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AGRA Earth & Environmental
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth &
Environmental, Inc.
3504 Industrial Avenue
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Fairbanks, Alaska
USA 99701-7376
Tel (907) 479-7586
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September 23, 1999
9-024-01268-0

UAF FACILITIES SERVICES
DESIGN AND CONSTRUCTION

SEP 27 1999

RECEIVED

OCT 15 1999

CONTAMINATED
SITES
FAIRBANKS

University of Alaska Fairbanks
Design and Construction
P.O. Box 758160
Fairbanks, Alaska 99775-8160

Attention: **Julia Redington**

RE: RESULTS OF GROUNDWATER MONITORING, AUGUST 1999
UNIVERSITY OF ALASKA FAIRBANKS PHYSICAL PLANT

Dear Julia:

This letter report presents the results of the first of four groundwater sampling events at the referenced location. The purpose of this program is to identify the presence or absence of chlorinated solvent impacts to the groundwater in select wells installed by AGRA. As part of this project, AGRA installed two monitoring wells as indicated in the attached Figure 1. Prior to sampling, the wells were developed in accordance with ADEC guidelines, and a level survey of the wells was completed to establish vertical control relative to a temporary benchmark at the site. Copies of the boring logs and well construction details for each well are attached to this letter.

AGRA personnel collected and handled the samples in accordance with the ADEC *Oil and Hazardous Substances Pollution Control* regulations (18AAC75). From each well, AGRA personnel collected water samples at depths of both 30 feet and 60 feet. The sample collection process included measuring the depth to water and the head at each depth using a pressure transducer. AGRA personnel purged the water at each depth for approximately 15 minutes prior to sample collection. The water sample was decanted into the appropriate sample containers at low flow directly from the pump mechanism. The samples were labeled with the well number, the date, and the time of collection, stored in a chilled cooler while on site, and then transferred to a refrigerator until shipped to the laboratory. The two original water samples and one quality assurance (QA) duplicate sample were tested for volatile organics (VOCs) by EPA Method 8260. A trip blank accompanied the water samples to the laboratory.

As requested in the RFP for this project, AGRA sampled a drum reportedly containing purge water from a previous sampling episode at the Physical Plant. To characterize the water for disposal, the sample was tested for benzene, toluene, ethylbenzene, and xylenes (BTEX) and gasoline range organics (GRO) by Alaska Test Method AK101, diesel range organics (DRO) and residual range organics (RRO) by Alaska Test Method AK102/AK103, halogenated volatile organics (HVOs) by EPA Method 8010, and the eight RCRA metals. We have attached the laboratory report for that sample for use by UAF personnel.

Table 1 summarizes the data obtained from the water samples collected during this event. The samples indicated the presence of both benzene and chlorinated compounds in each well.

TABLE 1
Water Sample Results

Sample ID	Monitoring Point Elevation (feet)	Water Elevation (feet)	Benzene (µg/L)	1,2-Dichloroethane (µg/L)
Regulatory Limit			5	5
UAF301-30	102.36	85.88	0.64	1.19
UAF301-55	102.36	---	0.94	1.17
UAF302-30	98.83	86.00	3.07	ND(1)
UAF302-55	98.83	---	3.76	ND(1)
UAFDUP-1	---	---	0.67	1.26

ND indicates the analyte was non-detectable above the detection limit given.
Sample UAFDUP-1 is a field duplicate of sample UAF301-30.
All other VOC compounds were non-detectable.

CLOSURE

We are pleased to be of continued service to UAF. We will forward the results of the November event after completing that sampling episode. If you have any questions or comments regarding this report, please call our office.

