

9/10/18 Redacted
copy

SEP 7 2018



HydroEnvironmental
SOLUTIONS, INC.

September 7, 2018

Ms. Sabrina D. Charney-Hull, AICP
Director of Planning
Town of New Castle
200 South Greeley Avenue
Chappaqua, New York 10514

RE: Quarterly Hydrograph Summary Letter
3rd Quarter 2018
Sunshine Children's Home
Off-site Well Monitoring Program
15 Spring Valley Road
New Castle, New York

Dear Ms. Charney-Hull:

HydroEnvironmental Solutions, Inc. (HES), has prepared the following quarterly hydrograph summary letter for off-site well monitoring work completed at the above-referenced site during the third quarter of 2018. HES observed the Applicant's hydrogeological and engineering consultant, LBG Hydrogeologic and Engineering Services, P.C., member of WSP (LBGHES), during the July 2018 installation of pressure transducer data loggers at eight (8) off-site locations over the course of three days. Two (2) of the originally planned ten (10) off-site locations were not used for monitoring as the wells were not accessible. HES also accompanied LBGHES during the first round of off-site monitoring data collection on August 10, 2018. Hydrograph plots constructed by HES using water level monitoring data collected during the third quarter of 2018 are included at the end of this letter.

One Deans Bridge Road • Somers, New York 10589

914.276.2560 • FAX 914.276.2664

Data Logger Installation

On July 5, 2018 data loggers were installed in four wells including those at [REDACTED] Glendale Road, [REDACTED] Glendale Road, [REDACTED] Dawning Lane, and [REDACTED] Dawning Lane. The wells at [REDACTED] Spring Valley Road and [REDACTED] Glendale Road were also inspected, however, data loggers could not be installed due to well accessibility issues. At [REDACTED] Spring Valley Road the well cap could not be removed. At [REDACTED] Glendale Road the well was located in a pit submerged in water and, therefore, was not opened for sanitary reasons. On July 10, 2018 data loggers were successfully installed at [REDACTED] Glendale Road and [REDACTED] Hawks Avenue. On July 20, 2018 data loggers were successfully installed at [REDACTED] Glendale Road and [REDACTED] Little Lake Road.

HES provided direct oversight during all data logger installation and it was determined that LBGHES followed procedures as described in their letter regarding off-site monitoring dated May 15, 2018. Prior to installation, wells were sampled for total coliform, iron, manganese, color, and turbidity. Data logger water level measurements were confirmed using an M-scope electronic dropline and the data loggers were set-up to record measurements at 30-minute intervals (with the exception of the data logger at [REDACTED] Glendale Road which was set to collect readings at one minute intervals). All data loggers and M-scopes were sanitized on-site using a chlorine solution prior to installation.

Data Retrieval

On August 10, 2018 HES accompanied LBGHES to download data from each of the eight off-site data loggers. Both HES and LBGHES connected to data loggers using a lap top computer to retrieve water level monitoring data. Water levels recorded by the pressure transducer data loggers were confirmed using a clean M-scope water level meter. Pressure transducer water level readings were within 0.30 feet of M-scope readings; therefore, it was not necessary to recalibrate any of the pressure transducer data loggers. During the August 10, 2018 visit, the data loggers at each well were working properly. However, the data logger at [REDACTED] Dawning Lane was swapped out for a new transducer (as the first transducer was designed for use in deeper wells with greater submergence). Data from the first transducer was downloaded prior to its removal. Hydrographs plotted independently by HES from data downloaded on-site are included at the end of this letter, along with the hydrographs plotted by LBGHES and their associated cover letters to the individual well owners.

Conclusions and Recommendations

- Based on the hydrographs, HES has not identified significant drawdown impacts in any of the eight off-site monitoring wells that are related to ongoing pumping and well use at the Sunshine Children's Home wells.




Ms. Sabrina D. Charney-Hull
September 7, 2018
Page 3 of 3

- LBGHES determined that two of the ten original off-site wells could not be monitored. HES believes that the remaining eight off-site wells provide adequate vertical and areal coverage of the surrounding bedrock aquifer with respect to the Sunshine Children's Home on-site water supply wells.
- In addition to off-site drawdown data, HES believes that LBGHES should provide the Town with quarterly pumping data from the three on-site wells including meter readings and pressure transducer data. This information should be provided to LBGHES by the independent Class C operator that operates the on-site water supply system and it can then be passed on to the Town and HES for our review. The water use information can then be compared to historic water use and pumping cycles can be compared to the hydrographs for the off-site supply wells.

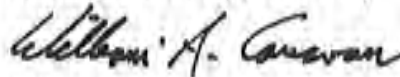
HES would be pleased to meet with the Town and/or the Applicant to discuss the off-site well monitoring program in further detail should the need arise. Please contact us at (914) 276-2560 if you have any questions regarding this matter. We look forward to continuing to work with you on this project.

Very truly yours,
HydroEnvironmental Solutions, Inc.



Patrick W. Montuori
Geologist/Hydrogeologist

Reviewed and Approved by:



