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APPENDIX 5.11A

**Yeh and Associates, Inc. (2023)  
Geotechnical Data Report  
Zevsar Energy Storage Project**

**GEOTECHNICAL DATA REPORT  
Zevsar Energy Storage Project  
Sierra Highway and Dawn Road  
Kern County, California**

Yeh Project No.: 223-202

November 17, 2023



Prepared for:

Hydrostor (GEM A-CAES LLC)  
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Attn: Lucas Thexton, BSc and Greg Thompson, EIT

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**Yeh and Associates, Inc.**

Geotechnical • Geological • Construction Services

November 17, 2023

Project No. 223-202

Hydrostor (GEM A-CAES LLC)  
333 Bay Street, Suite 520  
Toronto, ON M5H 2V1 Canada

Attn: Mr. Lucas Thexton, BSc and Mr. Greg Thompson, EIT

**Subject: Geotechnical Data Report, Zevsar Energy Storage Project, Sierra Highway and Dawn Road, Kern County, California**

Mr. Thexton and Mr. Thompson:

Yeh and Associates, Inc. is pleased to submit this geotechnical data report for the Zevsar Energy Storage Project in Kern County, California. This data report was prepared as requested by Hydrostor and summarizes the field and laboratory test results collected for the project. Yeh is preparing a *Preliminary Geotechnical Report* for the project which will be submitted separately. This report was prepared in accordance with the Professional Services Agreement with Hydrostor (GEM A-CAES LLC), dated August 18, 2023.

We appreciate the opportunity to be of service. Please contact Judd King at 805-801-6416 or [jking@yeh-eng.com](mailto:jking@yeh-eng.com) if you have questions or require additional information.

Sincerely,  
**YEH AND ASSOCIATES, INC.**



Hayden Brake, EIT  
Senior Staff Engineer

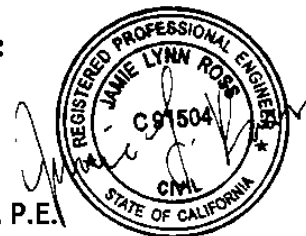


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**Reviewed by:**



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## Table of Contents

|   |          |
|---|----------|
| <b>1. PROJECT DESCRIPTION AND UNDERSTANDING .....</b>   | <b>1</b> |
| 1.1 PROJECT DESCRIPTION .....                           | 1        |
| 1.2 EXISTING SITE DESCRIPTION.....                      | 1        |
| 1.3 PREVIOUS STUDIES AND PERTINENT DATA .....           | 2        |
| <b>2. FIELD EXPLORATION AND LABORATORY TESTING.....</b> | <b>2</b> |
| 2.1 SITE RECONNAISSANCE .....                           | 2        |
| 2.2 EXPLORATORY DRILLING AND SAMPLING .....             | 3        |
| 2.3 MONITORING WELLS .....                              | 3        |
| 2.4 INFILTRATION TESTING .....                          | 4        |
| 2.5 LABORATORY TESTING.....                             | 4        |
| <b>3. SUBSURFACE CONDITIONS .....</b>                   | <b>5</b> |
| 3.1 REGIONAL AND SITE GEOLOGY .....                     | 5        |
| 3.2 SUBSURFACE CONDITIONS.....                          | 6        |
| 3.2.1 GEOLOGIC UNITS .....                              | 6        |
| 3.2.2 GROUNDWATER CONDITIONS.....                       | 7        |
| <b>4. LIMITATIONS .....</b>                             | <b>7</b> |
| <b>5. REFERENCES .....</b>                              | <b>8</b> |

## List of Figures

|   |   |
|---|---|
| FIGURE 1: VICINITY MAP .....                | 1 |
| FIGURE 2: GEOLOGIC MAP (DIBBLEE 1963) ..... | 5 |

## List of Plates

|                               |   |
|-------------------------------|---|
| Field Exploration Plan.....   | 1 |
| Subsurface Profile A-A' ..... | 2 |
| Subsurface Profile B-B' ..... | 3 |

## List of Appendices

### Appendix A – Boring Logs

|  |              |
|--|--------------|
| Legend for Soil Classification.....      | A-1          |
| Legend for Rock Classification.....      | A-2          |
| Boring Logs for 23E-01 to 23E-11 .....   | A-3 to A-32  |
| Boring Logs for 23IN-01 to 23IN-06 ..... | A-33 to A-38 |
| Rock Core Photos .....                   | A-39 to A-81 |



**Appendix B – Results of Laboratory Testing**

|   |            |
|---|------------|
| Summary of Laboratory Test Results .....              | B-1 to B-3 |
| Sieve Analyses .....                                  | B-4 to B-6 |
| Modified Proctor .....                                | B-7 to 8   |
| Sand Equivalent.....                                  | B-9        |
| R-Value .....   | B-10       |
| Soluble Sulfate and Soluble Chloride Content .....    | B-11       |
| Consolidated Undrained (CU) Triaxial.....             | B-12 to 21 |
| Unconfined Uniaxial Compressive Strength .....        | B-22 to 29 |
| Hydraulic Conductivity .....                          | B-30       |
| Appendix C – Monitoring Well Data.....                | C-1 to 2   |
| Appendix D – Infiltration Test Data .....             | D-1 to 6   |
| Appendix E – Previous Studies and Pertinent Data..... | E-1 to 6   |

## 1. PROJECT DESCRIPTION AND UNDERSTANDING

Hydrostor retained Yeh and Associates to provide geotechnical services as input to the preliminary engineering phase of the proposed Zevsar Energy Storage Center. The site is located in Kern County near Rosamond, California (APN 431-022-13, see Figure 1). The geotechnical evaluation consisted of a program of project coordination, site reconnaissance, field exploration, and laboratory testing. Yeh is preparing a Preliminary Geotechnical Report for the project which will include additional analyses and evaluation of the subsurface conditions related to the proposed energy storage project.

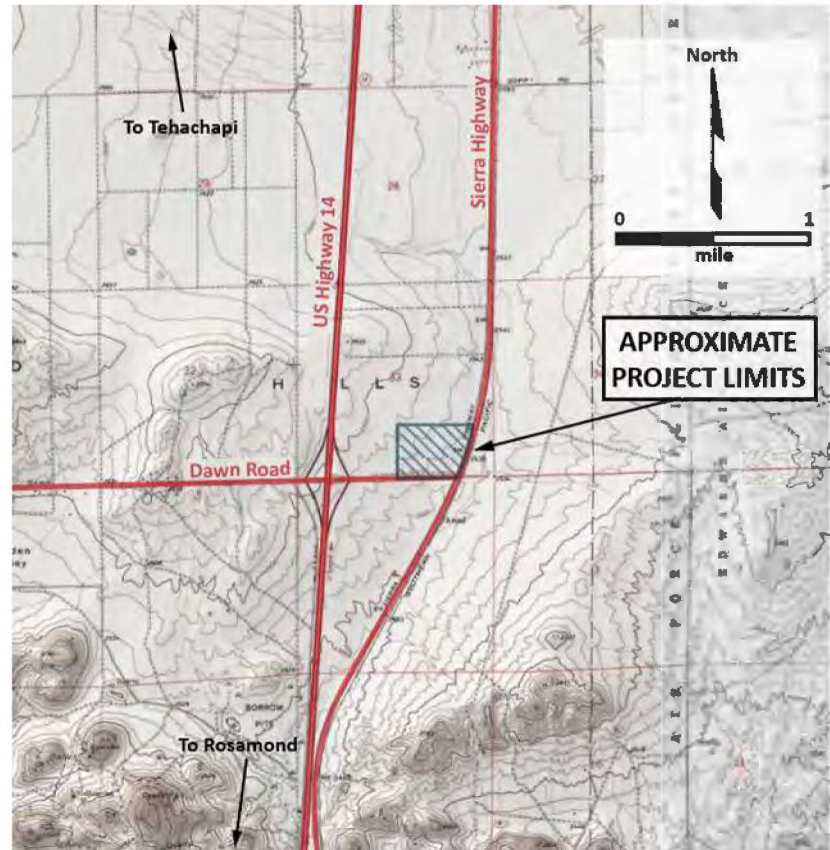


Figure 1: Vicinity Map

### 1.1 PROJECT DESCRIPTION

The proposed improvements include a new Advanced Compressed Air Energy Storage (A-CAES) center. The project consists of a pump storage process that utilizes a water reservoir as a hydrostatic pressure regulator to produce energy. Energy from nearby power sources (solar, nuclear, wind, etc.) is used to pressurize a subterranean cavern with air. When energy is needed, the compressed air is released from the cavern and forced to the surface using the water reservoir. The compressed air is converted into energy using heat transfer systems and generators at the ground surface. Project layout and components are currently in development.

### 1.2 EXISTING SITE DESCRIPTION

The project site is an undeveloped property approximately 3 miles north of Rosamond, California (APN 431-022-13) as shown on Figure 1. The site is bordered to the east by Sierra Highway and to the south by Dawn Road. Land use in the site vicinity is primarily rural residential or undeveloped land. Edwards Air Force Base is located approximately 10 miles east of the site. No overhead lines are present within the immediate vicinity of the site. Water pipelines and gas lines are located within the right-of-way of Sierra Highway. Railroad tracks operated by Union Pacific Railroad (UPRR) are located

approximately 50 feet east of Sierra Highway across from the project site. Interstate 14 is located approximately 0.25 miles west of the project site.

Topography in the project vicinity is defined by relatively flat to gently undulating terrain, with sporadic bedrock peaks such as the Rosamond Hills. The Rosamond Hills are located near the northern project extents and stretch approximately 6 miles west to 10 miles east of the site. Grades at the project site are approximately 0- to 10-percent and slope up to the northwest toward the Rosamond Hills (CalTopo 2022). Elevations at the project site range from approximately elevation 2530 feet along the southeast extents to 2580 feet along the northwest extents (CalTopo 2022). Vegetation at the site generally consists of grasses, desert brush, and Joshua Trees. Unimproved dirt roadways traverse the property at various locations and provide vehicle access off Dawn Road.

### **1.3 PREVIOUS STUDIES AND PERTINENT DATA**

Yeh reviewed available geotechnical and subsurface data at the site and in the immediate vicinity for the purposes of this report. Pertinent data are summarized below and presented in Appendix E.

