

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelpment ☐ Other ☐

Page 1 of 1

Facility/Project Name FISH/CRYSTAL/MUD LAKE REHABILITATION		License/Permit/Monitoring Number		Boring Number MW-1	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: MIKE Last Name: SANTAS Firm: SAM'S WELL DRILLING		Date Drilling Started 11/08/2011 m m d d y y y y		Date Drilling Completed 11/09/2011 m m d d y y y y	
Drilling Method DUAL ROTARY		Final Static Water Level 2.0 Feet MSL		Surface Elevation Feet MSL	
Borehole Diameter 6.0 inches		Well Unique Well No. Y6-550		DNR Well ID No.	
Well Name MW-1		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane N , B NW 1/4 of SE 1/4 of Section 2 , T 9N , R 7E		Local Grid Location Lat 43°17'6" Long 89°37'38" Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County DANE		County Code	
				Civil Town/City/ or Village ROXBURY	

Sample			Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)	Compressive Strength								Moisture Content	Liquid Limit	Plasticity Index	P 200		
				0-4	DARK BROWN SANDY CLAY	CL									
				4-16	SANDY SILT TRACE GRAVEL (DRY)	ML									
				16-18	BOULDER										
				+20											
				18-37	SANDY SILT TRACE GRAVEL (DRY)	ML									
				37-40	SANDY SILT TRACE GRAVEL (SATURATED)	ML									
				+40											
				40-46	SANDY SILT TRACE GRAVEL (DRY)	ML									
				46-60											
				60-64	SANDY SILT (SATURATED) CLEAN FINE SAND (C/O WATER)	ML									
				64-73	FINE TO MEDIUM SAND (BEARING) WITH TRACE FINE GRAVEL (WATER BEARING) (OZO)	SW									
				73-75	CLEAN FINE SAND (C/O WATER) BLACK SILTY SAND FINE (BEARING)	SP									
				75-80	TRACE OF CLAY (NOT WATER BEARING)	SC									
				+80											

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

Signature **MIKE SANTAS** Firm **SAM'S WELL DRILLING**

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Recovery ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name FISH CRYSTAL MUD LAKE REHABILITATION

Local Grid Location 11

Well Name MW-1

Facility License, Permit or Monitoring No.

Local Grid Origin (estimated) ☐ or Well Location ☐

Well Unique Well No. Y6-550

DNR Well ID No.

Facility ID

Lat. 43° 17' 6" Long. 89° 31' 38"

Date Well Installed 11/09/2011

Well Installed By: Name (first, last) and Firm MIKE SANTAS

Type of Well

Well Code 12/PZ

Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. 2, T. 9N, R. 7E, S. 1/2

Gov. Lot Number

Well Installed By: Name (first, last) and Firm MIKE SANTAS

Distance from Waste/Source ft.

Enf. Sids. Apply ☐

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

Gov. Lot Number

Well Installed By: Name (first, last) and Firm MIKE SANTAS

A. Protective pipe, top elevation ft. MSL

B. Well casing, top elevation ft. MSL

C. Land surface elevation ft. MSL

D. Surface seal, bottom ft. MSL or 2.0 ft.

1. Cap and lock? ☒ Yes ☐ No

12. USCS classification of soil near screen

2. Protective cover pipe:

a. Inside diameter: 4.0 in.

b. Length: 6.0 ft.

