STATE OF NEVADA
DIVISION OF WATER RESOURCES

# WELL DRILLER'S REPORT

OFFICE USE ONLY
Log No. 115574
Permit No.
Basin No. 0149

PRINT OR TYPE IN BLACK INK ONLY
DO NOT WRITE ON BACK

*Please complete this form in its entirety in accordance with NRS 534.170 and NAC 534.340*

NOTICE OF INTENT NO. 69196
WELL NAME *(if applicable)*: MW 5

1. OWNER/CLIENT NAME Union Pacific Railroad
MAILING ADDRESS 221 Hodgeman St.
Laramine WY. 82072

DETAILED ADDRESS AT WELL LOCATION W. Commecial between Mountain Hwy & 3rd St. Elko Nevada
Subdivision Name: County: Elko

2. PLS LOCATION SE ¼ SW ¼ 15 Sec 34 T 35 N R 55 E
PERMIT/WAIVER NO. F-0002112 *(Issued by Water Resources)* *(Current Parcel No.)*

Latitude 40° 49' 44.3" UTM E 603930.77 NAD 27
Longitude 115° 46' 02.7" UTM N 4520496.23 X NAD 83/WGS 84

3. WORKED PERFORMED
X New Well ☐ Deepen: Original well log # _____
☐ Replacement: Original well log # _____
☐ Recondition: Original well log # _____

4. PROPOSED USE
☐ Domestic ☐ Irrigation ☒ Monitor
☐ Mining / Dewater ☐ Com / Ind ☐ Stock
☐ Test / Other ☐ Mun / QM ☐ Rec

5. WELL TYPE
☐ Auger ☐ Rotary ☐ RVC
☐ Air ☐ Mud ☐ Sonic
☒ Other Auger

6. LITHOLOGIC LOG

| Material Encountered | Lost Circ. | Water Strata | From | To | Thickness |
|---|---|---|---|---|---|
| Please See Attach | | | | | |

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NV ENG NEEDS OFFICE

Date started: 8-4 , 20 12
Date completed: 8-4 , 20 12

9. WELL CONSTRUCTION
Depth Drilled: 22' Feet Depth Cased: 22' Feet

HOLE DIAMETER (BIT SIZE)

| | | From | | To | |
|---|---|---|---|---|---|
| 10" | Inches | 0 | Feet | 22' | Feet |
| | Inches | | Feet | | Feet |
| | Inches | | Feet | | Feet |

CASING SCHEDULE

| Size O.D. (Inches) | Weight/Ft. (Pounds) | Wall Thickness (Inches) | From (Feet) | To (Feet) |
|---|---|---|---|---|
| 4" | | Sch 40 | 0 | 22 |
| | | | | |
| | | | | |

PERFORATIONS:
Type of perforation: Manufactured Slot
Size of perforation: 020
From 6' Feet To 22' Feet
From _____ Feet To _____ Feet
From _____ Feet To _____ Feet

ANNULAR MATERIALS

| | | | | | |
|---|---|---|---|---|---|
| ☐ Sanitary Seal | | to | | | |
| ☒ Neat Cement | 0 | to | 2' | ☐ Pumped | ☒ Poured |
| ☐ Cement Grout | | to | | ☐ Pumped | ☐ Poured |
| ☐ Concrete Grout | | to | | ☐ Pumped | ☐ Poured |
| ☒ Bentonite Chips | 2' | to | 4' | ☐ Pumped | ☒ Poured |
| ☐ Bentonite Grout | | to | | ☐ Pumped | ☐ Poured |
| ☐ 15 % ☐ 20 % ☐ Other, explain: | | | | | |
| ☒ Gravel Pack [ > 0.2 in. ] | 4' | to | 22' | ☐ Pumped | ☐ Poured |
| ☐ Sand Pack [ < 0.2 in. ] | | to | | ☐ Pumped | ☐ Poured |
| ☐ Other, explain: | | to | | ☐ Pumped | ☐ Poured |

7. WATER QUALITIES
*Static water level:* 10' Feet below land surface
Artesian Flow: _____ G.P.M. _____ P.S.I.
Water Temperature: _____ ° Fahrenheit
Water Quality: _____

8. WELL TEST DATA
*Test Method:* ☐ Bailer ☐ Pump ☐ Air Lift

| G.P.M. | Draw Down (Feet Below Static) | Recorded Time (Hours) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

10. DRILLER'S CERTIFICATION
This well was drilled under my supervision. This report is true to the best of my knowledge.
Name Eric Gregg Drilling
*Contractor*
Address 980 Howe Ave Martinez ca. 94553
*Contractor*

Nevada contractor's license number as issued by the *State Contractor's Board*: C23-0038113
Nevada well driller's license number as issued by the *Nevada Division of Water Resources (on-site driller)*: M-2354

Signed: _____
*By driller performing actual drilling on site or contractor*
Date: 8-4-12

(Rev. 08-12) USE ADDITIONAL SHEETS IF NECESSARY

40.828994 °N
115.766517 °W NAD27

pg. 1/3

8-4-2012

Lat 40° 49' 44.3"