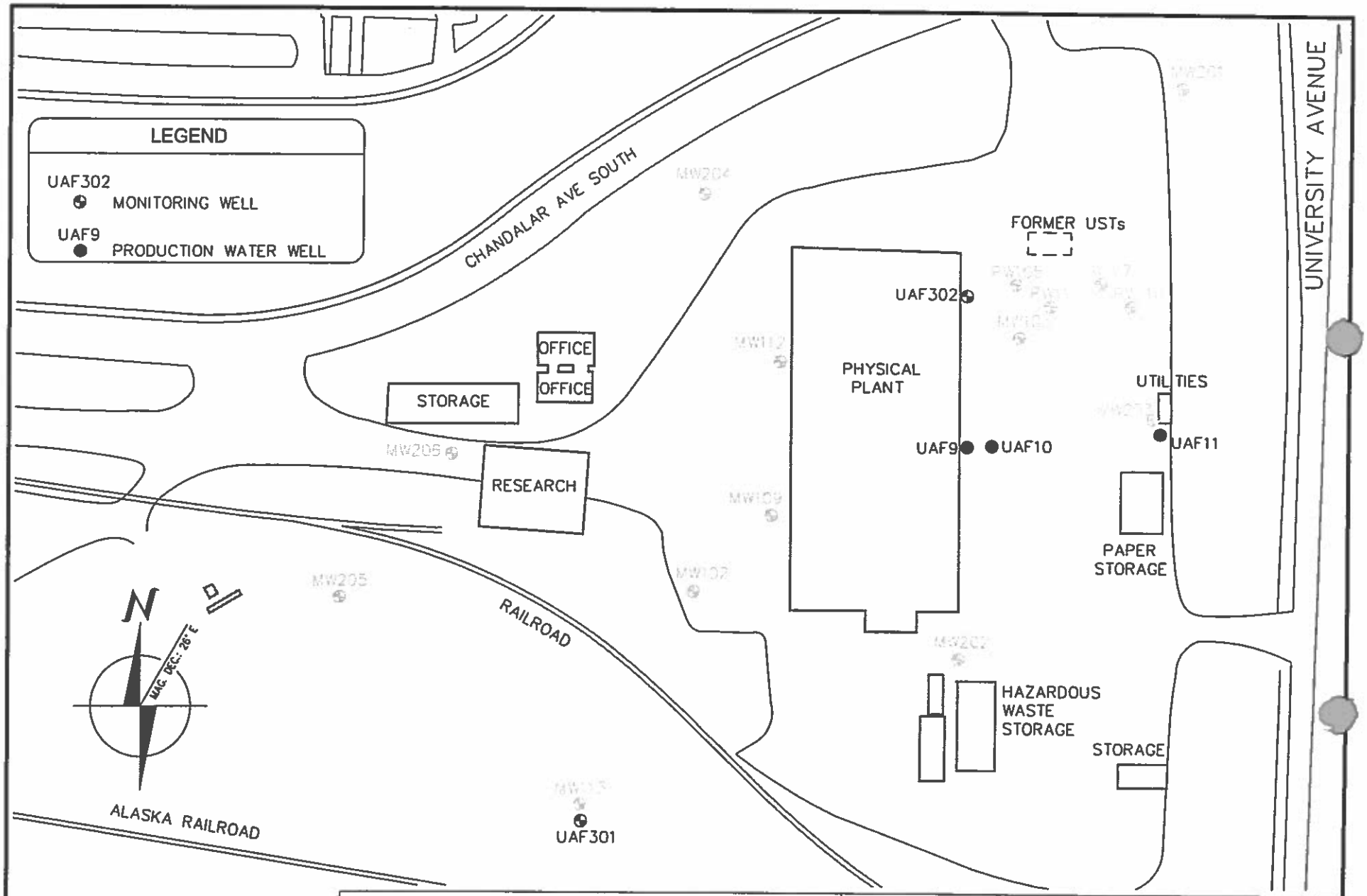
Sincerely,

AGRA Earth & Environmental, Inc.

