

Log Nos.  
36104, 36105, 36106

pg. 1 of 6



Consulting Engineers and Geologists

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September 13, 1990

State of Nevada Department of  
Conservation and Natural Resources  
Division of Water Resources  
Capital Complex  
123 W. Nye Lane  
Carson City, Nevada 89710

3 wells  
N19E1910CAA

Attention: Mr. Tom Gallagher

Monitoring Well Waiver  
Keystone Square  
Reno, Nevada

This letter presents the construction detail and soils logs for the monitoring wells constructed at Keystone Square on July 5, 6, and 12, 1990 per waiver M/O-288. The wells were constructed to a total depth of 30 (MW-1), (MW-4), and 36 (MW-3) feet below the existing ground surface. Monitor wells 1 and 3 were completed in sand, while Monitor Well 4 was completed in clay.

We trust that this provides the information needed at this time; however, if you have any questions, please contact us.

Yours very truly,

PEZONELLA ASSOCIATES, INC.

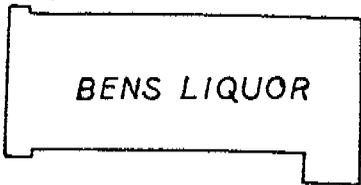
Joseph T. Lipka  
Geologist

JTL/11m

- Plate 1 - Site and Exploration Plan
- Plate 2 - Monitoring Well Construction Detail
- Plate 3 - Log of Monitor Well - 1
- Plate 4 - Log of Monitor Well - 3
- Plate 5 - Log of Monitor Well - 4

Loy Nos. 36104, 36105  
36106.  
py. 2 of 6

AVE.

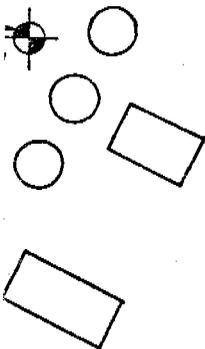


BENS LIQUOR

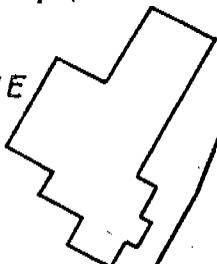


CAA

ST.



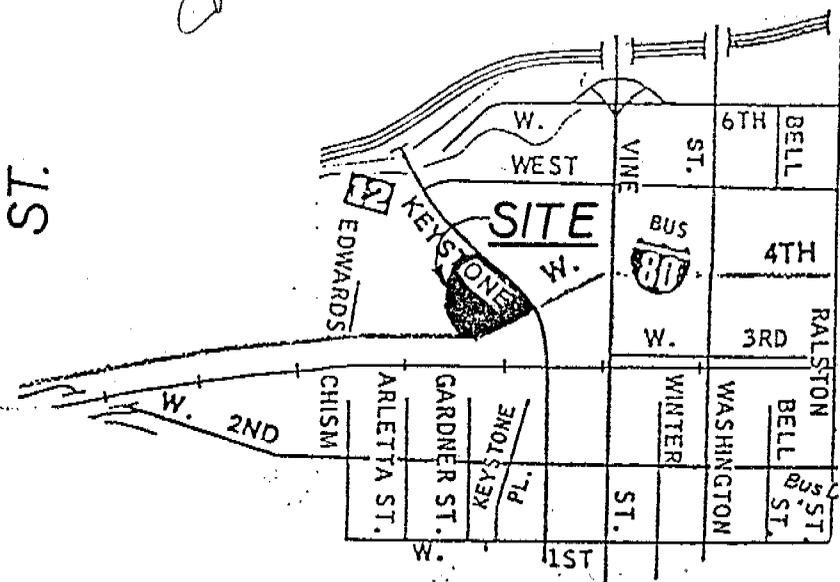
KEYSTONE FUEL



KEYSTONE #1  
RETAIL OFFICE  
BUILDING

W.