OP ☐ OM ☐ OC ☐ GW ☐ SW ☐ SP ☐

c. Material: Steel ☒ 04

d. Additional protection? ☐ Yes ☒ No

3. Surface seal: Bentonite ☒ 30

SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐

Concrete ☐ 01

Other ☐

4. Material between well casing and protective pipe: SAND

Bedrock ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33

b. Lbs/gal mud weight 2.7 Bentonite-sand slurry ☐ 35

c. Bentonite slurry ☒ 31

13. Sieve analysis performed? ☒ Yes ☐ No

14. Drilling method used: Rotary ☐ 30

d. % Bentonite 50 Bentonite-cement grout ☐ 50

e. Pl volume added for any of the above

SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐

Hollow Stem Auger ☐ 41

f. How installed: Tremie ☐ 01

Tremie pumped ☒ 02

Bedrock ☐

Other ☒

6. Bentonite seal: a. Bentonite granules ☐ 33

b. 1/4 in. 3/8 in. 1/2 in. Bentonite chips ☐ 32

15. Drilling fluid used: Water ☐ 02 Air ☐ 01

Drilling Mud ☒ 03 None ☐ 99

c. Other ☐

7. Fine sand material: Manufacturer, product name & mesh size BADGER #40-60

16. Drilling additives used? ☐ Yes ☒ No

Describe SHOP WELL

b. Volume added 1.0 ft³

8. Filter pack material: Manufacturer, product name & mesh size OCORAL #30

17. Source of water (attach analysis, if required):

a. Volume added 3.0 ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23

Flush threaded PVC schedule 80 ☐ 24

E. Bentonite seal, top ft. MSL or 5.0 ft.

Other ☐

10. Screen material: PVC SCHEDULE 40

a. Screen type: Factory cut ☒ 11

F. Fine sand, top ft. MSL or 98.0 ft.

Continuous slot ☐ 01

b. Manufacturer BEART LONGHEAR

c. Slot size: 0.010 in.

G. Filter pack, top ft. MSL or 62.0 ft.

d. Slotted length: 5.0 ft.

11. Backfill material (below filter pack): None ☒ 14

Other ☐

H. Screen joint, top ft. MSL or 65.0 ft.

I. Well bottom ft. MSL or 70.0 ft.

J. Filter pack, bottom ft. MSL or 70.0 ft.

K. Borehole, bottom ft. MSL or 80.0 ft.

I. Well bottom ft. MSL or 70.0 ft.

J. Filter pack, bottom ft. MSL or 70.0 ft.

L. Borehole, diameter 6.0 in.

M. O.D. well casing 2.375 in.

J. Filter pack, bottom ft. MSL or 70.0 ft.

K. Borehole, bottom ft. MSL or 80.0 ft.

N. I.D. well casing 2.0 in.

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

Describe SHOP WELL

Signature MIKE SANTAS

Firm SAM'S WELL DRILLING

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stat., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stat., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural ResourcesMONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 7-98Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name FISH CRYSTAL LAKE REHABILITATION	County Name DANE	Well Name MW-1
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number YG-550
		DNR Well ID Number

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

- surged with bailer and bailed ☐ 41
 surged with bailer and pumped ☐ 61
 surged with block and bailed ☐ 42
 surged with block and pumped ☐ 62
 surged with block, bailed and pumped ☐ 70
 compressed air ☒ 20
 bailed only ☐ 10
 pumped only ☐ 51
 pumped slowly ☐ 50
 Other ☐

3. Time spent developing well 30 min.4. Depth of well (from top of well casing) 70.0 ft.5. Inside diameter of well 2.0 in.6. Volume of water in filter pack and well casing 99.8 gal.7. Volume of water removed from well 300.0 gal.8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☒ No
(If yes, attach results)

17. Additional comments on development:

11. Depth to Water Before Development After Development

(from top of well casing) a. 2.0 ft. 2.0 ft.

Date b. 11/08/2011 11/09/2011
m m d d y y y y m m d d y y y y

Time c. 12:15 ☐ a.m. 12:45 ☒ p.m.
c. 12:15 ☒ p.m. 12:45 ☒ p.m.

12. Sediment in well bottom 0.0 inches 0.0 inches

13. Water clarity Clear ☐ 10 Clear ☒ 20
Turbid ☒ 15 Turbid ☐ 25
(Describe) (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l _____ mg/l

15. COD _____ mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm

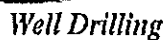
First Name: MIKE Last Name: SANTASFirm: SAM'S WELL DRILLING

Name and Address of Facility Contact/Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: _____
Street: _____
City/State/Zip: _____

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: MIKE SANTASPrint Name: MIKE SANTASFirm: SAM'S WELL DRILLING

NOTE: See instructions for more information including a list of county codes and well type codes.



