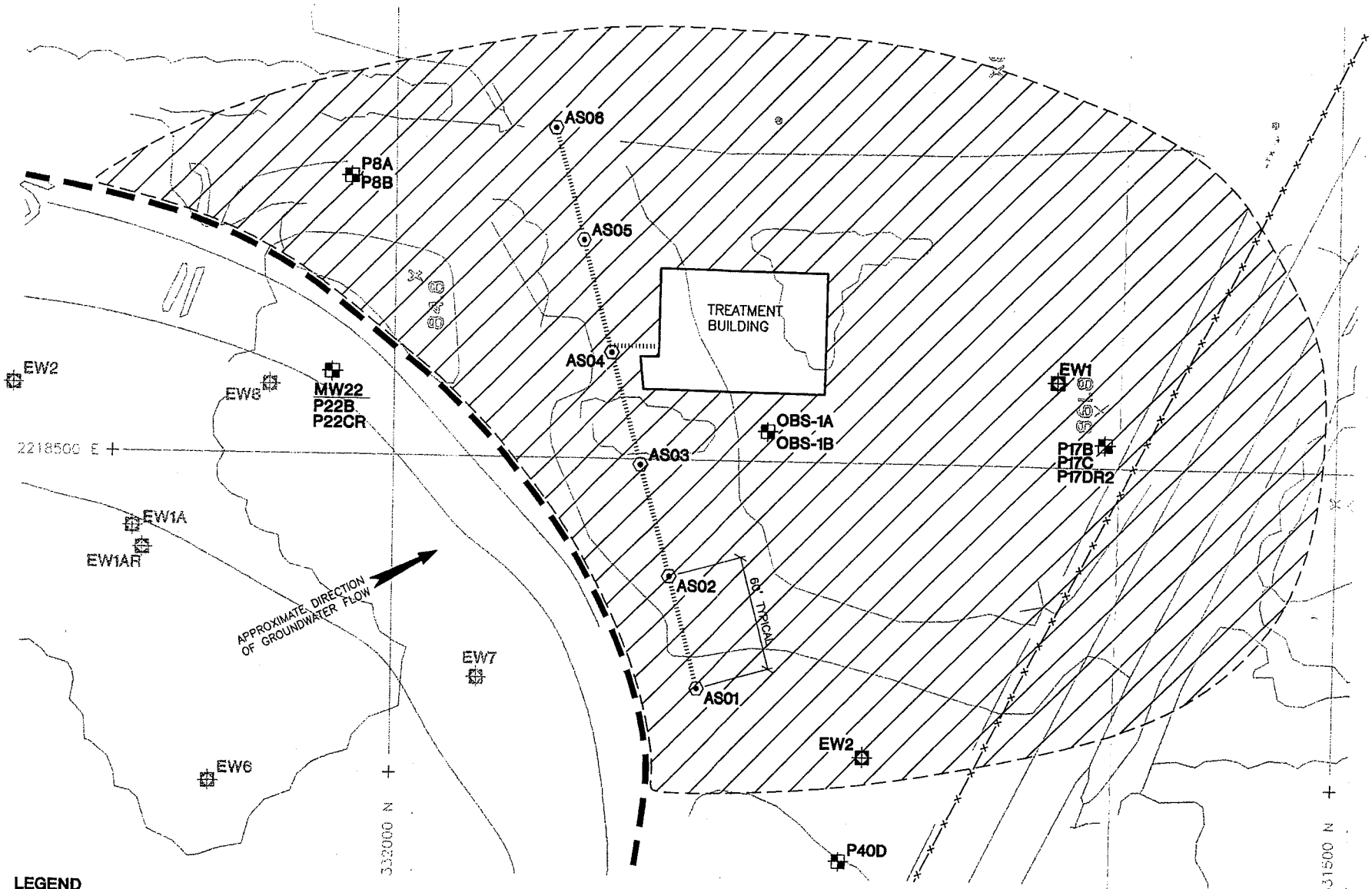
Developed By PHL
Drawn By DLF,LCL
Approved By
Date 12-22-00
Reference
Revisions

A8 POINT AND TRENCH DETAIL (6 TYP.)

AIR SPARGE SYSTEM
HAGEN FARM SUPERFUND SITE
TOWN OF DUNKIRK, WISCONSIN

Drawing Number
2081101
02160101 **B1**

MONTGOMERY WATSON



LEGEND

891.3X	SPOT ELEVATION
—x—x—x—	FENCE
▬ ▬ ▬	APPROX. LIMITS OF REFUSE
EW1	EXTRACTION WELL LOCATION AND NUMBER
MW19	MONITORING WELL LOCATION AND NUMBER
MW32 P32B	MONITORING WELL NEST LOCATION AND NUMBER
OBS-1A OBS-1B	OBSERVATION WELL LOCATION AND NUMBER
AS01	AIR SPARGE POINT LOCATION AND NUMBER
·····	TRENCH LOCATIONS
	APPROXIMATE EXTENT OF ANAEROBIC ZONE

NOTE

BASE MAP DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY AEROMETRIC ENGINEERING INC., DATED APRIL 18, 1990.

north

0 50 100

SCALE IN FEET

FIGURE 2

Developed By PHL Drawn By LCL

Approved By [signature] Date 12-22-00

Reference 1242099-01090173-B1

Revisions

AIR SPARGE SYSTEM LAYOUT

AIR SPARGE SYSTEM
HAGEN FARM SUPERFUND SITE
TOWN OF DUNKIRK, WISCONSIN

Drawing Number
2081101
02160101 B2

MONTGOMERY WATSON

QUALITY CONTROL

Graphic Standards DLF 12-20-00
Lead Professional PHL 12-20-00

Technical Review
Project Manager DJB 12-21-00

Management Review
Other

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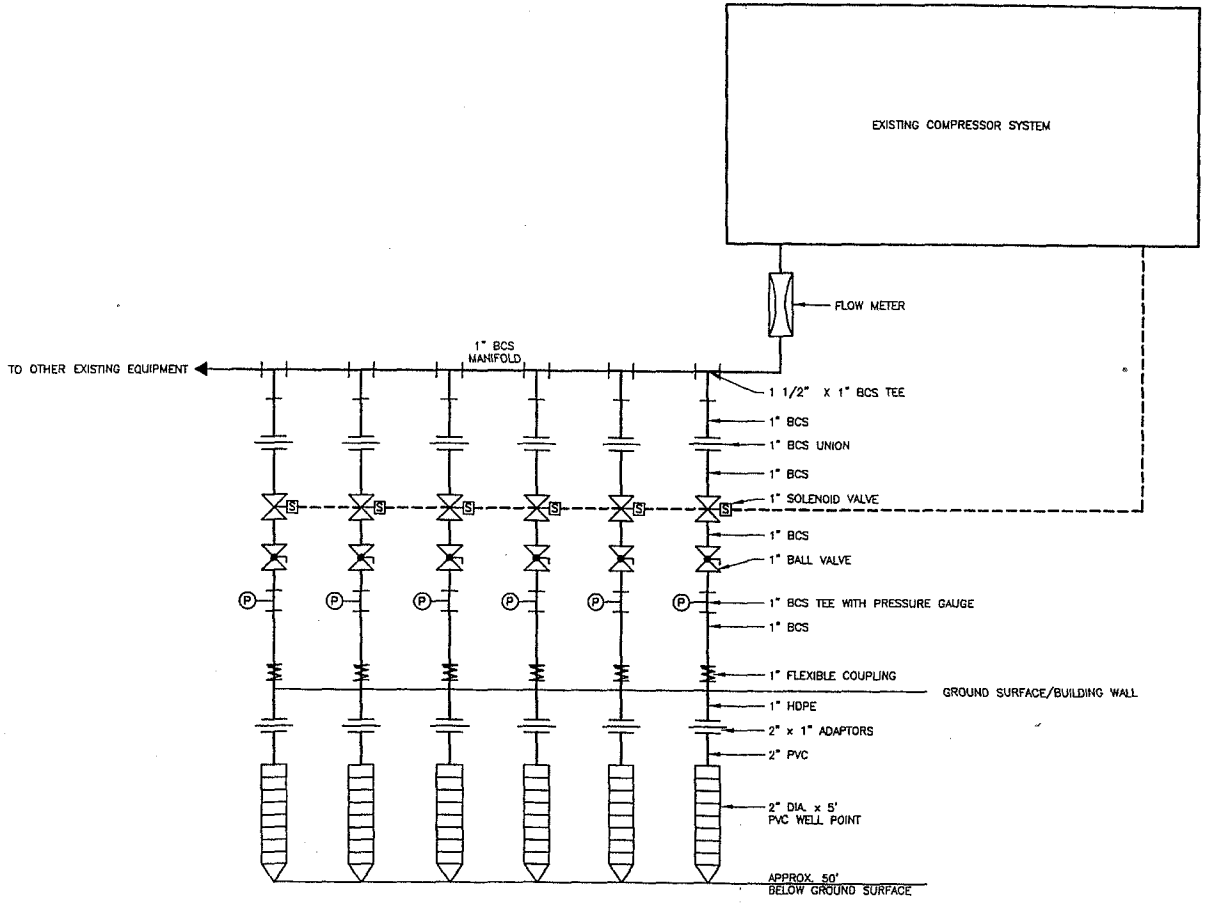


AIR SPARGING PROCESS FLOW DIAGRAM

NOT TO SCALE

FIGURE 3

QUALITY CONTROL	Graphic Standards DLF 12-20-00	Technical Review CRM 11-6-00	Management Review
	Lead Professional PHL 12-20-00	Project Manager DJB 12-21-00	Other

This document has been developed for a specific application and may not be used without the written approval of Montgomery Watson.

Developed By PHL Drawn By DLF, LCL

Approved By Date 12-22-00

Reference

Revisions

AIR SPARGING PROCESS FLOW DIAGRAM

AIR SPARGE SYSTEM
HAGEN FARM SUPERFUND SITE
TOWN OF DUNKIRK, WISCONSIN

Drawing Number
2081101
02160101 B3

MONTGOMERY WATSON

MONTGOMERY WATSON

FIELD BORING LOG

ty/Project Name	HAGEN FARM	Boring No.	AS1
ion	TOWN OF DUNKIRK, WI	Project No.	20E1101.5216.01

ng Company	BADGER STATE DRILLING INC.	State Plane	N, E
's Name	KEVIN McCUMPER		☐ N ☐ E
ig	DIEDRICH D-120	Local Grid Location	ft ☐ S ft ☐ W
Method	4 X 4 IN HSA BLIND DRILLED 0 to 45'	____ 1/4 of ____ 1/4 of Section ____, T ____ N,R ____ E/W	
r Level		Sample Hammer Torque	Surface Elevation
		Borehole Diameter at Screen	9.5 in

Logger: T. MARCH Editor:
Start Date: 12/4/00 End Date: 12/4/00

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
					BORING BLIND DRILLED 0 TO 45 FT		0		
					5				
					10				
					15				
					20				
					25				
					30				
					35				

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. ASL

Project No. [illegible]

Sample No.	Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
								0		
						40	40			
						45	45			
						END OF BORING AT 48 FT.				
						50 ASL INSTALLED AT 47.5 FT.	50			
						55	55			
						60	60			
						65	65			
						70	70			
						75	75			

ITGOMERY
/ATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO.

Project Name EN FARM J OF DUNKIRK	Local Grid Location of Well ft. ☐ N. ☐ S. ft. ☐ E. ☐ W.	Well Name AS1
Well Water Table Observation Well ☐ Piezometer ☐ AIR SPARGE ☒	Grid Origin Location Lat. _____ Long. _____ or St. Plane ft. N, ft. E. Section Location of Waste/Source ☐ E. ☐ W.	Date Well Installed 12/4/00 Well Installed By: (Person's Name and Firm) (Geologist) T. MARCH - MONTGOMERY WATSON
Well Is From Waste/Source Boundary ft.	Location of Well Relative to Waste/Source ☐ Upgradient ☐ Sidegradient ☒ Downgradient ☐ Not Known	(Driller) K. McCUMBER - BADGER STATE DRILLING

e pipe, top elevation _____ ft. MSL

ing top elevation _____ ft. MSL

face elevation _____ ft. MSL

Seal, bottom _____ ft. MSL or _____ ft.

