

**STATE OF NEVADA
DIVISION OF WATER RESOURCES
WELL DRILLER'S REPORT**

OFFICE USE ONLY
Log No. 124639
Permit No. _____
Basin No. _____

**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. 32293
WELL NAME (if applicable): ER-20-12

1. OWNER/CLIENT NAME NSNA Nevada Field Office
MAILING ADDRESS P.O. Box 98518, Las Vegas, NV
89193-8518

DETAILED ADDRESS AT WELL LOCATION Nevada National Security Site
Subdivision Name: N/A County: Nye
Latitude 37 Degrees 16' 53" UTM E 540,830 NAD 27
Longitude 116 Degrees 32' 22" UTM N 4,126,176 NAD 83/WGS 84

2. PLS LOCATION SW 1/4 SW 1/4 31 Sec 7 N 49 E
PERMIT/WAIVER NO. MO-3099 N/A
Issued by Water Resources Current Parcel No.

3. WORKED PERFORMED
 New Well Deepen: Orig WL# _____
 Replacement: Original well log # _____
 Recondition: Original well log # _____

4. PROPOSED USE
 Domestic
 Mining / Dewater
 Test / Other
 Irrigation
 Corn / Ind
 Mun / QM

5. WELL TYPE
 Auger Rotary RVC
 Air Mud Sonic
 Other

| LITHOLOGIC LOG | | | | |
|---|------------|--------------|------|------|
| Material Encountered | Lost Circ. | Water Strata | From | To |
| Ash-flow tuff: mod welded (Ttt) | N | N | 0 | 50 |
| Bedded tuff: Vitric, (Ttt) | N | N | 50 | 105 |
| Ash-flow tuff: Nonwelded to moderately welded (Ttp) | N | N | 105 | 230 |
| Rhyolite lava flow (Ttc) | N | N | 230 | 740 |
| Bedded tuff: Vitric, (Ttc) | N | N | 740 | 830 |
| Rhyolite lava flow (Tfbw) | N | N | 830 | 890 |
| Nonwelded tuff: Vitric (Tma) | N | N | 890 | 970 |
| Bedded tuff: Vitric (Tmab) | N | N | 970 | 1175 |
| Ash-flow tuff: Nonwelded to densely welded: V to DV (Tmr) | N | Y | | 1900 |
| Bedded Tuff: Vitric (Tmrf) | N | Y | 1900 | 2330 |
| Bedded Tuff: Vitric (Tm) | N | Y | 2330 | 2380 |
| Nonwelded tuff: Zeolitic (Ttp) | N | Y | 2380 | 2495 |
| Rhyolite Lava Flow: V to ZE (Tc) | N | Y | 2495 | 2830 |
| Nonwelded tuff: Zeolitic (Tcb) | N | Y | 2830 | 3150 |
| Nonwelded tuff: Zeolitic (Tct) | N | Y | 3150 | 3370 |
| Bedded Tuff: Zeolitic (Tc) | N | Y | 3370 | 3400 |
| Ash-flow Tuff: Densely welded, vitric (Tbg) | N | Y | | 3540 |
| Nonwelded Tuff: Zeolitic (Tbg) | N | Y | 3540 | 3560 |
| Rhyolite Lava Flow: Vitric (Tbq) | N | Y | 3560 | 3725 |
| Rhyolite Lava Flow: Zeolitic (Tbq) | N | Y | 3725 | 3790 |
| Rhyolite Lava Flow: Zeol to DV (Tb) | N | Y | 3790 | 4180 |
| Rhyolite Lava Flow: Flow breccia (T) | N | Y | 4180 | 4230 |
| Nonwelded Tuff: Altered (Tqj) | N | Y | 4230 | 4543 |
| Date started: <u>8-Oct</u> , 20 <u>15</u> | | | | |
| Date completed: <u>7-Jan</u> , 20 <u>16</u> | | | | |

9. INSTRUCTION
Depth Drilled: 4,543 Feet Depth Cased: 4,431 Feet

| HOLE DIAMETER (BIT SIZE) | | | | |
|--------------------------|-----------|---------|--------------|------|
| | From | surface | Feet | To |
| | <u>54</u> | Inches | <u>7</u> | Feet |
| | <u>36</u> | Inches | <u>63.50</u> | Feet |
| | <u>26</u> | Inches | <u>2510</u> | Feet |

| CASING SCHEDULE | | | | |
|--------------------|---------------------|-------------------------|-------------|----------------|
| Size O.D. (Inches) | Weight/Ft. (Pounds) | Wall Thickness (Inches) | From (Feet) | To (Feet) |
| <u>42</u> | <u>221.82</u> | <u>0.500</u> | <u>0</u> | <u>6.60</u> |
| <u>30</u> | <u>174.08</u> | <u>0.553</u> | <u>0</u> | <u>62.50</u> |
| <u>20</u> | <u>94.00/106.50</u> | <u>0.438/0.500</u> | <u>0</u> | <u>2502.80</u> |