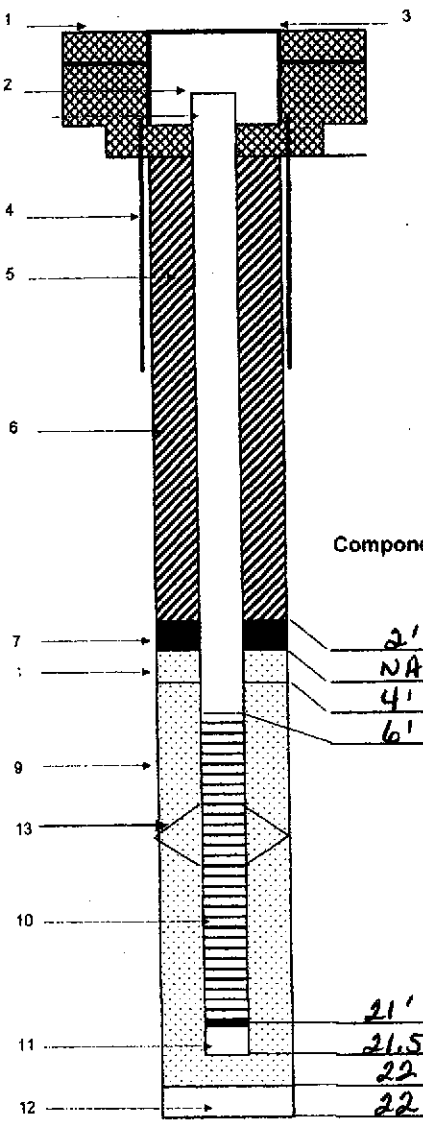
Long 115° 46' 02.7"

Elv. 5069

MW-5

| DEPTH BELOW | SAMPLE NUMBER | SAMPLE TYPE | SAMPLE RECOVERY (FT) | STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N) | SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION |
|---|---|---|---|---|---|---|
| 0 | S000 | SS/SL (G) | | 7-13-22 | 0-1.5 Silty sand. Dry. Little Gravel (Ground Surface) 10YR 6/3 Pale Brown (SM) | |
| 5 | S005 | SS/SL (G) | | 11-18-18 | 5.0-5.25 Same as above (SM) 5.25-6.5 - Poorly graded sand w/ silt 2.5y 5/4 light olive brown (SP-SM) | ▽ GW @ ≈ 10.0' |
| 10 | S010 | SS/SL (G) | | 5-7-8 | 10.0-11.5 Well graded gravel w/ silt and sand. WET. Mafic Rich 5y 5/2 olive gray (GW-GM) | |
| 15 | S015 | SS/SL (G) | | 15-25-32 | 15.0-15.25 Poorly graded sand. Wet Mafic rich 5y 3/2 dark olive gray (SP) 15.25-16.5 Well graded gravel with sand. Moist (SP) (GW) 2.5y 4/2 dark grayish brown | |
| 20 | S020 | SS/SL (G) | | 13-24-34 | 20-21.5 Poorly graded sand w/silt, Trace gravel. 10YR 5/4 Yellowish brown. Dense | Total depth 21.5' |
| 25 | | | | | | |
| 30 | | | | | | |
| 35 | | | | | | |
| 40 | | | | | | |
| 45 | | | | | | |
| 50 | | | | | | |

MW-5




**Component Depths BGS**

| | |
|---|---|
| 2' | Top of seal (ft bgs) |
| NA | Top of transition sand (ft bgs) |
| 4' | Top of pack (ft bgs) |
| 6' | Top of screen (ft bgs) |
| 21' | Bottom of screen (ft bgs) |
| 21.5' | Bottom of sump (ft bgs) |
| 22 | Bottom of pack (ft bgs) |
| 22 | Bottom of borehole (ft bgs |

NOTE: DRAWING NOT TO SCALE

**Well Development**

Start Date/Time:
End Date/Time:
Development Method:
Duration:
Purgevolume: gal
Volume of water injected during drilling/ well installation: gal
Calculated well volume: gal

Comments:

1- Ground elevation at well: ft above msl
2- Top of casing elevation: ft above msl
3- Surface completion type: Flush Mount
a) Diameter: 15.0" in
b) Concrete pad dimensions: in
c) Bollards: none
4- Conductor casing type:
a) Diameter: N/A in
b) Length: ft
5- Well casing type: PVC SCH 40
a) Diameter: 4.0" in
b) Length: 21.5' ft
6- Sanitary seal type: neat cement
a) Method of placement: pour
b) Volume of grout used: 10 ga
c) Calculated volume: 0.92 ft³ gal
7 Transition seal type: bentonite
a) Quantity used: 1 50 lb. bag
b) Calculated quantity: 0.92 ft³ 50 lb bags
8- Transition filter pack type:
a) Quantity used: N/A
b) Calculated quantity: ft³ 100 lb bags
9- Filter pack type: #3 Monterey Sand
a) Quantity used: 9 100 lb. bags
b) Calculated quantity: 7.82 ft³ 100 lb bags
10- Screen type / slot size: 0.020 PVC SCH 40
a) Diameter: 4.0" in
b) Length: 15.0' ft
c) Slot size: 0.020 in
11- Sump / end cap type: PVC threaded
a) Diameter: 4.0" in
b) Length: 0.5' ft
12- Backfill type:
a) Quantity used: N/A ft³
b) Calculated quantity: ft³
13- Centralizer type: N/A
a) Depths (ft bgs):