**Professional
Geotechnical
Consultants, Inc.**

December 5, 2008

File # 05-4377

Young-Nak Retreat Center
Attn: Byung Choi
1721 N. Broadway
Los Angeles, California 90031

Subject: Private Sewage Disposal System
Percolation Test Results
21400 Pine Canyon Road
Lake Hughes, California

Dear Mr. Choi

This letter is being written in order to provide recommendations for a private sewage disposal system on the subject site. Percolation testing was performed on November 19, 2008 through November 20, 2008.

SUMMARY

Four percolation test pits were excavated on October 8, 2008. Two of the pits were chosen, one for the proposed present seepage pit and the other was for the future seepage pit, B 01 and B 02. The third pit, B 03, was abandoned for reasons given below.

Additionally one pit, B 04, was excavated ten feet below the bottom elevation of the percolation pits to check for groundwater. Both pits chosen for testing are twenty nine to thirty feet (29' to 30') deep and two feet (2') in diameter The seepage pits are located approximately four hundred feet from the existing water well and two hundred forty to four hundred feet from the closest proposed structure (see Plot Plan).

The percolation testing was performed using the Meter Test Method. Holes were left open for three days to stabilize and monitor for ground water seepage. The holes were then pre-soaked by filling with clean water to within five feet (5') of grade twenty-four hours prior to the actual percolation rate testing. The water drop during the pre-soak met or exceeded the required ten feet.

During the percolation rate testing, three thousand one hundred and thirty nine gallons (3139 gals) of water was introduced into the present seepage pit (B 01) and three thousand eight hundred and nine (3809 gal) gallons into the expansion pit (B 02) in an eight hour period. Both seepage pits emptied in less than twenty four hours

Material description of the pits are given at the back of this letter, Figures E.1.1 through E.4.2.

The third pit, B 03, experienced a large cave in after the start of the percolation testing and was abandoned for safety reasons. This pit was located adjacent to a our TP 02, which was part of an original investigation, dated February 20, 2006, for a leach field system that had to be abandoned because of debris flow channel location issues. This test pit was excavated to a depth of fifteen and one half feet (15.5'). The presoak and the start of the percolation testing caused this old exploration to cave into B 03 and terminated it's use.

CALCULATIONS

The following calculations are performed utilizing testing data retrieved from the above-referenced test pits and percolation results.

Meter Test Method for Present Seepage Pit: Pit #1

Test run from 7:54 AM to 2:06 PM. Water placed into hole = 3,139 gallons

Meter Test Method for 100% Expansion Seepage Pit: Pit #2

Test run from 8:27 AM to 2:03 PM. Water placed into hole = 3,809 gallons

RECOMMENDATIONS

According to the code requirements, five times the capacity of the septic tanks must be removed within twenty-four hours. The proposed development will use a pre-treatment system that utilizes a treatment tank with a capacity of 5,000 gallons, therefore the pits capacity must be capable of handling 25,000 gallons every twenty four hours.

Using a six foot diameter seepage pit will provide a capacity of 9,417 gallons per each pit. Thus three pits (3 pits) will be required to remove the design effluent volume. A suggested layout of the primary pits is shown on the attached Plot Plan. The area for the 100% expansion is also shown on the Plot Plan.

The required pit(s) will be placed at a spacing of eighteen feet (18') on center. These recommendations may be altered as designed and approved by the County of Los Angeles.

If you have any questions, please do not hesitate to contact this office.