- An as-built Log of Test Borings was prepared by the California Department of Transportation (Caltrans) in 1972 (Caltrans 1972) for the Dawn Road Overcrossing at U5 Highway 14 (Bridge No. 50-385). Two rotary borings and three penetrometer borings were performed as part of the study to depths of approximately 5 to 35.5 feet below the ground surface.
- Well data from the Department of Water Resources (DWR 2023) for well number 349444N1181360W001 located approximately 2.5 miles northeast of the site. Groundwater was measured in this well between 1956 to 2010.

## **2. FIELD EXPLORATION AND LABORATORY TESTING**

Yeh performed a field exploration program that included site reconnaissance, geotechnical borings, and infiltration test holes at the project site as well as laboratory testing of selected samples recovered from the borings. Boring locations are shown on Plate 1 – Field Exploration Plan. Boring logs and laboratory test results are included in the appendices. Deep exploratory borings for the proposed subterranean cavern are being performed by others. Locations of the deep exploratory borings are also shown on Plate 1.

### **2.1 SITE RECONNAISSANCE**

Yeh personnel visited the site on August 30 and 31, 2023, to review site conditions as well as site geology and bedrock outcrops exposed in the surrounding area, and mark for Underground Services Alert prior to the exploratory drilling. Additional visits were made during the subsurface exploration program to review site conditions such as, topography, vegetation, and geomorphic features related to site geology.



## 2.2 EXPLORATORY DRILLING AND SAMPLING

Drilling for the project was performed in two phases. The drilling subcontractor for the first phase was Gregg Drilling Company of Signal Hill, California. Gregg used a Fraste D34 track-mounted drill rig equipped for 4-inch diameter mud rotary and HQ rock core equipment to advance eleven borings (23E-01 to 23E-11) to depths of approximately 51 to 71 feet below the ground surface between the periods of September 11 to September 15, September 18 to September 20, and October 3 to October 6, 2023. The second phase of drilling was performed by Yeh. Yeh used a Bobcat S630 equipped with 12-inch diameter augers to advance six infiltration borings (23IN-01 to 23IN-06) to depths of approximately 4 to 6.5 feet below the ground surface on September 18, 2023. Yeh personnel logged the subsurface conditions encountered during the drilling and collected soil and rock samples for subsequent laboratory testing. The approximate boring locations are shown on Plate 1.

Sampling in the borings was initiated by using driven samplers and collecting bulk samples. Drive samples were collected using a modified California or standard penetration test (SPT) split spoon sampler at typical 5-foot intervals. The SPT sampler has a 2-inch outside diameter, 3/8-inch inside diameter and is equipped for but was used without liners. The modified California sampler has a 3-inch outside diameter, 2-3/8-inch inside diameter and was used with 1-inch-high brass liners. Gregg collected the drive samples using a 140-pound automatic trip hammer in accordance with ASTM D1586, the Standard Penetration Test. Bulk samples of the subgrade soil were also collected from the augers at the depth intervals noted on the logs.

Continuous coring was performed in rock encountered in borings 23E-01 and 23E-11 once drive sampling met practical refusal. Coring was performed using an HQ continuous rock coring system with diamond bit core-barrels retrieved on a wire-line system. The HQ coring barrel drilled an approximately 3.4-inch diameter hole and collected 2.5-inch diameter core samples. Core was collected in typical 2.5-foot to 5-foot runs and recovered from the hole on the wire-line system. The percent recovery and the rock quality designation (RQD) were measured and reported on the logs for each run. Upon completion, borings were backfilled with grout except for borings 23E-05 and 23E-11 where monitoring wells were constructed within the completed boreholes (see Section 2.3). Infiltration borings 23IN-01 through 23IN-06 were prepared for infiltration testing following completion (see Section 2.4).

## 2.3 MONITORING WELLS

Monitoring wells were constructed in borings 23E-05 and 23E-11. Details of the monitoring well construction are shown on the logs in Appendix A. The wells were constructed with 2-inch diameter slotted and solid PVC pipes, backfilled with No. 3 sand, sealed with bentonite, and covered with steel monuments that are approximately 3 feet above adjacent grade and painted yellow. Barometric and





pressure transducers were installed on October 4, 2023 in the monitoring wells to record water levels on a daily basis. Yeh visited the site on October 23, 2023, to obtain water level data from the instruments. Water level data from the monitoring wells is included in Appendix C.

## **2.4 INFILTRATION TESTING**

Infiltration tests were performed in borings 23IN-01 through 06. Tests were prepared by placing a 4-to-6-inch layer of 0.75-inch gravel on the bottom of the hole and then placing a 2-inch diameter PVC pipe in the hole. The annulus between the pipe and sidewalls of the hole was then filled with the gravel to or just above the perforations in the pipe. The holes were then pre-saturated for approximately 24 hours following excavation and placement of the infiltration test apparatuses in the borings. Following pre-saturation, Yeh performed constant head and falling head infiltration testing in each of the infiltration test borings on September 19 and 20, 2023. Infiltration test data and results are presented in Appendix D. Testing was performed in general accordance with generally accepted testing methodology (Riverside County 2011). Constant head testing was performed by maintaining a consistent level of water while monitoring the volume of water used over a 30-minute period. After the constant head test, falling head infiltration tests were performed which consisted of filling the casing with water to a specific level within the boring. The rate of the drop in water level was then measured for a minimum of 3 hours or to when the water level fully drained below the bottom of the hole at least three times (so that up to three sets of readings were taken).

## **2.5 LABORATORY TESTING**

Laboratory testing was performed on selected samples recovered from the borings. Test results are presented in Appendix B. Selected tests for unit weight, moisture content, gradation, and pH and resistivity were performed at the Yeh office and laboratory in Ventura, California. Tests for gradation, unit weight versus moisture content relation by the modified Proctor test, sand equivalent, and R-value were performed at the Union Materials Testing in Oxnard, CA. Tests for soluble sulfate content and soluble chloride content were performed at Cooper Testing Labs in Palo Alto, California. Tests for shear strength under consolidated undrained (CU) loading, unconfined uniaxial compressive strength and hydraulic conductivity, and were performed on soil and rock samples at the California Polytechnic State University Geotechnical Engineering Lab in San Luis Obispo, California. Thermal resistivity testing is currently being performed on soil samples by GeoTherm USA in Cypress, Texas. Thermal resistivity test results are pending and will be forwarded once received. All testing was performed in accordance with applicable ASTM standards.



### 3. SUBSURFACE CONDITIONS

#### 3.1 REGIONAL AND SITE GEOLOGY

The project is located within the Antelope Valley region of the Mojave Desert geologic and geomorphic province, which occupies approximately 25,000 square miles of southeastern California. Antelope Valley, located approximately 50 miles north of Los Angeles, is the wedge-shaped western region of the Mojave Desert and is confined by the Garlock fault and Sierra Nevada Ranges to the north and the San Andreas Fault and Transverse Ranges to the southwest. Topography in the Antelope Valley area is defined by peaks of pre-Tertiary age crystalline rocks of plutonic and metamorphic origins, hills of Tertiary age pyroclastic, volcanic, and sedimentary rocks of terrestrial origin, as well as hundred- to several thousand-foot-thick overlying plains of Quaternary age alluvial deposits comprised of sediments derived from the erosion of adjacent peaks and hills.

The closest fault closest fault is the Quaternary age Willow Springs Fault, mapped by Dibblee (1963) approximately 2.8 miles south of the project site. Other Quaternary age faults include the Garlock Fault and the San Andreas Fault mapped approximately 15 miles northwest of the project site and approximately 21 miles southwest of the project site, respectively (California Geologic Survey 2015).

The surficial geology in the project vicinity as mapped by Dibblee (1963) is shown on Figure 2. The project site was mapped as Jurassic to Cretaceous age Quartz Monzonite (qm), described by Dibblee and Minch (2008) as gray-white, massive, plutonic

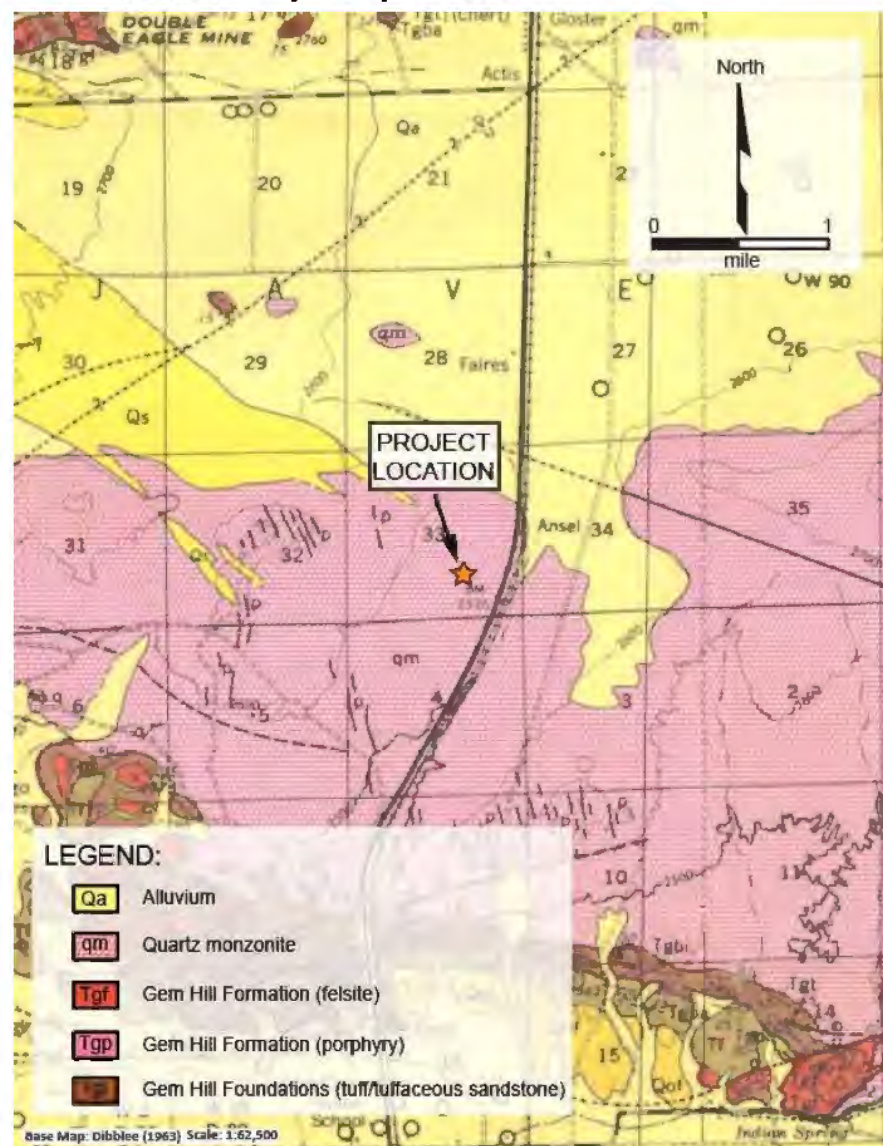


Figure 2: Geologic Map (Dibblee 1963)



intrusive rocks emplaced at a time similar to Sierra Nevada granitic plutons. Dikes and swarms of pegmatite and aplite which are cream white and intrusive into the quartz monzonite unit are present in the vicinity of the project site near Rosamond.