James A. Spontak

James A. Spontak
Project Manager

Atch: Figure 1, Site Map
Soil Boring Logs
Laboratory Reports



SCALE
0 125
FEET

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UAF PHYSICAL PLANT

SITE MAP
FIGURE 1

DESIGN: JAS	DRAWN: PC2	W/O: 9-024-01268-0	FILE: 12680002	DATE: 09/23/1999	SCALE: AS SHOWN

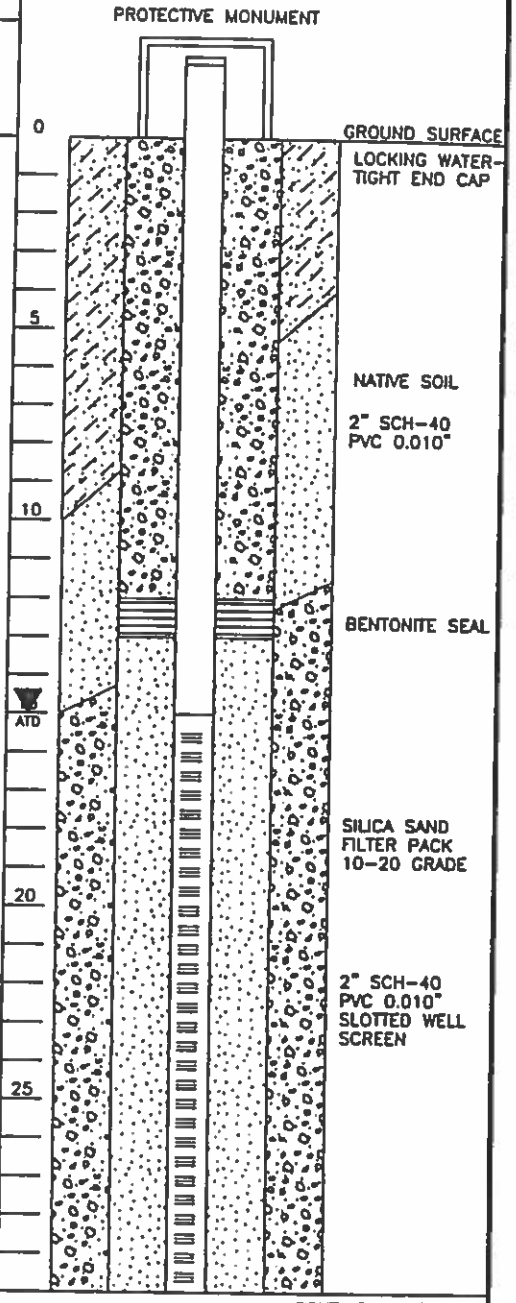
ELEVATION REFERENCE: ON SITE REFERENCE DATUM 100.00 FEET
CASING ELEVATION: 102.36 FEET

DEPTH (FEET)	SAMPLE TYPE	SAMPLE NUMBER	PENETRATION RESISTANCE (BLOW COUNTS PER FOOT)	OVM READING (ppm)	FROST CLASSIFICATION	% FINER THAN 0.02mm	SOIL DESCRIPTION
0							
	2-inch O.D. split-spoon sample	S-1		0			Medium dense, moist, medium brown, silty SAND.
5							
10	3-inch O.D. split-spoon sample	S-2		8			Loose, moist, light brown-grey, SAND.
15	3-inch O.D. split-spoon sample	S-3		27			Dense, wet, medium grey, sandy GRAVEL.
20							From cuttings, wet, medium grey, sandy GRAVEL.
25							
30							

PENETRATION RESISTANCE (BLOW COUNTS PER FOOT): 0 20 40 60 80 100

PERCENT WATER CONTENT: 0 10 20 30 40 50

AS-BUILT DESIGN



CONT. ON SHEET 2

LEGEND

- 2-inch O.D. split-spoon sample
- 3-inch O.D. split-spoon sample
- 3-inch O.D. thin-wall sample (C)
- Grab Sample
- Water level at time of drilling (ATD)
- * Sample not recovered
- Organic Material
- Clay
- Silt
- Sand
- Gravel
- Frozen Ground
- Angular Fragments
- Bedrock (Undiff)

NOTE: Stratification lines indicate approximate boundaries between soil types; transition may be gradual.

NOTES:

Date started: 06/14/1999
Date completed: 06/14/1999
Driller: Homestead Drilling
Gary Halmstad
Method: HSA
AEE Geologist: Keri DePalma

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FAIRBANKS, ALASKA
BORING 301
SHEET 1 OF 2

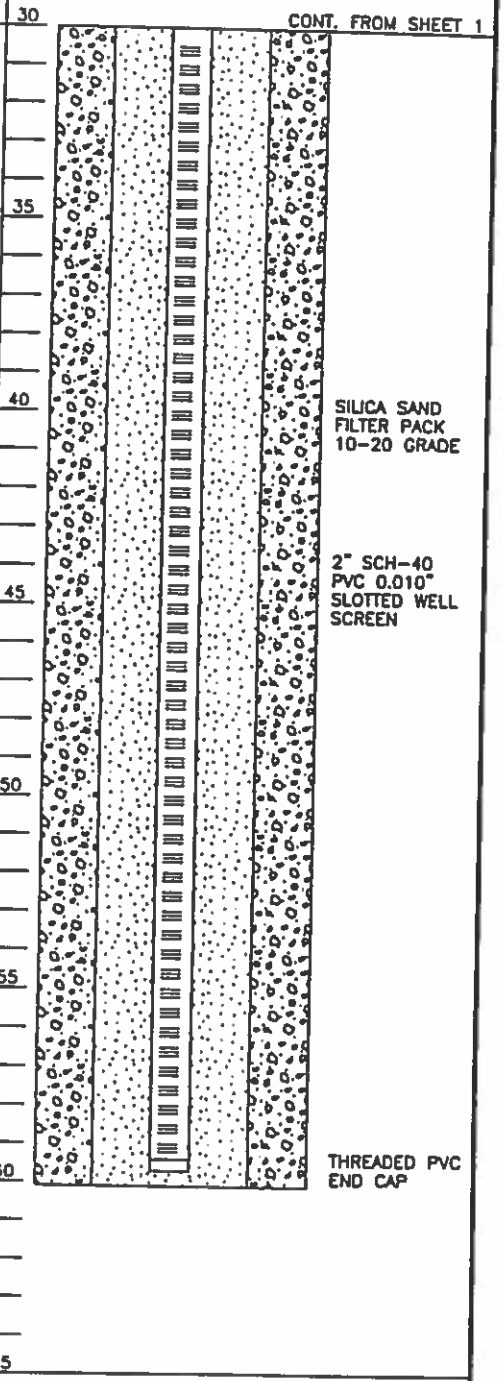
DESIGN: JAS	DRAWN: PC2	W/O: 9-024-01268-0	FILE: 12680SB1	DATE: 09/20/1999	SCALE: 1"=5'vert