CS classification of soil near screen:
☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
rock ☒

e analysis attached? ☐ Yes ☒ No

ng method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

ng fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

ng additives used? ☐ Yes ☒ No

ribe _____

ce of water: CITY OF STOUGHTON

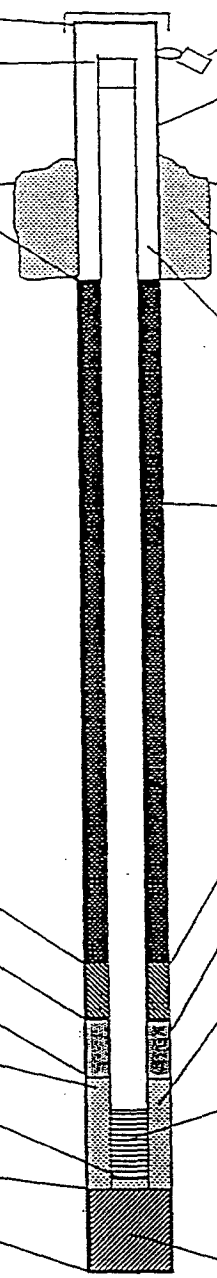
	ELEVATION	DEPTH
onite seal, top	ft. MSL or	35.0 ft.
sand, top	ft. MSL or	37.1 ft.
pack, top	ft. MSL or	38.0 ft.
n joint, top	ft. MSL or	42.5 ft.
bottom	ft. MSL or	47.5 ft.
pack, bottom	ft. MSL or	48.0 ft.
ole, bottom	ft. MSL or	48.0 ft.

ole, diameter 8.5 in.

well casing 2.38 in.

ell casing 2.05 in.

T.D = 50.3
S.U = 2.8
47.5



Cap and lock? ☐ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.2 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☒ No
If yes, describe: _____

Surface seal: Bentonite ☐ Concrete ☐ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☐

Annular space seal: Granular Bentonite ☐
_____ Lbs/gal mud weight... Bentonite-sand slurry ☐
_____ Lbs/gal mud weight..... Bentonite slurry ☐
15 % Bentonite..... Bentonite-cement grout ☒
10 cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☒ Gravity ☐

Bentonite seal: Bentonite granules ☒ Bentonite pellets ☐ Other ☐
☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA, #45-55
Volume added 0.3 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA #30
Volume added 3.4 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

rtify that the information on this form is true and correct to the best of my knowlege.

Firm MONTGOMERY WATSON

MONTGOMERY WATSON

FIELD BORING LOG

y/Project Name	HAGEN FARM SITE
on	TOWN OF DUNKIRK WI
Boring No.	152
Project No.	[illegible]

g Company/	EAGLE STATE DRILLING INC
s Name	KEVIN MC CUMBER
Rig	DIEDRICH D-120
ill Method	4 1/4 IN HSA BLIND DRILL 0 TO
ater Level	
Sample Hammer Torque	
State Plane	N, E
Local Grid Location	ft ☐ N ☐ S ft ☐ E ☐ W
1/4 of 1/4 of Section , T N,R E/W	
Surface Elevation	
Borehole Diameter at Screen	8.5 IN
Logger	T. MARCH
Start Date	12/5/00
Editor	
End Date	12/5/00

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
					BORING BLIND DRILLED 0 TO 42 FT		0		
					5				
					10				
					15				
					20				
					25				
					30				
					35				

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. AS2

Project No. 2021101.02165

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
					40		0		
					45				
					END OF BORING @ 49 FT				
					50 AS INSTALLED @ 47.5 FT				
					55				
					60				
					65				
					70				
					75				

MONTGOMERY WATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. 208112.02.02

City/Project Name: GEN FARM, N OF DUNKIRK WI

Local Grid Location of Well: ☐ N. ft. ☐ S. ft. ☐ E. ☐ W.

Well Name: AS 2

Well: Water Table Observation Well ☐ Piezometer ☐ Air Sparge ☒

Grid Origin Location: Lat. ____ Long. ____ or St. Plane ft. N. ft. E.

Date Well Installed: 12/5/00

Section Location of Waste/Source: ☐ E. ☐ W.

Well Installed By: (Person's Name and Firm)

(Geologist) T. MARCH - MONTGOMERY WATSON

(Driller) K. McCUMBER - BADGER SOIL DRILLING

Distance Well Is From Waste/Source Boundary: ____ ft.

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☒ Downgradient ☐ Not Known

Protective pipe, top elevation ____ ft. MSL

Casing top elevation ____ ft. MSL

Surface elevation ____ ft. MSL

Surface Seal, bottom ____ ft. MSL or ____ ft.

USCS classification of soil near screen:
☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

Sieve analysis attached? ☐ Yes ☒ No

Drilling method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

Drilling fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

Drilling additives used? ☐ Yes ☒ No

Describe ____

Source of water: CITY OF STOUGHTON

	ELEVATION	DEPTH
Bentonite seal, top	____ ft. MSL or	34.6 ft.
Fine sand, top	____ ft. MSL or	37.2 ft.
Filter pack, top	____ ft. MSL or	38.0 ft.
Screen joint, top	____ ft. MSL or	42.5 ft.
Well bottom	____ ft. MSL or	47.5 ft.
Filter pack, bottom	____ ft. MSL or	48.0 ft.
Borehole, bottom	____ ft. MSL or	48.0 ft.

Borehole, diameter 8.5 in.

O.D. well casing 2.38 in.

I.D. well casing 2.05 in.

TD = 49.9
SU = 2.4
47.5

Cap and lock? ☒ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.5 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☒ No
If yes, describe: ____

Surface seal: Bentonite ☐ Concrete ☐ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☒

Annular space seal: Granular Bentonite ☐
____ Lbs/gal mud weight... Bentonite-sand slurry ☐
____ Lbs/gal mud weight..... Bentonite slurry ☐
15 % Bentonite..... Bentonite-cement grout ☒
10 cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☒ Gravity ☐

Bentonite seal: ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.
Bentonite granules ☒ Bentonite pellets ☐ Other ☐

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA #45-55
Volume added 0.3 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA #30
Volume added 3.4 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowlege.

Signature ____ Firm ____

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. AS3

Project No. 2021101.0216010

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
							0		
					40	40			
					45	45			
					END OF BORING AT 45 FT.				
					AS3 INSTALLED AT 44.5 FT				
					50	50			
					55	55			
					60	60			
					65	65			
					70	70			
					75	75			

ITTGOMERY
VATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. 2021-[illegible]

y/Project Name
GEN FARM
N OF DUNKIRK

Local Grid Location of Well
☐ N. ft. ☐ S. ☐ E. ft. ☐ W.

Well Name
AS3

Well
Water Table Observation Well ☐
Piezometer ☐
AIR SPARGE ☒

Grid Origin Location
Lat. _____ Long. _____ or
St. Plane ft. N, ft. E.

Date Well Installed
12/5/00

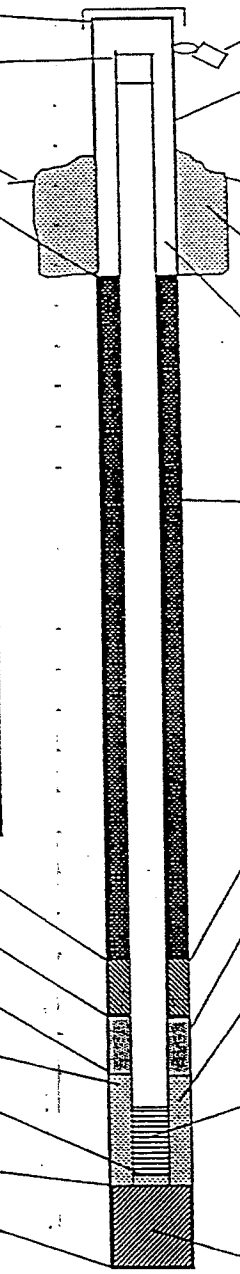
Section Location of Waste/Source ☐ E. ☐ W.

Well Installed By: (Person's Name and Firm)
(Geologist) T. MARCH - MONTGOMERY WATSON
(Driller) K. McCUMBER - BADGER STATE

e Well Is From Waste/Source Boundary ft.

Location of Well Relative to Waste/Source
☐ Upgradient ☐ Sidegradient
☒ Downgradient ☐ Not Known

ve pipe, top elevation _____ ft. MSL
casing top elevation _____ ft. MSL
rface elevation _____ ft. MSL
ce Seal, bottom _____ ft. MSL or _____ ft.



Cap and lock? ☒ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.8 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☒ No
If yes, describe: _____

Surface seal: Bentonite ☐ Concrete ☐ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☐

Annular space seal: Granular Bentonite ☐
_____ Lbs/gal mud weight... Bentonite-sand slurry ☐
_____ Lbs/gal mud weight..... Bentonite slurry ☐
15 % Bentonite..... Bentonite-cement grout ☒
3.5 cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☒ Gravity ☐

Bentonite seal: Bentonite granules ☒ Bentonite pellets ☐ Other ☐
☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA, #45-55
Volume added 10.3 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA, #30
Volume added 3.2 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

SCS classification of soil near screen:
☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
drock ☒

Sieve analysis attached? ☐ Yes ☒ No

illing method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

illing fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

Drilling additives used? ☐ Yes ☒ No

escribe _____

ource of water:
CITY OF STOUGHTON

	ELEVATION	DEPTH
ntonite seal, top	_____ ft. MSL or	31.3 ft.
Fine sand, top	_____ ft. MSL or	34.8 ft.
ter pack, top	_____ ft. MSL or	35.6 ft.
Screen joint, top	_____ ft. MSL or	39.5 ft.
ell bottom	_____ ft. MSL or	44.5 ft.
Filter pack, bottom	_____ ft. MSL or	45.0 ft.
rehole, bottom	_____ ft. MSL or	45.0 ft.

Borehole, diameter 8.5 in.
D. well casing 2.38 in.
I.D. well casing 2.05 in.

y certify that the information on this form is true and correct to the best of my knowlege.

ature _____ Firm

MONTGOMERY WATSON

FIELD BORING LOG

/Project Name: HAGEN FARM SITE
on: TOWN OF DUNKIRK, WI

Boring No.: AS4
Project No.: [illegible]

Company: BADGER STATE DRILLING, INC.
Name: KEVIN McCUMBER
g: DIEDRICH D-120
ethod: 4¼ IN HSA BLIND DRILL 0 TO 49.5'

State Plane: N, E
Local Grid Location: ft ☐ N ☐ S ft ☐ E ☐ W
1/4 of 1/4 of Section , T N,R E/W
Surface Elevation:
Borehole Diameter at Screen: 8.5 IN

Level:
Sample Hammer Torque:

Logger: T. MARSH
Start Date: 12/5/00
Editor:
End Date: 12/5/00

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
					BORING BLIND DRILLED 0 TO 49.5 FT		0		
					5		5		
					10		10		
					15		15		
					20		20		
					25		25		
					30		30		
					35		35		

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. AS4

Project No. 2031101.02160101

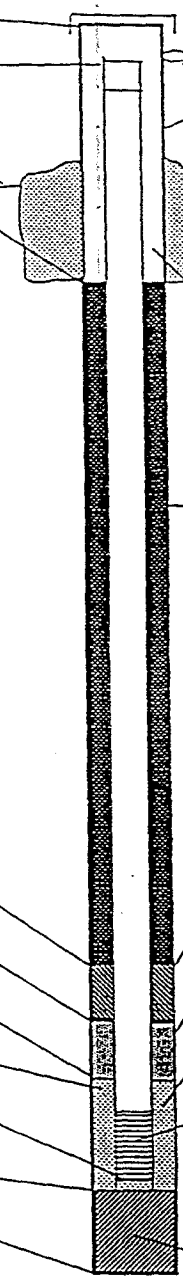
Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
							0		
					40	40			
					45	45			
					50 END OF BORING AT 49.5 FT. AS4 INSTALLED AT 49.0 FT.	50			
					55	55			
					60	60			
					65	65			
					70	70			
					75	75			

TGOMERY
ATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. 208110.1.5216.1.

roject Name EN FARM J OF DUNKIRK	Local Grid Location of Well ☐ N. ☐ E. ft. ☐ S. ft. ☐ W.	Well Name AS4
Vell Water Table Observation Well ☐ Piezometer ☐ AIR SPARGE ☒	Grid Origin Location Lat. _____ Long. _____ or St. Plane ft. N. ft. E.	Date Well Installed 12/6/00
	Section Location of Waste/Source ☐ E. ☐ W.	Well Installed By: (Person's Name and Firm) (Geologist) T. MARCH - MONTGOMERY WATSON
Well Is From Waste/Source Boundary ft.	Location of Well Relative to Waste/Source ☐ Upgradient ☐ Sidegradient ☒ Downgradient ☐ Not Known	(Driller) K. McCUMBER - BADGER STATE



pipe, top elevation _____ ft. MSL

ng top elevation _____ ft. MSL

ace elevation _____ ft. MSL

eal, bottom _____ ft. MSL or _____ ft.

