Technical Data Information Report

RID Number	Transmitter	Transmitter Organization	Receiver	Receiver Organization	Keyword 1
8206.00	Klenke	NCWD	QARC	Nye County	NCWD

Document Date	7/15/2015	General Document Type	QA Program Doc	Keyword 2	Water
Entry Date	8/24/2015	Detail Document Type	Data	Keyword 3	Levels

Document Title/Subject
Manual Water Level Measurements in Private Wells from January 1, 2012 through December 31, 2014.

Data Originator/Preparer
John Klenke

Data Description
Data package includes Nye County's Regional Groundwater Elevation Database (RGED V6.0_071515.accdb) containing manual water level measurements made in private wells (non-EWDP) from January 1, 2012 through December 31, 2014, field forms, hydrographs (available upon request), and exported data from the database, "Export Pahrump Data 123114.xlsx" and "Export Amargosa Data 123114.xlsx".
On the export files are posted to the NCWD website as rid8206.zip.

Data Collection Method
Manual water level measurement data collected using standardized electric water level sounders in accordance with Work Plan 10 Rev. 0, Groundwater Level Monitoring and Evaluation, and Technical Procedure 9.9 Rev. 4, Measurement of Groundwater Levels Using Electric Well Sounders.

Data Collection Location
Various locations in Pahrump Valley, Amargosa Desert, Chicago Valley, Stewart Valley, and surrounding areas. Specific locations for each well are included in RGED V.6.0 and in RID 8182.

Data Collection Period
1/1/12 – 12/31/14

Data Sources
1) NWRPO derived latitude and longitude for well location and elevation data for ground elevation; 2) Depth to groundwater measured with electric water level sounders as recorded on the NWRPO Water Level Measurement Field Form or field scientific notebook; 3) Wellhead diagrams as established with engineers steel tape and recorded in scientific notebook showing casing type, diameter, and measuring point stickup above land surface.
Supporting Data: NWRPO Water Level Measurement Field Forms (TP-9.9 Rev1-Rev3), field scientific notebooks, and RID 8182 containing updated GPS coordinates.

Data Censoring
AC-CS9 – Measurement of 6.45 ft on 5/29/13 at 9:01 hrs was censored. Meter did not activate for this measurement as indicated in the field notes.
AW37 – Measurement of 43.79 ft on 9/19/12 at 14:20 hrs was censored. Field notes did not indicate that the well was pumping at the time of the measurement, and technician wasn't able to verify.
Caas Well – Measurement of 72.42 ft on 7/24/13 at 09:48 hrs was censored. Field notes did not indicate that the well was pumping at the time of the measurement, and technician wasn't able to verify.
DV Junction Well – Measurements of 2.38 ft on 5/29/13 at 09:20 hrs, 2.95 ft on 8/31/14 at 08:32 hrs, 2.90 ft on 10/02/14 at 12:00 hrs, and 2.31 ft on 12/29/14 were censored. These measurements were above the expected trend and they are believed to have been "manual" measurements made by visual estimates along the tape when the meter failed to register.
The following inaccurate "manual" estimates were censored because field comments indicate the meter failed to register due to an oily substance on the surface of the water: 3.41 ft on 2/2/13 at 9:53 hrs; 3.50 ft on 2/28/13 at 12:35 hrs; 3.40 ft on 3/31/13 at 8:47 hrs; 3.10 ft on 6/27/13 at 7:20 hrs; 2.50 ft on

7/31/13 at 8:12 hrs; 2.40 ft on 8/28/13 at 11:58 hrs; 3.45 ft on 11/30/13 at 1550 hrs; 3.56 ft on 12/27/13 at 10:28 hrs; 3.56 ft on 1/31/14 at 10:30 hrs; 3.56 ft on 3/28/14 at 11:57 hrs; 2.80 ft on 5/3/14 at 9:15 hrs; 2.90 ft on 5/31/14 at 9:01 hrs; 2.90 ft on 6/27/14 at 7:30 hrs; 3.10 ft on 7/27/14 at 9:21 hrs.
Harley – Measurement of 374.40 ft on 3/26/13 at 13:31 hrs was censored. Field notes did not indicate that the well was pumping at the time of the measurement, and technician wasn't able to verify.
Old Orchard Well – Measurement of 108.90 ft on 1/13/14 at 11:55 hrs was censored. This measurement was found to be a singularity, and not substantiated by later measurements or backup data.