ELEVATION REFERENCE: ON SITE REFERENCE DATUM 100.00 FEET
CASING ELEVATION: 102.36 FEET

DEPTH (FEET)	SAMPLE TYPE	SAMPLE NUMBER	PENETRATION RESISTANCE (BLOW COUNTS PER FOOT) 0 20 40 60 80 100	OVM READING(ppm)	FROST CLASSIFICATION	% FINER THAN 0.02mm	SOIL DESCRIPTION
30							From cuttings, wet, medium grey, sandy GRAVEL.
35							
40							
45							
50							
55							
60							
65							

0 10 20 30 40 50
PERCENT WATER CONTENT

AS-BUILT DESIGN



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PHYSICAL PLANT
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FAIRBANKS, ALASKA
BORING 301
SHEET 2 OF 2

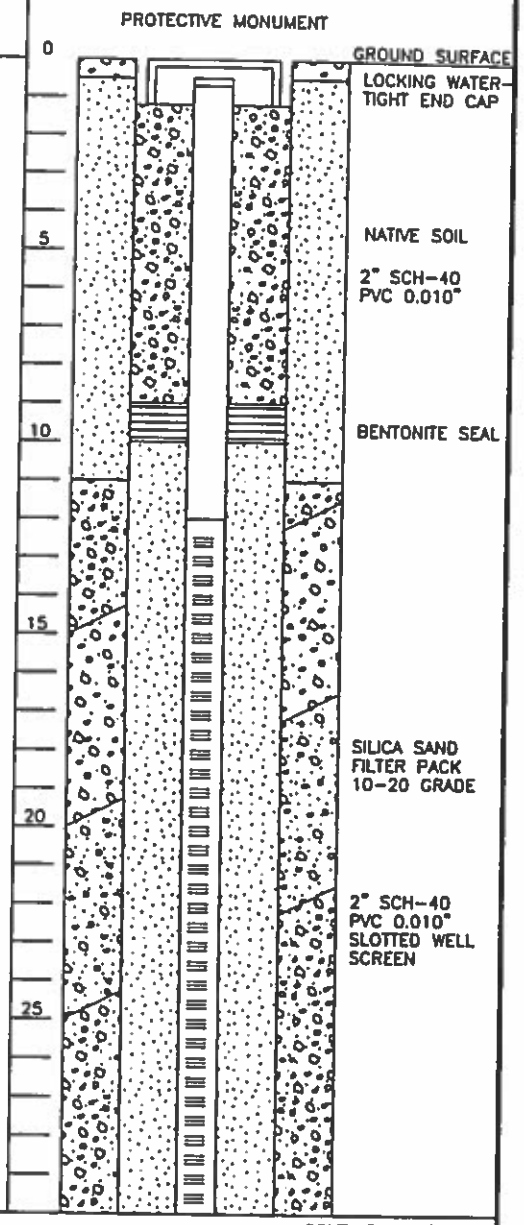
DESIGN: JAS	DRAWN: PC2	W/O: 9-024-01268-0	FILE: 12680SB1	DATE: 09/20/1999	SCALE: 1'=5'vert.