### 3.2 SUBSURFACE CONDITIONS

#### 3.2.1 GEOLOGIC UNITS

Yeh's subsurface characterization is based on the subsurface conditions logged in the borings performed by Yeh and previous studies. The approximate locations of the borings and subsurface cross-sections are presented on Plate 1. Two interpreted units (Qa and Qm) were encountered within the borings and are described below. Interpreted subsurface profiles A-A' and B-B' showing the units encountered are presented on Plates 2 and 3.

**Alluvium (Qa).** Alluvium was encountered from the ground surface in borings 23E-01 through 23E-03, 23E-05, 23E-06, 23E-08 23E-11, and 23IN-01, 23IN-02, 23IN-04, and 23IN-06 to depths of approximately 0.5 to 7.5 feet below the ground surface. The unit was also encountered from the ground surface in borings 21IN-03 and 23IN-05 to the maximum depth explored of 4 to 6.3 feet below the ground surface. Alluvium was also encountered in borings B-2 and B-5 performed by Caltrans (1972) for the Dawn Road Overcrossing at US Highway 14 from the ground surface to depths of approximately 2.5 to 4.5 feet below the ground surface. The alluvium was interpreted to be derived from the underlying quartz monzonite and was encountered as loose to very dense sand with varying amounts of silt and clay (SW, SM, SC). Quartz Monzonite (qm) was encountered below the alluvium in borings 23E-01 through 23E-03, 23E-05, 23E-06, 23E-08 23E-11, 23IN-01, 23IN-02, 23IN-04, 23IN-06, B-2, and B-5.

**Quartz Monzonite (Qm<sub>1, 2</sub>).** Quartz monzonite was encountered below the alluvium in borings 23E-01 through 23E-03, 23E-05, 23E-06, 23E-08 23E-11, 23IN-01, 23IN-02, 23IN-04, 23IN-06, B-2, B-5, as well as from the ground surface in borings 23E-04 and 23E-07 to the maximum depths explored of 4.7 to 71 feet below the ground surface. Two predominant units of the quartz monzonite were encountered in all the borings at the site as described below.

**Qm<sub>1</sub>.** The upper subunit (Qm<sub>1</sub>) was encountered to depths of 25 to 50 feet below the ground surface. The subunit consisted of decomposed to intensely weathered, very soft to moderately hard, very slightly fractured to moderately fractured quartz monzonite. Decomposed zones of the quartz monzonite was encountered as silty to clayey sand (5M, SC) as noted on the logs in Appendix A. Caltrans (1972) logged very dense "badly decomposed granite" in the borings performed for the Dawn Road Overcrossing which is interpreted as the upper subunit



encountered in Yeh's borings. The upper unit was differentiated from the lower unit (qm<sub>2</sub>) predominantly by weathering and drilling conditions.

**Qm<sub>2</sub>.** The lower subunit (Qm<sub>2</sub>) was encountered below the upper subunit to the maximum depths explored noted above. The subunit was predominately consisted of intensely weathered to fresh, very soft to hard, intensely to slightly fractured.

### 3.2.2 GROUNDWATER CONDITIONS

The borings performed by Yeh were drilled using mud rotary methods which precludes the ability to measure groundwater depths. Monitoring wells were installed in borings 23E-05 and 23E-11 (see Section 2.3). Average groundwater depths recorded in the monitoring wells are provided in Appendix D and shown on Plates 2 and 3. Prior to bailing the wells and installing instrumentation, the water level in 23E-05 was measured at 43.9 feet below ground surface (approximately elevation 2506.1 feet), and 42.5 feet below ground surface in 23E-11 (approximately elevation 2527.6 feet). Five to 15 gallons of water was then bailed from each well prior to instrumentation deployment. Water levels in the two wells recovered relatively quickly after bailing ceased. Groundwater levels in the monitoring wells post installation recorded between October 5 to 23, 2023 was generally about elevation 2,506 feet in 23B-05 and elevation 2,527 feet in 23B-11. Groundwater levels recorded in the DWR (2023) well number 349444N1181360W001 between 1956 and 2010 varied from about elevation 2,483.5 to 2,500 feet (see Appendix E). Soil moisture and groundwater conditions will vary seasonally and due to variations in storm runoff, irrigation, and groundwater pumping in the site vicinity.

## 4. LIMITATIONS

This study has been conducted in general accordance with currently accepted geotechnical practices in this area for use by the client for preliminary design and conceptual planning purposes. The data in this report are based upon the data obtained from field reconnaissance, subsurface exploration, and our understanding of the proposed project. Yeh is preparing a *Preliminary Geologic Hazards and Geotechnical Report* for the project which will be based on design information provided by Hydrostor. If there are any changes in the project or site conditions, Yeh should review those changes and provide additional recommendations if needed. Any modifications to the recommendations of this report or approval of changes made to the project should not be considered valid unless they are made in writing. The report and drawings contained in this report are intended for preliminary design for input and evaluation of the percolation characteristics of the ponds by others and are not intended to act as a design-level geotechnical report, construction drawings, or specifications.



Site conditions will vary between points of observation or sampling, seasonally, and with time. The nature and extent of subsurface variations across the site may not become evident until excavation is performed. If during construction, fill, soil, or water conditions appear to be different from those described herein, Yeh should be advised and provided the opportunity to evaluate those conditions and provide additional recommendations, if necessary. The geotechnical professional should observe portions of the construction and site conditions, such as excavations, exposed subgrades, and earthwork, to evaluate whether or not the conditions encountered are consistent with those assumed for design, and to provide additional recommendations during construction if needed.

## 5. REFERENCES

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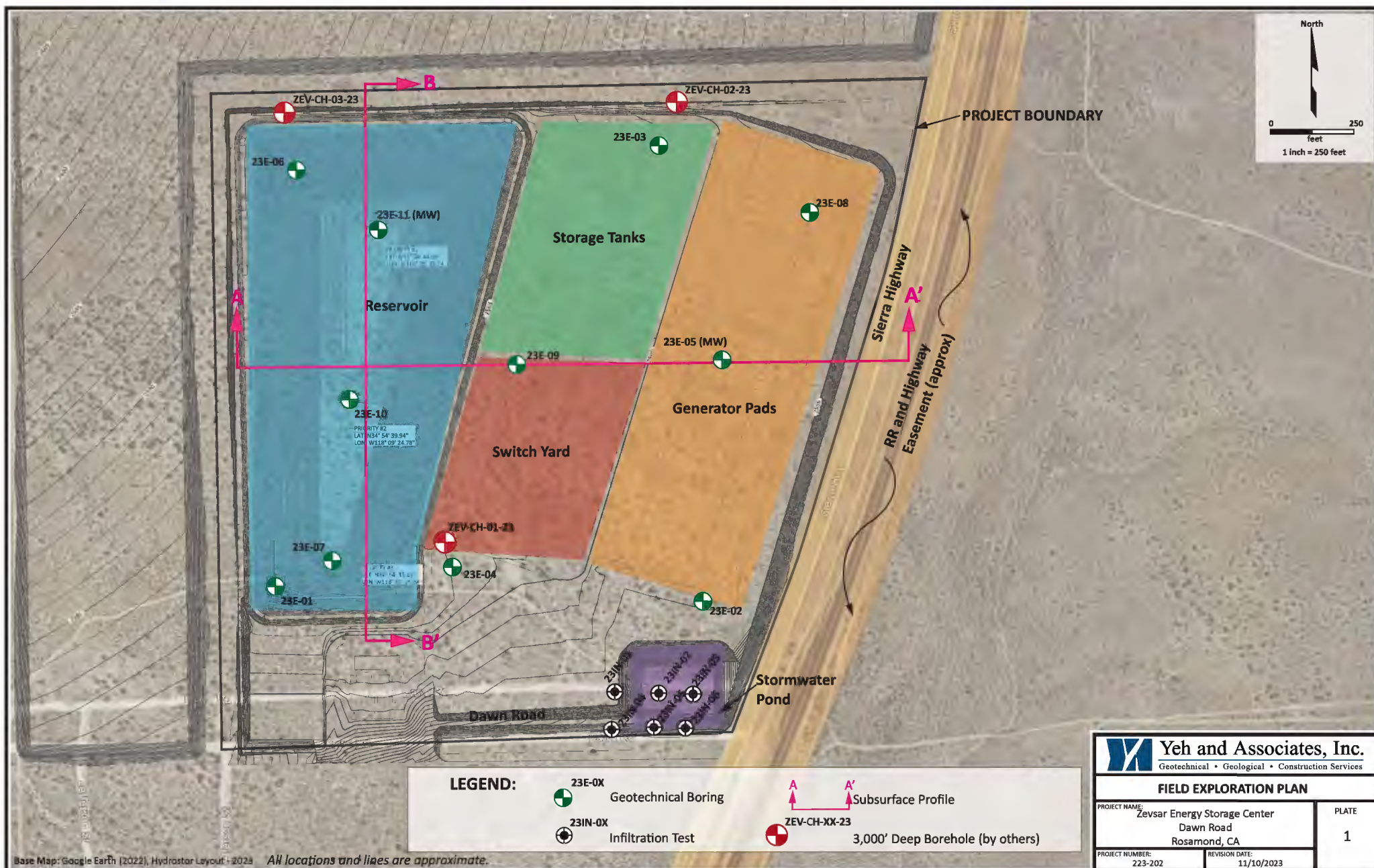
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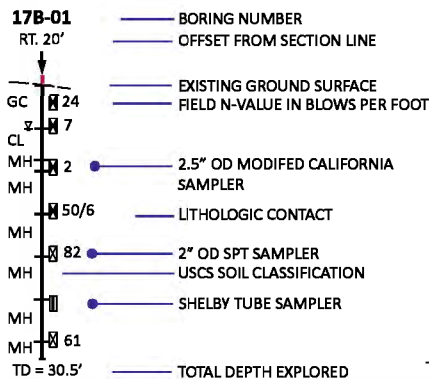
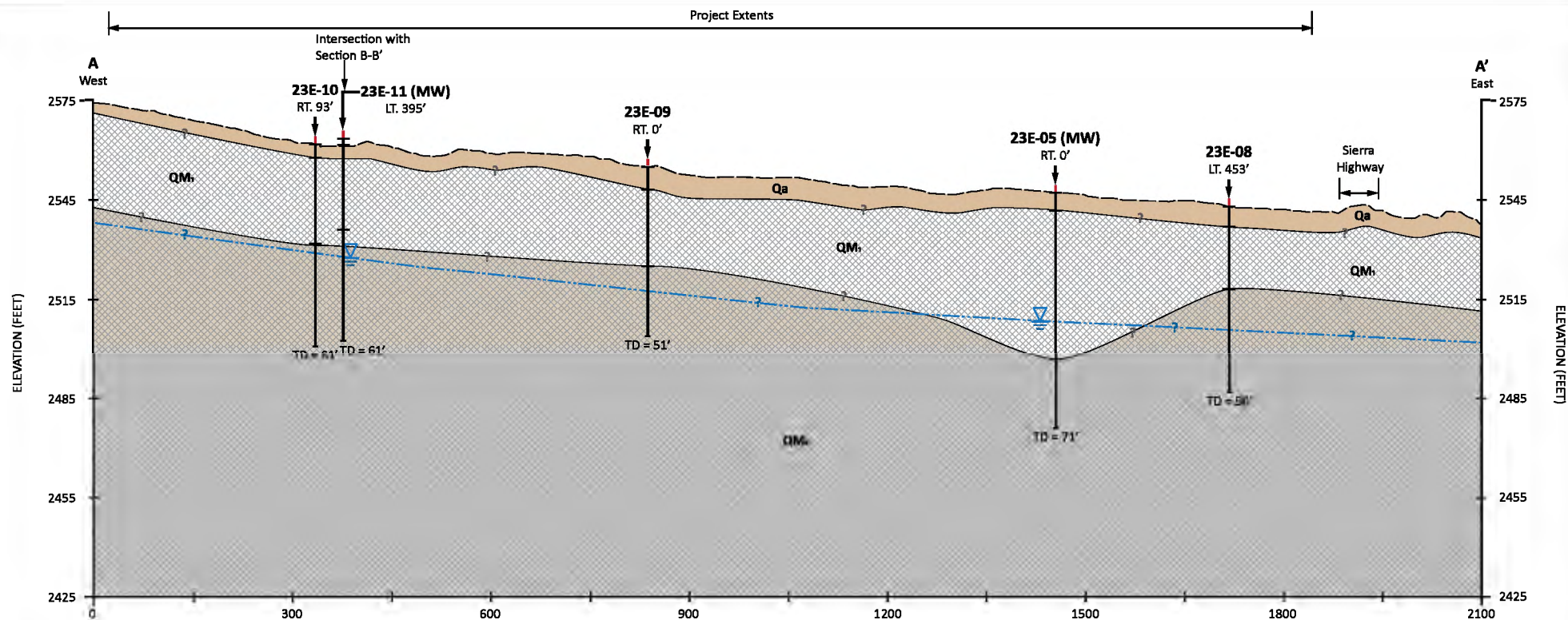
Dibblee, Thomas W. (Dibblee 1963), *Geologic Map and Sections of the Willow Springs and Rosamond Quadrangles*, California.