S classification of soil near screen:
☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
ck ☒

analysis attached? ☐ Yes ☒ No

g method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

g fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

g additives used? ☐ Yes ☒ No

be _____

e of water:
ITY OF STOUGHTON

	ELEVATION	DEPTH
ite seal, top	____ ft. MSL or	36.1 ft.
ind, top	____ ft. MSL or	39.6 ft.
ack, top	____ ft. MSL or	40.4 ft.
joint, top	____ ft. MSL or	44.0 ft.
ttom	____ ft. MSL or	49.0 ft.
ack, bottom	____ ft. MSL or	49.5 ft.
e, bottom	____ ft. MSL or	49.5 ft.

e, diameter 8.5 in.

ll casing 2.38 in.

casing 2.05 in.

Cap and lock? ☐ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.9 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☒ No
If yes, describe: _____

Surface seal: Bentonite ☐ Concrete ☐ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☐

Annular space seal: Granular Bentonite ☐
_____ Lbs/gal mud weight... Bentonite-sand slurry ☐
_____ Lbs/gal mud weight..... Bentonite slurry ☐
15 % Bentonite..... Bentonite-cement grout ☒
10 cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☒ Gravity ☐

Bentonite seal: Bentonite granules ☒ Bentonite pellets ☐ Other ☐
☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA #45-55
Volume added 0.3 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA #30
Volume added 3.1 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

fy that the information on this form is true and correct to the best of my knowlege.

Terry A March | Firm

MONTGOMERY WATSON

FIELD BORING LOG

ty/Project Name: HAGEN FARM SITE
ion: TOWN OF DUNKIRK, WI

Boring No.: A55
Project No.: [illegible]

illing Company: BADGER STATE DRILLING, INC.
r's Name: KEVIN McCUMBER
Rig: DIEDRICH D-120
rill Method: 4¼ IN HSA BLIND DRILL 0 TO '

State Plane: N, E
Local Grid Location: ft ☐ N ☐ S ft ☐ E ☐ W
1/4 of 1/4 of Section , T N,R E/W
Surface Elevation:

Water Level:
Sample Hammer Torque:
Borehole Diameter at Screen: 8.5 IN

Logger: T. MARCH
Start Date: 12/6/00
Editor:
End Date: 12/6/00

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
					BORING BLIND DRILLED 0 TO 42.5 FT.		0		
					5		5		
					10		10		
					15		15		
					20		20		
					25		25		
					30		30		
					35		35		

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. AS5

Project No. 5051101.0216.015

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
							0		
					40	40			
					END OF BORING AT 42.5 FT				
					AS5 INSTALLED AT 41.5 FT				
					45	45			
					50	50			
					55	55			
					60	60			
					65	65			
					70	70			
					75	75			

NTGOMERY WATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. [illegible]

cility/Project Name	Local Grid Location of Well ☐ N. ft. ☐ S. ft. ☐ E. ☐ W.	Well Name: A55
pe of Well: Water Table Observation Well ☐ Piezometer ☐ Air Sparge ☒	Grid Origin Location: Lat. ____ Long. ____ or St. Plane ft. N, ft. E.	Date Well Installed: 12/6/00
	Section Location of Waste/Source ☐ E. ☐ W.	Well Installed By: (Person's Name and Firm)
nce Well Is From Waste/Source Boundary ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☒ Downgradient ☐ Not Known	(Geologist) T. March - Montgomery Watson
		(Driller) K. McCumber - Badger State

ctive pipe, top elevation ____ ft. MSL

ell casing top elevation ____ ft. MSL

surface elevation ____ ft. MSL

rface Seal, bottom ____ ft. MSL or ____ ft.

USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

Sieve analysis attached? ☐ Yes ☒ No

rilling method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

rilling fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

Drilling additives used? ☐ Yes ☒ No

Describe ____

ource of water: City of Stoughton

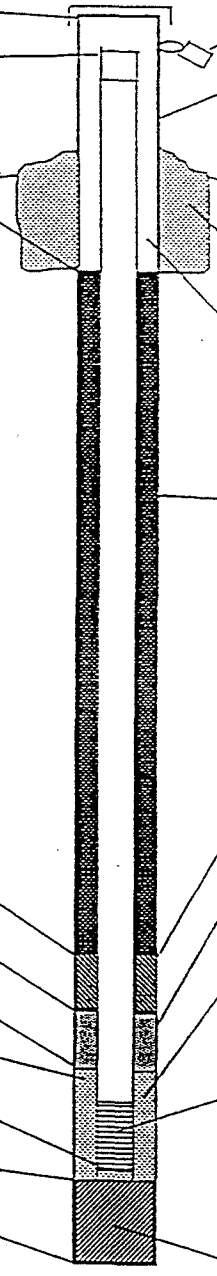
	ELEVATION	DEPTH
entonite seal, top	____ ft. MSL or	28.5 ft.
Fine sand, top	____ ft. MSL or	31.9 ft.
lter pack, top	____ ft. MSL or	33.0 ft.
Screen joint, top	____ ft. MSL or	36.4 ft.
ell bottom	____ ft. MSL or	41.4 ft.
Filter pack, bottom	____ ft. MSL or	42.5 ft.
rehole, bottom	____ ft. MSL or	42.5 ft.

Borehole, diameter 8.5 in.

D. well casing 2.38 in.

D. well casing 2.05 in.

T.D = 44.3
S.U = 2.9
41.4



Cap and lock? ☒ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.3 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☐ No
If yes, describe: ____

Surface seal: Bentonite ☐ Concrete ☐ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☐

Annular space seal: Granular Bentonite ☐
____ Lbs/gal mud weight... Bentonite-sand slurry ☐
____ Lbs/gal mud weight..... Bentonite slurry ☐
15 % Bentonite..... Bentonite-cement grout ☒
____ cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐

Bentonite seal: Bentonite granules ☒ Bentonite pellets ☐ Other ☐
☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.

Fine sand material: Manufacturer, product name & mesh size
Badger Mining Silica #45-55
Volume added 0.3 cu ft

Filter pack material: Manufacturer, product name & mesh size
Badger Mining, Silica, #30
Volume added 3.2 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC Schedule 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer Monoflex
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

y certify that the information on this form is true and correct to the best of my knowlege.

ature ____ Firm ____

MONTGOMERY WATSON

FIELD BORING LOG

/Project Name	HASEN FARM	Boring No.	A56
on	TOWN OF DUNKIRK WI	Project No.	2SEH01.5260

Company	BADGER STATE DRILLING	State Plane	N, E
s Name	KEVIN McCUNKER	Local Grid Location	ft ☐ N ☐ S ft ☐ E ☐ W
g	DIEDRICH D-120		
ethod	4 1/4 IN HSA BLIND DRILL TO	____ 1/4 of ____ 1/4 of Section ____, T ____ N,R ____ E/W	
Level	Sample Hammer Torque	Surface Elevation	Borehole Diameter at Screen 8.5 IN

Logger T. MARCH Editor

Start Date 12/6/00 End Date 12/6/00

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
					BORING BLIND DRILLED 0 TO 45 FT		0		
					5				
					10				
					15				
					20				
					25				
					30				
					35				

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. AS6

Project No. 2031101.02162131

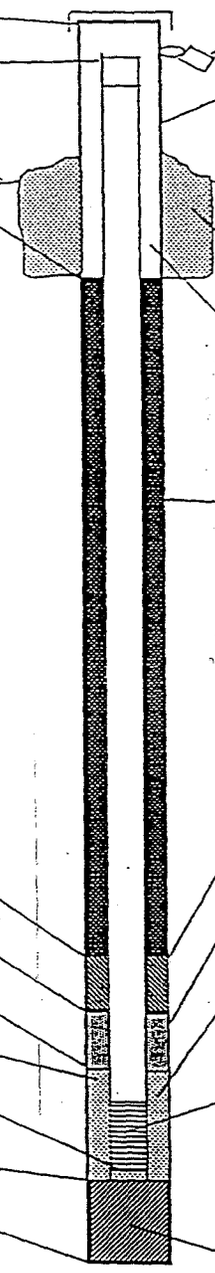
Sample No.	Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
								0		
						40	40			
						45	45			
						END OF BORING AT 45 FT. AS6 INSTALLED AT 44.7 FT.				
						50	50			
						55	55			
						60	60			
						65	65			
						70	70			
						75	75			

NTGOMERY
WATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. 2021101.0216010

Project Name: EEN FARM ON OF DUNKIRK	Local Grid Location of Well: ☐ N. ft. ☐ S. ☐ E. ft. ☐ W.	Well Name: AS6
Well: Water Table Observation Well ☐ Piezometer ☐ AIR SPARGE ☒	Grid Origin Location: Lat. ____ Long. ____ or St. Plane ft. N, ft. E.	Date Well Installed: 12/6/00
	Section Location of Waste/Source: ☐ E. ☐ W.	Well Installed By: (Person's Name and Firm)
e Well Is From Waste/Source Boundary ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☒ Downgradient ☐ Not Known	(Geologist) T. MARCH - MONTGOMERY WATSON (Driller) K. McCUMBER - BADGER STATE



ve pipe, top elevation ____ ft. MSL

sing top elevation ____ ft. MSL

face elevation ____ ft. MSL

Seal, bottom ____ ft. MSL or ____ ft.

CS classification of soil near screen:
☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
rock ☒

e analysis attached? ☐ Yes ☒ No

ng method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

ng fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

ng additives used? ☐ Yes ☒ No

ribe ____

e of water: CITY OF STOUGHTON

	ELEVATION	DEPTH
nite seal, top	____ ft. MSL or	31.1 ft.
and, top	____ ft. MSL or	34.7 ft.
pack, top	____ ft. MSL or	35.8 ft.
n joint, top	____ ft. MSL or	39.4 ft.
ottom	____ ft. MSL or	44.4 ft.
ack, bottom	____ ft. MSL or	45.0 ft.
le, bottom	____ ft. MSL or	45.0 ft.

le, diameter 8.5 in.

ell casing 2.38 in.

l casing 2.05 in.

Cap and lock? ☒ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.8 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☐ No
If yes, describe: ____

Surface seal: Bentonite ☐ Concrete ☐ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☐

Annular space seal: Granular Bentonite ☐
____ Lbs/gal mud weight... Bentonite-sand slurry ☐
____ Lbs/gal mud weight..... Bentonite slurry ☐
15 % Bentonite..... Bentonite-cement grout ☒
8.5 cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☒ Gravity ☐

Bentonite seal: Bentonite granules ☒ Bentonite pellets ☐ Other ☐
☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA #45-55
Volume added 0.3 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA #30
Volume added 3.0 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

ify that the information on this form is true and correct to the best of my knowlege.

Terry A Sm... | Firm

MONTGOMERY WATSON

FIELD BORING LOG

Company/Project Name	HAGEN FARM SITE
Location	TOWN OF KUNKIRK WI
Boring No.	OBS-1A
Project No.	[illegible]
Drilling Company	BADGER STATE DRILLING INC
Driller's Name	KEVIN MCCUMBER
Drill Rig	DIEDRICH D-120
Drill Method	4¼ IN HSA BLIND DRILL
Water Level	9.0
Sample Hammer Torque	
State Plane	N, E
Local Grid Location	ft ☐ N ☐ S ft ☐ E ☐ W
1/4 of 1/4 of Section , T N,R E/W	
Surface Elevation	
Borehole Diameter at Screen	3.5 IN
Logger	T. MARCH
Editor	
Start Date	12/4/00
End Date	12/4/00

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
M					BORING BLIND DRILLED 0 - 15 FT		0		
					SEE BORING LOG OBS-1B FOR				
					SOIL DESCRIPTIONS 0 - 15 FT				
					5				
					10				
W									
					15				
					END OF BORING AT 15 FT				
					20 OBS-1A WETTED AT 7.8 FT.				
					25				
					30				
					35				

ITGOMERY
VATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO.