Data Processing

Routinely, data processing consists of calculations made in the Access database (RGED V6.0 accdb) and exports made from the database to MS Excel. Additionally, data are evaluated through the use of hydrographs to determine whether anomalous data exist. Anomalous data are investigated (through scientific notebooks, earthquake records, etc.) to determine the source of the anomaly. If the anomaly cannot be explained, the data are censored.

Data Limitations

AC-CS1 – No readings were taken after the 12/31/12 measurement since a transducer has been installed in the piezometer tube.
AC-CS3 – Measurement of 3.94 ft on 1/31/12 at 11:35 hrs is approximately 1.0 ft lower than the hydrograph trend, but was not censored since no information is available that refutes the reading. Readings were not taken after the 9/25/12 measurement since a transducer has been installed in the piezometer tube.
AC-CS5 – Readings were not taken after the 9/25/12 measurement since a transducer has been installed in the piezometer tube.
AC-CS6 – Measurement of 3.53 ft on 1/31/12 at 11:03 hrs is approximately 1.2 ft lower than the hydrograph trend, but was not censored since no information is available that refutes the reading.
AD-7a – Hydrograph data for 5/21/13 and 7/24/13 appears to indicate a pumping event which lowered the water level in the well by approximately 4 - 6 ft with subsequent recovery curve over the next several months.
Anake – Measurement of 105.74 ft on 1/23/13 at 15:34 hrs is approximately 2.0 ft lower than the hydrograph trend, but was not censored since no information is available that refutes the reading.
AW11 – The wellhead was cut down and a steel cap welded on some time before the 12/2/09 visit. The well was reactivated and a sounding port installed on 7/31/13. The well was subsequently given the new name of "AW11 - post capping" to reflect the new stickup, since the RGED database does not allow for the changing of the wellhead stickup for individual wells.
AW34 – Measurements of 453.63 ft on 7/18/12 at 10:06 hrs and 452.83 ft on 5/30/13 at 13:20 hrs are both approximately 1 ft higher than expected from the hydrograph trend. These readings may represent pulses from mountain-front recharge.
AW37 – Measurement of 43.90 ft on 11/15/12 at 10:22 hrs is approximately 5.5 ft lower than the hydrograph trend, but was not censored since the comment indicates the well was pumping at the time of the reading.
AW 64 – Readings are sporadic in this well since it is partially caved and water levels have declined to below the caved section. Readings are only possible when the water levels are at or near the yearly maximum. A new well was added to the program on 3/25/13 (Great Basin Drilling) - approximately 460 feet northwest) to replace this well when readings are no longer possible.
AW74 – Measurements of 33.69 ft on 5/30/13 at 11:47 hrs, 34.89 ft on 7/10/14 at 13:03 hrs, and 34.16 ft on 9/24/14 at 09:38 hrs are lower than expected from the hydrograph trend, but are similar in character to earlier data spikes (2002- 2004, 2008). The signature of these spikes is similar to that of the nearby well "Burnout".
Basin Station – Measurements of 80.10 ft on 7/17/12 at 13:49 hrs, 84.20 ft on 9/18/12 at 14:01 hrs, and 87.50 ft on 11/14/12 at 13:06 hrs are several feet lower than the hydrograph trend, and are due to pumping as noted in the field comments.
Burnout – Measurements of 52.53 ft on 5/30/13 at 13:35 hrs, 54.11 ft on 7/10/14 at 13:30 hrs, and 53.79 ft on 9/24/14 at 10:14 hrs are lower than expected from the hydrograph trend, but are similar in character to earlier data spikes (2004, 2005, and 2008). The signature of these spikes is similar to that of the nearby well "AW74".
Caas Well – Measurements of 79.70 ft on 5/21/12 at 08:24 hrs, and 99.89 ft on 7/8/14 at 08:32 hrs, are several feet lower than the hydrograph trend, and are both due to pumping as noted in the comments.
DV Junction Well – Water level measurements cannot be obtained in this well approximately 3.8 ft below the measurement point (water table elevation of 2038 ft). The well is caved below this level, and water level measurements may not be representative (in equilibrium) of the localized potentiometric surface.
Floyd Farm Basin – Measurements of 51.79 ft on 9/24/14 at 12:28 hrs, and 52.83 ft on 11/20/14 at 10:50 hrs are lower than the hydrograph trend, and are believed to be due to irrigation of a nearby field as noted in the comments.
Great Basin Drilling – Measurement of 103.30 ft on 7/30/13 at 09:51 hrs is approximately 20 ft lower than the hydrograph trend, and is due to pumping as noted in the field comments.
Harley – Measurements of 374.39 ft on 5/22/12 at 13:14 hrs, and 374.40 ft on 3/26/13 at 13:31 hrs are approximately 4 ft lower than the hydrograph trend, and are due to pumping as noted in the comments. Measurement of 369.98 ft on 11/14/12 at 14:57 hrs is approximately 1 ft higher than expected from the hydrograph trend. This measurement points was not censored since no information is available that refutes these readings, and may represent a pulse from mountain-front recharge.
Harrow Disk – The wellhead was cut down and a steel cap welded on some time before the 12/2/09 visit. The well was reactivated and a sounding port installed on 7/31/13. The well was subsequently given the new name of "Harrow Disk - post capping" to reflect the new stickup, since the RGED database does not allow for the changing of the wellhead stickup for individual wells.