Riverside County (2011), *Low Impact Development and Best Management Practices Handbook*, September 2011









#### LEGEND:

- Qa Alluvium:**  
Medium dense to dense clayey SAND (SC) and dense silty SAND (SM)
- QM<sub>1</sub> Quartz Monzonite:**  
Intensely weathered to decomposed igneous rock (QUARTZ MONZONITE), very soft to moderately hard; decomposed to dense to very dense silty SAND (SM) and dense to very dense well-graded SAND (SW)
- QM<sub>2</sub> Quartz Monzonite:**  
Fresh to decomposed igneous rock (QUARTZ MONZONITE), soft to hard
- Geologic contact, queried where uncertain**

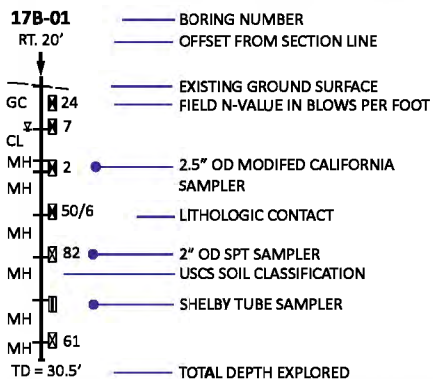
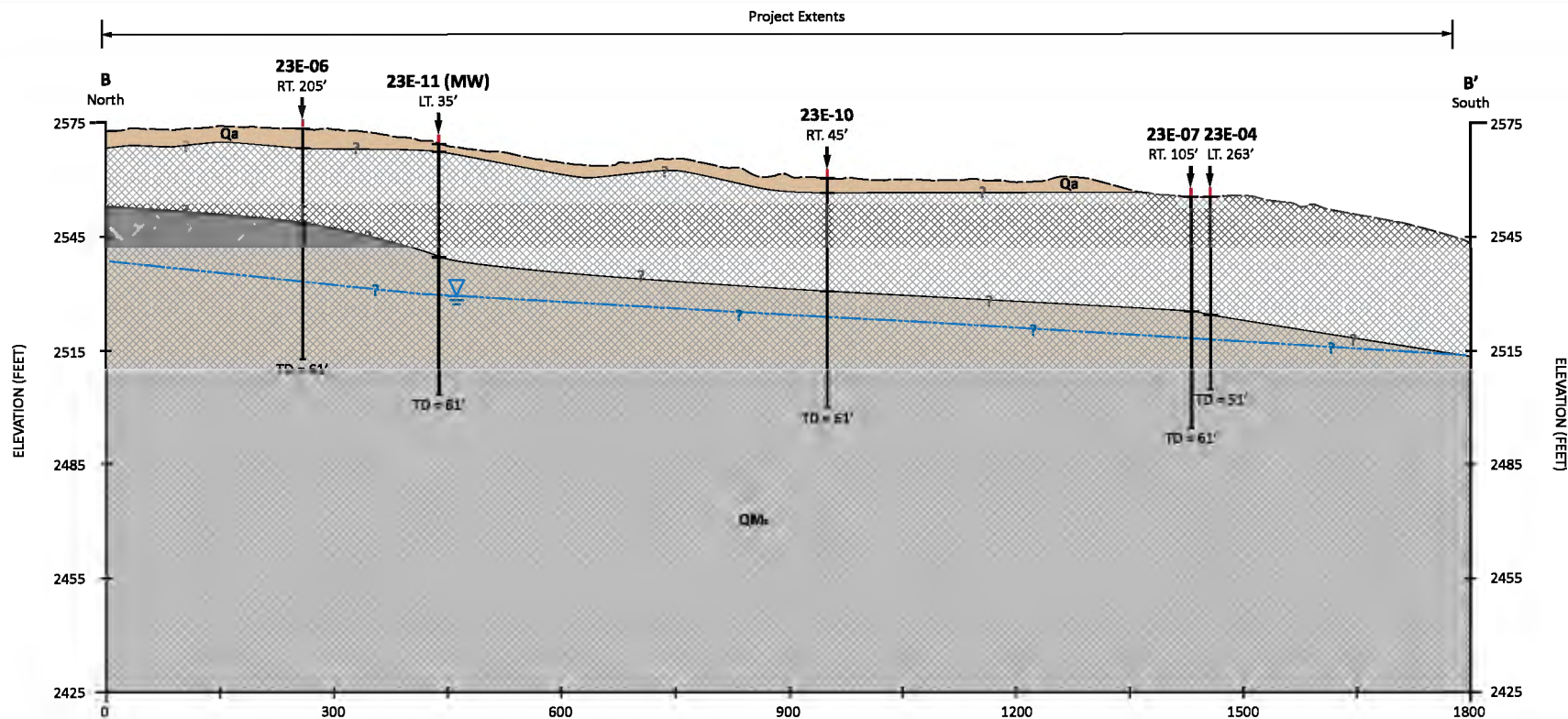
See text and logs of exploration for description of subsurface conditions. All boundaries and locations are approximate.

#### PROFILE

1 in. = 30 ft. vertical  
1 in. = 150 ft. horizontal

|  |                              |
|--|------------------------------|
| <b>Yeh and Associates, Inc.</b><br>Geotechnical • Geological • Construction Services |                              |
| <b>SUBSURFACE PROFILE A-A'</b>   |                              |
| PROJECT NAME:<br>Zephyr Energy Storage Center<br>Dawn Road<br>Rosamond, CA           | PLATE:<br>2                  |
| PROJECT NUMBER:<br>223-202   | REVISION DATE:<br>11/17/2023 |





BORING DIAGRAM

# LEGEND:

- Qa Alluvium:**  
Very dense well-graded SAND (SW) and loose to medium dense clayey SAND (SC)
- QM1 Quartz Monzonite:**  
Intensely weathered to decomposed igneous rock (QUARTZ MONZONITE), very soft, decomposed to loose to dense well-graded SAND (SW) and very dense silty SAND (SM)
- QM2 Quartz Monzonite:**  
Slightly weathered to decomposed igneous rock (QUARTZ MONZONITE), soft to hard
- Geologic contact, queried where uncertain
- Interpreted groundwater surface based on measured data, queried where uncertain



Groundwater level measured with transducers  
See Appendix D

## PROFILE

1 in. = 30 ft. vertical  
1 in. = 150 ft. horizontal

|  |                              |
|--|------------------------------|
| <b>Yeh and Associates, Inc.</b><br>Geotechnical • Geological • Construction Services |                              |
| <b>SUBSURFACE PROFILE B-B'</b>   |                              |
| PROJECT NAME:<br>Zephyr Energy Storage Center<br>Dawn Road<br>Rosemond, CA           | PLATE<br><b>3</b>            |
| PROJECT NUMBER:<br>223-202   | REVISION DATE:<br>11/17/2023 |

See text and logs of exploration for description of subsurface conditions. All boundaries and locations are approximate.