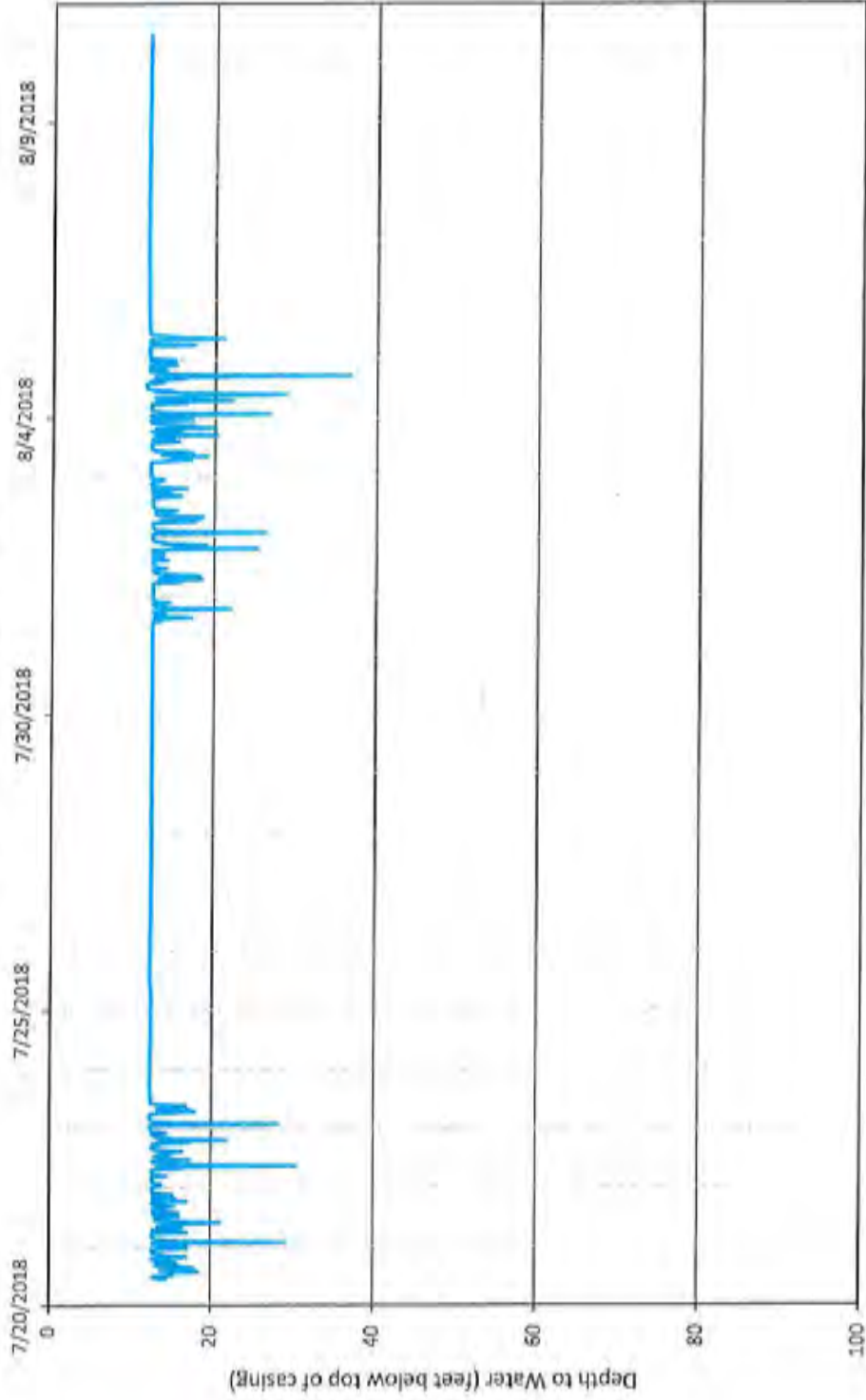
William A. Canavan, LSRP, PG
President

Enclosures

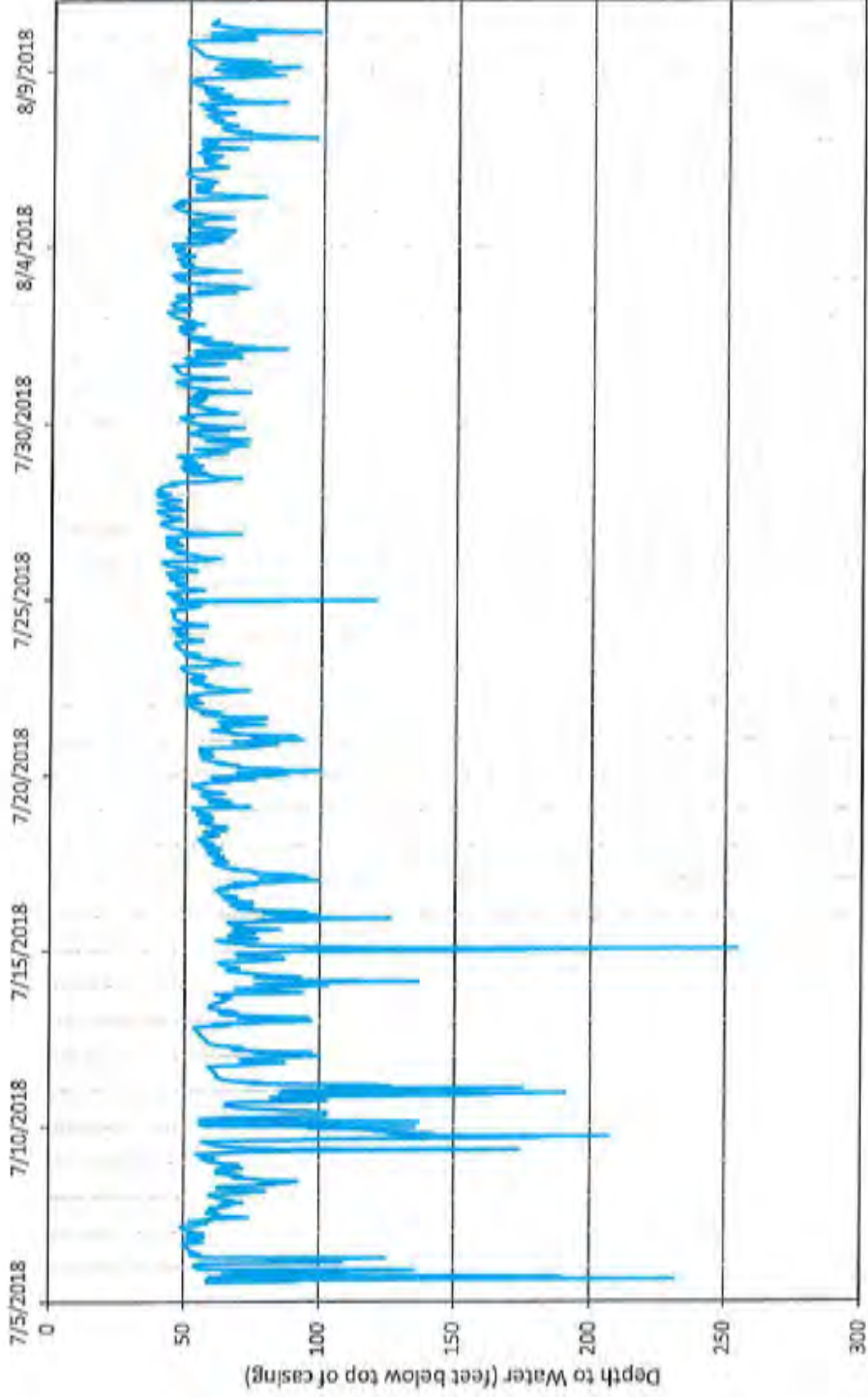
cc: File

Off-Site Monitoring Hydrographs
Prepared by HES

Sunshine Childrens Home
Off-Site Well Monitoring
● Little Lake Road
July 20, 2018 - August 10, 2018



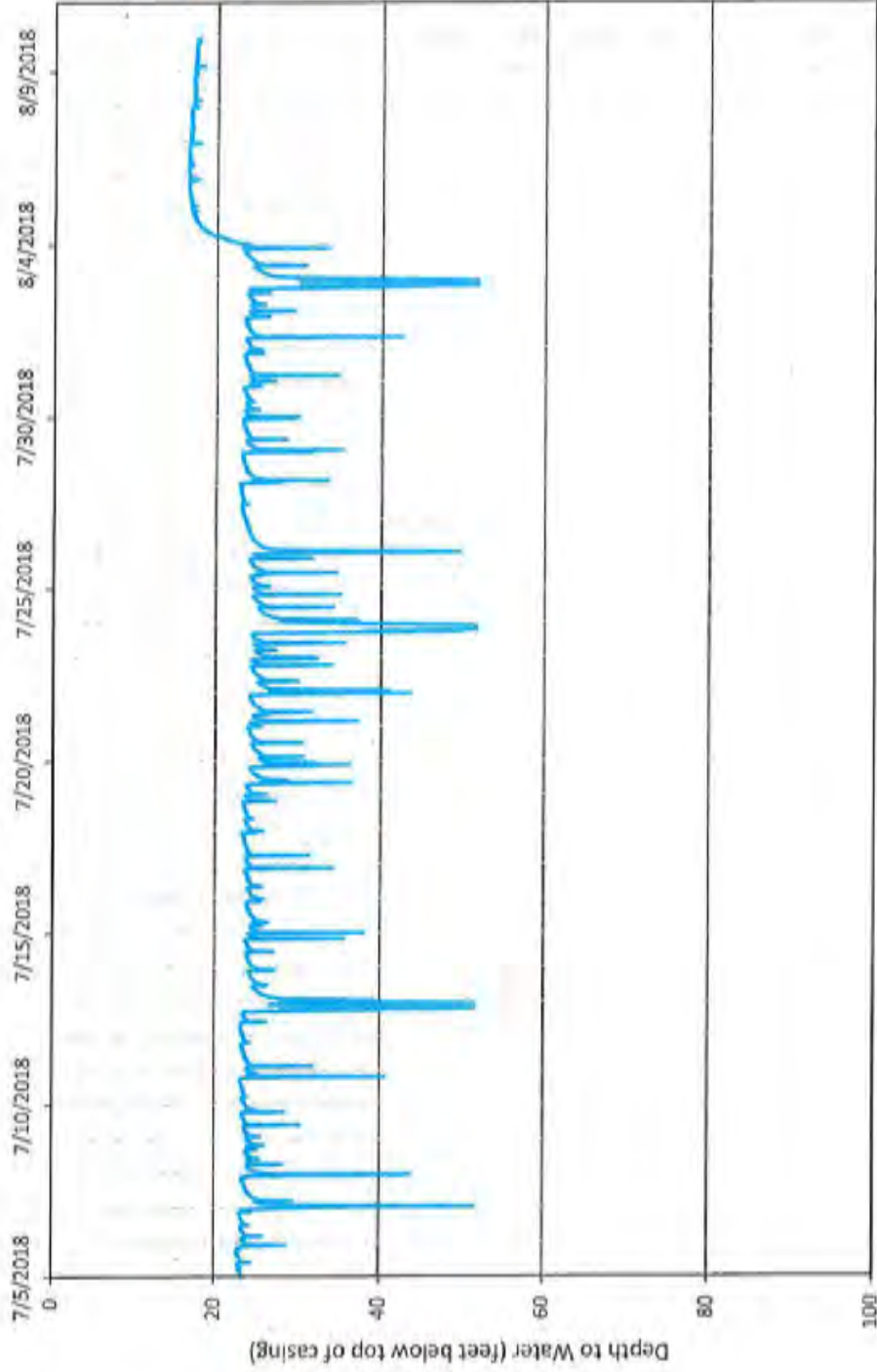
Sunshine Childrens Home
Off-Site Well Monitoring
Dawning Lane
July 5, 2018 - August 10, 2018