ANNULAR MATERIALS

Sanitary Seal Yes No

| | | |
|--|--|--|
| <input checked="" type="checkbox"/> Neat Cement <u>3725</u> to <u>3916</u> | <input checked="" type="checkbox"/> Pumped | <input type="checkbox"/> Poured |
| <input checked="" type="checkbox"/> Cement Grout <u>63.5 ft</u> to <u>surface</u> | <input type="checkbox"/> Pumped | <input checked="" type="checkbox"/> Poured |
| <input type="checkbox"/> Concrete Grout _____ to _____ | <input type="checkbox"/> Pumped | <input type="checkbox"/> Poured |
| <input type="checkbox"/> Bentonite Chips _____ to _____ | <input type="checkbox"/> Pumped | <input type="checkbox"/> Poured |
| <input checked="" type="checkbox"/> Gravel Pack [> 0.2 in.] <u>3376</u> to <u>3725</u> | <input checked="" type="checkbox"/> Pumped | <input type="checkbox"/> Poured |
| <input checked="" type="checkbox"/> Sand Pack [< 0.2 in.] <u>3343</u> to <u>3376</u> | <input checked="" type="checkbox"/> Pumped | <input type="checkbox"/> Poured |
| <input type="checkbox"/> Other, explain: _____ to _____ | <input checked="" type="checkbox"/> Pumped | <input type="checkbox"/> Poured |

See page 2 for remainder of annular materials

PERFORATIONS:

Type of perforation: Slotted, 0.076 to 0.080 inches wide

Size of perforation: 2 inches long, spaced on 6 inch centers

| | |
|--------------------------------------|---------------------|
| From <u>5-9/16" csg, 3992</u> Feet | To <u>4429</u> Feet |
| From <u>2-7/8" tubing, 3424</u> Feet | To <u>3666</u> Feet |
| From <u>1.900" tubing, 3080</u> Feet | To <u>3142</u> Feet |
| From <u>2-7/8" tubing, 2552</u> Feet | To <u>2915</u> Feet |
| From <u>1.900" tubing, 1686</u> Feet | To <u>1902</u> Feet |

7. WATER QUALITIES
Static water level: 1,350 Feet below land surface
Artesian Flow: _____ G.P.M. _____ P.S.I.
Water Temperature: 130 ° Fahrenheit
Water Quality: _____

10. DRILLER'S CERTIFICATION
This well was drilled under my supervision. This report is true to the best of my knowledge.
Name National Security Technologies, LLC
Address P. O. Box 98521, Las Vegas, NV 89193-8521

8. WELL TEST DATA

| Test Method: | Bailer | Pump | Air Lift |
|--------------|-------------------------------|-----------------------|----------|
| G.P.M. | Draw Down (Feet Below Static) | Recorded Time (Hours) | |
| | | | |
| | | | |
| | | | |

Nevada contractor's license number as issued by the State Contractor's Board:
Nevada well driller's license number as issued by the Nevada Division of Water Resources (on-site driller): 2219
Signed: Michael W. Miller
Date: 1/5/2016

(Rev. 12-13) **DCNR/DWR/SNB**
RECEIVED
FEB 05 2016

37.28/446
-116.5385506 **NAD**
2A

LOG
 124639

| HOLE DIAMETER (BIT SIZE) | | | | | |
|--------------------------|--------|-------------|------|-----------|------|
| | | <u>From</u> | | <u>To</u> | |
| 18.50 | Inches | 2510 | Feet | 4352 | Feet |
| 8.5 | Inches | 4352 | Feet | 4543 | Feet |

| CASING SCHEDULE | | | | |
|-----------------------|------------------------|----------------------------|----------------|--------------|
| Size O.D. (Inches) | Weight/Ft. (Pounds) | Wall Thickness (Inches) | From (Feet) | To (Feet) |
| 9.625 | 40.00 | 0.395 | surface | 3900 |
| 5.5- 5.5/5.56 | 15.50/17.0 | 0.275/0.257 | surface | 4429 |
| Tubing | Behind 20 inch csg | | | |
| 1.900 | 2.9 | 0.145 | surface | 1902 |
| Tubing | Behind 9.625 inch csg | | | |
| 2.375/2.875 | 4.7/7.0 | 0.190/0.276 | surface | 3667 |
| 1.900 | 2.9 | 0.145 | surface | 3142 |
| 2.375/2.875 | 4.7/7.0 | 0.190/0.276 | surface | 2915 |

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