Irene Fan – The wellhead was cut down and a steel cap welded on some time before the 12/2/09 visit. The well was reactivated and a sounding port installed on 7/31/13. The well was subsequently given the new name of “Irene Fan - post capping” to reflect the new stickup, since the RGED database does not allow for the changing of the wellhead stickup for individual wells.
Jeep Trail Well – Measurements of 152.77 ft on 1/13/14 at 11:05 hrs and 152.91 ft on 7/8/14 at 10:15 hrs are both slightly higher than expected from the hydrograph trend. These measurements may contain slight errors since this well is uncased, and therefore the measurement point is difficult to locate with a high degree of accuracy.
Lacomb Irrigation Well – Measurement of 74.75 ft on 7/10/14 at 10:10 hrs is approximately 1.5 ft lower than the hydrograph trend, but was not censored since no information is available that refutes the reading. Subsequent readings (9/23/14, 11/19/14) are suggestive of a recovery curve.
Longstreet 2 – Measurements of 84.12 ft on 11/21/13 at 14:26 hrs, and of 90.55 ft on 5/21/14 at 12:28 hrs are 10 or more feet lower than the hydrograph trend, but were not censored since they are due to pumping as noted in the field comments.
NDOT PSG8/15/12 – Measurements of 381.11 ft on 11/15/12at 14:06 hrs, and of 381.19 ft on 1/23/13 at 10:35 hrs, were not censored. These readings, approximately 20 feet higher than the hydrograph trend, were not censored since they are believed to represent peak recharge levels of outflow from “intermittent spring”. This spring apparently only flows during years of high precipitation on the west side of the Spring Mountains.
Old Spanish Trail – This well is noted as having become flowing artesian from 9/17/12 through the end of this report period (12/31/14). Water table elevations for this time period are reported as equal to the measurement point elevation and therefore underestimate the true water table elevation (pressure head).
Quail Well – Measurement of 129.72 ft on 9/17/12 at 12:54 hrs is approximately 1.5 ft higher than the hydrograph trend, but was not censored since it is a result of pump tests conducted in the vicinity by Cardno ENTRIX.