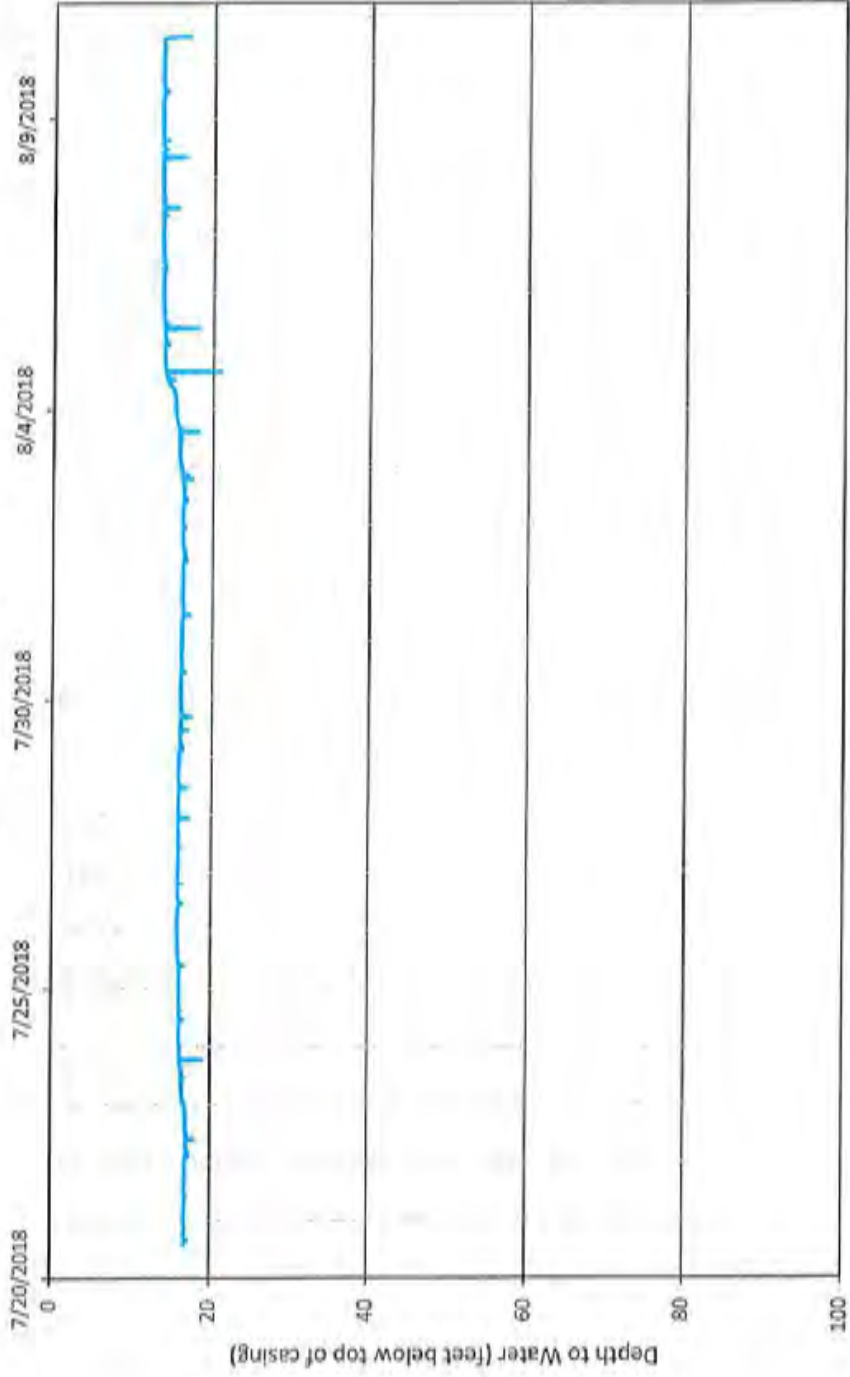
Sunshine Childrens Home
Off-Site Well Monitoring

Dawning Lane

July 5, 2018 - August 10, 2018

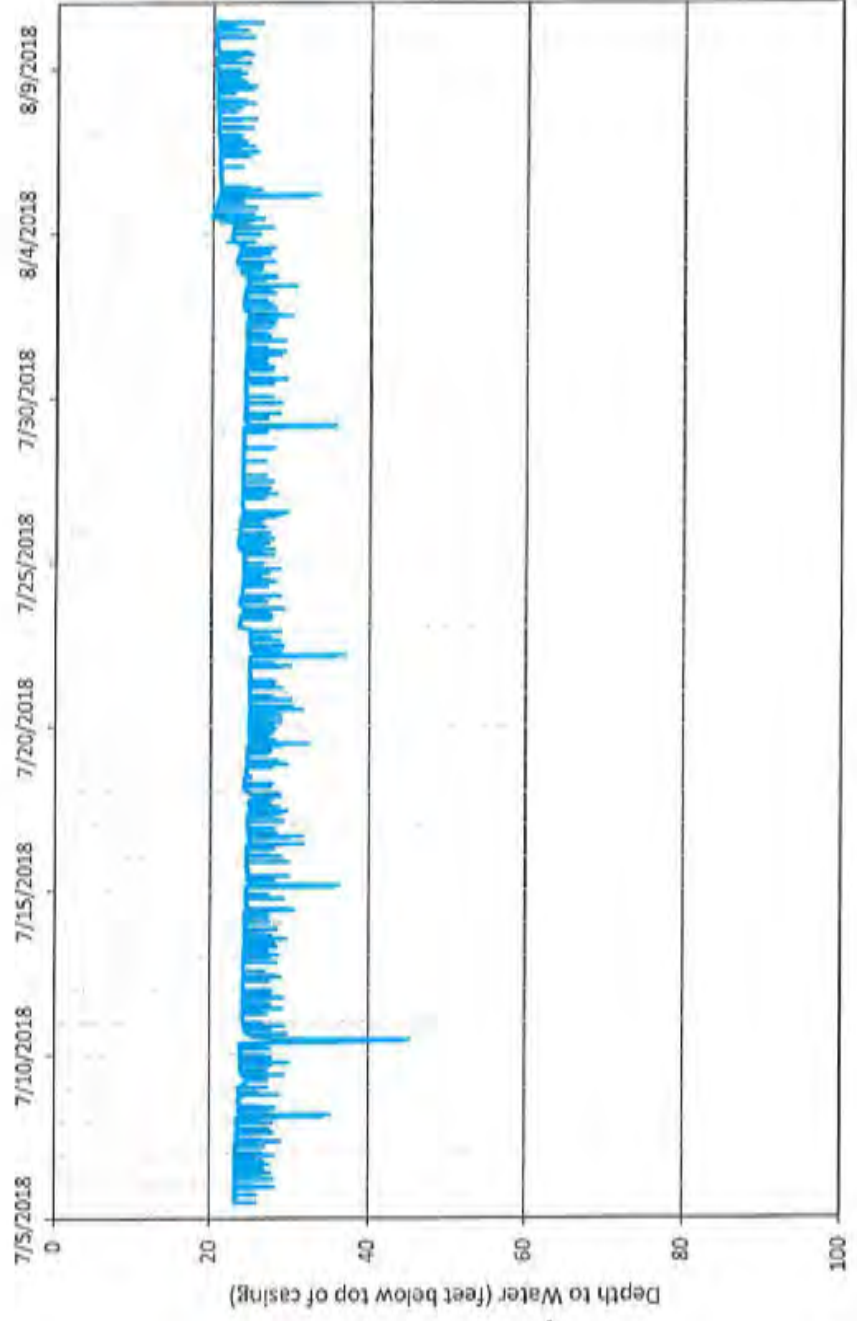


Sunshine Childrens Home
Off-Site Well Monitoring
Glendale Road
July 20, 2018 - August 10, 2018