4TH



VICINITY MAP  
NO SCALE

SCALE  
NO SCALE



**Pezonella  
Associates, Inc.**

Consulting Engineers and Geologists

Job No. 947.09A

Appr. *[Signature]*

Date 8/2/90

**SITE & EXPLORATION PLAN**

**KEYSTONE SQUARE**

RENO, NEVADA

PLATE

**1**

KEYSTONE

CLEANERS

SHOPS

BANK

BANK

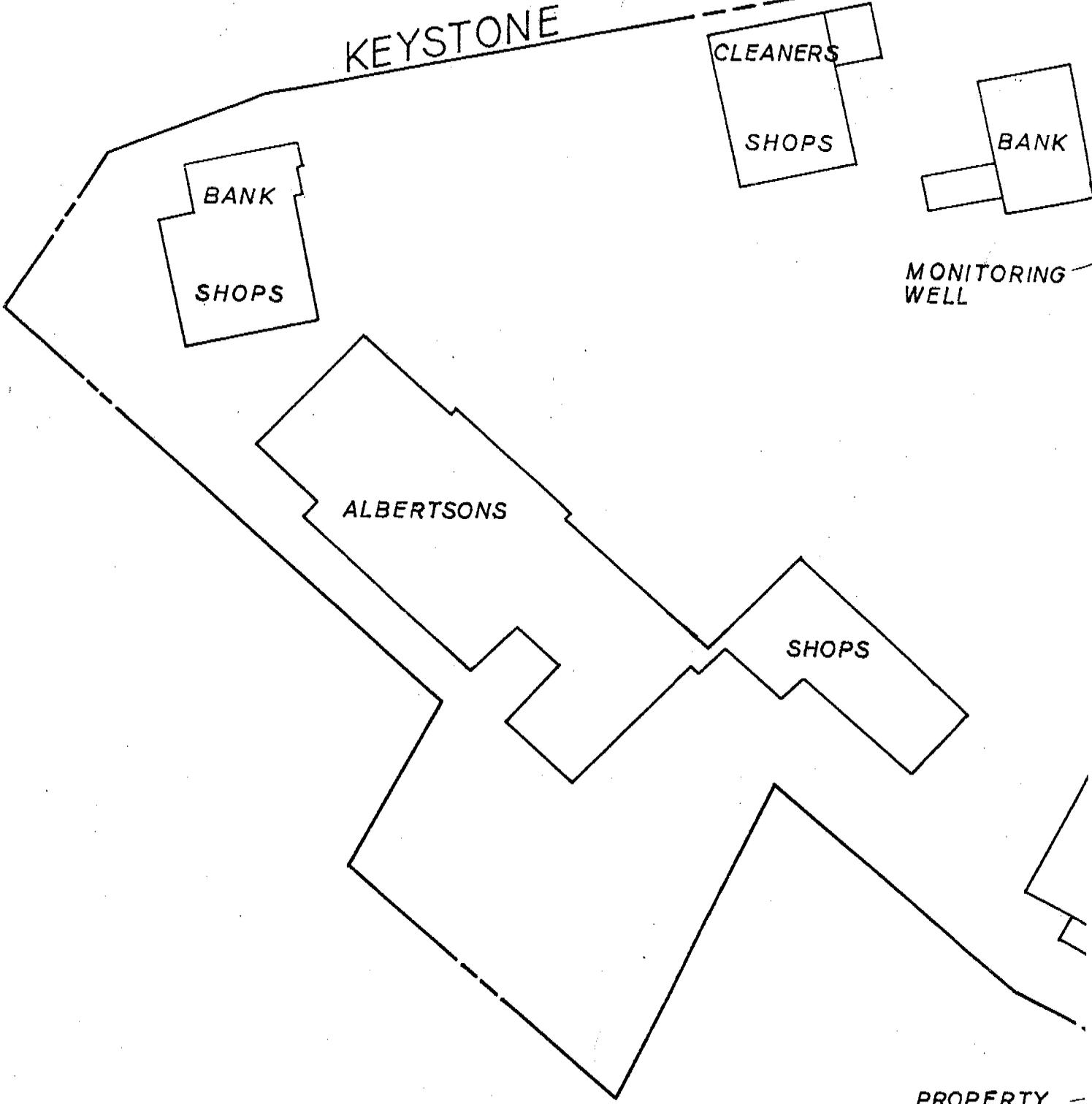
SHOPS

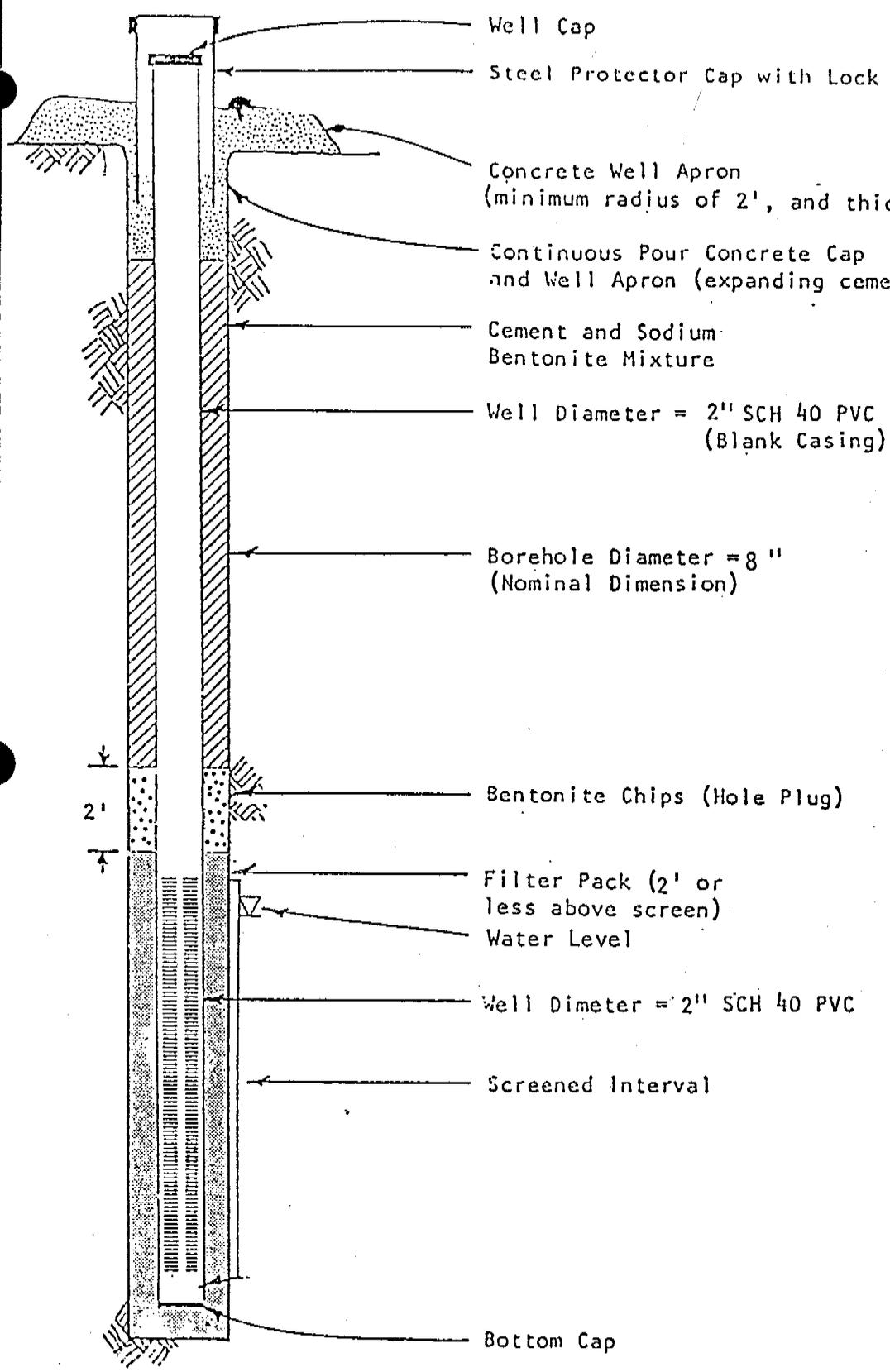
MONITORING WELL

ALBERTSONS