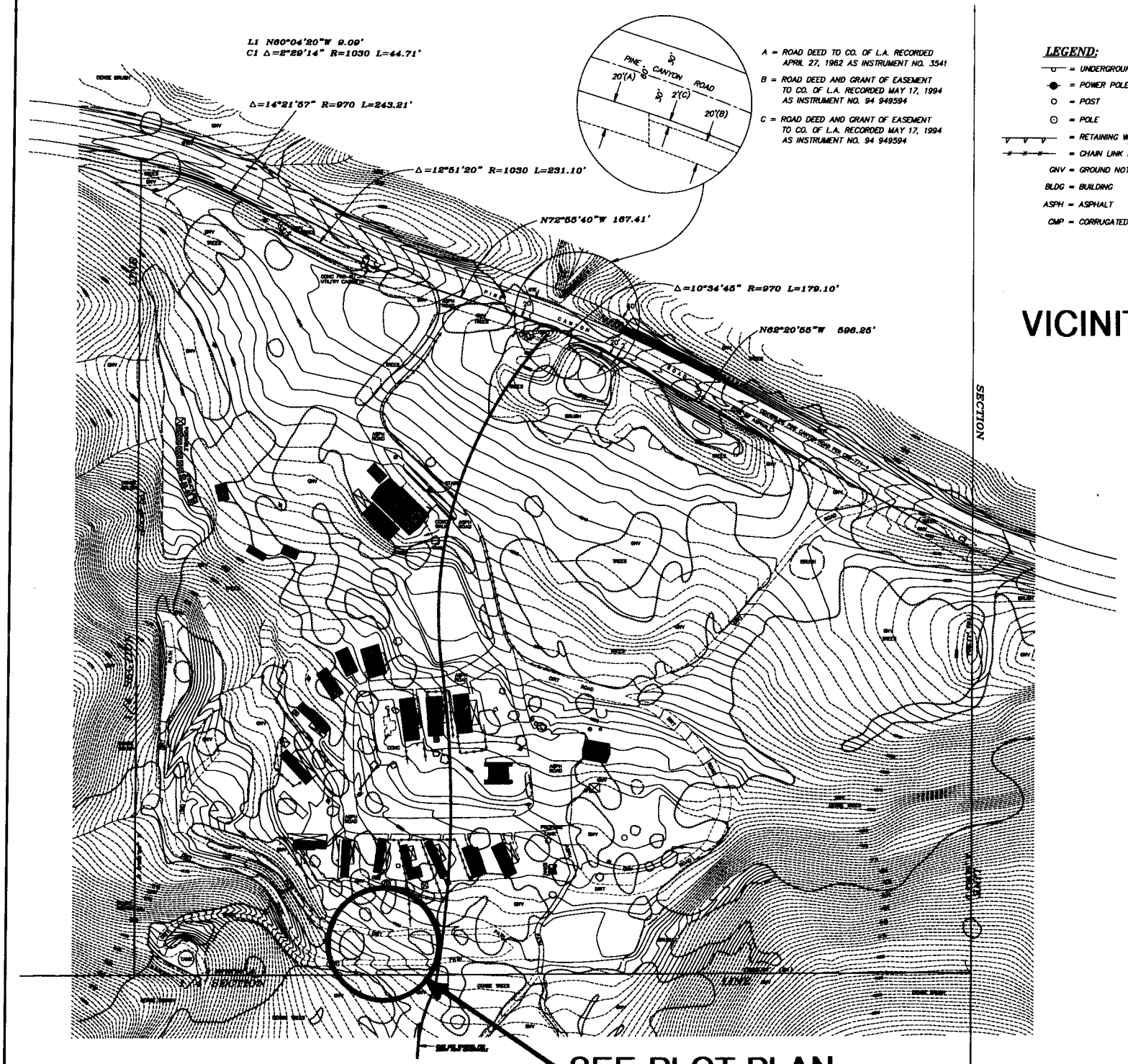
Respectfully submitted:
PROFESSIONAL GEOTECHNICAL CONSULTANTS, INC.

Gary C. Masterman
Chief Engineer
GE 567

GCM/: 05-4377.03Perc

Encl: Plot Plan
Boring Logs, Figures E.1.1 through E.4.2
Percolation Test Data, Pit #1 and #2

Dist: (1) Addressee
(2) Barney Caudill
(1) File



LEGEND:

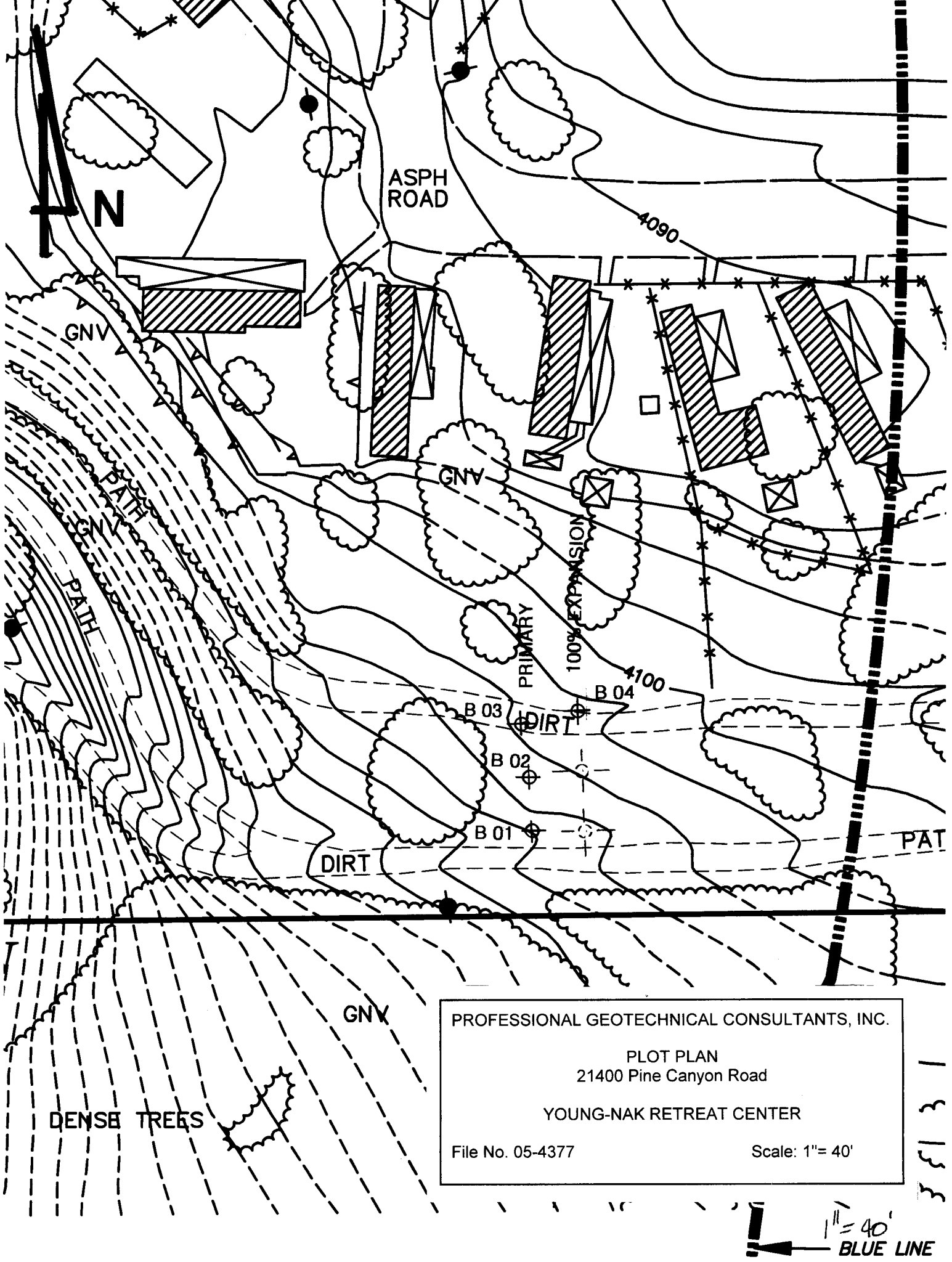
- = UNDERGROUND UTILITY MARKER
- = POWER POLE
- = POST
- = POLE
- = RETAINING WALL
- = CHAIN LINK FENCE

GNV = GROUND NOT VISIBLE
BLDG = BUILDING
ASPH = ASPHALT
CMP = CORRUGATED METAL PIPE

VICINITY MAP

GRAPHIC SCALE

(IN FEET)
1 inch = 80 ft.



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PLOT PLAN
21400 Pine Canyon Road

YOUNG-NAK RETREAT CENTER

File No. 05-4377 Scale: 1"= 40'

1"= 40'
BLUE LINE

EXPLORATION LOG

PROJECT NAME:	Young Nak Retreat Center	EXCAVATION:	B 01
PROJECT NUMBER:	05-4377	EXPLORATION EQUIPMENT:	Drill Rig, 24" dia
LOGGED BY: GCM	DATE: 10/08/08	ELEVATION:	TOTAL DEPTH: 30'
COMMENTS:	Edge of dirt road		

Depth (ft.)	Sample: Bulk	Sample: Ring	Sample: Blows per ft.	Dry Unit Wt. (pcf)	Moisture (%)	Lithology	LITHOLOGIC DESCRIPTION
0							ALLUVIUM, Silty Gravel, brown, slightly moist, medium dense, gravel to 3/4"
5							
10							yellowish brown
15							some layers of gravel, 3/4"
20							Gravel layer, 3/4" to 1"
							olive drab, more gravelly
25							light reddish brown
30							End at 30', No Water, No Caving, No Fill
35							

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Figure E.1.1

EXPLORATION LOG

PROJECT NAME:	Young Nak Retreat Center	EXCAVATION:	B 02
PROJECT NUMBER:	05-4377	EXPLORATION EQUIPMENT:	Drill Rig, 24" dia
LOGGED BY: GCM	DATE: 10/08/08	ELEVATION:	TOTAL DEPTH: 29'
COMMENTS:	Level field		

Depth (ft.)	Sample: Bulk	Sample: Ring	Sample: Blows per ft.	Dry Unit Wt. (pcf)	Moisture (%)	Lithology	LITHOLOGIC DESCRIPTION
0							ALLUVIUM, Silty Gravel, grayish brown, slightly moist, medium dense, medium to coarse grained, gravel from 3/4" to 1 1/4"
							grayish brown to grayish yello brown
5							6" thich gravelly zone
							yellowish brown
10							more gravel
							Gravelly Sand, tan, slightly moist, dense, coarse, gravel to 1"
15							grayish tan, with cobbles
							Silty Gravel, yellowish brown, moist, dense, fine to medium grained, with gravel to 1", with sandy layers and some cobbles
20							no gravel, fine sand
							BEDROCK, Granite, very weathered
25							End at 29', No Water, No Caving, No Fill
30							
35							