Project Name: EN FIRM / CE LUNKTA, WI

Local Grid Location of Well: ☐ N. ft. ☐ S. ☐ E. ft. ☐ W.

Well Name: OBS-1A

Well: Water Table Observation Well ☒ Piezometer ☐

Grid Origin Location: Lat. _____ Long. _____ or St. Plane ft. N, ft. E.

Date Well Installed: 12/4/00

Section Location of Waste/Source: ☐ E. ☐ W.

Well Installed By: (Person's Name and Firm)

(Geologist) T. MARON - MONTGOMERY WATSON

(Driller) K. McCUNEY - BADGER STATE

e Well Is From Waste/Source Boundary ft.

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☐ Not Known

re pipe, top elevation _____ ft. MSL

sing top elevation _____ ft. MSL

face elevation _____ ft. MSL

Seal, bottom _____ ft. MSL or 2.5 ft.

CS classification of soil near screen:
☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
rock ☐

e analysis attached? ☒ Yes ☐ No

ng method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

ng fluid used: Water ☐ Air ☐ Drilling Mud ☐ None ☒

ng additives used? ☐ Yes ☒ No

ribe _____

ce of water:

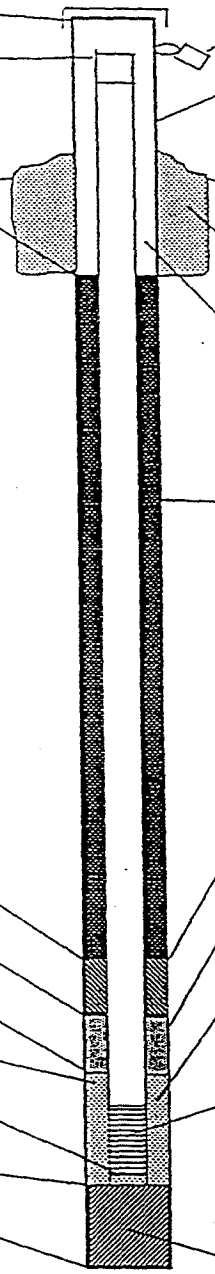
	ELEVATION		DEPTH	
onite seal, top	_____	ft. MSL or	2.5	ft.
sand, top	_____	ft. MSL or	4.9	ft.
pack, top	_____	ft. MSL or	5.4	ft.
n joint, top	_____	ft. MSL or	7.5	ft.
ottom	_____	ft. MSL or	17.8	ft.
back, bottom	_____	ft. MSL or	18.0	ft.
ole, bottom	_____	ft. MSL or	18.0	ft.

ole, diameter 8.5 in.

vell casing 2.30 in.

ell casing 2.05 in.

T.D = 20.3
S.U. = 2.5
17.8



Cap and lock? ☒ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.9 in.
Length: 5.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☒ No
If yes, describe: _____

Surface seal: Bentonite ☐ Concrete ☒ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☒ FILTER SAND

Annular space seal: NONE Granular Bentonite ☐
_____ Lbs/gal mud weight... Bentonite-sand slurry ☐
_____ Lbs/gal mud weight..... Bentonite slurry ☐
_____ % Bentonite..... Bentonite-cement grout ☐
_____ cu ft volume added for any of the above

How installed: Tremie ☒ Tremie pumped ☐ Gravity ☐

Bentonite seal: ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite granules ☒ Bentonite pellets ☐ Other ☐

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA, #45-55
Volume added 0.2 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA, #30
Volume added 4.3 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐

Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 9.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

tify that the information on this form is true and correct to the best of my knowlege.

Tom Maron | Firm

MONTGOMERY WATSON

FIELD BORING LOG

Company/Project Name	HUGHES FARM SITE
Location	TOWN OF DUNKIRK WI
Boring No.	OBS-13
Project No.	2021101.22[illegible]
Drilling Company	SADGER STATE DRILLING
Driller's Name	KEVIN MCCUMBER
Drill Rig	DIETRICH D-120
Drill Method	4 1/4 IN HSA 0 TO
Water Level	9.0
Sample Hammer Torque	
State Plane	N, E
Local Grid Location	ft N/S, ft E/W
1/4 of 1/4 of Section , T N,R E/W	
Surface Elevation	
Borehole Diameter at Screen	8.5 IN
Logger	T. MARCH
Start Date	12/4/00
Editor	
End Date	12/1/00

Sample No.	Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	Depth	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
	N								0		
							VERY SOFT BROWN LEAN CLAY (FILL)		1		
			6								
1		9	16	24	24	5		3.5			
		12									
	1						SOFT, BROWN LEAN CLAY, SOME FINE SAND, SOME FINE GRAVEL (FILL)				
	↓		4					2.5			
	W	6	15	2	21	10					
	1	17									
	1										
			12				DENSE, YELLOW BROWN, FINE TO COARSE SAND, SOME FINE TO COARSE GRAVEL LITTLE SILT (SP)				
2		24	17	11	41	15					
		30									
			2								
4		4	2	18	13	20					
		20									
			40	11			VERY DENSE YELLOW BROWN, FINE TO MEDIUM SAND, LITTLE SILT (SP) LITTLE FINE GRAVEL				
		50/5"				25					
			12								
		18	24	16	42	30					
		24									
	1		16								
	↓	20	27	16	47	35	SEE PAGE 2		↓		

MONTGOMERY WATSON

FIELD BORING LOG

Boring No. DSB-1B
Project No. 2-521101.02[illegible]

Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
W	31				3 REDDISH BROWN, FINE TO COARSE SAND [illegible]		0		
					[illegible]				
					[illegible]				
		100/3"	3	[illegible]					
					40	40			
					HARD, REDDISH BROWN, FINE SANDSTONE				
W		100/3"	1	[illegible]			↓		
					END OF BORING AT 40 FT.				
					45 DES-1B INSTALLED A — 43.5 FT.	45			
					50	50			
					55	55			
					60	60			
					65	65			
					70	70			
					75	75			

MONTGOMERY WATSON

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. [illegible]

Facility/Project Name: LAGEN FARM SITE N OF DUNKIRK WI	Local Grid Location of Well: ☐ N. ft. ☐ S. ft. ☐ E. ☐ W.	Well Name: OSB-1B
Type of Well: Water Table Observation Well ☐ Piezometer ☒	Grid Origin Location: Lat. ____ Long. ____ or St. Plane ft. N, ft. E.	Date Well Installed: 12/4/00
	Section Location of Waste/Source: ☐ E. ☐ W.	Well Installed By: (Person's Name and Firm)
Distance Well Is From Waste/Source Boundary: ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☒ Downgradient ☐ Not Known	(Geologist) T. MARSH - MONTGOMERY WATSON (Driller) K. McCUMBER - BADGER STATE

Protective pipe, top elevation ____ ft. MSL

Well casing top elevation ____ ft. MSL

Surface elevation ____ ft. MSL

Surface Seal, bottom ____ ft. MSL or 2.5 ft.

SCS classification of soil near screen:
☐ P ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
☒ SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

Sieve analysis attached? ☒ Yes ☐ No

Drilling method used: Rotary ☐ Hollow Stem Auger ☒ Other ☐

Drilling fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

Drilling additives used? ☐ Yes ☒ No

Describe ____

Source of water: CITY OF STOUGHTON

	ELEVATION	DEPTH
Bentonite seal, top	____ ft. MSL or	2.5 ft.
Fine sand, top	____ ft. MSL or	34.9 ft.
Filter pack, top	____ ft. MSL or	36.0 ft.
Screen joint, top	____ ft. MSL or	38.5 ft.
Well bottom	____ ft. MSL or	43.5 ft.
Filter pack, bottom	____ ft. MSL or	44.0 ft.
Borehole, bottom	____ ft. MSL or	44.0 ft.

Borehole, diameter 8.5 in.

O.D. well casing 2.38 in.

I.D. well casing 2.05 in.

T.D = 45.2
S.U = 2.7
43.5

Cap and lock? ☒ Yes ☐ No

Protective cover pipe:
Inside diameter: 3.5 in.
Length: 7.0 ft.
Material: Steel ☒ Other ☐

Additional protection? ☐ Yes ☒ No
If yes, describe: ____

Surface seal: Bentonite ☐ Concrete ☒ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ☒ FILTER SAND

Annular space seal: Granular Bentonite ☒
____ Lbs/gal mud weight... Bentonite-sand slurry ☐
____ Lbs/gal mud weight..... Bentonite slurry ☐
____ % Bentonite..... Bentonite-cement grout ☐
11.0 cu ft volume added for any of the above
How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒

Bentonite seal: Bentonite granules ☒ Bentonite pellets ☐ Other ☐
☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in.

Fine sand material: Manufacturer, product name & mesh size
BADGER MINING SILICA #45-55
Volume added 0.2 cu ft

Filter pack material: Manufacturer, product name & mesh size
BADGER MINING SILICA #30
Volume added 2.7 cu ft

Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐

Screen material: PVC SCHEDULE 40
Screen type: Factory cut ☒ Continuous slot ☐ Other ☐
Manufacturer MONOFLEX
Slot size: .010 in.
Slotted length: 4.7 ft.

Backfill material (below filter pack): None ☒ Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowlege.

Signature ____ Firm ____

B

AUGUST 2000 TECHNICAL MEMORANDUM FOR REMEDIATION TECHNOLOGY MODIFICATIONS

HAGEN FARM
GROUNDWATER CONTROL OPERABLE UNIT

TECHNICAL MEMORANDUM
FOR
REMEDIATION TECHNOLOGY MODIFICATIONS
TOWN OF DUNKIRK, WISCONSIN

August 2000

Prepared For:
Waste Management
Westchester, Illinois
• • •
Prepared By:
Montgomery Watson
Madison, Wisconsin

Project No. 1242099.01090173

MONTGOMERY WATSON

August 21, 2000

Mike Peterson
Project Manager
Closed Sites Management Group - Midwest
Waste Management
W124 N9355 Boundary Road
Menomonee Falls, Wisconsin 53051

Re: Technical Memorandum
Hagen Farm Site
Groundwater Control Operable Unit

Dear Mike:

As requested, enclosed are five copies of the Technical Memorandum for the Hagen Farm Groundwater Control Operable Unit. This document justifies the proposed low flow air sparging system and summarizes its design.

It is our understanding that you will distribute it to the U.S. Environmental Protection Agency and Wisconsin Department of Natural Resources and schedule a meeting to discuss the proposed changes. If you have any questions in the meantime, feel free to contact us at (608) 231-4747.

Sincerely,

MONTGOMERY WATSON

Douglas J. Bach, P.E.
Project Manager

Enclosures: Technical Memorandum (5 copies)

DJB/vlr/CRM
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1242099.01090173-MAD-1

One Science Court
P.O. Box 5385
Madison, Wisconsin

Tel: 608 231 4747
Fax: 608 231 4777

HAGEN FARM
GROUNDWATER CONTROL OPERABLE UNIT

TECHNICAL MEMORANDUM
FOR
REMEDIATION TECHNOLOGY MODIFICATIONS
TOWN OF DUNKIRK, WISCONSIN

August 2000

Prepared by: _____ 8/21/00
Patrick H. Lytle — Date
Project Engineer

Approved by: _____ 8-21-00
Douglas J. Bach, P.E. — Date
Supervising Engineer

INTRODUCTION AND SITE DESCRIPTION

This Technical Memorandum provides justification and design information related to the installation of a low-flow *in-situ* air sparging system as the appropriate next phase in the remediation of groundwater at the Hagen Farm Site. A groundwater extraction system is currently in operation at the site, extracting water from downgradient of the source area, removing tetrahydrofuran (THF) and other volatile organic compounds (VOCs) via a biological treatment vessel, and reinjecting the treated water upgradient of the source area. Although effective at removing contaminant mass from groundwater and containing the most highly contaminated portion of the plume, this remediation method has become increasingly inefficient as groundwater concentrations have declined and the area of the plume has decreased. Furthermore, containment of the plume has become less critical as natural attenuation processes have greatly decreased contaminant concentrations downgradient from the source. The current groundwater extraction system, or groundwater control operable unit (GCOU) is complemented by the source control operable unit (SCOU), made up of a landfill cover and gas/vapor extraction system. The proposed low-flow air sparge system would also be complemented by the SCOU.