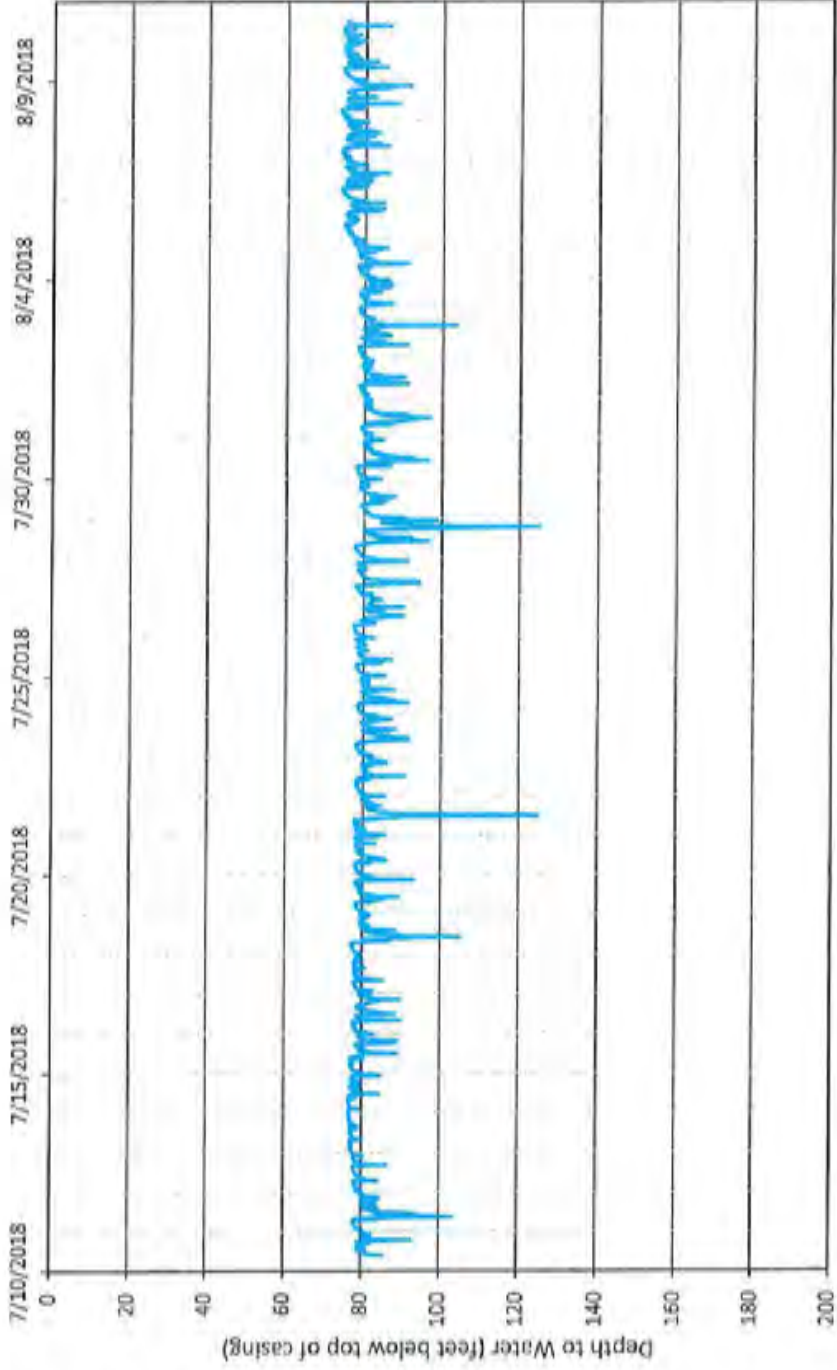
HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers, New York 10589

Sunshine Childrens Home
Off-Site Well Monitoring
Glendale Road
July 5, 2018 - August 10, 2018



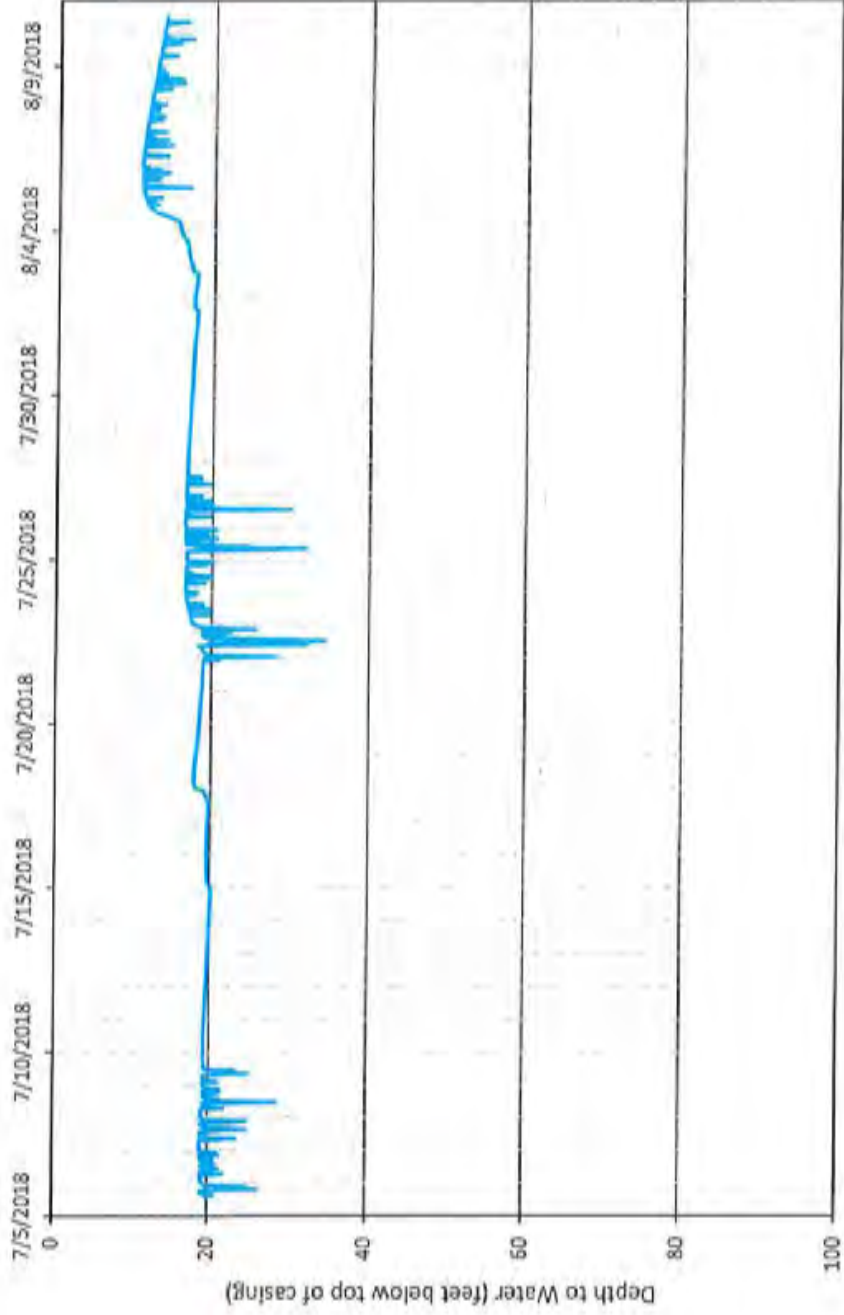
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One Deans Bridge Road
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Sunshine Childrens Home
Off-Site Well Monitoring
Glendale Road
July 10, 2018 - August 10, 2018



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Sunshine Childrens Home
Off-Site Well Monitoring
Glendale Road
July 5, 2018 - August 10, 2018