Site FISH Crystal Mud Lake Rehab

[illegible]



DAILY LOG

CUSTOMER _____

Well No. MW1 Date: Wed 11/9/11

Address _____

Job # _____

Work Started at 745 (AM) (PM)Driller: MASHrs. 5Work Stopped at 1245 (AM) (PM)Helper: MIKE WHrs. 5

Travel: _____

Hrs. _____

Well Depth at Start of Shift _____

Size of Hole 6Casing Size 6

to _____

to _____

to _____

to _____

Static Water Level Start -2Well Depth End of Shift 70

Pumping Water Level _____

Days Progress

On site 745 finish construct MW1, gravel pull casing, develop 1/2 hr, finish w protector pipe clean up, mud truck, no road damage, off site 1245

Equipment Used

1 ton AR12 W waf 70K

Materials Used

☐ Cement☐ Foam☐ Mud☐ Bits☐ Approx. Fuel Used

6 bags high solids grt, 2 bags 50# silica, 2 granular, 2 chips
1 protector pipe 4" x 6'

Driver Log

Started at _____ at _____ (AM-PM)

Stopped at _____ at _____ (AM-PM)

Signature _____

Breakdown/Repairs



DAILY LOG

Tuesday

11/8/11

CUSTOMER _____

Well No. MW1 Date: _____

Address _____

Job # _____

Site

Work Started at 730 (AM-PM)Driller: THASHrs. 8.5Work Stopped at 400 (AM-PM)Helper: Den SmithHrs. 8.5

Travel: _____

Hrs. _____

Well Depth at Start of Shift -0-Size of Hole 6Casing Size 6

_____ to _____

dik ben sandy clay 0-4

_____ to _____

sandy silt some gravel 4-16 dry

_____ to _____

boulder 16-18

_____ to _____

sandy silt, some gravel, dry 18-37Drilled, sampled to 80'Well Depth End of Shift 70

Static Water Level Start _____

Pumping Water Level _____

silt and some gravel saturated 37-40sandy, silt some gravel 40-60 dry →

Days Progress

on site 730 access, mud truck, setup up begin drilling,
sampling MW1 @ 915 hit boulder @ 16 inched 2'; drilled sampled
to 60' - stopped drilling 11:30 - standby - dry hole 100 - desc
to drill deeper - drill sample to 80, desc. to set piez. @ 45-70
Flash hole top tools pull casing to 70 begin installing moni. well off
Equipment Used 1 ton DR12 W Wt Trk site 400

Samples @ SAMS

Materials Used

☐ Cement☐ Foam☐ Mud☐ Bits☐ Approx. Fuel Used

70' sch 40 2" pvc flash thread, 1 top, 1 bott, 1-5' sch 40, 010
pvc scrn 2.5 cu ft #30 filter pack

Driver Log

Started at _____ at _____

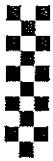
(AM-PM)

Stopped at _____ at _____

(AM-PM)

Signature _____

Breakdown/Repairs

**SIEVE ANALYSIS INFORMATION**

PLEASE FILL OUT THE FOLLOWING INFORMATION AND MAIL ALONG WITH YOUR SAMPLES TO:

Attn: Technical Service
Johnson Screens
1980 Old Highway 8
New Brighton, MN 55112
Phone - 800-833-9473 Ext 180

DRILLER: SAM'S WELL DRILLING

ENGINEER: FISH INFRASTRUCTURE AND ENVIRONMENT / GREG BOLIN

JOB NAME: FISH / CRYSTAL / MUD LAKE REHABILITATION

LOCATION: CRYSTAL LAKE ROAD

TEST HOLES, DIAMETER: 1 - 6"

TEST HOLES, DEPTH: 1 - 80'

DRILLING METHOD: DUAL ROTARY

DRILLING FLUID: NONE

DESIRED YIELD: 1000 GPM

STATIC WATER LEVEL: 2.0

WELL CASING DIAMETER: 18.0"

WELL SCREEN DIAMETER: 18.0" TELESCOPING

WELL SCREEN LENGTH: 14.0'