As documented in Annual Monitoring Reports, groundwater quality at the site continues to improve primarily through natural attenuation processes and source control. This improvement is documented in the isomass contour drawings shown in Figures 1 through 4. These drawings demonstrate the mass reduction of tetrahydrofuran (THF) at the site. Similar drawings have not been developed for subsequent rounds of the mass estimate due to the significantly lower concentrations of THF observed during those rounds.

THF has been the principal contaminant of concern driving groundwater remedial action. During the February 2000 groundwater monitoring event, THF concentrations exceeded the Wisconsin Administrative Code (WAC) Chapter NR 140 Enforcement Standard (ES) or Preventive Action Limit (PAL) at only one well, P7B, located well within the property line. The other ES exceedances for VOCs were all for vinyl chloride, which was observed at several wells. The highest off-site vinyl chloride concentration was 5 ug/L at P27B. The presence of vinyl chloride is attributed to the reductive dechlorination of chlorinated organic compounds (e.g., tetrachloroethylene) under the anaerobic conditions present within and beneath the SCOU. The breakdown of vinyl chloride, however, requires aerobic conditions.

This current proposal to modify the groundwater remedy to an *in-situ* strategy was prompted by the following observations:

- The existing groundwater extraction system is increasingly inefficient as contaminant concentrations and plume area decline.
- A low-flow air sparging system would provide greater reliability with lower maintenance requirements.

- Hydraulic containment of the plume has become less critical as natural attenuation has dramatically improved downgradient water quality.

- Creating an aerobic environment in the source area groundwater would enhance the degradation of vinyl chloride, which is near the end of the biodegradation process of tetrachloroethene (PCE) and trichloroethene (TCE).

LIMITATIONS OF THE EXISTING EXTRACTION SYSTEM

The groundwater system at the site was designed to treat high flowrates (70 – 100 gpm) of moderately to highly-contaminated water (>2,000 ug/L THF). Since startup of the system in August 1996, flowrates have remained below 50 gallons per minute (gpm) and only one extraction well (EW-1) has been utilized. The other extraction wells have not been operated due to low influent concentrations and poor geology at those locations. Influent concentrations of THF, the primary contaminant of concern, were below the design levels shortly after start-up, and have declined throughout the operation of the system (see Table 1 and Figure 5). Influent concentrations during the past year have averaged 690 micrograms per liter (ug/L).

Into air sparge

The contaminant mass removal rate through the GCOU is relatively low in comparison to removal through natural attenuation in aerobic zones of the aquifer. Based on the average influent concentrations and flowrates observed during the previous year (May 1999 through May 2000), an estimated THF mass removal rate of 0.22 pounds per day (lbs/day) may be expected during the next year utilizing the current groundwater system (see Table 2). In contrast, the THF mass removal rate in the aerobic zones of the aquifer have been estimated to be as high as 7.2 lbs/day (reference Annual Reports). As contaminant concentrations continue to decrease, the THF mass removal rate through the GCOU will decrease even further.

Operation of the treatment system at flow rates and concentrations below the design capacity has resulted in labor and equipment costs disproportionate to the system flow. Specifically, the frequent scaling of equipment and the intermittent operation of blowers have required an inordinate amount of maintenance. With the aging of the treatment system, critical capital equipment, such as pumps and blowers, will be due for replacement just as the operating efficiency of the system declines.

LOW-FLOW *IN-SITU* AIR SPARGING SYSTEM RATIONALE AND DESCRIPTION

As documented in Annual Reports 1, 2 and 3, natural attenuation mechanisms have played an important role in the remediation of the Hagen Farm Site, especially in portions of the plume downgradient of the extraction well. Dissolved oxygen (DO) levels in these portions of the plume have typically been greater than 4 milligrams per liter (mg/L), an indication of aerobic conditions. Aerobic degradation of THF occurs much more rapidly

than through anaerobic processes. Currently, the portion of the contaminant plume that remains anaerobic is limited to the area directly beneath the landfill, and extending approximately 400 feet downgradient (see Figure 6). Aeration of this zone could be expected to result in a marked increase in the *in-situ* degradation of THF.

Degradation rate constants in the aerobic portions of the plume just downgradient of the source area have averaged 0.0054 day^{-1} to 0.0061 day^{-1} since installation of the SCOU. Applying these degradation rates to a theoretical mass of 100 lbs and a period of one year produces a mass removal rate of 0.24 lbs/day. For an explanation of rate calculations and methods, refer to Hagen Farm GCOU Annual Reports 1, 2, and 3.

Low-flow air sparge systems have been shown to dramatically increase DO levels in groundwater. Montgomery Watson has used these systems at other sites to enhance naturally occurring degradation of a variety of contaminants. The installation of such a system at the Hagen Farm site would accelerate progress toward remedial goals by producing an aerobic environment downgradient of the landfill. The basic layout of the system is shown in Figure 6.

Mass removal rates for this alternative were calculated utilizing the degradation rates which have been shown to occur in aerobic portions of the plume, current THF concentrations in the area just downgradient of the source, and other aquifer parameters from previous reports for the site (see Table 2). The sources of information used in this memorandum are given in the final section, References. As shown in Figure 7, mass removal rates increase with time as more groundwater travels into the aerobic zone created by the air sparge wells. Removal rates for this alternative exceed those of the current GCOU after 0.25 years or three months of operation, with rates reaching a maximum of approximately 0.34 lbs/day after a period of two years (see Figure 7). Backup tables and calculations for this estimate are included in Appendix A.

The degradation rates and groundwater velocities estimated at the site also indicate THF concentrations would decrease downgradient of the air sparge line such that they would be well below the NR 140 ES by the time treated groundwater reaches the southerly property line. Degradation rates of other VOCs of concern, particularly vinyl chloride, are anticipated to increase due the aerobic zone created by the air sparge wells.

DESIGN AND OPERATIONAL PARAMETERS OF PROPOSED AIR SPARGE SYSTEM

Air Sparge Wells: As discussed previously, the addition of air to groundwater is intended to raise the DO level and promote natural degradation, not to physically strip compounds from the liquid to the vapor phase. As a result, much lower flowrates are required.

The wells will be installed to a depth of approximately 50 feet below ground surface, or to the top of the weathered bedrock at the site. The screened portion of the well will be located at the bottom 3 feet of the boring, below the water table. This configuration allows

the injected air to diffuse more thoroughly as it rises through the aquifer. Montgomery Watson's experience at sites with similar geology has shown these wells typically have a radius of influence of 40 to 50 feet. The proposed design calls for installing a line of six wells 60 feet on center across the anaerobic zone just downgradient of the landfill, as shown in Figure 6.

Air Injection Rates: The existing air compressors at the site have ample capacity to provide a flow of 50 cubic feet per minute (cfm) to the sparge wells. Typically, airflow rates for low-flow systems range from 5 to 10 cfm. Actual flowrates will be determined based on field measurements. Due to the relatively low air requirements of this application, the design calls for the airflow to cycle between the six wells over a period of one to four hours. The actual cycle length will be determined based on collected field data.

System Performance Evaluation: An additional observation well nest of two wells (OBS-1 and OBS-2) is included in the proposed design to better establish baseline conditions and assess the effectiveness of the air sparge system. This nest would be located downgradient of the sparge line and upgradient of extraction well EW1 (see Figure 6). A summary of additional monitoring for the air sparge system is given in Table 3

Operation of the Existing Extraction System: Following startup of the sparge system, it will take a period of time before the area directly downgradient of the SCOU becomes aerobic. Therefore, it is assumed that operation of existing extraction system will continue concurrently for a period of time. Increased DO levels, decreased contaminant concentrations, or a combination of the two at the aforementioned observation points is considered evidence that the sparge system is having the desired effect, and that the pump and treat system should be shut down. We anticipate a concurrent operation period of approximately three months to demonstrate effective aeration of the anaerobic zone. This concurrent operation will maintain an increased gradient for groundwater flow and enhance the dispersion of oxygen into the aquifer.

Downgradient Concentrations: Following shutdown of EW1, an increase in contaminant concentrations at the P17 and nearby well nests may be noted. During operation of EW1, less contaminated water from downgradient is drawn past the P17 nest to the extraction well. When this flow ceases and natural groundwater flow is reestablished, concentrations may rebound slightly at this location, before again decreasing with the establishment of aerobic conditions.

CONCLUSIONS

Based on a historical review of site conditions, trends in groundwater quality, and the information presented above, a low-flow air sparge system would offer an effective and less costly alternative for remediating the remaining contaminated groundwater at the Hagen Farm Site.

REFERENCES

Hagen Farm Groundwater Control Operable Unit, *Annual Groundwater Monitoring Program Report Number 1*, 1997.

Hagen Farm Groundwater Control Operable Unit, *Annual Groundwater Monitoring Program Report Number 2*, 1998.

Hagen Farm Groundwater Control Operable Unit, *Annual Groundwater Monitoring Program Report Number 3*, 1999.

Hagen Farm Site, *Pumping Test*, 1994.

PHL/phl/vlr/DJB
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TABLES

Table 1
Groundwater Control Operable Unit
System Efficiency
Hagen Farm Site
Stoughton, Wisconsin

SUMMARY OF SYSTEM OPERATIONS

Month	Ave Flow gpm	Influent ug/L THF	Effluent ug/L THF	Efficiency	THF Mass Removal Rate (lb/month)
Aug-96	20	1062	362	65.9%	5.2
Sep-96	19	2264	175	92.3%	14.3
Oct-96	35	1560	63.6	95.9%	19.5
Nov-96	45	1575	37.2	97.6%	24.9
Dec-96	34	1750	69.2	96.0%	21.3
Jan-97	29	1325	38.2	97.1%	13.5
Feb-97	31	1092	19.8	98.2%	11.2
Mar-97	43	942	33.4	96.5%	14.6
Apr-97	49	822	58.5	92.9%	13.5
May-97	38	818	25.5	96.9%	11.2
Jun-97	39	890	41.6	95.3%	11.9
Jul-97	39	898	10.2	98.9%	12.9
Aug-97	39	855	12.5	98.5%	12.1
Sep-97	33	844	9.5	98.9%	9.9
Oct-97	37	797.5	9.9	98.7%	10.9
Nov-97	41	817.5	8.8	98.9%	11.8
Dec-97	32	886	6.0	99.1%	10.6
Jan-98	37	749	14.8	98.1%	10.1
Feb-98	24	873	203.5	78.4%	5.3
Mar-98	38	916	11.5	98.9%	12.7
Apr-98	40	763	7.0	99.3%	10.9
May-98	35	555	5.0	98.0%	7.2
Jun-98	41	586	5.5	99.1%	8.5
Jul-98	37	610	4.3	99.3%	8.4
Aug-98	34	665	2.5	99.6%	8.4
Sep-98	31	930	2.5	99.7%	10.3
Oct-98	33	867.5	5.4	99.4%	10.6
Nov-98	32	818.0	12.1	98.5%	9.2
Dec-98	30	837.5	6.5	99.2%	9.2
Jan-99	26	775.0	11.5	98.5%	7.4
Feb-99	25	1035	23	97.8%	8.6
Mar-99	22	1015	13	98.7%	8.2
Apr-99	29	438	7	98.5%	4.5
May-99	34	750	10	98.7%	9.3
Jun-99	36	298	9	96.9%	3.7
Jul-99	31	398	2.5	99.4%	4.6
Aug-99	28	338	2.5	99.3%	3.5
Sep-99	28	325	2.5	99.2%	3.3
Oct-99	25	828	4.1	99.5%	7.6
Nov-99	25	810	5.1	99.4%	7.1
Dec-99	22	763	4.6	99.4%	6.3
Jan-00	19	1064	4	99.6%	7.5
Feb-00	19	958	12	98.8%	6.0
Mar-00	26	990	16	98.4%	9.4
Apr-00	29	783	11	98.6%	8.1
May-00	27	680	4	99.4%	6.7
6/99-5/00 Ave	26	686	6.5	99.0%	6.2
Overall Ave	32	883	31	97.1%	10

Table 2
Summary of Site Parameters
Hagen Farm Site
Stoughton, Wisconsin

Parameter Name	Value	Units	Rationale
Hydraulic Conductivity	0.026	cm/sec	from transmissivity from pumping test and plume thickness below
	0.051	ft/min	""
Hydraulic Gradient	0.0039	-	from pumping test
Effective Porosity	0.3	-	from pumping test
Plume Thickness	60	ft	from May 99 sampling
Groundwater Velocity	1.00E-04	cm/sec	calculated from above
	0.28	ft/day	""
THF Concentration	690	ug/L	average influent for 6/1/99 - 5/31/00
EW Pumping Rate	27	gpm	""
	3.6	ft3/min	average flow from 6/1/99 - 5/31/00
GCOU Removal Rate	0.22	lbs/day	calculated from above
Downgradient Stagnation Point	48	ft	Jacob Bear (1979) and above parameters
Sidegradient Stagnation Point	75	ft	Jacob Bear (1979) and above parameters
Aerobic Degradation Rate	0.0054	day-1	average for Region 2 from last 3 years