Veloz – Measurements of 5.96 ft on 7/30/13 at 11:00, 4.00 ft on 1/14/14 at 8:55, and 3.58 ft on 5/20/14 at 15:43 hrs shows 1 to 2 feet variations from the hydrograph trend, but were not censored since they probably result from variable water demands on this domestic well.
West Basin Fan Well – Measurements of 92.22 ft on 9/18/12 at 13:31 hrs, and 92.18/ ft on 3/27/13 at 15:11 hrs are approximately 0.9 and 0.4 ft lower than the hydrograph trend, but were not censored since no information is available that refutes the reading.
West Mesquite – Measurements of 51.20 ft on 7/10/14 at 10:45 hrs, 51.01 ft on 9/23/14 at 15:21 hrs, and 50.94 ft on 11/19/14 at 10:16 hrs are approximately 0.9 to 0.7 ft lower than the hydrograph trend, but were not censored since no information is available that refutes the reading. The 9/23/14, 11/19/14 readings are suggestive of a recovery curve.
Rubys Store Well – Measurements of 92.60 ft on 7/24/13at 13:25 hrs, and of 94.10 ft on 7/9/14at 12:49 hrs, are approximately 1 foot lower than the hydrograph trend, but were not censored since they are due to pumping as noted in the field comments.

Wells added to the program:

Adobe – This well with location of 36.518051879, -116.453049655 (NAD83 (Conus)), mp elevation of 2326.36 ft (NAD 83-Geiod09), stickup of 1.04 ft above ground level, was added to the Regional Water Level Measurement Program on 9/30/13. This well is believed to be the same well as USGS# 363053116272001. For more information, see the corrected survey file R051413B.cor in RID 8182.
AM1P – This well, also known as “Ponderosa 5902 Settlement well”, with location of 36.483736033, -116.395011983 (NAD83 (Conus)), mp elevation of 2266.45 ft (NAD 83-Geiod09), stickup of 1.82 ft above ground level, was added to the Regional Water Level Measurement Program on 7/2/13. For more information, see the corrected survey file R062514A.cor in RID 8182.
AVSTP Monitoring – Well AVSTP had its wellhead cut down when it was converted to a monitoring well on 12/17/11. The well was subsequently given the new name of “AVSTP Monitoring” to reflect the new stickup, since the RGED database does not allow for the changing of the wellhead stickup for individual wells. The first water level measurement for the new monitoring well was taken on 2/8/12.
Back Road deep – This well with location of 36.460607475, -116.484949687 (NAD83 (Conus)), mp elevation of 2266.01 ft (NAD 83-Geiod09), stickup of 0.75 ft above ground level, was added to the Regional Water Level Measurement Program on 9/25/13. This well is believed to be the same well as USGS# 362736116285701. For more information, see the corrected survey file R051412A.cor in RID 8182.
Back Road shallow – This well with location of 36.460608033, -116.484949221 (NAD83 (Conus)), mp elevation of 2265.96 ft (NAD 83-Geiod09), stickup of 0.70 ft above ground level, was added to the Regional Water Level Measurement Program on 9/25/13. This well is believed to be the same well as USGS# 362736116285702. For more information, see the corrected survey file R051412A.cor in RID 8182.
Calvada Eye Well – This well with location of 36.192730971, -115.975293985 (NAD83 (Conus)), mp elevation of 2682.14 ft (NAD 83-Geiod09), stickup of 1.67 ft above ground level, was added to the Regional Water Level Measurement Program on 6/13/14. For more information, see the corrected survey file R061311A.cor in RID 8182.
Fairgrounds Well – This well with location of 36.164606248, -115.922846691 (NAD83 (Conus)), mp elevation of 2731.41 ft (NAD 83-Geiod09), stickup of 1.03 ft above ground level, was added to the Regional Water Level Measurement Program on 1/13/14. For more information, see the corrected survey file R061312A.cor in RID 8182.
Great Basin Drilling – This well with location of 36.14727694, -115.989102435 (NAD83 (Conus)), mp elevation of 2625.39 ft (NAD 83-Geiod09), stickup of 0.51 ft above ground level, was added to the Regional Water Level Measurement Program on 3/25/13. For more information, see the corrected survey file