SHOPS

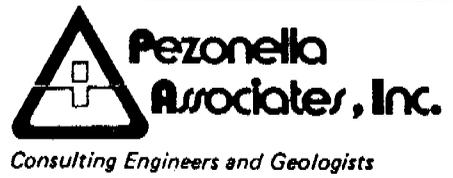
PROPERTY LINE





- Well Cap
- Steel Protector Cap with Lock
- Concrete Well Apron  
(minimum radius of 2', and thickness of 3")
- Continuous Pour Concrete Cap  
and Well Apron (expanding cement)
- Cement and Sodium  
Bentonite Mixture
- Well Diameter = 2" SCH 40 PVC  
(Blank Casing)
- Borehole Diameter = 8"  
(Nominal Dimension)
- Bentonite Chips (Hole Plug)
- Filter Pack (2' or  
less above screen)
- Water Level
- Well Diameter = 2" SCH 40 PVC
- Screened Interval
- Bottom Cap

↓  
2'  
↑



Job No. 947.09A  
 Appr. *HP/C.C.*  
 Date 8/2/90

**TYP. WATER WELL DETAIL**  
**KEYSTONE SQUARE**  
 RENO, NEVADA

PLATE  
**2**

CAA

Log# 36104 pg 4 of 6  
Waiver M/C 288

NESW 1/4, T. 19N., R. 19E.

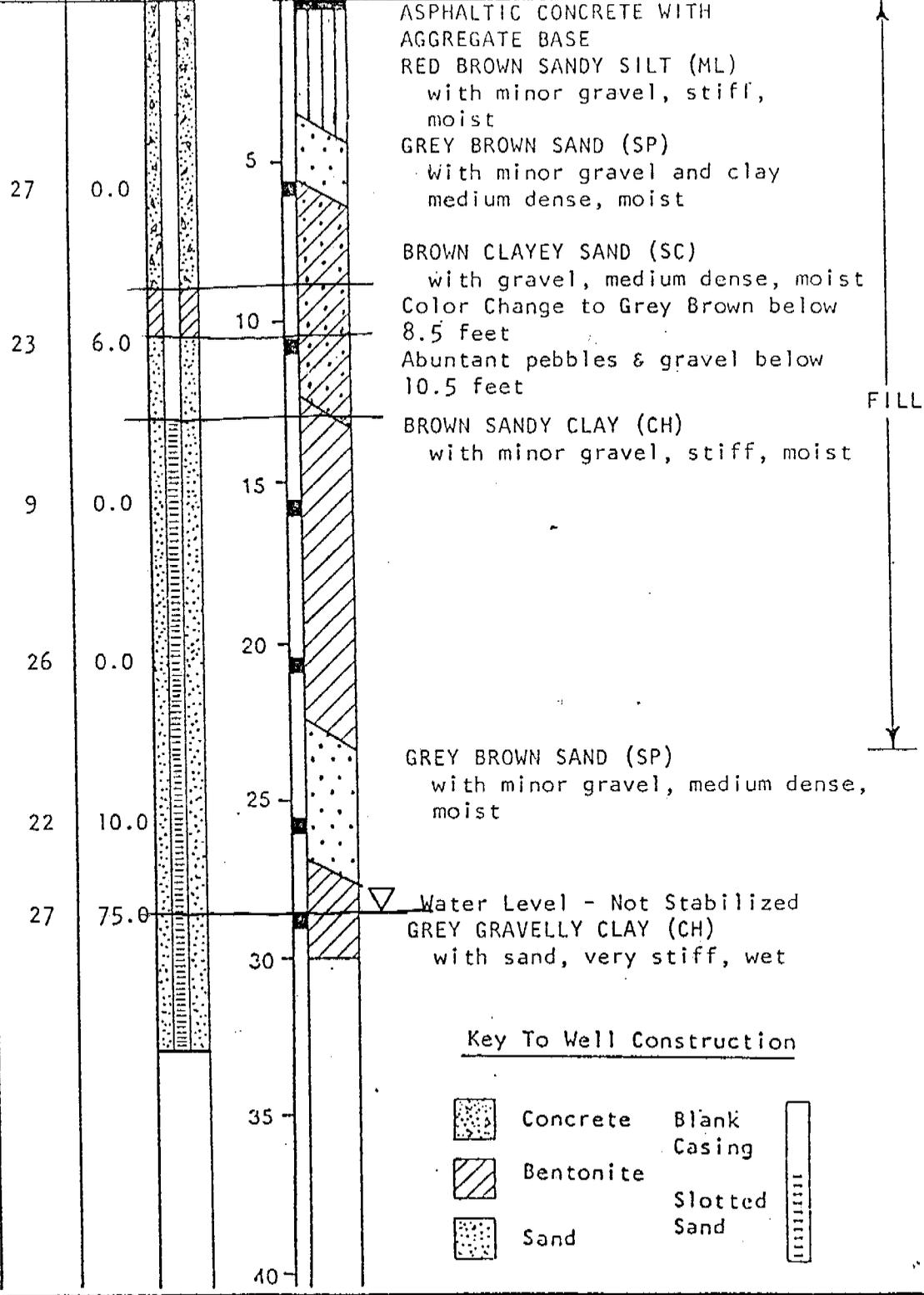
LOG OF BORING 10 (MW-1)