TABLE 3
Proposed Additional Groundwater Monitoring
Hagen Farm Site
Town of Dunkirk, Wisconsin

Well(s)	Proposed Addition	Rationale
OBS-1A, OBS-1B, EW2	2 rounds of baseline monitoring for VOCs and natural attenuation parameters (DO, Redox, Alkalinity, pH, Sulfate, Nitrate, Iron, Manganese) separated by two weeks	To determine baseline groundwater conditions in the vicinity prior to system startup
OBS-1A, OBS-1B, EW2	Sample these wells quarterly for VOCs and natural attenuation parameters for a period of one year	These wells can be used to better determine contaminant concentrations and trends near the source area
OBS-1A, OBS-1B, EW1, EW2	Weekly monitoring of DO levels following system startup every two weeks for three months, or until stable DO observed	These readings will be used to assess the zone of influence of the air sparge system

FIGURES

Figure 1:
THF Isomass Contours - 1990

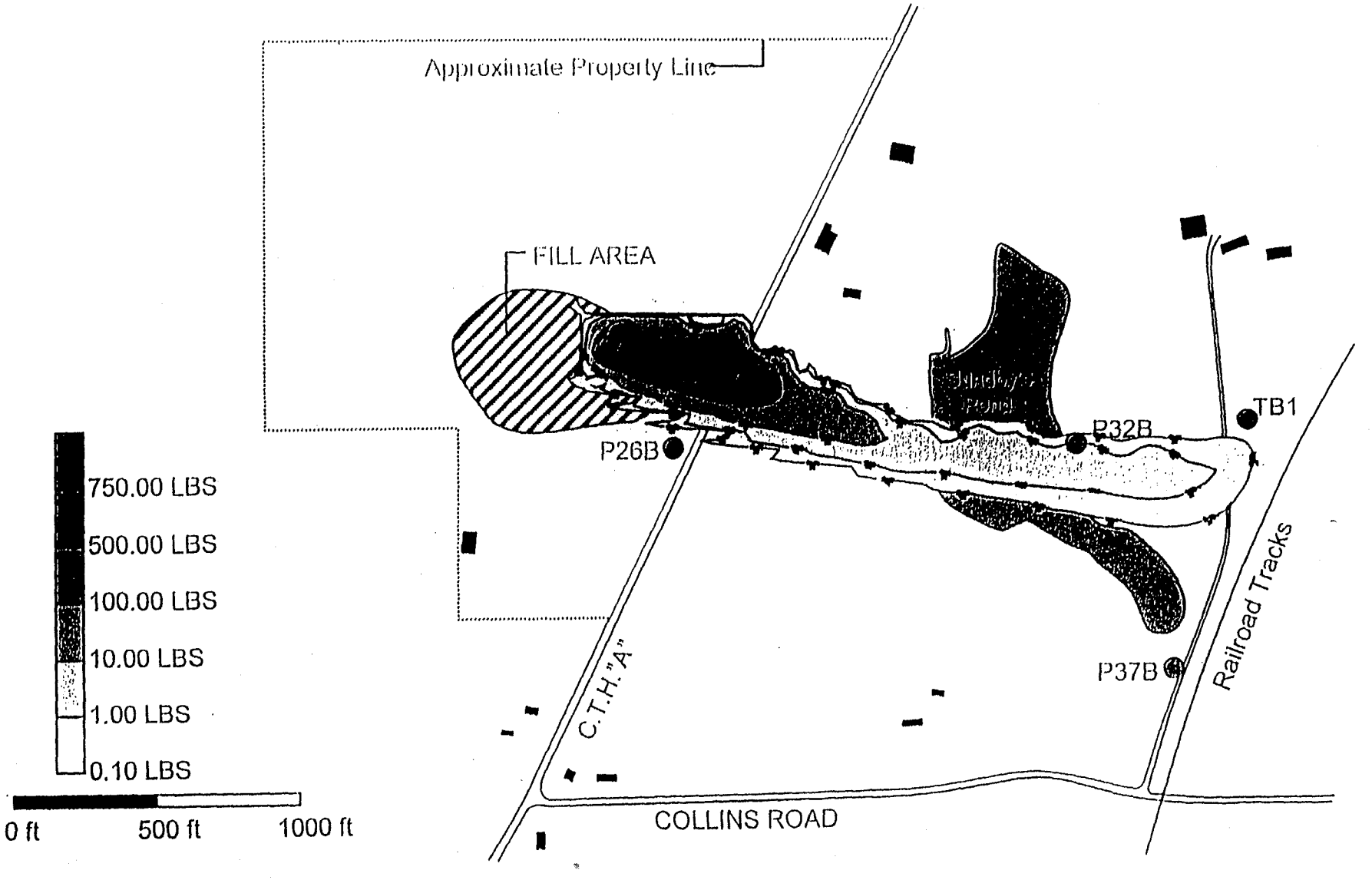


Figure 2:
THF Isomass Contours - 1993

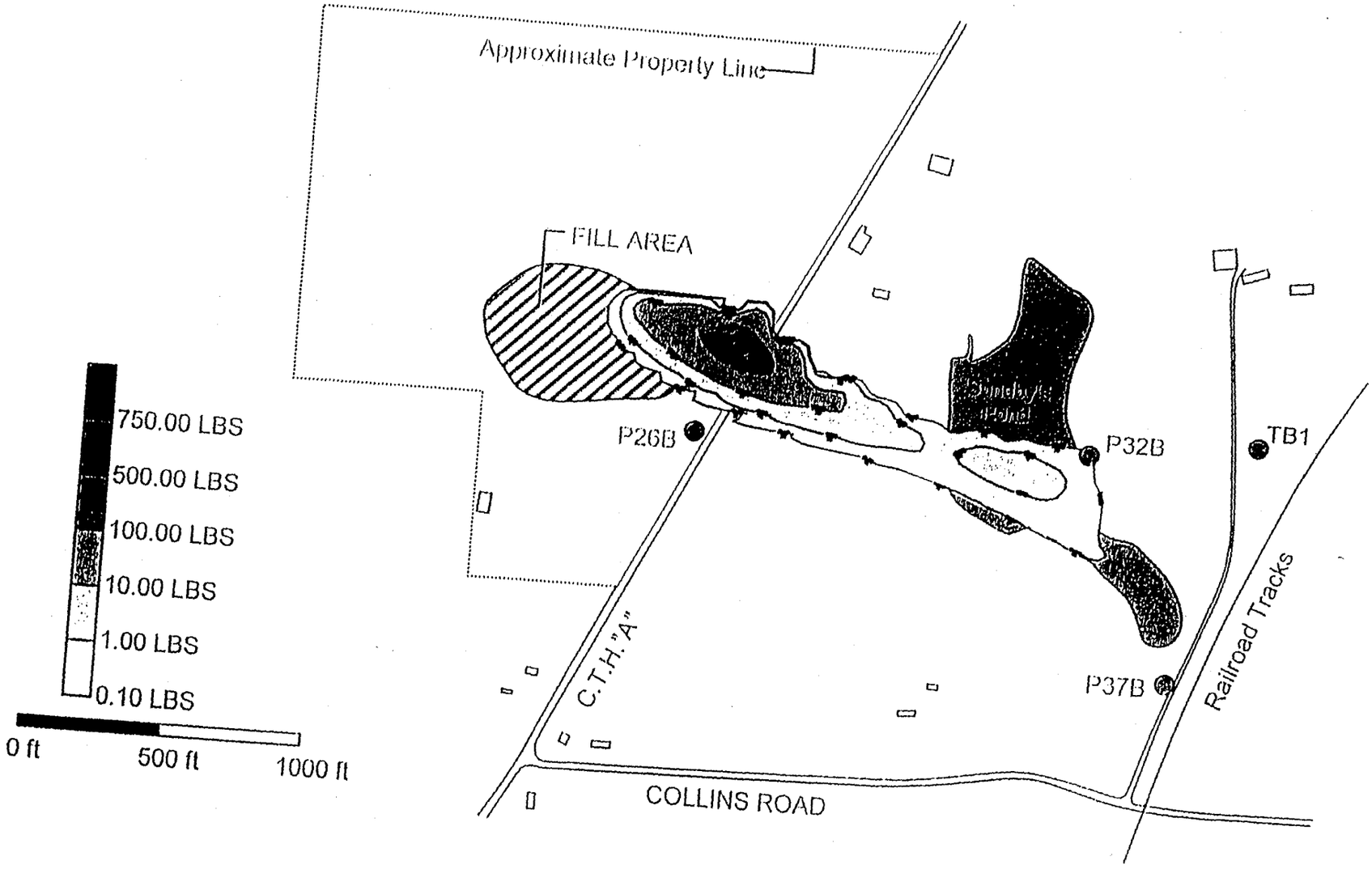


Figure 3:
THF Isomass Contours - 1994

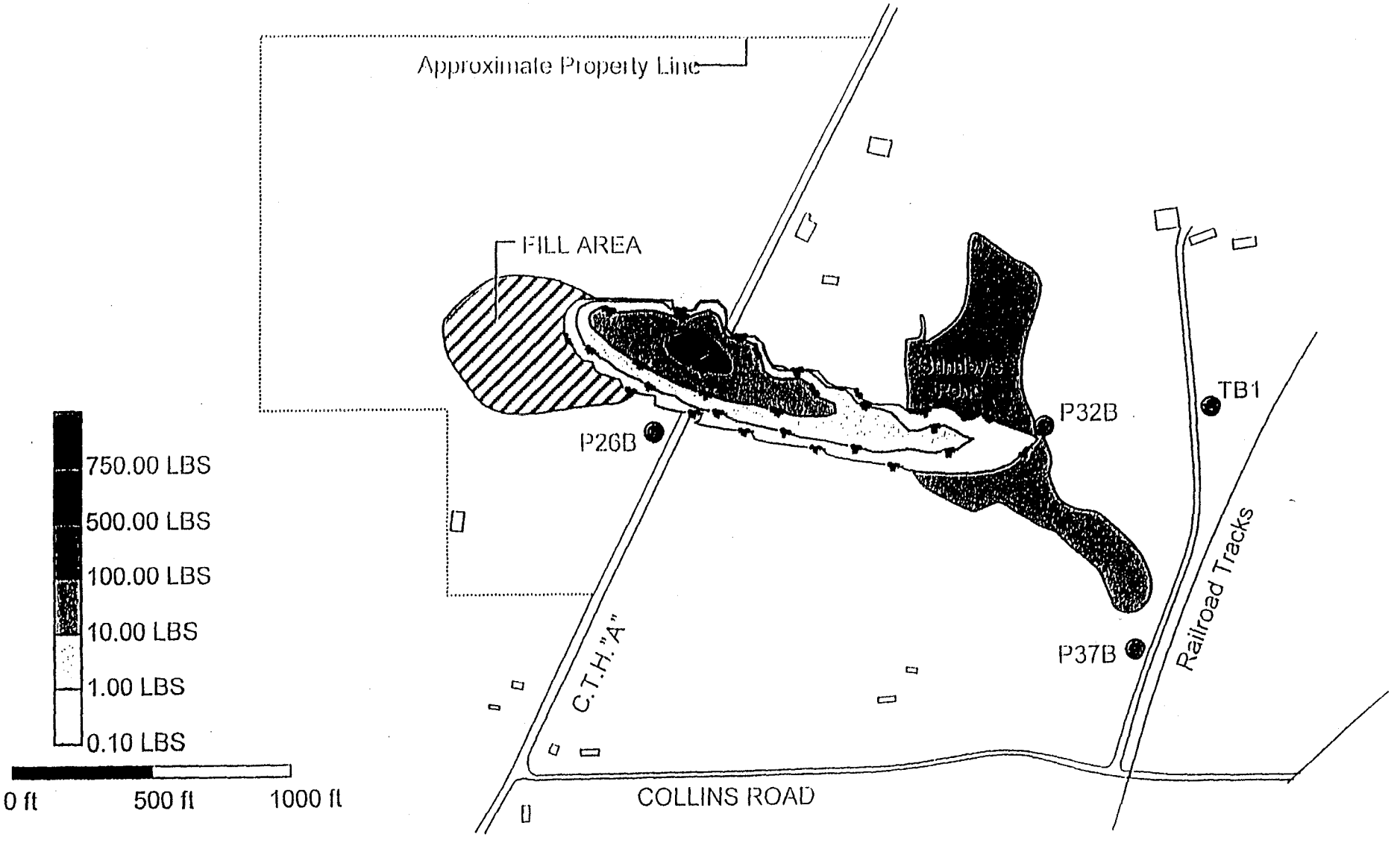


Figure 4:
THF Isomass Contours -1997

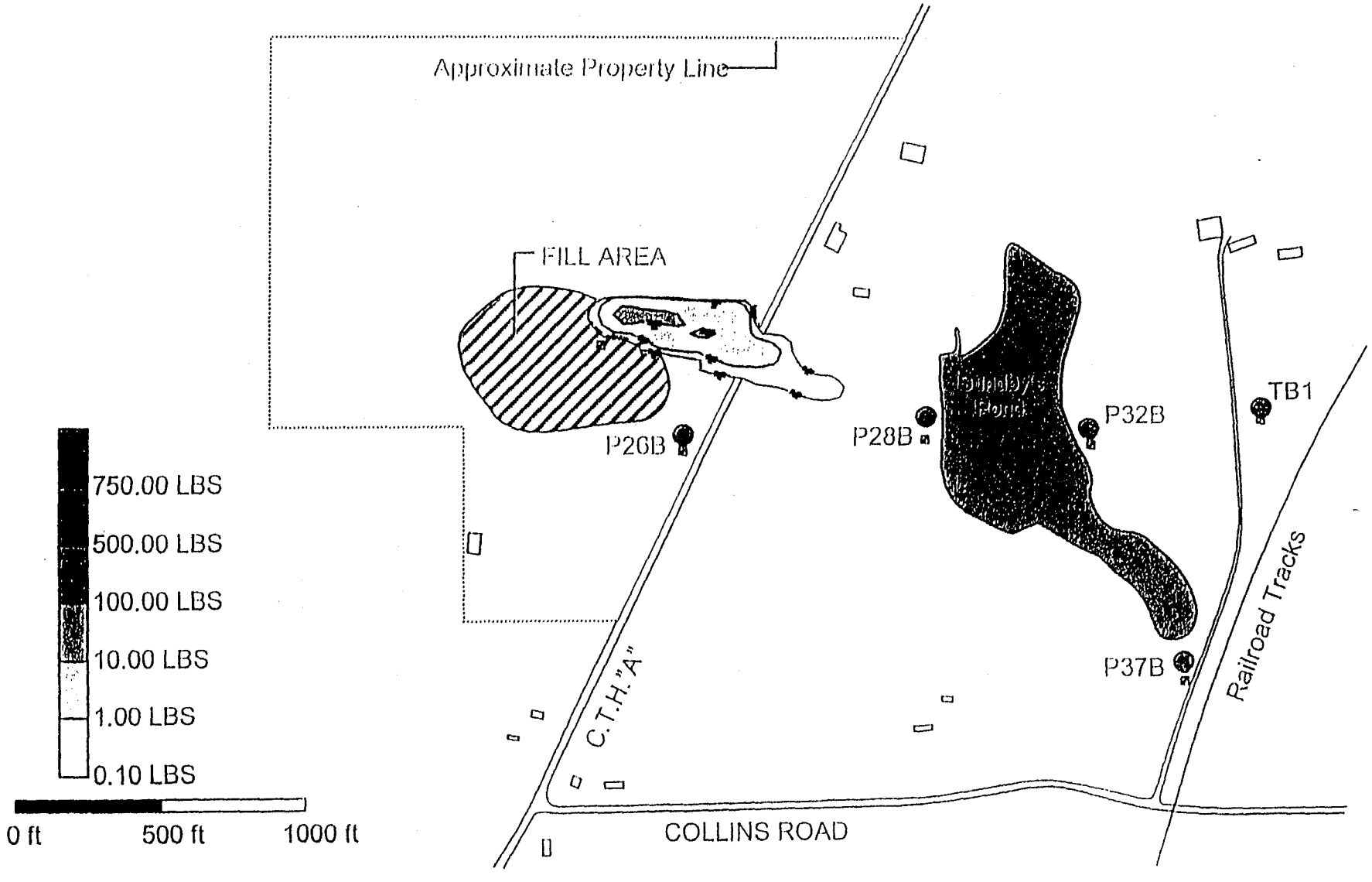
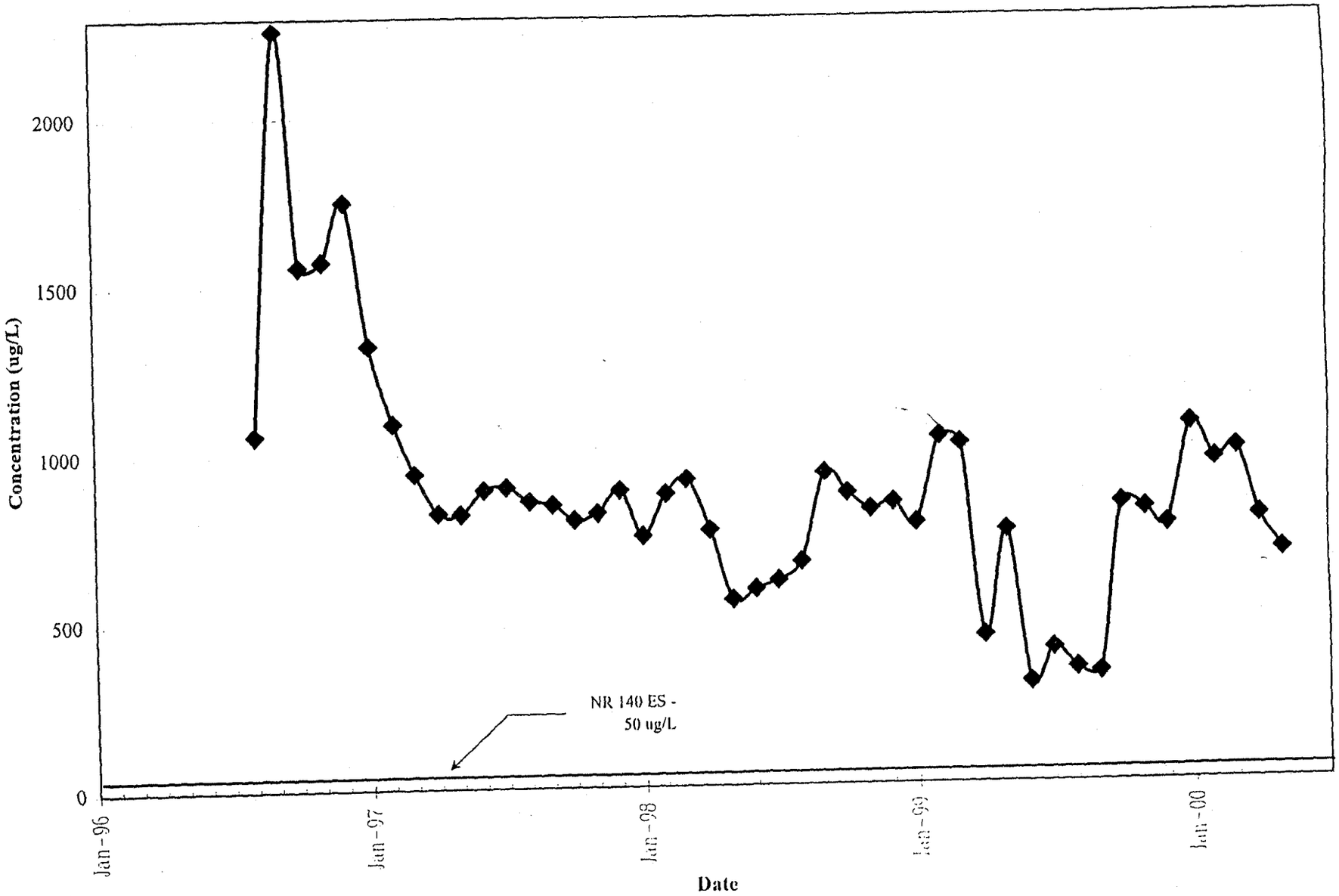


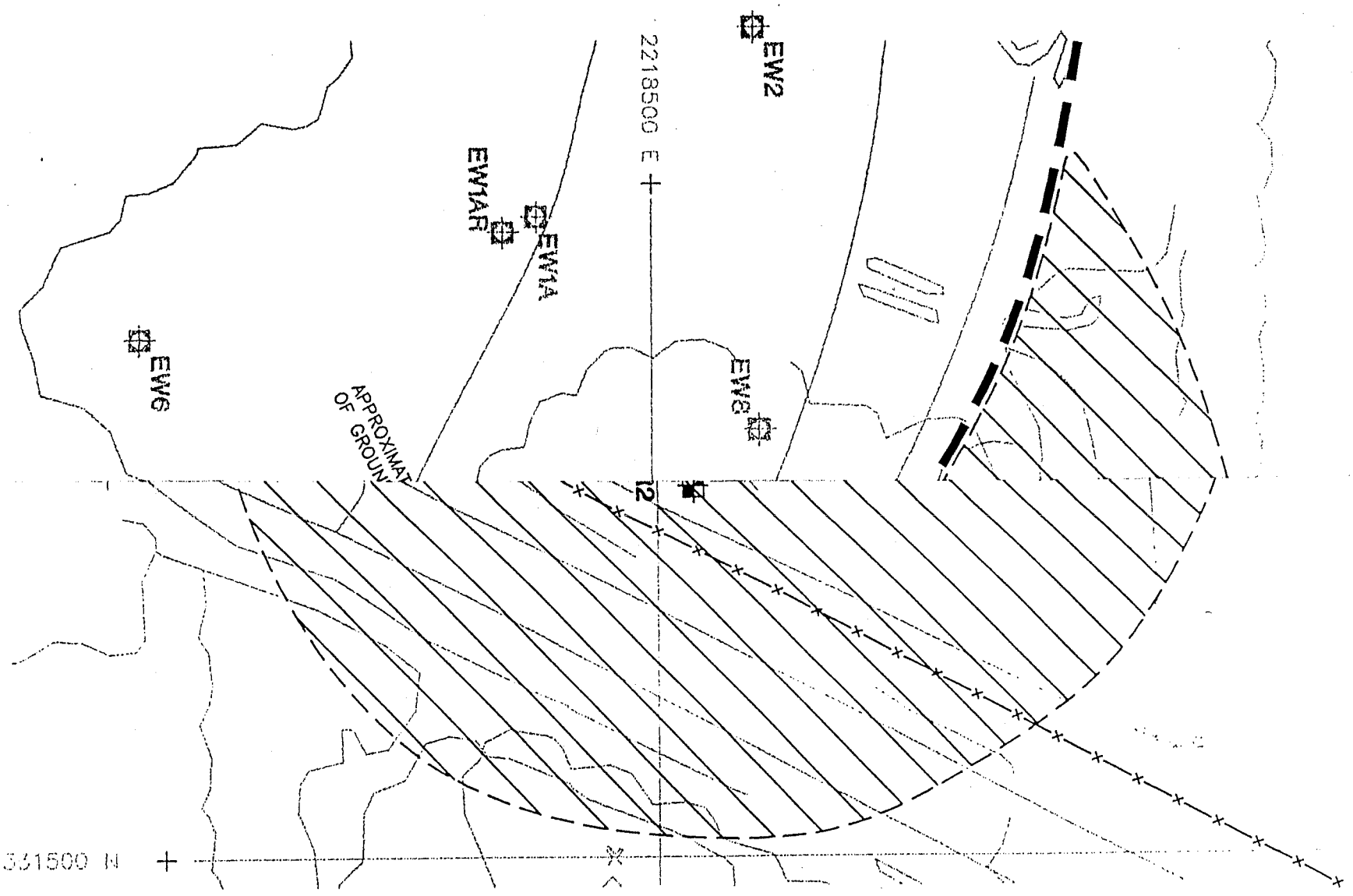
Figure 5
Influent THF Trends



PHL/phl/DJB
M:\jobs\1242\099\01\O&m.xls(THF Inf Graph)

This document has been developed for a specific application and may not be used without the written approval of Montgomery Watson.