## APPENDIX A - BORING LOGS

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| GROUP SYMBOLS AND NAMES |  |                  |  |
|-------------------------|--|------------------|--|
| Graphic / Symbol        | Group Names  | Graphic / Symbol | Group Names  |
|                         | GW<br>Well-graded GRAVEL<br>Well-graded GRAVEL with SAND   |                  | CL<br>Lean CLAY<br>Lean CLAY with SAND<br>Lean CLAY with GRAVEL<br>SANDY lean CLAY<br>SANDY lean CLAY with GRAVEL<br>GRAVELLY lean CLAY<br>GRAVELLY lean CLAY with SAND            |
|                         | GP<br>Poorly graded GRAVEL<br>Poorly graded GRAVEL with SAND   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GW-GM<br>Well-graded GRAVEL with SILT<br>Well-graded GRAVEL with SILT and SAND   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GW-GC<br>Well-graded GRAVEL with CLAY (or SILTY CLAY)<br>Well-graded GRAVEL with CLAY and SAND<br>(or SILTY CLAY and SAND)     |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GP-GM<br>Poorly graded GRAVEL with SILT<br>Poorly graded GRAVEL with SILT and SAND   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GP-GC<br>Poorly graded GRAVEL with CLAY (or SILTY CLAY)<br>Poorly graded GRAVEL with CLAY and SAND<br>(or SILTY CLAY and SAND) |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GM<br>Silty GRAVEL<br>Silty GRAVEL with SAND   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GC<br>CLAYEY GRAVEL<br>CLAYEY GRAVEL with SAND   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | GC-GM<br>Silty, CLAYEY GRAVEL<br>Silty, CLAYEY GRAVEL with SAND  |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SW<br>Well-graded SAND<br>Well-graded SAND with GRAVEL   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SP<br>Poorly graded SAND<br>Poorly graded SAND with GRAVEL   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SW-SM<br>Well-graded SAND with SILT<br>Well-graded SAND with SILT and GRAVEL   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SW-SC<br>Well-graded SAND with CLAY (or SILTY CLAY)<br>Well-graded SAND with CLAY and GRAVEL<br>(or SILTY CLAY and GRAVEL)     |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SP-SM<br>Poorly graded SAND with SILT<br>Poorly graded SAND with SILT and GRAVEL   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SP-SC<br>Poorly graded SAND with CLAY (or SILTY CLAY)<br>Poorly graded SAND with CLAY and GRAVEL<br>(or SILTY CLAY and GRAVEL) |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SM<br>Silty SAND<br>Silty SAND with GRAVEL   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SC<br>CLAYEY SAND<br>CLAYEY SAND with GRAVEL   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | SC-SM<br>Silty, CLAYEY SAND<br>Silty, CLAYEY SAND with GRAVEL  |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | PT<br>PEAT   |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
|                         | COBBLES<br>COBBLES and BOULDERS<br>BOULDERS  |                  | CL-MIL<br>SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |

## FIELD AND LABORATORY TESTS

|      |   |
|------|---|
| C    | Consolidation (ASTM D2435)  |
| CL   | Collapse Potential (ASTM D5333)   |
| CP   | Compaction Curve (ASTM D1557)   |
| CR   | Corrosion, Sulfates, Chlorides (CTM 843; ASTM D4972, ASTM G187, ASTM D4327) |
| CU   | Consolidated Undrained Triaxial (ASTM D4767)                                |
| DS   | Direct Shear (ASTM D3080)   |
| EI   | Expansion Index (ASTM D4829)  |
| M    | Moisture Content (ASTM D2216)   |
| OC   | Organic Content (ASTM D2974)  |
| P    | Permeability (ASTM 5084)  |
| PA   | Particle Size Analysis (ASTM D422-63 [2007])                                |
| PI   | Liquid Limit, Plastic Limit, Plasticity Index (ASTM D4318)                  |
| PL   | Point Load Index (ASTM D5731)   |
| PM   | Pressure Meter  |
| PP   | Pocket Penetrometer   |
| R    | R-Value (CTM 301)   |
| RS   | Torsional Ring Shear (ASTM D6467)   |
| SE   | Sand Equivalent (CTM 217)   |
| SG   | Specific Gravity (AASHTO T 100)   |
| SL   | Shrinkage Limit (ASTM D427)   |
| SW   | Swell Potential (ASTM D4546)  |
| TV   | Pocket Torvane  |
| UC   | Unconfined Compression - Soil (ASTM D2166)                                  |
| UU   | Unconsolidated Undrained Triaxial (ASTM D2850)                              |
| UW   | Unit Weight (ASTM D4767, ASTM D7263)  |
| VS   | Vane Shear (AASHTO T 223-96 [2004])   |
| -200 | 200 Wash (ASTM D1140)   |

## SAMPLER GRAPHIC SYMBOLS

|  |   |
|--|---|
|  | Standard Penetration Test (SPT) (2" O.D.) |
|  | Standard California Sampler (2.5" O.D.)   |
|  | Modified California Sampler (3" O.D.)     |
|  | Shelby Tube                               |
|  | Piston Sampler                            |
|  | Rock Core                                 |
|  | Grab Sample                               |
|  | Bulk Sample                               |
|  | Other (see remarks)                       |

## DRILLING METHOD SYMBOLS

|  |                |  |                 |  |                             |  |              |
|--|----------------|--|-----------------|--|-----------------------------|--|--------------|
|  | Auger Drilling |  | Rotary Drilling |  | Dynamic Cone or Hand Driven |  | Diamond Core |
|--|----------------|--|-----------------|--|-----------------------------|--|--------------|

## WATER LEVEL SYMBOLS

|  |   |
|--|---|
|  | First Water Level Reading (during drilling) |
|  | Static Water Level Reading (short-term)     |
|  | Static Water Level Reading (long-term)      |



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**LEGEND FOR SOIL CLASSIFICATION**

PROJECT NAME  
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DATE  
**9/19/2023**

SHEET  
**1 of 1**

### ROCK GRAPHIC SYMBOLS



IGNEOUS ROCK



SEDIMENTARY ROCK



METAMORPHIC ROCK

### BEDDING SPACING

| Descriptor          | Thickness or Spacing     |
|---------------------|--------------------------|
| Massive             | > 10 ft                  |
| Very thickly bedded | 3 to 10 ft               |
| Thickly bedded      | 1 to 3 ft                |
| Moderately bedded   | 3-5/8 inches to 1 ft     |
| Thinly bedded       | 1-1/4 to 3-5/8 inches    |
| Very thinly bedded  | 3/8 inch to 1-1/4 inches |
| Laminated           | < 3/8 inch               |

### WEATHERING DESCRIPTORS FOR INTACT ROCK

|                      | Diagnostic Features   |  |   |  |  |   |
|----------------------|---|--|---|--|--|---|
| Descriptor           | Chemical Weathering-Discoloration-Oxidation   |  | Mechanical Weathering and Grain Boundary Conditions                                       | Texture and Solutioning  |  | General Characteristics   |
|                      | Body of Rock  | Fracture Surfaces  |   | Texture  | Solutioning  |   |
| Fresh                | No discoloration, not oxidized  | No discoloration or oxidation  | No separation, intact (tight)   | No change  | No solutioning                                       | Hammer rings when crystalline rocks are struck.   |
| Slightly Weathered   | Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull   | Minor to complete discoloration or oxidation of most surfaces          | No visible separation, intact (tight)   | Preserved  | Minor leaching of some soluble minerals may be noted | Hammer rings when crystalline rocks are struck. Body of rock not weakened.  |
| Moderately Weathered | Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"  | All fracture surfaces are discolored or oxidized                       | Partial separation of boundaries visible  | Generally preserved  | Soluble minerals may be mostly leached               | Hammer does not ring when rock is struck. Body of rock is slightly weakened.  |
| Intensely Weathered  | Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions) | All fracture surfaces are discolored or oxidized; surfaces are friable | Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated | Altered by chemical disintegration such as via hydration or argillation  | Leaching of soluble minerals may be complete         | Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened. |
| Decomposed           | Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay  |  | Complete separation of grain boundaries (disaggregated)                                   | Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete |  | Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".  |

**Note:** Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

### CORE RECOVERY CALCULATION (%)

$$\frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100$$

### RQD CALCULATION (%)

$$\frac{\sum \text{Length of intact core pieces} > 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100$$

### ROCK HARDNESS

| Descriptor      | Criteria  |
|-----------------|---|
| Extremely Hard  | Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows                                    |
| Very hard       | Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows   |
| Hard            | Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen                          |
| Moderately Hard | Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows                          |
| Moderately Soft | Specimen can be grooved 1/8 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure |
| Soft            | Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure                    |
| Very Soft       | Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light hand pressure                    |

### FRACTURE DENSITY

| Descriptor               | Criteria   |
|--------------------------|--|
| Unfractured              | No fractures   |
| Very Slightly Fractured  | Lengths greater 3 ft   |
| Slightly Fractured       | Lengths from 1 to 3 ft, few lengths outside that range   |
| Moderately Fractured     | Lengths mostly in range of 4 in. to 1 ft, with most lengths about 8 in.                              |
| Intensely Fractured      | Lengths average from 1 in. to 4 in. with scattered fragmented intervals with lengths less than 4 in. |
| Very Intensely Fractured | Mostly chips and fragments with few scattered short core lengths                                     |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