ELEVATION REFERENCE: ON SITE REFERENCE DATUM 100.00 FEET
CASING ELEVATION: 98.83 FEET

DEPTH (FEET)	SAMPLE TYPE	SAMPLE NUMBER	PENETRATION RESISTANCE (BLOW COUNTS PER FOOT) 0 20 40 60 80 100	OVM READING (ppm)	FROST CLASSIFICATION	% FINER THAN 0.02mm	SOIL DESCRIPTION
0				11			GRAVEL pad to 6 inches.
5		S-1		5			Medium dense, moist, light brown-grey, fine SAND.
10		S-2		3			Medium dense, moist, light brown, sandy GRAVEL.
15		S-3		6			Loose, wet, dark grey GRAVEL with some sand.
20							From cuttings, light brown, gravelly SAND.
25							From cuttings, light brown-grey, sandy GRAVEL.
30							

0 10 20 30 40 50
PERCENT WATER CONTENT

AS-BUILT DESIGN



CONT. ON SHEET 2

LEGEND

- 2-inch O.D. split-spoon sample
- 3-inch O.D. split-spoon sample
- 3-inch O.D. thin-wall sample
- Grab Sample
- ATD Water level at time of drilling
- * Sample not recovered
- Organic Material
- Clay
- Silt
- Sand
- Gravel
- Frozen Ground
- Angular Fragments
- Bedrock (Undiff)

NOTE: Stratification lines indicate approximate boundaries between soil types; transition may be gradual.

NOTES:

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FAIRBANKS, ALASKA
BORING 302
SHEET 1 OF 2

DESIGN: JAS	DRAWN: PC2	W/O: 9-024-01268-0	FILE: 12680SB2	DATE: 09/21/1999	SCALE: 1"=5'vert

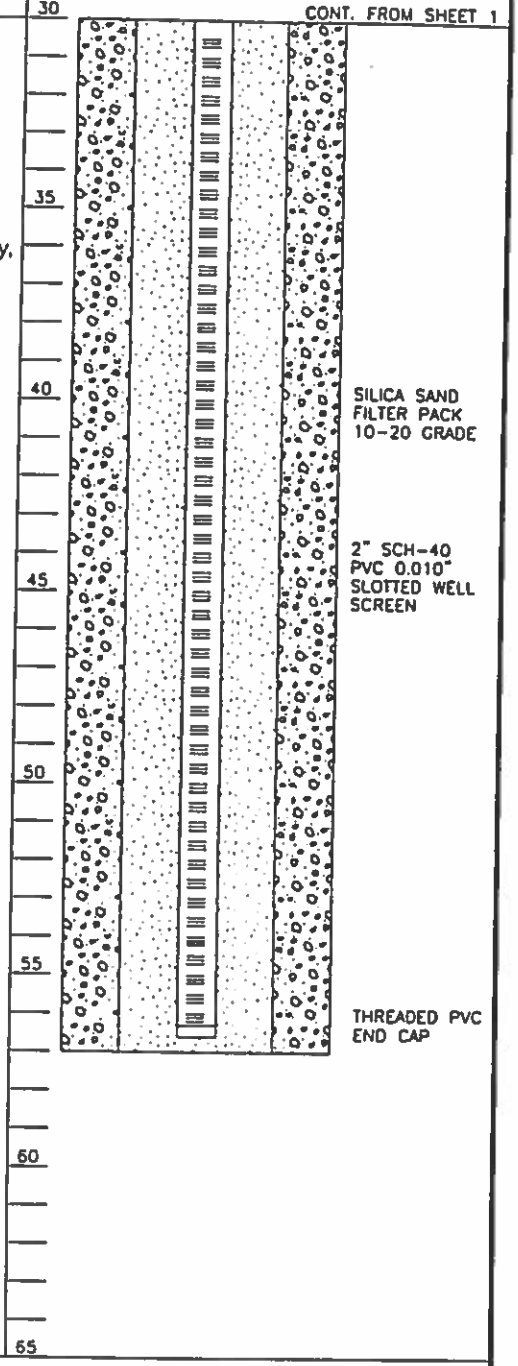
ELEVATION REFERENCE:

ON SITE REFERENCE DATUM 100.00 FEET
CASING ELEVATION: 98.83 FEET

DEPTH (FEET)	SAMPLE TYPE	SAMPLE NUMBER	PENETRATION RESISTANCE (BLOW COUNTS PER FOOT) 0 20 40 60 80 100	OVM READING (ppm)	FROST CLASSIFICATION	% FINER THAN 0.02mm	SOIL DESCRIPTION
30							From cuttings, medium grey, sandy, coarse GRAVEL.
35							From cuttings, wet, medium grey, sandy GRAVEL.
40							
45							
50							
55							
60							
65							

0 10 20 30 40 50
PERCENT WATER CONTENT

AS-BUILT DESIGN



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PHYSICAL PLANT
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BORING 302
SHEET 2 OF 2

DESIGN: JAS	DRAWN: PC2	W/O: 9-024-01268-0	FILE: 12680SB2	DATE: 09/21/1999	SCALE: 1"=5' vert.