WELL APPLICATION: MAKE UP WATER FOR LAKE

DESIGN TYPE: Naturally Developed ☐ or Gravel Pack ☐

SAMPLES SENT BY: J. KRAMER

PURCHASE ORDER NO: _____

COPIES TO BE SENT TO: J. KRAMER SAM'S WELL DRILLING
PO. Box 150
RANDOLPH, WI. 53956

PHONE: 920-326-5173

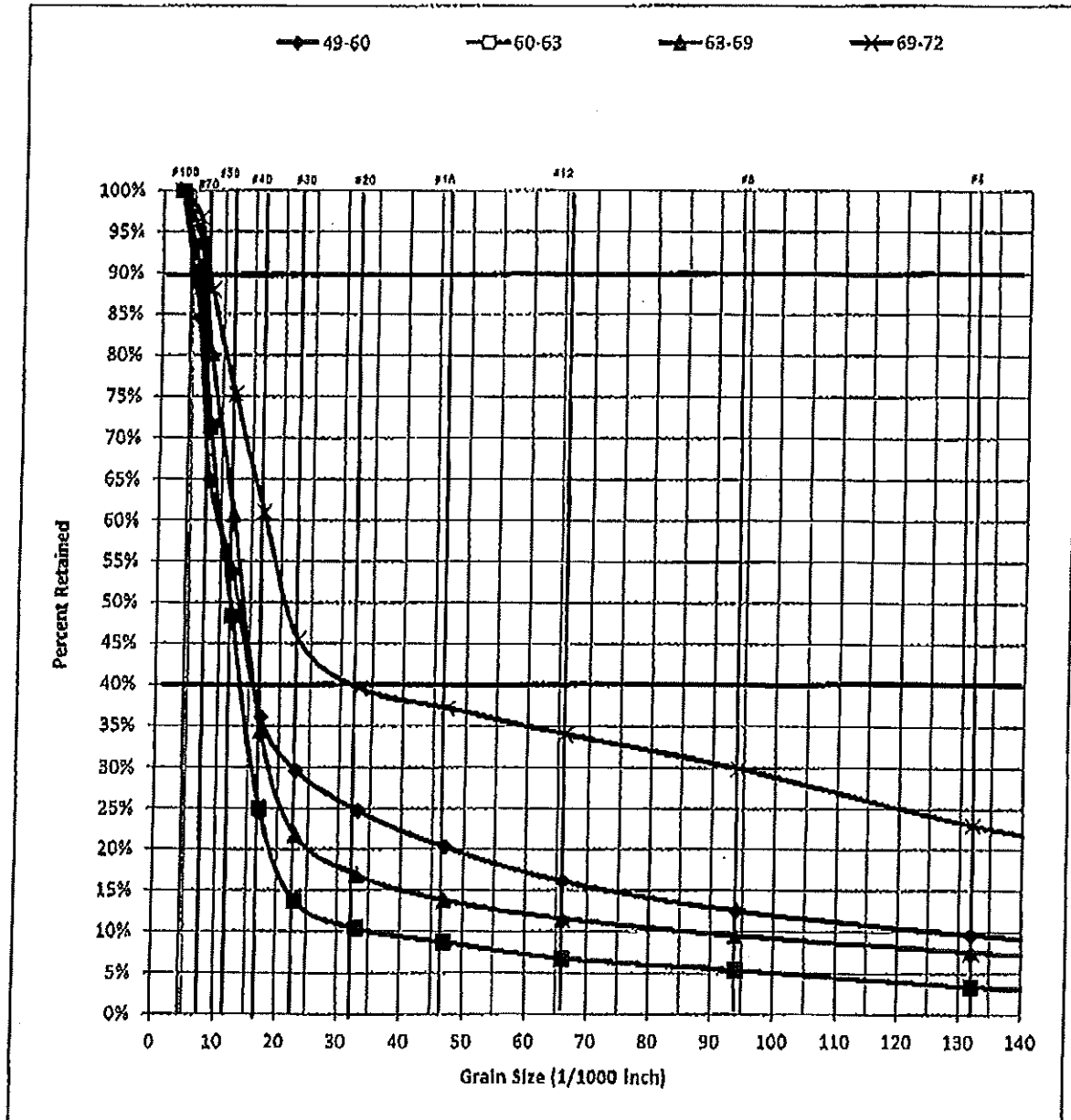
FAX: 920-326-5209

EMAIL ADDRESS: JEFFK@SAMSWELLDILLING.COM

COMMENTS: _____

Johnson Screens
651-636-3900

SAND ANALYSIS



Project: MW-1
Engineer:

Proposed Screen Diameter:
Recommended Slot Size: 20 Slot From 63' - 75'
Recommended Gravel Pack: #20 Well Slot Red Flint