Laboratory Tests  
(and other information)

Driving Resistance  
Blows/FT  
SPT  
OVM Reading  
(ppm)  
Moisture  
Content (%)

Depth (ft)  
Sample

Equipment CME 55, Hollow Stem Auger  
Elevation \_\_\_\_\_ Date 7/12/90



FILL

Elevation Reference:

Key To Well Construction

- Concrete
- Bentonite
- Sand
- Blank Casing
- Slotted Sand



Job No. 947.09A  
Appr. JLM  
Date 8/1/90

LOG OF BORING 10 (MW-1)  
KEYSTONE SQUARE  
Reno, Nevada  
Washoe County

PLATE  
3

pg 5 of 6  
 36105  
 Log # ~~361045~~  
 Under MC-208

CAA  
 NESW 10, T. 19 N., R. 10 E

LOG OF BORING MW-3

Laboratory Tests  
 (and other information)

Driving  
 Resistance  
 Blows/Ft

OVM Reading  
 (psf)

Well  
 Construction

Depth (ft)  
 Sample

Equipment CME 55, Hollow Stem Auger  
 Elevation \_\_\_\_\_ Date 7/6/90

ASPHALTIC CONCRETE WITH AGGREGATE  
 BASE  
 BROWN SAND (SP)  
 with gravel, medium dense, moist  
 BROWN CLAY (CH)  
 with sand & gravel, medium,  
 stiff, moist

10

0.0

5

GREY BROWN SAND (SP)  
 with gravel, cobbles & clay,  
 medium dense, moist

27/6"

0.0

10

GREY BROWN SANDY CLAY (CH)  
 with gravel and debris, (bricks)  
 soft, moist

8

0.0

15

GREY BROWN SAND (SP)  
 with gravel, minor cobbles, and  
 debris (brick), medium dense,  
 moist

23

0.0

20

21

0.0

25

Abundant cobbles below 26.0 feet

30

Water Level - Not Stabilized

Key To Well Construction

-  Concrete
-  Bentonite
-  Sand
-  Blank Casing
-  Slotted Sand

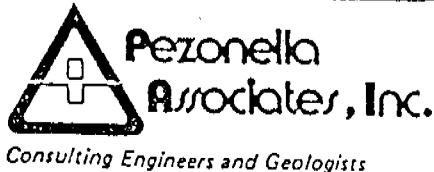
Elevation Reference:

27/6"