R061314A.cor in RID 8182.
Gunfighter deep – This well with location of 36.381439419, -116.447689751 (NAD83 (Conus)), mp elevation of 2183.19 ft (NAD 83-Geiod09), stickup of 1.55 ft above ground level, was added to the Regional Water Level Measurement Program on 10/1/13. This well is believed to be the same well as USGS# 362250116265101. For more information, see the corrected survey file R051416A.cor in RID 8182.
Gunfighter shallow –This well with location of 36.381438645, -116.447689422 (NAD83 (Conus)), mp elevation of 2183.10 ft (NAD 83-Geiod09), stickup of 1.44 ft above ground level, was added to the Regional Water Level Measurement Program on 10/1/13. This well is believed to be the same well as USGS# 362250116265102. For more information, see the corrected survey file R051416A.cor in RID 8182.
Haystack – This well with location of 36.508156981, -116.450102479 (NAD83 (Conus)), mp elevation of 2306.22 ft (NAD 83-Geiod09), stickup of 0.69 ft above ground level, was added to the Regional Water Level Measurement Program on 10/8/13. This well is believed to be the same well as USGS# 363028116270201. For more information, see the corrected survey file R051414A.cor in RID 8182.
NDOT PSG8/15/12 – The wellhead of NDOT was cut down to remove the steel cap for water sampling by the NWRPO office on 8/15/12. The well was subsequently given the new name of "NDOT PSG8/15/12" to reflect the new stickup, since the RGED database does not allow for the changing of the wellhead stickup for individual wells.
Sanders Family Winery – This well with location of 36.117461519, -115.944270256 (NAD83 (Conus)), mp elevation of 2683.73 ft (NAD 83-Geiod09), stickup of 1.01 ft above ground level, was added to the Regional Water Level Measurement Program on 3/28/13. For more information, see the corrected survey file R061313A.cor in RID 8182.

Former U.S. Geological Survey (USGS) Yucca Mountain Project Environmental Monitoring Program Wells J-11, J-12, J-13 (HTH-6), JF-1 (WT-15), JF-2a (P#1), and JF-3 have been measured by Nye County since 2/23/12 under a cooperative agreement with the USGS. These wells were not previously on the Nye County Water Level Measurements Program, and therefore have not been located by Nye County, but have been converted from the NAD27 to NAD83 Datum. The reported location and elevation of these wells are from the USGS Geographic Watershed Information System (GWIS). USGS Site ID's for these wells are J-11 (364706116170601), J-12 (364554116232401), J-13 (364828116234001), JF-1 (365116116233801), JF-2a (364938116252102) and JF-3 (364528116232201). More information for all of these wells can be found either on the USGS NWIS website at:
http://nwis.waterdata.usgs.gov/usa/nwis/gwlevels or the USGS/DOE Cooperative Studies in Nevada website at:
http://nevada.usgs.gov/doe_nv/levelsmap1.htm

Reactivated wells:

AW28 – This well was reactivated on 9/23/13 and resurveyed with a resource grade GPS unit to update its location. The water level in the well had not been measured since 3/30/04. The updated location is 36.234823081, -116.066455627 (NAD83 (Conus)), mp elevation of 2555.06 ft (NAD 83-Geiod09), stickup of 1.71 ft above ground level. . For more information, see the corrected survey file R061309A.cor in RID 8182.
Franklin Dry – This well was reactivated on 7/71/12 after the transducer that has been in place since 9/15/10 was removed by the USGS.
Franklin PVC – This well was reactivated on 7/71/12 after the transducer that has been in place since 9/15/10 was removed by the USGS.
Hall2 – This well was reactivated on 10/1/14 and resurveyed with a resource grade GPS unit to update its location. The water level in the well had not been measured since 12/16/04. The updated location is 36.255664815, -116.044776947 (NAD83 (Conus)), mp elevation of 2572.43 ft (NAD 83-Geiod09), stickup of 1.36 ft above ground level. For more information, see the corrected survey file R010811A.cor in RID 8182.
Henry – This well was reactivated on 10/1/13 and resurveyed with a resource grade GPS unit to update its location. The water level in the well had not been measured since 9/28/04. The updated location is 36.538756944, -116.483468678 (NAD83 (Conus)), mp elevation of 2358.05 ft (NAD 83-Geiod09), stickup of 1.54 ft above ground level. For more information, see the corrected survey file R051411A.cor in RID 8182.
Slack – This well was reactivated on 9/24/13 and resurveyed with a resource grade GPS unit to update its location. The water level in the well had not been measured since 8/17/04. The updated location is 36.488961481, -116.486416452 (NAD83 (Conus)), mp elevation of 2281.92 ft (NAD 83-Geiod09), stickup of 1.49 ft above ground level. For more information, see the corrected survey file R051413A.cor in RID 8182.