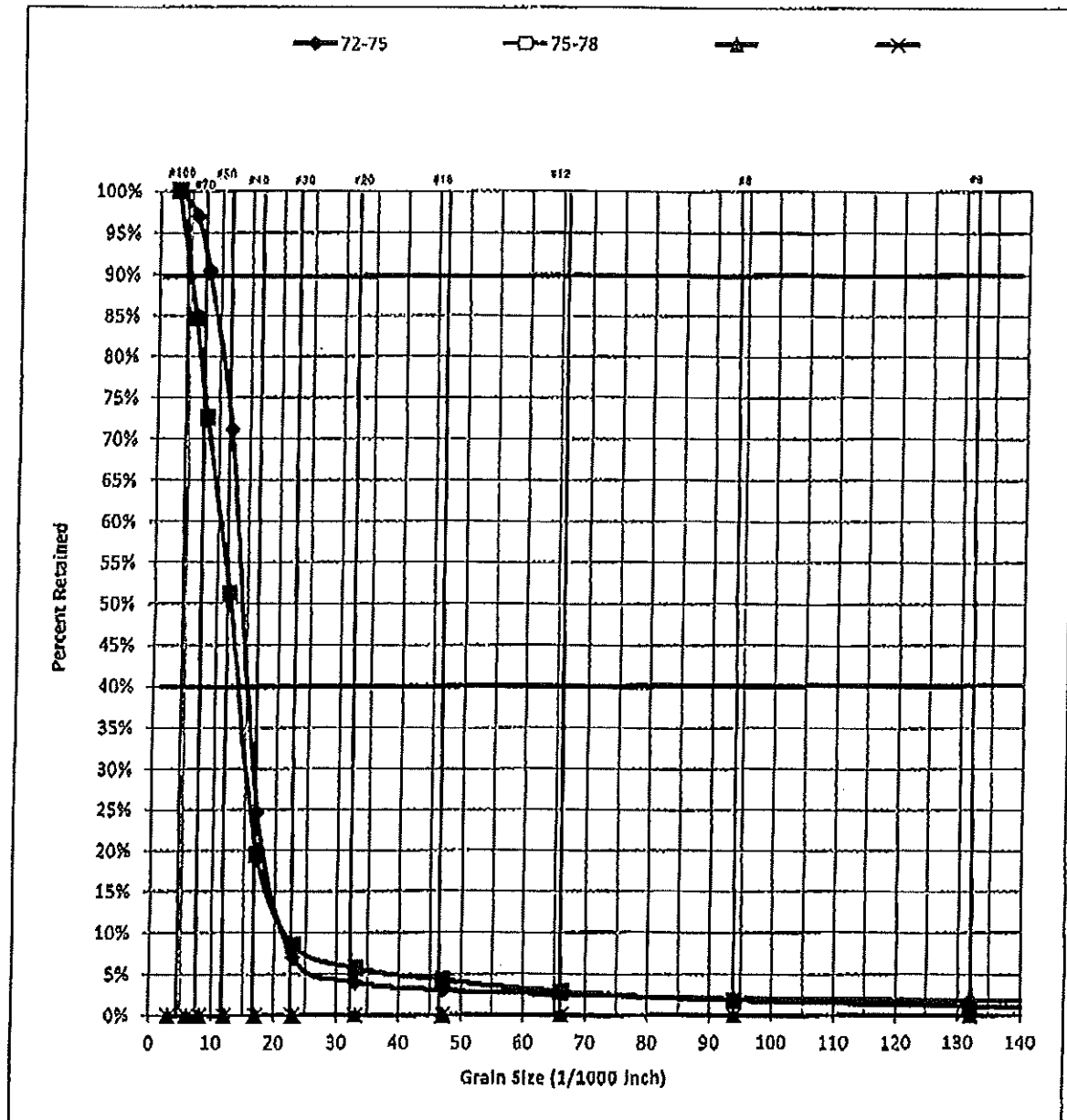
Sieve Analysis ID # 111411-2
Well:
Contractor: Sam's Well Drilling
Desired Yield - GPM, SWL .
Sample 49' - 60' (Mostly Clay)

Prepared By: Al Smith
651-638-3180

Send samples to 1950 Old Hwy 8, New Brighton, MN 55112.

Johnson Screens
651-636-3900

SAND ANALYSIS



Project: MW-1
Engineer:

Proposed Screen Diameter:
Recommended Slot Size:
Recommended Gravel Pack:

20 Slot From 63' - 75'
#20 Well Slot Red Flint

Sieve Analysis ID # 111411-2

Well:

Contractor: Sam's Well Drilling
Desired Yield - GPM, SWL - '
Sample 49' - 60' (Mostly Clay)

Prepared By: Al Smith
651-638-3160

Send samples to 1950 Old Hwy 8, New Brighton, MN 55112.