0.0

35

40



Job No. 947.09A  
 Appr. 11m  
 Date 8/1/90

LOG OF MW-3  
 KEYSTONE SQUARE  
 Reno, Nevada

*Washoe County*

PLATE

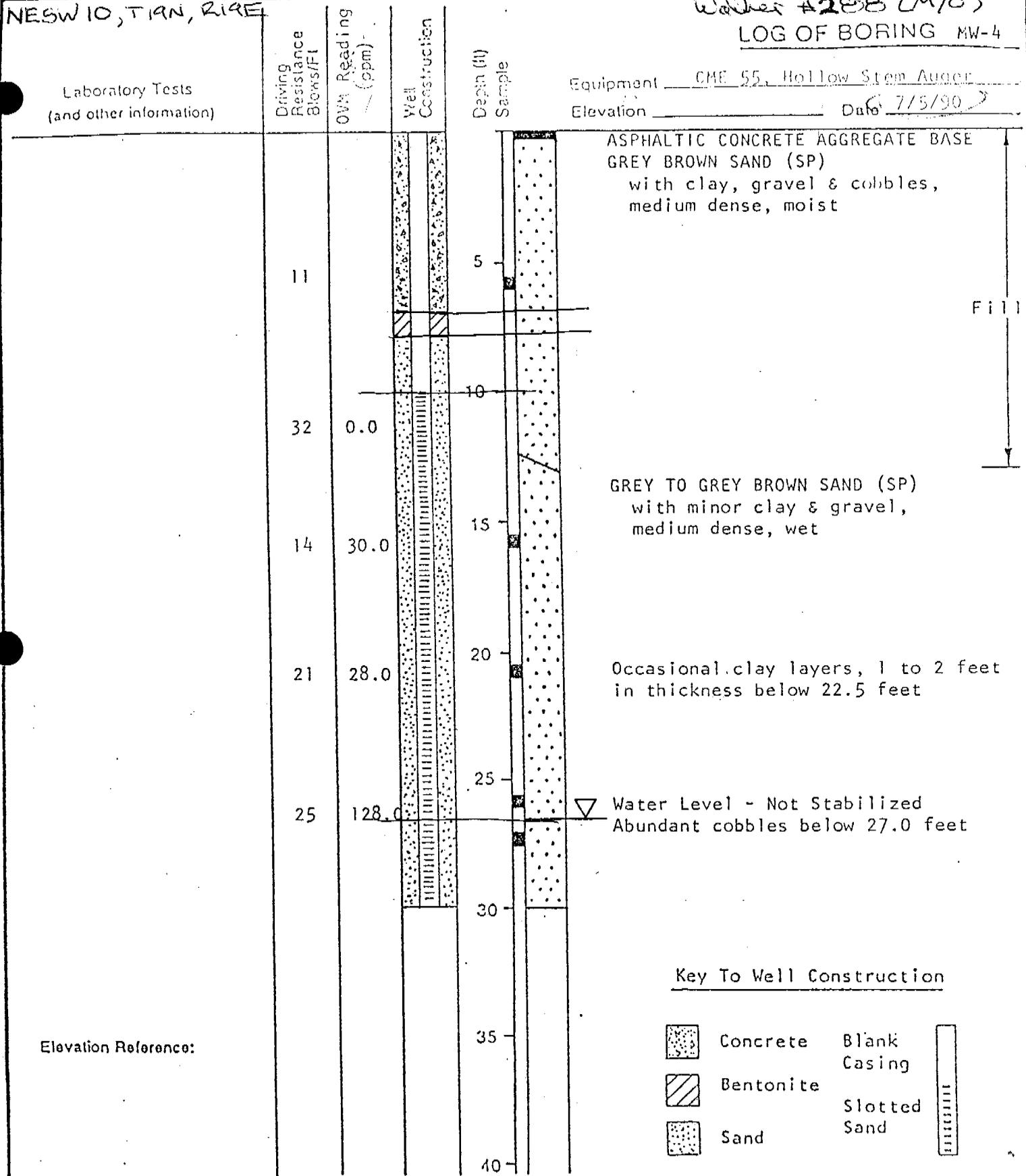
**4**

CAA

Log # 36106 pg 6 of 6  
Washer #288 (M/O)

NESW 10, T12N, R12E

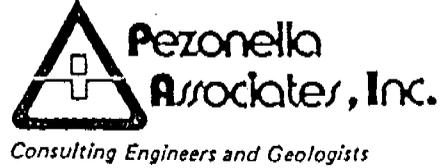
LOG OF BORING MW-4



Elevation Reference:

Key To Well Construction

- Concrete
- Bentonite
- Sand
- Blank Casing
- Slotted Sand



Job No. 947.09  
 Appr. *[Signature]* / 11m  
 Date 8/1/90

LOG OF MW-4  
 KEYSTONE SQUARE  
 Reno, Nevada  
 Washoe County

PLATE  
**5**