Utilities 1, Utilities 2, Utilities 8, Utilities 9, Utilities 11, Utilities CM1, Utilities CVE48#1, Utilities Mtn View Estates were reactivated between10/14/14 and 11/6/14. The wells were resurveyed with a resource grade GPS unit and given new names with "R2014" appended to the original names to signify reactivation, since the well heads had been reconfigured and measurement points had changed. Updated well locations (NAD83 (Conus)), mp elevations (NAD 83-Geiod09), and stickups (feet above ground level) are: Utilities 1 R2014 (36.191050562, -115.970957498, 2678.15, 1.41), Utilities 2 R2014 (36.188158092, -115.965868154, 2706.78, 1.69), Utilities 8 R2014 (36.175204843, -115.941652409, 2725.46, 1.27), Utilities 9 R2014 (36.203754261, -115.983683638, 2679.66, 2.16), Utilities 11 R2014 (36.206340338, -115.985261966, 2678.58, 1.84), Utilities CM1 R2014 (36.268981796, -115.995619481, 2693.64, 1.18), Utilities CVE48#1 R2014 (36.307451446, -115.996593368, 2772.29, 1.78), and Utilities Mtn View Estates R2014 (36.204645049, -116.033560439, 2577.89, 1.99).
These wells are currently being measured by Utilities Inc of Central Nevada, with the data being supplied to Nye County. For more information, see the corrected survey files R122211A.cor, R122312A.cor, R122309A.cor, R122308B.cor, R122214A.cor, R122310A.cor, R122311A.cor, and R010813A.cor in RID

8182.

Wells removed from the program:

AW35 – This well, location of 36.252638544, -115.960299111 (NAD83 (Conus)), mp elevation of 3095.06 ft (NAD 83-Geiod09), stickup of 1.90 ft above ground level, was removed from the program because no readings could be obtained after 5/22/12 due to an obstruction. This well was replaced by Nye County Groundwater Evaluation Program well NC-GWE-PV-3, location of 36.248300064, -115.960083665 (NAD83 (Conus)), mp elevation of 3076.62ft (NAD 83-Geiod09), stickup of 1.51 ft above ground level. This well is located approximately 1580 feet to the south of AW35, with the first water level reading taken on 3/1/11.
Blagg Spring (well) – This well, location of 36.204686094, -116.014423868 (NAD83 (Conus)), mp elevation of 2594.90 ft (NAD 83-Geiod09), stickup of 0.30 ft above ground level, was removed from the program when it was discovered that the well had been sealed off and abandoned. The last reading obtained for this flowing artesian well was on 7/30/13.
Sec 10 – This well with location of 36.569226388, -116.436457012 (NAD83 (Conus)), mp elevation of 2441.27 ft (NAD 83-Geiod09), stickup of 0.20 ft above ground level, was removed from the program when it was discovered that the well had become blocked. The last reading obtained for this well was on 9/12/13.

Governing QA Docs: WP-10, Rev 0, TP-9.9, Rev 4

Frequency of Transmittal: Biannually or as required by PI.

Direct Questions About Data To: NWRPO QA Records Center