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Figure E.2.1

EXPLORATION LOG

PROJECT NAME:	Young Nak Retreat Center	EXCAVATION:	B 03
PROJECT NUMBER:	05-4377	EXPLORATION EQUIPMENT:	Drill Rig, 24" dia
LOGGED BY: GCM	DATE: 10/08/08	ELEVATION:	TOTAL DEPTH: 29'
COMMENTS:	Level Field		

Depth (ft.)	Sample: Bulk	Sample: Ring	Sample: Blows per ft.	Dry Unit Wt. (pcf)	Moisture (%)	Lithology	LITHOLOGIC DESCRIPTION
0							ALLUVIUM, Silty Sand, grayish brown, slightly moist, medium dense, fine to medium grained, with some 3/4" gravel
							some difficulty keeping spoils in bucket as it is removed from the boring
5							
							occassional cobble
10							
15							moist, brown, spoils hold in bucket
							coarser, yellowish brown
20							light olive drab, moist
							some cobbles
							pinkish gray
25							
							BEDROCK, Granite, very weathered
30							End at 29', No Water, No Caving, No Fill
35							

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Figure E.3.1

EXPLORATION LOG

PROJECT NAME:	Young Nak Retreat Center	EXCAVATION:	B 04
PROJECT NUMBER:	05-4377	EXPLORATION EQUIPMENT:	Drill Rig, 24" dia
LOGGED BY: GCM	DATE: 10/08/08	ELEVATION:	TOTAL DEPTH: 40'
COMMENTS:	open level field		

Depth (ft.)	Sample: Bulk	Sample: Ring	Sample: Blows per ft.	Dry Unit Wt. (pcf)	Moisture (%)	Lithology	LITHOLOGIC DESCRIPTION
0							ALLUVIUM, Silty Sand, grayish brown, dry, medium dense, medium grained, with some gravel to 3/4"
5							slightly moist
10							
15							Silty Gravel, light olive drab, moist, dense, gravel to 2"
							yellowish brown
20							
25							
30							BEDROCK, Granite, tan to white to grayish tan, soil like, very weathered
							less weathered, begins to look like bedrock
35							

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Figure E.4.1

EXPLORATION LOG

PROJECT NAME:	Young Nak Retreat Center	EXCAVATION:	B 04
PROJECT NUMBER:	05-4377	EXPLORATION EQUIPMENT:	Drill Rig, 24" dia
LOGGED BY: GCM	DATE: 10/08/08	ELEVATION:	TOTAL DEPTH: 40'
COMMENTS:	open level field		

Depth (ft.)	Sample: Bulk	Sample: Ring	Sample: Blows per ft.	Dry Unit Wt. (pcf)	Moisture (%)	Lithology	LITHOLOGIC DESCRIPTION
35							
40							End at 40', No Water, No Caving, No Fill
45							
50							
55							
60							
65							
70							

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Figure E.4.2

KEY TO SYMBOLS

Symbol Description

Strata symbols

 Silty gravel

 Poorly graded gravel

 Poorly graded sand

 Silty sand

 Granite

Misc. Symbols

 Water table during excavation

 Water table after 24 hrs

Notes:

1. Explorations placed on October 8, 2008 using a drill rig with a 24" bucket

2. Free water if encountered at the time of explorations is noted on the log.

3. Boring locations were taped from existing features and plotted on a field diagram.

4. These logs are subject to the limitations, conclusions,and recommendations in this report.

Percolation Pit Readings				
Start	**Stop**	**Meter Start**	**Meter Stop**	**Volume (gal)**
PIT # 1				
0754	0825	26832	27683	851
0934	0948	29545	29919	374
1024	1037	30792	31114	322
1111	1121	31929	32197	268
1142	1149	32710	32913	203
1221	1315	33161	33458	297
1319	1406	33478	33905	427
PIT # 2				
0827	0856	27683	28548	865
0949	1009	29919	30450	531
1038	1053	31114	31525	411
1122	1134	32197	32532	335
1150	1159	32913	33161	248
1206	1212	33307	33478	171
1217	1230	33572	33760	188
1232	1247	33880	34110	230
1250	1324	34277	34642	365
1328	1349	34444	34749	305
1352	1403	34767	34927	160

Total Pit #1 = 3.139 gal

Total Pit #2 = 3,809 gal