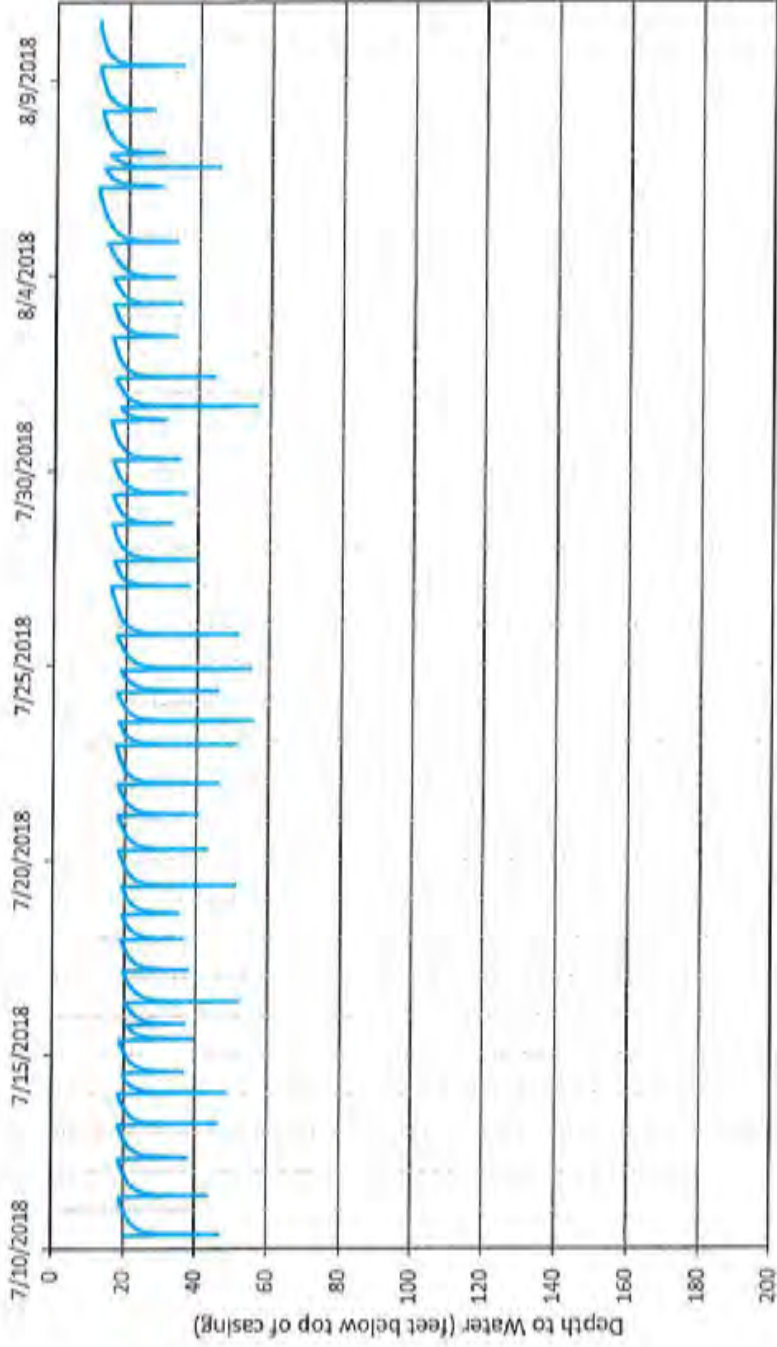


HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers, New York 10589

Sunshine Childrens Home
Off-Site Well Monitoring

Hawks Avenue

July 10, 2018 - August 10, 2018



HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers, New York 10589

Off-Site Monitoring Hydrographs
Prepared by LBGHES



PRIVILEGE AND CONFIDENTIAL

August 20, 2018



RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

Dear

Attached is the hydrograph of the water-level measurements collected from your well by LBG Hydrogeologic & Engineering Service P.C., member of WSP (LBGHES), on behalf of the Sunshine Children's Home. The pressure transducer was installed in your well on July 20, 2018 under the supervision of the Town of New Castle's Hydrogeologic Consultant, HydroEnvironmental Solutions (HES). The attached graph depicts water-level measurements collected through August 10, 2018. The August 10 data download was conducted by LBGHES under the supervision of HES.

Kind regards,

LBG Hydrogeologic & Engineering Services, P.C.

Thomas P. Cusack, CPG
Senior Supervising Hydrogeologist

TPC:nv

cc: Town of New Castle – Director of Planning

Attachment

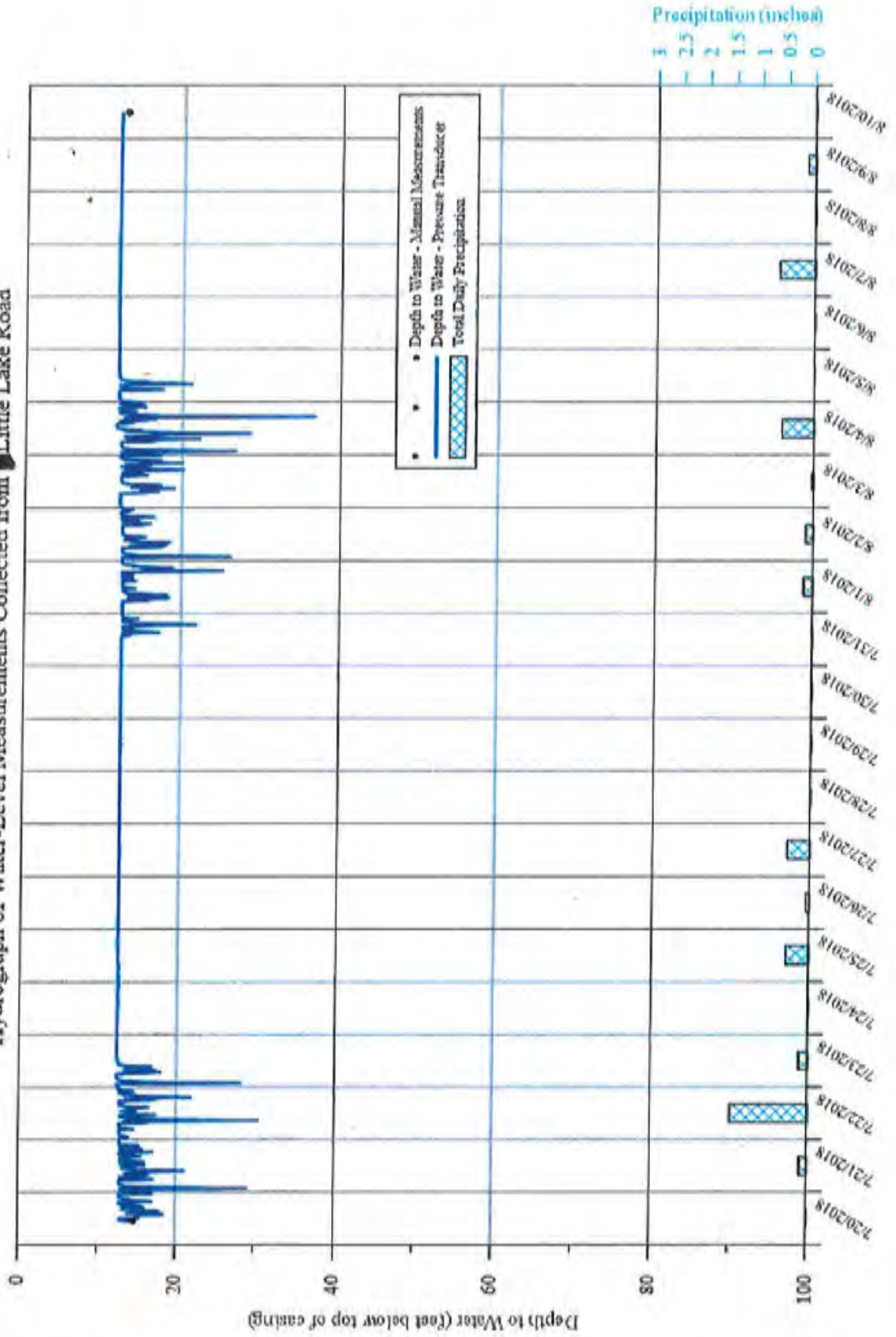
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LBG HYDROGEOLOGIC & ENGINEERING SERVICES, P.C.
MEMBER OF WSP
4 Research Drive, Suite 204
Shelton, CT 06484

Tel: +1 (203) 929-8955
wsp.com

SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from Little Lake Road



25. Other Sunshine Number Office Well Monitoring Program Hydrographs



August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

Dear [REDACTED]