QUALITY CONTROL				
Graphic Standards	LCL	7-28-00	Technical Review	
Lead Professional	PHL	7-31-00	Project Manager DJB	8-1-00
Management Review			Other	



LEGEND

- 891.3X SPOT ELEVATION
- —x—x—x— FENCE
- APPROX. LIMITS OF REFUSE
- EW1 EXTRACTION WELL LOCATION

north

0 50 100
SCALE IN FEET

FIGURE 6

AIR SPARGE SYSTEM LAYOUT

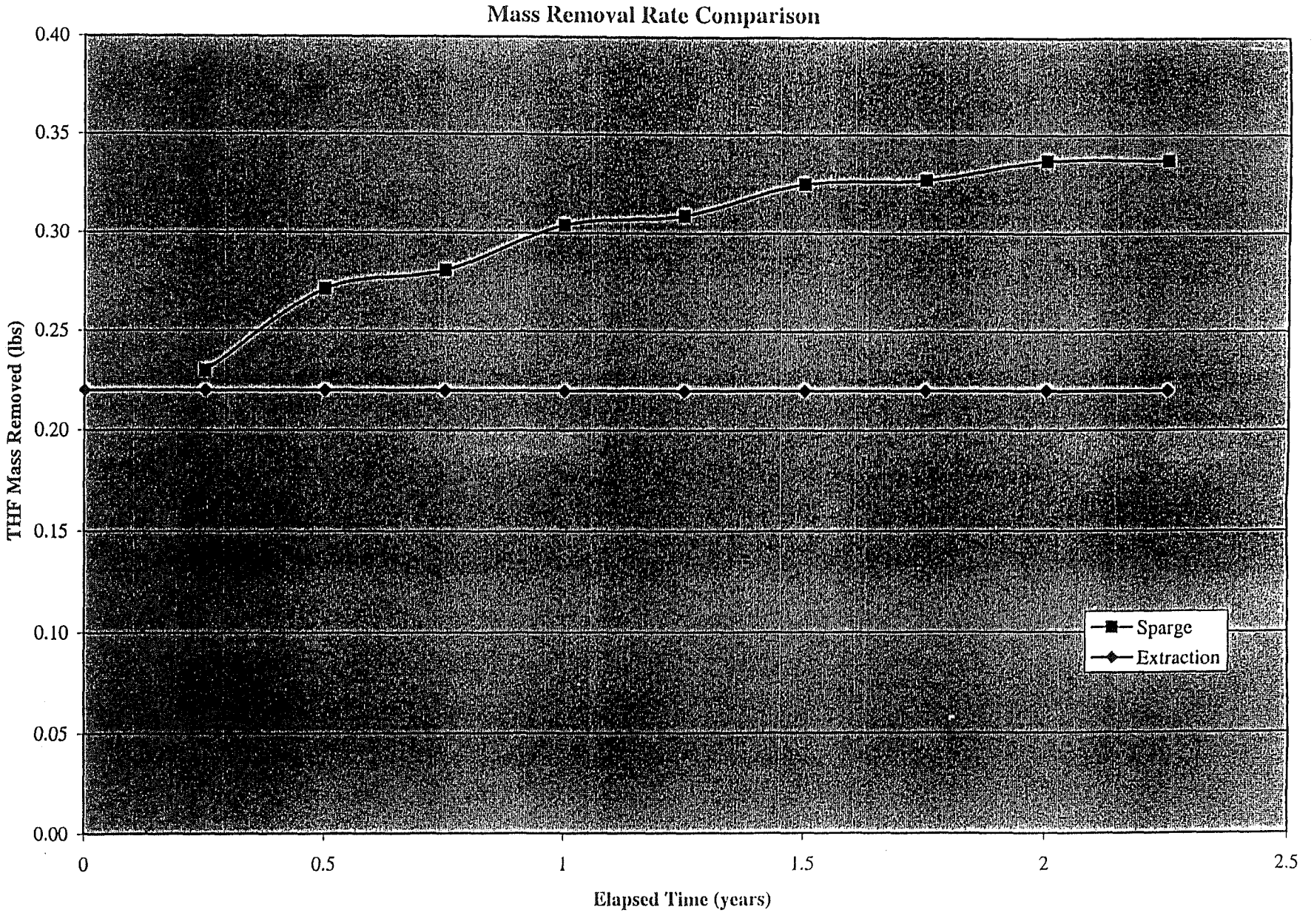
HAGEN FARM SITE
TOWN OF DUNKIRK, WISCONSIN

Developed By PHL
Drawn By LCL
Approved By
Date 8/21/00
Reference 1242099-01090173-D4
Revisions

Drawing Number
1242099
01090173 B1

MONTGOMERY WATSON

Figure 7


Mass Removal Rate Comparison
THF Mass Removed (lbs)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
0.5
1
1.5
2
2.5
Elapsed Time (years)
Sparge
Extraction

APPENDIX A

BACKUP TABLES AND CALCULATIONS

EXPLANATION OF MASS REMOVAL CALCULATION SPREADSHEETS

The following pages contain printouts of the spreadsheets used to estimate mass removal rates for the proposed air sparge system. The grid location of each sparge point is denoted by "SP-#", with the downgradient distance of the extraction well (EW1) shown to the left. This distance (220 feet) also roughly corresponds to the minimum downgradient distance to the property line.

The first grid denotes groundwater travel time from the sparge line. The next two grids give the estimated THF concentrations and mass present downgradient of the sparge system wells, respectively. On the remaining spreadsheets, THF concentration and mass grids are given for timesteps of 0.25 years, from 0.25 to 2.25 years elapsed. For these spreadsheets, concentrations, masses, and mass removal are calculated based on the time elapsed since the water was oxygenated and using the rate constants listed in Table 2.

PHL/phl/vlr/DJB
M:\jobs\1242\099\01\wp\rpt\84_App_Text.doc
1242099.01090173-MAD-1

ir Sparge Well Grid - Travel Time from Sparge Line (days)

	SP-1								SP-2								SP-3								SP-4								SP-5								SP-6					
10	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
20	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
30	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107
40	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
50	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179
60	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214
70	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
80	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286
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150	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536
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210	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
EW-1 220	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
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540	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929	1929
550	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964
560	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
570	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036	2036
580	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071	2071
590	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107
600	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143	2143
610	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179	2179
620	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214	2214
630	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
640	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286

Sparge Well Grid - THF Concentration @ t = 0.0 years

	SP-1						SP-2						SP-3						SP-4						SP-5						SP-6					
10	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
20	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
30	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
40	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
50	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
60	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
70	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
80	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
90	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
100	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
110	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
120	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
130	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
140	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
150	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
160	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
170	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
180	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
190	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
200	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
210	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
EW-1 220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

parge Well Grid - THF Mass @ t = 0.0 years Total Mass: 151 lbs

| | SP-1 | | |

Sparge Well Grid - THF Concentration @ t = 0.25 years

	SP-1						SP-2						SP-3						SP-4						SP-5						SP-6					
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
40	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
50	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
60	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
70	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
80	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
90	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
100	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
110	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
120	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
130	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
140	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
150	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
160	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
170	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
180	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
190	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
200	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
210	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
EW-1 220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sparge Well Grid - THF Mass @ t = 0.25 years Total Mass: 169 lbs Mass Removed: 21.0 lbs

	SP-1																																			
10	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
20	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01
30	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
40	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
50	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
60	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
70	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
80	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
90	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
100	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
110	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
120	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
130	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
140	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
150	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
160	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
170	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
180	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
190	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
200	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
210	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
W-1 220	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
230	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
240	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
250	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
260	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
270	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
280	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
290	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
300	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
310	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
320	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
330	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
340	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
350	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
360	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
370	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
380	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
390	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
400	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
410	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
420	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
430	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
440	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
450	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
460	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
470	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
480	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
490	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
500	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
510	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
520	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
530	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
540	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
550	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
560	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.

Sparge Well Grid - THF Concentration @ t ≈ 0.50 years

	SP-1						SP-2						SP-3						SP-4						SP-5						SP-6					
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
40	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
50	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
60	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
70	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
80	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
90	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
100	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
110	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
120	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
130	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
140	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
150	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
160	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
170	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
180	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
190	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
200	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
210	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
EW-1 220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sparge Well Grid - THF Mass @ t = 0.50 years Total Mass: 186 lbs Mass Removed: 49.5 lbs

| | SP-1 | | |

Sparge Well Grid - THF Concentration @ t = 0.75 years

	SP-1									SP-2										SP-3										SP-4										SP-5										SP-6					
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
40	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
50	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
60	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534
70	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
80	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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200	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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EW-1 220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sparge Well Grid - THF Mass @ t = 0.75 years Total Mass: 204 lbs Mass Removed: 76.9 lbs

	SP-1								SP-2								SP-3								SP-4								SP-5								SP-6							
10	2.E-01	2.E-01	2.E-01

Sparge Well Grid - THF Concentration @ t = 1.00 years

	SP-1									SP-2									SP-3									SP-4									SP-5									SP-6				
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
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620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

EW-1

Sparge Well Grid - THF Mass @ t = 1.00 years Total Mass: 221 lbs Mass Removed: 111 lbs

	SP-1								SP-2								SP-3								SP-4								SP-5								SP-6							
10	2.E-01	2.E-01	2.E-01

Sparge Well Grid - THF Concentration @ t = 1.25 years

	SP-1								SP-2								SP-3								SP-4								SP-5								SP-6							
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
40	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
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60	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534
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90	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
100	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247
110	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
120	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
130	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
140	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
150	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
160	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
170	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
180	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
190	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
200	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
210	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
W-1 220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sparge Well Grid - THF Mass @ t = 1.25 years Total Mass: 239 lbs Mass Removed: 141 lbs

| | SP-1 | | |

Sparge Well Grid - THF Concentration @ t = 1.50 years

| | SP-1 | | |

Sparge Well Grid - THF Mass @ t = 1.50 years Total Mass: 257 lbs Mass Removed: 178 lbs

	SP-1																																			
10	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
20	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01
30	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01	1.E-01
40	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02	9.E-02
50	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02	7.E-02
60	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02	6.E-02
70	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02	5.E-02
80	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-02
90	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02
100	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02	3.E-02
110	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02
120	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02
130	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02
140	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02
150	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02	1.E-02
160	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
170	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
180	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
190	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
200	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
210	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
V-1 220	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01	2.E-01
230	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
240	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
250	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
260	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
270	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
280	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
290	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
300	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
310	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
320	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
330	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
340	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
350	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
360	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
370	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
380	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
390	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
400	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
410	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
420	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
430	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
440	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
450	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
460	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
470	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
480	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
490	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
500	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
510	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
520	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
530	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
540	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
550	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
560	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00

Sparge Well Grid - THF Concentration @ t = 1.75 years

	SP-1									SP-2									SP-3									SP-4									SP-5									SP-6								
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
40	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
50	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
60	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534
70	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
80	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363
90	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
100	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247
110	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
120	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
130	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
140	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
150	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
160	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
170	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
180	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
190	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
200	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
210	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

W-1

Sparge Well Grid - THF Mass @ t = 1.75 years Total Mass: 274 lbs Mass Removed: 209 lbs

| | SP-1 | | |

Sparge Well Grid - THF Concentration @ t = 2.00 years

	SP-1								SP-2								SP-3								SP-4								SP-5								SP-6			
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
40	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
50	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
60	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534
70	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
80	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363
90	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
100	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247
110	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
120	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
130	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
140	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
150	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
160	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
170	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
180	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
190	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
200	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
210	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
EW-1 220	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sparge Well Grid - THF Mass @ t = 2.00 years Total Mass: 292 lbs Mass Removed: 246 lbs

| | SP-1 | | |

Sparge Well Grid - THF Concentration @ t = 2.25 years

	SP-1							SP-2							SP-3							SP-4							SP-5							SP-6						
10	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402	1402
20	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156	1156
30	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953
40	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
50	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
60	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534	534
70	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
80	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363
90	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
100	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247
110	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
120	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
130	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
140	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
150	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
160	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
170	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
180	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
190	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
200	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
210	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
220	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

EW-1

Sparge Well Grid - THF Mass @ t = 2.25 years Total Mass: 309 lbs Mass Removed: 277 lbs

| | SP-1 | | |