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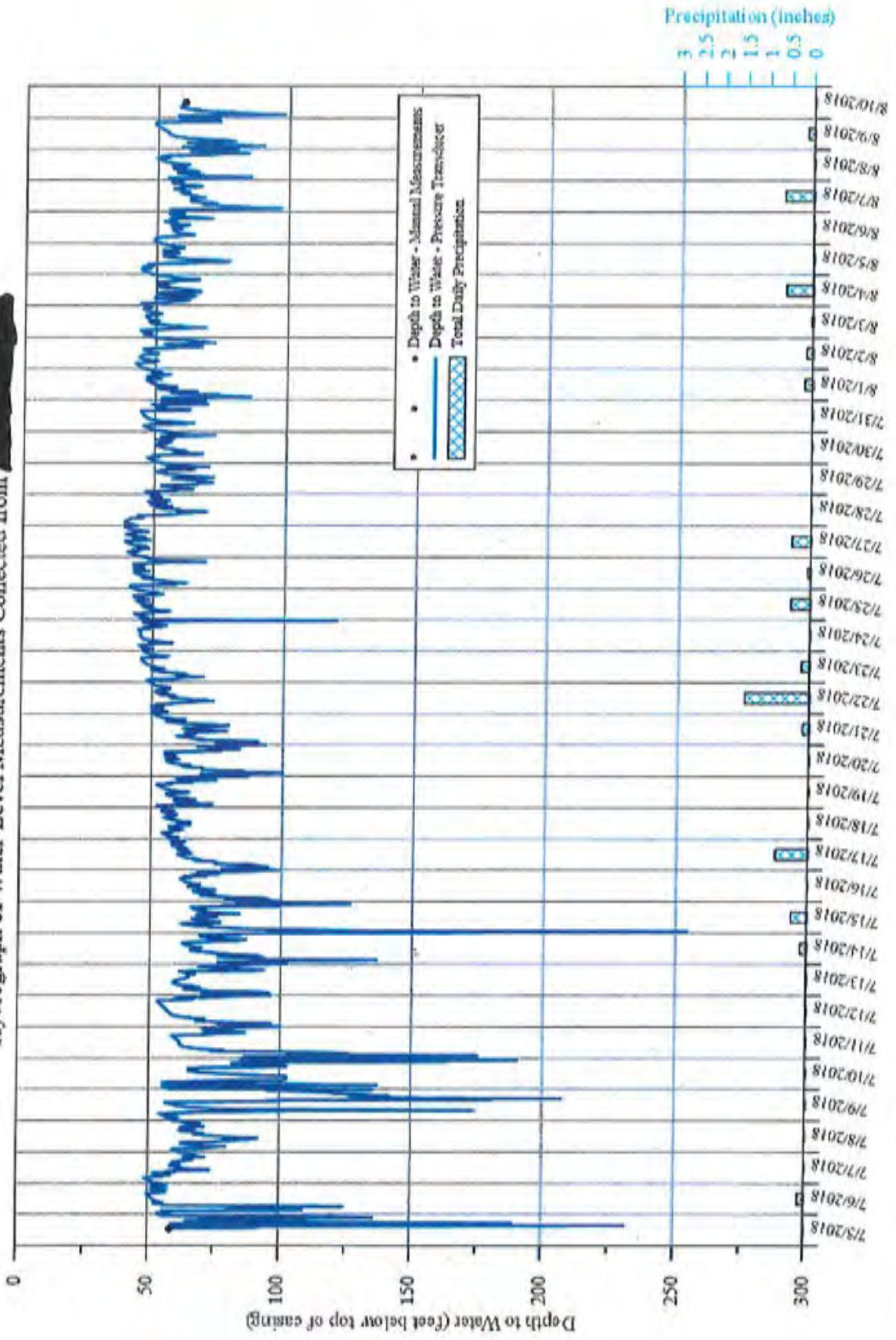
cc: Town of New Castle – Director of Planning

Attachment

H:\Sunshine Home\2018\Monthly Homeowner Letters\August 2018 [REDACTED]

SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from [REDACTED]





August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

Dear [REDACTED]

Attached is the hydrograph of the water-level measurements collected from your well by LBG Hydrogeologic & Engineering Service P.C., member of WSP (LBGHES), on behalf of the Sunshine Children's Home. The pressure transducer was installed in your well on July 5, 2018 under the supervision of the Town of New Castle's Hydrogeologic Consultant, HydroEnvironmental Solutions (HES). The attached graph depicts water-level measurements collected through August 10, 2018. The August 10 data download was conducted by LBGHES under the supervision of HES.

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Senior Supervising Hydrogeologist

TPC:rv

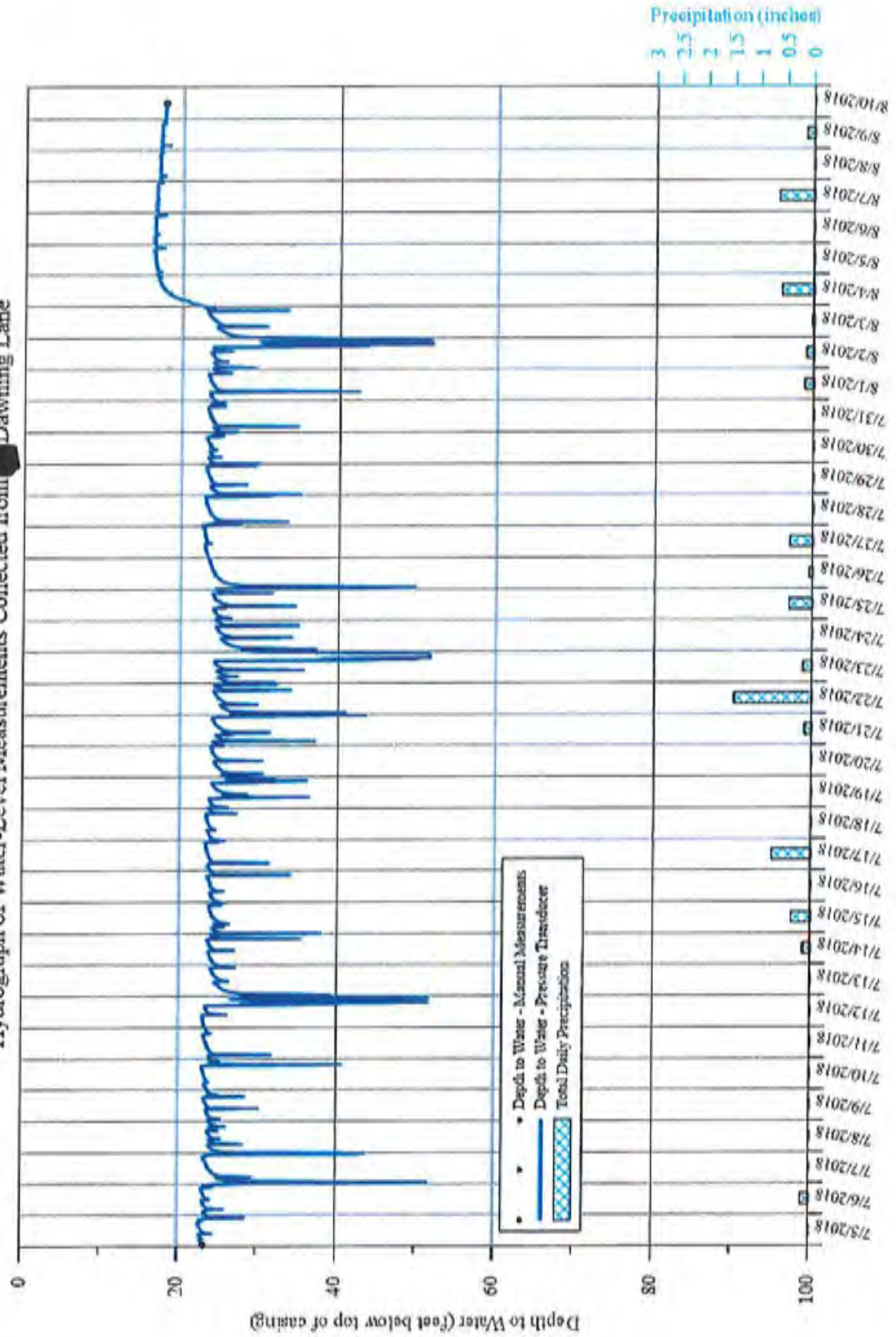
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H:\Sunshine Home\2018\Monthly Homeowner Letters\August 2018 [REDACTED]

SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from **Dawning Lane**





August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

Dear [REDACTED]:

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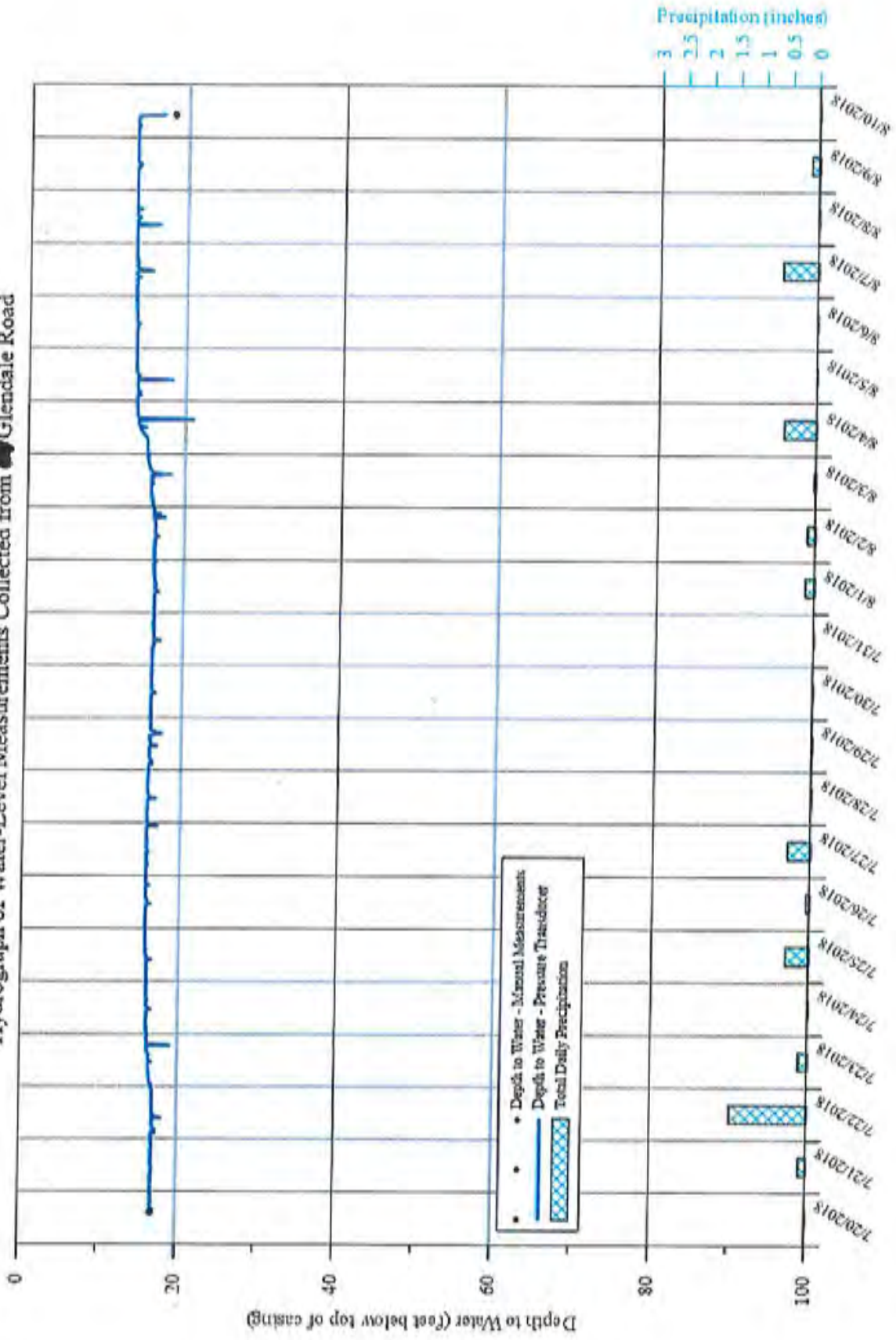
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cc: Town of New Castle – Director of Planning
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H:\Sunshine Home\2018\Monthly Homeowner Letters\August 2018 [REDACTED]

SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from  Glendale Road





August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

Dear [REDACTED]:

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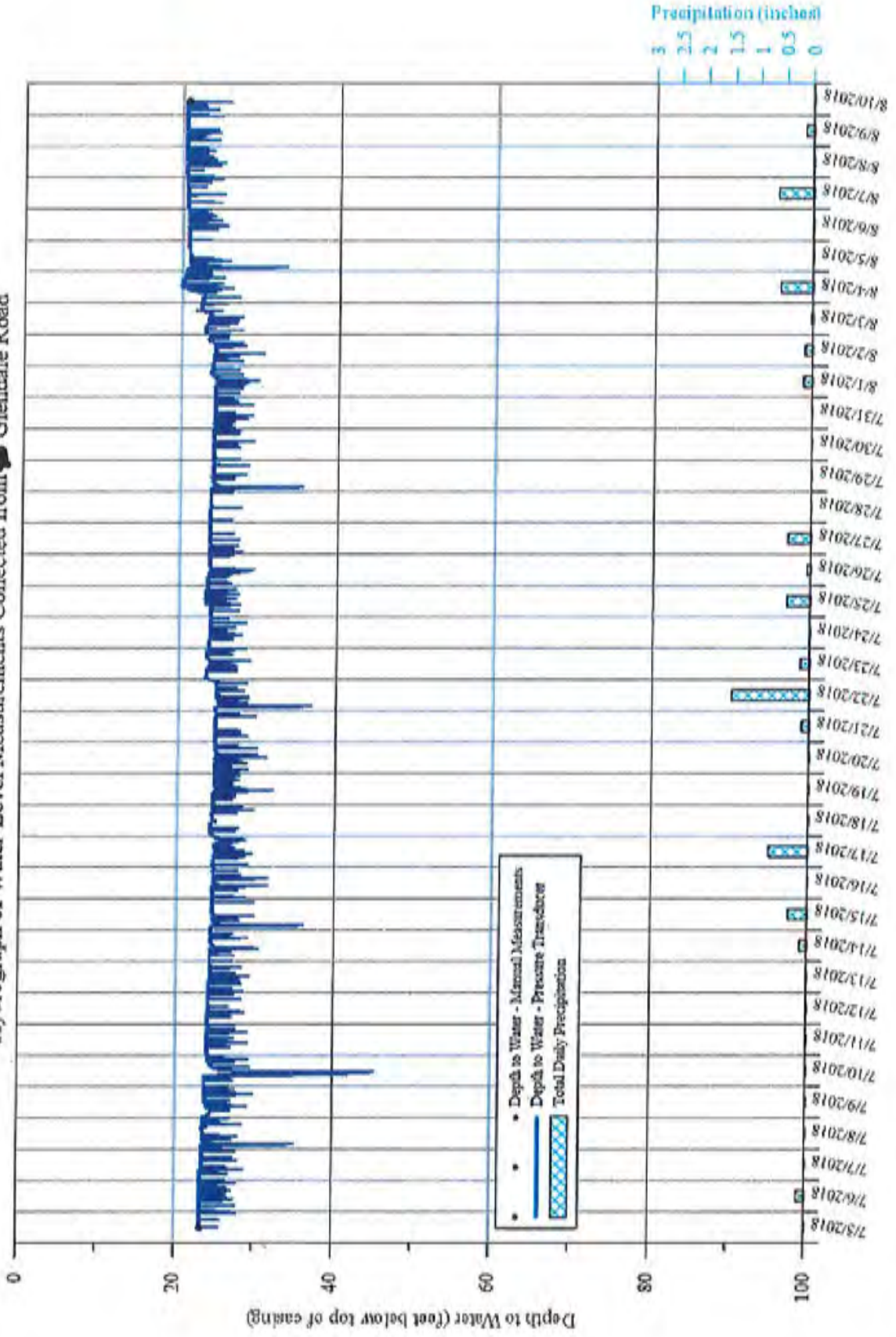
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H:\Sunshine Home\2018\Monthly Homeowner Letters\August 2018 [REDACTED]

SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from [redacted] Glendale Road





August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

Dear [REDACTED]

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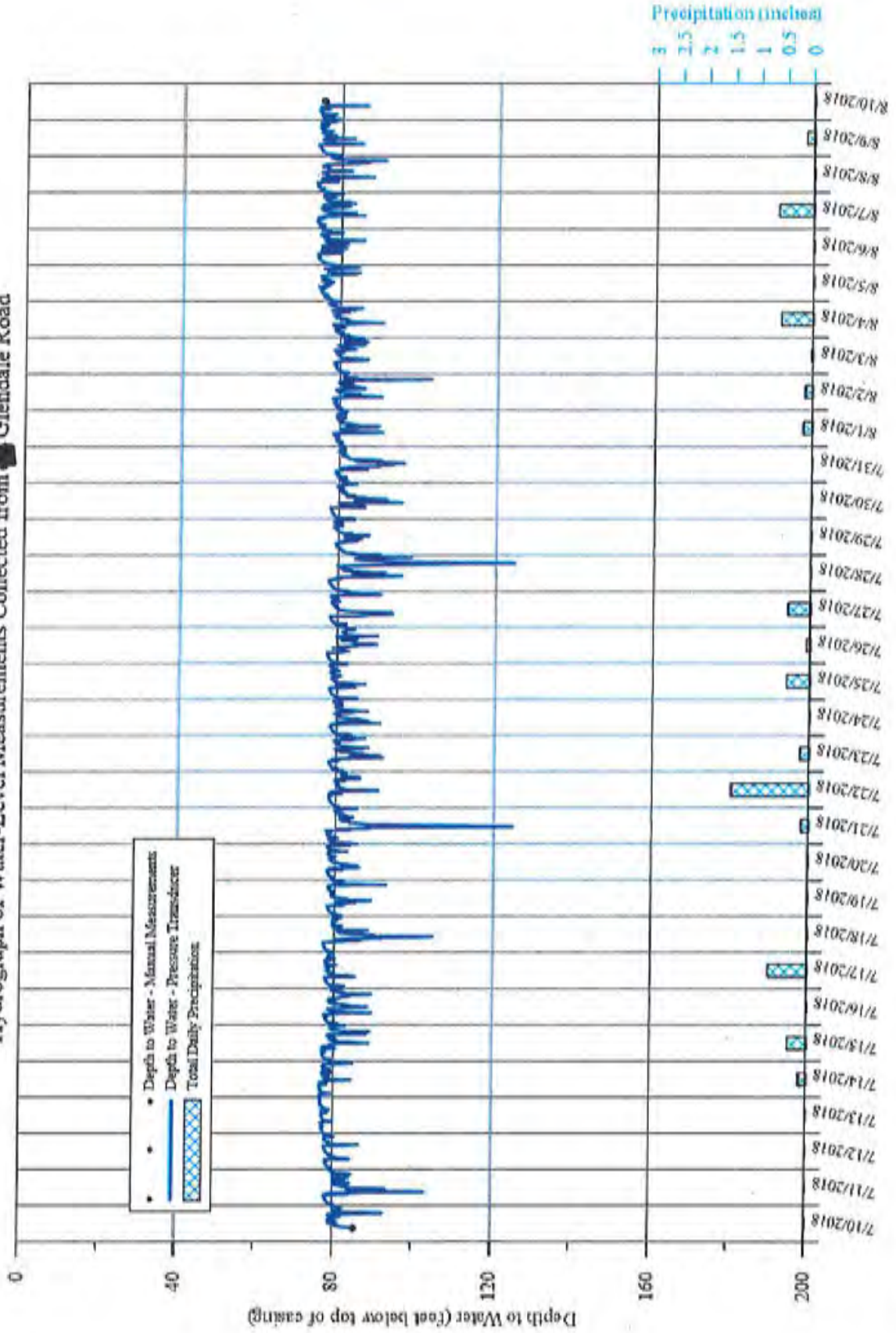
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SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from Glendale Road





August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

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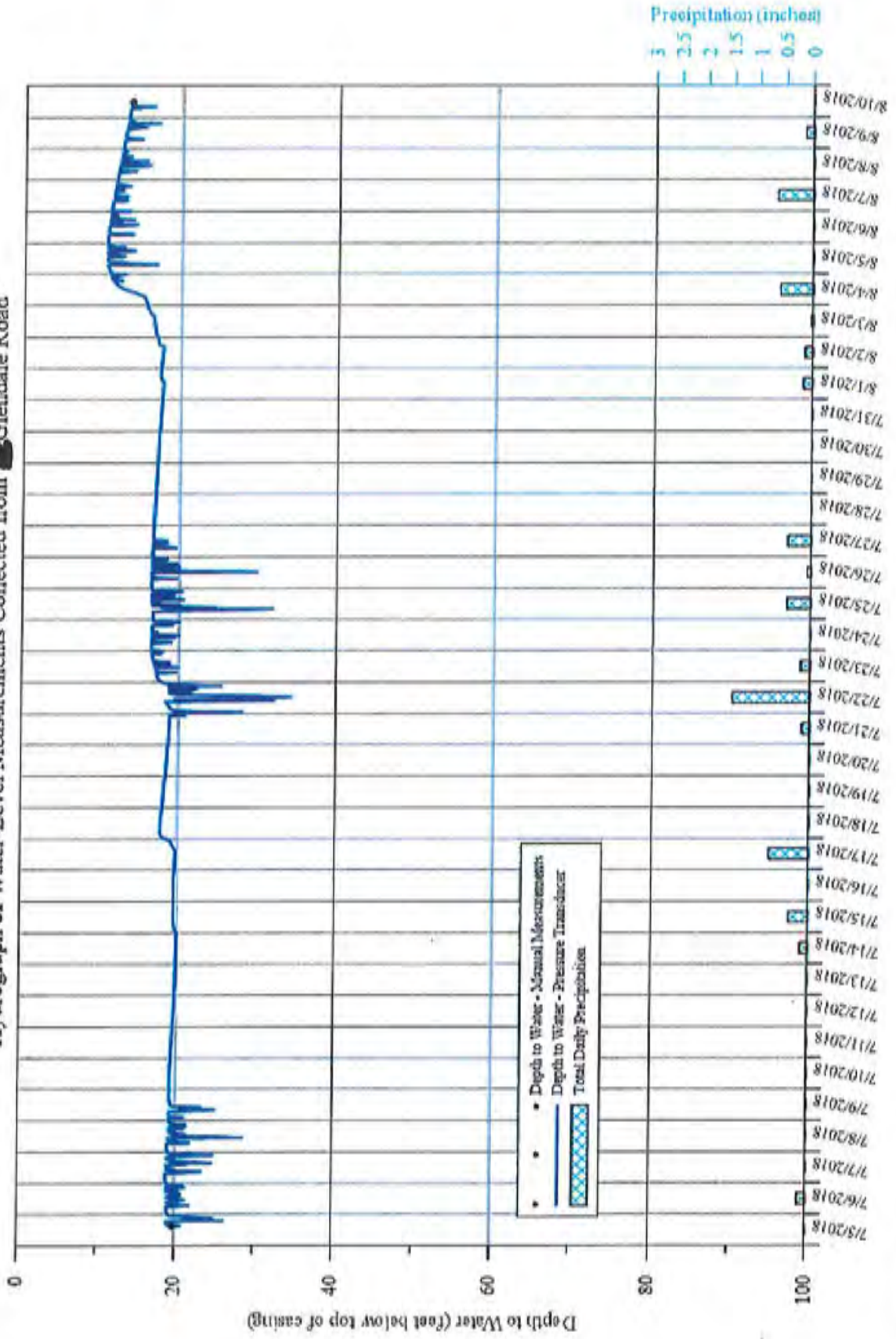
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H:\Sunshine Home\2018\Monthly Homeowner Letters\August 2018 [REDACTED]

SUNSHINE CHILDRENS HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from  Glendale Road





August 20, 2018

[REDACTED]

RE: Well Monitoring Program
Sunshine Children's Home
August 2018
New Castle, New York

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SUNSHINE CHILDREN'S HOME
NEW CASTLE, NEW YORK

Well Monitoring Program
Hydrograph of Water-Level Measurements Collected from  Hawks Avenue