DATE  
**9/19/2023**

SHEET  
**1 of 1**

|   |  |   |  |                                       |
|---|--|---|--|---------------------------------------|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-20-23</b>   | COMPLETION DATE<br><b>9-20-23</b>                   | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-01</b>        |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9096°/-118.1575°</b> |   |  | SURFACE ELEVATION<br><b>2557.9 ft</b> |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>                              |   |  | WEATHER NOTES<br><b>sunny, warm</b>   |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>see plate 1</b>   |   |  | BACKFILLED WITH<br><b>grout</b>       |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER READINGS   | DURING DRILLING AFTER DRILLING (DATE)<br><b>N/A</b> | TOTAL DEPTH OF BORING<br><b>51.0 ft</b>  |                                       |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location<br>Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|--|----------------------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 0              | 0          |                   | SILTY SAND (SM); loose; yellowish brown; moist; trace GRAVEL; (ALLUVIUM).  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2558           | 2          |                   |  | 59                               | 4               | 12             | 100          |         | 3                    | 105                   |                      |                 |              | PA (0% G, 84% S, 16% F)<br>CR (pH = 7.70, r = 450 ohm-cm,<br>SO <sub>4</sub> <sup>2-</sup> = 14 mg/kg, Cl <sup>-</sup> = 3 mg/kg) |
|                | 3          |                   |  | 5                                | 7               |                |              |         |                      |                       |                      |                 |              |   |
| 2554           | 4          |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 5          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered to decomposed; very soft; very slightly fractured; (SILTY SAND (SM); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). | 60                               | 12              | 71             | 100          |         | 10                   | 97                    |                      |                 |              |   |
| 2552           | 6          |                   |  |                                  | 32              |                |              |         |                      |                       |                      |                 |              |   |
|                | 7          |                   |  |                                  | 39              |                |              |         |                      |                       |                      |                 |              |   |
| 2550           | 8          |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 9          |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2548           | 10         |                   | Black and white with pink; decomposed; (SILTY SAND (SM); medium dense; moist; iron oxide staining).  | 61                               | 10              | 43             | 78           |         | 10                   | 110                   |                      |                 |              |   |
|                | 11         |                   |  |                                  | 17              |                |              |         |                      |                       |                      |                 |              |   |
| 2546           | 12         |                   |  |                                  | 26              |                |              |         |                      |                       |                      |                 |              |   |
|                | 13         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2544           | 14         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 15         |                   | Black and white; (no pink).  | 62                               | 43              | 50/4"          | 50           |         |                      |                       |                      |                 |              |   |
| 2542           | 16         |                   |  |                                  | 50/4"           |                |              |         |                      |                       |                      |                 |              |   |
|                | 17         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2540           | 18         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 19         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2538           | 20         |                   |  | 63                               |                 | 50/5"          | 25           |         |                      |                       |                      |                 |              |   |
|                | 21         |                   |  |                                  | 50/5"           |                |              |         |                      |                       |                      |                 |              |   |
| 2536           | 22         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 23         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2534           | 24         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 25         |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |   |

(continued)



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PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-01**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 2**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 2532           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).  |                 | 84            | 50/4"           | 50/4"          | 22           |         |                      |                       |                      |                 |              |   |
| 2530           | 26         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2528           | 27         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2526           | 28         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2524           | 29         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2522           | 30         |                   | During coring lost circulation at 30 feet; 30 feet - 31 feet of sample destroyed due to tooling complications.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2520           | 31         |                   | IGNEOUS ROCK (QUARTZ MONZONITE); thickly bedded; light brown with black flakes; intensely weathered; very soft; moderately fractured; Switched to HQ Coring.                              | R1              |               |                 |                | 83           | 74      |                      |                       |                      |                 |              | Switched to HQ Coring<br>Start time:1533<br>End time:1543 |
| 2518           | 32         |                   | 70 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2516           | 33         |                   | 50 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2514           | 34         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2512           | 35         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2510           | 36         |                   | Slightly to moderately weathered; moderately hard.  | R2              |               |                 |                | 100          | 94      |                      |                       |                      |                 |              | Start time:1550<br>End time:1600                          |
| 2508           | 37         |                   | 2-20 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2506           | 38         |                   | 10 degree fractured.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2504           | 39         |                   | Slightly to moderately weathered; moderately hard; slightly fractured.  | R3              |               |                 |                | 100          | 93      |                      |                       |                      |                 |              | Start time:1615<br>End time:1626                          |
| 2502           | 40         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2500           | 41         |                   | Slightly to moderately weathered.   | R4              |               |                 |                | 93           | 70      |                      |                       |                      |                 |              | Start time:1630<br>End time:1638                          |
| 2498           | 42         |                   | 40 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2496           | 43         |                   | 70 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2494           | 44         |                   | Darker colored.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2492           | 45         |                   | 55 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2490           | 46         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2488           | 47         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2486           | 48         |                   | 50 degree joint.  | R5              |               |                 |                | 100          | 90      |                      |                       |                      |                 |              | Start time:1644<br>End time:1652                          |
| 2484           | 49         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2482           | 50         |                   | 85 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2480           | 51         |                   | Bottom of borehole at 51.0 ft bgs   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2478           | 52         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2476           | 53         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2474           | 54         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2472           | 55         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |



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Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-01

REVISION DATE  
11/16/2023

SHEET  
2 of 2

|   |  |   |  |                                       |
|---|--|---|--|---------------------------------------|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-18-23</b>   | COMPLETION DATE<br><b>9-18-23</b>                   | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-02</b>        |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9094°/-118.1532°</b>             |   |  | SURFACE ELEVATION<br><b>2535.0 ft</b> |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |   |  | WEATHER NOTES<br><b>sunny, warm</b>   |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>80 yards north of Dawn Road and 85 yards west of Sierra Highway</b> |   |  | BACKFILLED WITH<br><b>grout</b>       |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER READINGS   | DURING DRILLING AFTER DRILLING (DATE)<br><b>N/A</b> | TOTAL DEPTH OF BORING<br><b>71.0 ft</b>  |                                       |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in.   | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks  |
|----------------|------------|-------------------|---|-----------------|---------------|-------------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--|
|                | 0          |                   |   |                 |               |                   |                |              |         | 8                    | 115                   |                      |                 |              | PA (1% G, 74% S, 25% F)<br>CR (pH = 7.70, r = 548 ohm-cm,<br>SO <sub>4</sub> <sup>2-</sup> = 14 mg/kg, Cl <sup>-</sup> = <2 mg/kg)<br>CP (γ <sub>D, MAX</sub> = 128 pcf, w <sub>OPT</sub> = 8%)<br>CU, SE<br>-200 (9% G, 74% S, 17% F) |
|                | 1          |                   | SILTY SAND (SM); dense; pale brow; dry; fine to medium SAND; (ALLUVIUM).  |                 | C             |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 2          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black mica flakes; intensely weathered to decomposed; very soft; fractured; (SILTY SAND (SM); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2533           | 3          |                   |   |                 | 35            | 8<br>15<br>32     | 47             | 94           |         | 3                    | 107                   |                      |                 |              |  |
| 2531           | 4          |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 5          |                   |   |                 | 36            | 35<br>48<br>50/3" | 98/9"          | 83           |         | 4                    | 102                   |                      |                 |              | PA (0% G, 78% S, 21% F)<br>CR (pH = 7.79, r = 491 ohm-cm,<br>SO <sub>4</sub> <sup>2-</sup> = 18 mg/kg, Cl <sup>-</sup> = <2 mg/kg)<br>UC   |
| 2529           | 6          |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 7          |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2527           | 8          |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 9          |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2525           | 10         |                   |   |                 | 37            | 46<br>50/3        | 50/3"          | 39           |         | 7                    | 129                   |                      |                 |              |  |
|                | 11         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2523           | 12         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 13         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2521           | 14         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 15         |                   |   |                 | 38            | 25<br>30<br>24    | 54             | 89           |         |                      |                       |                      |                 |              |  |
| 2519           | 16         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 17         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2517           | 18         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 19         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2515           | 20         |                   |   |                 | 39            | 36<br>50/4"       | 50/4"          | 44           |         | 7                    | 121                   |                      |                 |              |  |
|                | 21         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2513           | 22         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 23         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
| 2511           | 24         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |
|                | 25         |                   |   |                 |               |                   |                |              |         |                      |                       |                      |                 |              |  |

(continued)



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PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-02**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 3**



| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 2509           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).  | X               | 40            | 50/4"           | 50/4"          | 22           |         |                      |                       |                      |                 |              |   |
| 2507           | 26         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2505           | 27         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2503           | 28         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2501           | 29         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2499           | 30         |                   | Top 3" of sample is intensely weathered to decomposed.  | X               | 41            | 45 50/2"        | 50/2"          | 39           |         |                      |                       |                      |                 |              |   |
| 2497           | 31         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2495           | 32         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2493           | 33         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2491           | 34         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2489           | 35         |                   |   | X               | 42            | 50/2"           | 50/2"          | 11           |         |                      |                       |                      |                 |              |   |
| 2487           | 36         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2485           | 37         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2483           | 38         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2481           | 39         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 40         |                   |   | X               | 43            | 50/2"           | 50/2"          | 11           |         |                      |                       |                      |                 |              |   |
|                | 41         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 42         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 43         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 44         |                   |   | X               | 44            | 50/2"           | 50/2"          |              |         |                      |                       |                      |                 |              | No recovery   |
|                | 45         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 46         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 47         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 48         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 49         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 50         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 51         |                   | IGNEOUS ROCK (QUARTZ MONZONITE) thickly bedded; QUARTZ MONZONITE; light brown with black mica flakes; intensely weathered; very soft; moderately fractured; light brown with black mica flakes. | R1              |               |                 |                | 100          | 28      |                      |                       |                      |                 |              | Switched to HQ Coring<br>Strat time:1342<br>End time:1350 |
|                | 52         |                   | 40 degree joint.<br>10 degree joint.  | R2              |               |                 |                | 100          | 26      |                      |                       |                      |                 |              | Start time:1356<br>End time:1408                          |
|                | 53         |                   | Moderately weathered to decomposed; soft to moderately hard; moderately fractured.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 54         |                   | 60 degree fracture.   | R3              |               |                 |                | 100          | 33      |                      |                       |                      |                 |              | Start time:1411<br>End time:1417                          |
|                | 55         |                   | Vertical 1 feet- bottom 1 feet 45 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |

(continued)



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PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-02

REVISION DATE  
11/16/2023

SHEET  
2 of 3

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                          |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|----------------------------------|
| 2479           | 55         |                   | Vertical 1 foot- bottom 1 foot 45 degree joint.   |                 | R3            |                 |                | 100          | 33      |                      |                       |                      |                 |              |                                  |
|                | 56         |                   | 80 degree joint.  |                 | R4            |                 |                | 84           | 8       |                      |                       |                      |                 |              | Start time:1420<br>End time:1430 |
|                | 57         |                   | Vertical fracture in bottom foot.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 58         |                   | 85 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2477           | 58         |                   | Heavily sheared and fractured.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 59         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2475           | 80         |                   |   |                 | R5            |                 |                | 93           | 63      |                      |                       |                      |                 |              | Start time:1440<br>End time:1455 |
|                | 81         |                   | 50 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 82         |                   | 45 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2473           | 82         |                   | 45 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 83         |                   | 28 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 83         |                   | 45 degree joint.  |                 | R6            |                 |                | 100          | 73      |                      |                       |                      |                 |              | Start time:1456<br>End time:1508 |
| 2471           | 84         |                   | 45 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 85         |                   | 60 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 85         |                   | Healed and rusted 25 degree joint.  |                 | R7            |                 |                | 68           | 50      |                      |                       |                      |                 |              |                                  |
|                | 85         |                   | 60 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2469           | 66         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Strat time:1510<br>End time:1520 |
|                | 67         |                   | 30 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2467           | 68         |                   | 70 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | UC                               |
|                | 68         |                   | 60 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 69         |                   | 45 degree joint in shoe.  |                 | R8            |                 |                | 100          | 83      |                      |                       |                      |                 |              | Start time:1522<br>End time:1530 |
| 2465           | 70         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 71         |                   | Bottom of borehole at 71.0 ft bgs   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2463           | 72         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 73         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2461           | 74         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 75         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2459           | 76         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 77         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2457           | 78         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 79         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2455           | 80         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 81         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2453           | 82         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 83         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2451           | 84         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 85         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |



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PROJECT NAME  
Hydrostor Zevsar Energy Storage  
PROJECT NUMBER  
223-202  
BORING NUMBER  
23E-02  
REVISION DATE  
11/16/2023

SHEET  
3 of 3



|   |  |                                   |  |  |
|---|--|-----------------------------------|--|--|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-12-23</b>   | COMPLETION DATE<br><b>9-13-23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-03</b>             |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9133°/-118.1536°</b> |                                   |  | SURFACE ELEVATION<br><b>2557.2 ft</b>      |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>                              |                                   |  | WEATHER NOTES<br><b>sunny, warm, windy</b> |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>50 yards south of drill pad 2</b>                       |                                   |  | BACKFILLED WITH<br><b>grout</b>            |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS<br><b>N/A</b>           |                                   |  | TOTAL DEPTH OF BORING<br><b>60.0 ft</b>    |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 0              | 0          |                   | CLAYEY SAND (SC); loose; reddish brown; moist; fine to medium SAND; ALLUVIUM.  |                 | A             |                 |                | 100          |         |                      |                       |                      |                 |              | R (R-Value = 54)  |
| 2555           | 2          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2553           | 4          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black mica flakes; intensely weathered to decomposed; very soft; fractured; (CLAYEY SAND (SC); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2551           | 6          |                   |  |                 | 9A/B          | 28              | 98/10"         | 72           |         | 9                    | 114                   |                      |                 |              | CU  |
| 2549           | 8          |                   |  |                 |               | 48              | 50/4"          |              |         |                      |                       |                      |                 |              |   |
| 2547           | 10         |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black mica flakes; intensely weathered to decomposed; very soft; fractured; (SILTY SAND (SM); very dense; moist; medium to coarse SAND).                 |                 | 10            | 37              | 50/4"          | 58           |         | 5                    | 130                   |                      |                 |              | CR (pH = 6.90, r = 367 ohm-cm, SO <sub>4</sub> <sup>2-</sup> = 83 mg/kg, Cl <sup>-</sup> = 298 mg/kg) |
| 2545           | 12         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2543           | 14         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2541           | 16         |                   | Rust stain, rig chatter at 15-feet.  |                 | 11            |                 | 50/5"          | 28           |         | 8                    | 130                   |                      |                 |              | -200 (9% G, 76% S, 15% F)   |
| 2539           | 18         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2537           | 20         |                   |  |                 | 12            |                 | 50/4"          | 22           |         |                      |                       |                      |                 |              |   |
| 2535           | 22         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2533           | 24         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2531           | 26         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |

(continued)



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**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-03**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 3**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 2531           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).  |                 | 13            | 50/4"           | 50/4"          | 22           |         |                      |                       |                      |                 |              |   |
| 2529           | 26         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2527           | 27         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2525           | 28         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2523           | 29         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2521           | 30         |                   |   |                 | 14            | 50/5"           | 50/5"          | 28           |         |                      |                       |                      |                 |              |   |
| 2519           | 31         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2517           | 32         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2515           | 33         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2513           | 34         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2511           | 35         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2509           | 36         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2507           | 37         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2505           | 38         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2503           | 39         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 40         |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black mica flakes; intensely weathered; very soft; moderately fractured; 30 degree fracture (green slickensided) in shoe. | R1              |               |                 |                | 70           | 0       |                      |                       |                      |                 |              | Switched to HQ Coring<br>Start time: 1614<br>End time: 1618<br>Start time: 1625<br>End time: 1705 |
|                | 41         |                   | Slightly weathered to moderately weathered; hard; intensely fractured.  | R2              |               |                 |                | 70           | 22      |                      |                       |                      |                 |              |   |
|                | 42         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 43         |                   | 70 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 44         |                   | 75 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 45         |                   | 75 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 46         |                   | 70 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 47         |                   | Moderately fractured; cutting turned brown rather than white, 85 degree joint.  | R3              |               |                 |                | 100          | 31      |                      |                       |                      |                 |              | Start time: 735<br>End time: 742  |
|                | 48         |                   | 85 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 49         |                   | 85 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 50         |                   | 25 degree joint.  | R4              |               |                 |                | 100          | 76      |                      |                       |                      |                 |              | Start time: 748<br>End time: 811  |
|                | 51         |                   | 90 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 52         |                   | 85 degree joint.  | R5              |               |                 |                | 97           | 49      |                      |                       |                      |                 |              | Start time: 817<br>End time: 828  |
|                | 53         |                   | 65 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 54         |                   | 85 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | UC  |
|                | 55         |                   | 40 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                |            |                   | 80 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |

(continued)



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PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-03

REVISION DATE  
11/16/2023

SHEET  
2 of 3

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION                                  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks         |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------|
| 2501           | 55         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued). |                 | R6            |                 |                | 99           | 84      |                      |                       |                      |                 |              | Start time: 835 |
|                | 56         |                   | 80 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              | End time: 850   |
|                | 57         |                   | 83 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2499           | 58         |                   | 40 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 59         |                   | 85 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 60         |                   | 75 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2497           | 80         |                   | 40 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 81         |                   | 90 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 82         |                   | Intersecting 40 degree and 50 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 83         |                   | 25 degree joint.                             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2495           | 84         |                   | Bottom of borehole at 80.0 ft bgs            |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 85         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 86         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 87         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2489           | 88         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 89         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2487           | 90         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 91         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2485           | 92         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 93         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2483           | 94         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 95         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2481           | 96         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 97         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2479           | 98         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 99         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2477           | 100        |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 101        |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2475           | 102        |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 103        |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
| 2473           | 104        |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |
|                | 105        |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                 |

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PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-03

REVISION DATE  
11/16/2023

SHEET  
3 of 3

|   |  |                                   |  |   |
|---|--|-----------------------------------|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-19-23</b>   | COMPLETION DATE<br><b>9-19-23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-04</b>          |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9098°/-118.1557°</b> |                                   |  | SURFACE ELEVATION<br><b>2546.9 ft</b>   |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>                              |                                   |  | WEATHER NOTES<br><b>sunny, warm</b>     |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>See plate 1</b>   |                                   |  | BACKFILLED WITH<br><b>grout</b>         |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER DURING DRILLING AFTER DRILLING (DATE)<br>READINGS <b>N/A</b>           |                                   |  | TOTAL DEPTH OF BORING<br><b>51.0 ft</b> |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks  |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--|
| 0              | 0          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black mica flakes; intensely weathered to decomposed; very soft; fractured; (SILTY SAND (SM); dense; moist; medium to coarse SAND; 3-inch of fill is dry clayey sand); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2545           | 2          |                   |  |                 | 46            | 26<br>50/5"     | 50/5"          | 67           |         | 8                    | 97                    |                      |                 |              | CR (pH = 8.88, r = 3,095 ohm-cm, SO <sub>4</sub> <sup>2-</sup> = 19 mg/kg, Cl <sup>-</sup> = 11 mg/kg) |
| 2543           | 4          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2541           | 6          |                   | Mica flakes.   |                 | 47            | 40<br>50/4"     | 50/4"          | 56           |         | 3                    | 98                    |                      |                 |              |  |
| 2539           | 8          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2537           | 10         |                   | Mottled with pink.   |                 | 48            | 41<br>50/4"     | 50/4"          | 17           |         |                      |                       |                      |                 |              |  |
| 2535           | 12         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2533           | 14         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2531           | 16         |                   | Intensely weathered to decomposed; iron staining.  |                 | 49            | 50/3"           | 50/3"          | 17           |         |                      |                       |                      |                 |              |  |
| 2529           | 18         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2527           | 20         |                   | Light gray to white.   |                 | 49            | 50/3"           | 50/3"          | 17           |         |                      |                       |                      |                 |              |  |
| 2525           | 22         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2523           | 24         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 25             | 25         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |

(continued)



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-04**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 2**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 2521           | 25         |                   | Iron staining.<br>IGNEOUS ROCK (Quartz Monzonite) (continued).   |                 | 50            | 50/3"           | 50/3"          | 17           |         |                      |                       |                      |                 |              |   |
| 2519           | 26         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2517           | 27         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2515           | 28         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2513           | 29         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2511           | 30         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2509           | 31         |                   | IGNEOUS ROCK (QUARTZ MONZONITE) thickly bedded; QUARTZ MONZONITE; pink and orange with black lakes; intensely weathered; very soft; moderately fractured; Switched to HQ Coring; pink and orange with black lakes. | R1              |               |                 |                | 38           | 0       |                      |                       |                      |                 |              | Switched to HQ Coring<br>Start time:1020<br>End time:1025 |
| 2507           | 32         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2505           | 33         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2503           | 34         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2501           | 35         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2499           | 36         |                   | Less discoloration; decomposed.  | R2              |               |                 |                | 55           | 0       |                      |                       |                      |                 |              | Start time:1033<br>End time:1036                          |
| 2497           | 37         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2495           | 38         |                   | Moderately weathered; moderately soft; moderately fractured; iron staining.<br>55 degree joint.<br>55 degree joint.<br>Intersecting joint of 40 degree/70 degree.  | R3              |               |                 |                | 95           | 71      |                      |                       |                      |                 |              | Start time:1041<br>End time:1047                          |
| 2493           | 39         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | UC  |
| 2491           | 40         |                   | 40 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2489           | 41         |                   | Top 1-inch is intensely weathered.   | R4              |               |                 |                | 100          | 60      |                      |                       |                      |                 |              | Start time:1055<br>End time:1105                          |
| 2487           | 42         |                   | 50 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2485           | 43         |                   | 45 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2483           | 44         |                   | 20 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2481           | 45         |                   | 40 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2479           | 46         |                   | 40 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2477           | 47         |                   | 50 degree joint.   | R5              |               |                 |                | 68           | 38      |                      |                       |                      |                 |              | Start time:1110<br>End time:1118                          |
| 2475           | 48         |                   | Decomposed.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2473           | 49         |                   | 45 degree joint.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2471           | 50         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2469           | 51         |                   | Bottom of borehole at 51.0 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2467           | 52         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2465           | 53         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2463           | 54         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.                          |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2461           | 55         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |



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Geotechnical • Geological • Construction Services

PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-04

REVISION DATE  
11/16/2023

SHEET  
2 of 2

|  |  |                       |                            |   |  |                        |  |  |                                    |                                  |  |
|--|--|-----------------------|----------------------------|---|--|------------------------|--|--|------------------------------------|----------------------------------|--|
| LOGGED BY<br>H. Brake                                      |  | BEGIN DATE<br>9/14/23 | COMPLETION DATE<br>9/15/23 | HAMMER TYPE<br>Automatic, 140 lbs   |  |                        |  |  | BORING NUMBER<br>23E-05            |                                  |  |
| FINAL BY<br>J. King  |  |                       |                            | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br>34.9115°/-118.1530° |  |                        |  |  | SURFACE ELEVATION<br>2547.0 ft     |                                  |  |
| DRILLING METHOD<br>Rotary Wash, 4-inch diameter, HQ Coring |  |                       |                            | BOREHOLE LOCATION (Offset, Station, Line)<br>—                              |  |                        |  |  | WEATHER NOTES<br>sunny, warm       |                                  |  |
| DRILLER<br>Gregg Drilling                                  |  |                       |                            | LOCATION DESCRIPTION<br>See plate 1   |  |                        |  |  | BACKFILLED WITH<br>Monitoring well |                                  |  |
| DRILL RIG<br>Fraste Multi-Drill                            |  |                       |                            | GROUNDWATER READINGS  |  | DURING DRILLING<br>N/A |  | AFTER DRILLING (DATE)<br>40.8 ft on 10-23-23 |                                    | TOTAL DEPTH OF BORING<br>71.0 ft |  |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample or Run Location | Sample or Run Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Well Diagram | Well Description   | Remarks  |
|----------------|------------|-------------------|---|------------------------|----------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--|--|
|                | 0          |                   | CLAYEY SAND (SC); medium dense; pale brown; dry; fine to medium SAND; (ALLUVIUM).   |                        | B                    |                 |                | 100          |         |                      |                       |                      |                 |              | Traffic-rated vault<br>3' Steel mount riser<br>2" PVC pipe | CP ( $\gamma_{D, MAX} = 124$ pcf, $w_{OPT} = 10\%$ ) |
| 2545           | 1          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 2          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 3          |                   |   |                        | 24                   | 11<br>16<br>28  | 44             | 100          |         | 8                    | 97                    |                      |                 |              |  |  |
| 2543           | 4          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 5          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 6          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light gray to white with black flakes; intensely weathered to decomposed; very soft; fractured; (SILTY SAND (SM); dense; moist; medium to coarse SAND; mica flakes); (QUARTZ MONZONITE). |                        | 25                   | 22<br>43<br>50  | 93             | 100          |         | 3                    | 98                    |                      |                 |              |  | -200 (2% G, 74% S, 24% F)                            |
| 2541           | 7          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 8          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
| 2539           | 9          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 10         |                   | Increasing quality of coarse grained material; iron staining.   |                        | 26                   | 48<br>50/4"     | 50/4"          | 50           |         |                      |                       |                      |                 |              |  |  |
| 2537           | 11         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 12         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
| 2535           | 13         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 14         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
| 2533           | 15         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 16         |                   |   |                        | 27                   | 30<br>50/5"     | 50/5"          | 50           |         |                      |                       |                      |                 |              | Bentonite chips  |  |
| 2531           | 17         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 18         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
| 2529           | 19         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 20         |                   |   |                        | 28                   | 50/3"           | 50/3"          | 11           |         |                      |                       |                      |                 |              | #3 sand  |  |
| 2527           | 21         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
|                | 22         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
| 2525           | 23         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              | 2" PVC pipe, 0.01" slots                                   |  |
|                | 24         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |
| 2523           | 25         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |  |  |

(continued)



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-05**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 3**



| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample or Run Location | Sample or Run Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Well Diagram | Well Description | Remarks   |
|----------------|------------|-------------------|--|------------------------|----------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|------------------|---|
| 2521           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).   | X                      | 29                   | 50/4"           | 50/4"          | 17           |         |                      |                       |                      |                 |              |                  |   |
|                | 26         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 27         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2519           | 28         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 29         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2517           | 30         |                   |  | X                      | 30                   | 50/2"           | 50/2"          | 0            |         |                      |                       |                      |                 |              |                  |   |
|                | 31         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2515           | 32         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 33         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2513           | 34         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 35         |                   | Rig chatter.   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2511           | 36         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  | Rig chatter. Driller noted harder drilling  |
|                | 37         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2509           | 38         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 39         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2507           | 40         |                   |  | X                      | 31                   | 50/4"           | 50/4"          | 22           |         |                      |                       |                      |                 |              |                  |   |
|                | 41         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2505           | 42         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 43         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2503           | 44         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 45         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2501           | 46         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 47         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2499           | 48         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 49         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2497           | 50         |                   | 45 degree joint.<br>Moderately weathered; moderately hard to hard; slightly fractured.<br>Moderately to Intensely weathered. | X                      | 32                   | 50/1"           | 50/1"          | 6            |         |                      |                       |                      |                 |              |                  |   |
|                | 51         |                   |  |                        | R1                   |                 |                | 100          | 67      |                      |                       |                      |                 |              |                  | Switched to HQ Coring<br>Start time:847<br>End time:854<br>Start time:857<br>End time:903 |
| 2495           | 52         |                   | 40 degree joint.<br>55 degree joint.<br>35 degree joint.<br>45 degree joint.   |                        | R2                   |                 |                | 84           | 15      |                      |                       |                      |                 |              |                  |   |
|                | 53         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2493           | 54         |                   |  |                        | R3                   |                 |                | 98           | 0       |                      |                       |                      |                 |              |                  | Start time:908<br>End time:917  |
|                | 55         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |

(continued)



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PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-05**

REVISION DATE  
**11/16/2023**

SHEET  
**2 of 3**



| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample or Run Location<br>Sample or Run Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Well Diagram | Well Description | Remarks                              |
|----------------|------------|-------------------|---|--|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|------------------|--------------------------------------|
| 2491           | 56         |                   | 50 degree joint.  | R3   |                 |                | 98           | 0       |                      |                       |                      |                 |              |                  | UC<br>Start time:925<br>End time:931 |
|                | 57         |                   | 60 degree joint.  | R4   |                 |                | 100          | 20      |                      |                       |                      |                 |              |                  | UC                                   |
| 2489           | 58         |                   | Fresh to slightly weathered.<br>70 degree joint.  | R5   |                 |                | 100          | 50      |                      |                       |                      |                 |              |                  | Start time:940<br>End time:944       |
| 2487           | 80         |                   | 60 degree joint.<br>45 degree joint.  |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 81         |                   | 55 degree joint.<br>85 degree joint.  | R6   |                 |                | 100          | 64      |                      |                       |                      |                 |              |                  | Start time:947<br>End time:1003      |
| 2485           | 82         |                   | Fresh; hard; moderately fractured; 75 degree joint.<br>55 degree joint.   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 83         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2483           | 84         |                   | 50 degree joint.<br>50 degree joint.<br>50 degree joint.<br>30 degree joint.<br>60 degree joint.  |  |                 |                |              |         |                      |                       |                      |                 |              |                  | UC                                   |
| 2481           | 86         |                   | 65.5 degree joint.<br>70 degree joint.<br>Intensely weathered; 30 degree joint, 20 degree joint.<br>65 degree joint.  | R7   |                 |                | 100          | 88      |                      |                       |                      |                 |              |                  | Start time:1010<br>End time:1020     |
| 2479           | 88         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 89         |                   | 28 degree joint.  |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2477           | 70         |                   | 75 degree joint (half inch apart).  |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 71         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 72         |                   | Bottom of borehole at 71.0 ft bgs   |  |                 |                |              |         |                      |                       |                      |                 |              | Bottom cap       |                                      |
| 2475           | 73         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 74         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2473           | 75         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 76         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2471           | 78         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 77         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2469           | 78         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 79         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2467           | 80         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 81         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2465           | 82         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 83         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
| 2463           | 84         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |
|                | 85         |                   |   |  |                 |                |              |         |                      |                       |                      |                 |              |                  |                                      |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**  
PROJECT NUMBER  
**223-202**  
BORING NUMBER  
**23E-05**  
REVISION DATE  
**11/16/2023**  
SHEET  
**3 of 3**

|   |  |                                   |  |   |
|---|--|-----------------------------------|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-11-23</b>   | COMPLETION DATE<br><b>9-12-23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-06</b>          |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9130°/-118.1573°</b> |                                   |  | SURFACE ELEVATION<br><b>2578.6 ft</b>   |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>-</b>                              |                                   |  | WEATHER NOTES<br><b>sunny, warm</b>     |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>30 yards south of drill pad 3</b>                       |                                   |  | BACKFILLED WITH<br><b>grout</b>         |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER READINGS   | DURING DRILLING<br><b>N/A</b>     | AFTER DRILLING (DATE)                    | TOTAL DEPTH OF BORING<br><b>61.0 ft</b> |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location<br>Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks |
|----------------|------------|-------------------|--|----------------------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---------|
| 2577           | 0          |                   | Well-graded SAND (SW); very dense; light brown; dry; (ALLUVIUM).   |                                  |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2575           | 4          |                   |  |                                  |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2573           | 5          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown to white with black flakes; intensely weathered to decomposed; very soft; fractured; (SILTY SAND (SM); very dense; dry; coarse SAND); (QUARTZ MONZONITE). | 1                                | 27              | 86/11"         | 83           |         | 4                    | 108                   |                      |                 |              | CU      |
| 2569           | 10         |                   | Intensely weathered to decomposed.   | 2                                | 50/5"           | 50/5"          | 28           |         | 10                   | 128                   |                      |                 |              |         |
| 2563           | 16         |                   | Some green 1-2 inch from sample bottom.  | 3                                | 33              | 50/5"          | 61           |         |                      |                       |                      |                 |              |         |
| 2559           | 20         |                   |  | 4                                | 50/3"           |                | 0            |         |                      |                       |                      |                 |              |         |

(continued)



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PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-06

REVISION DATE  
11/16/2023

SHEET  
1 of 3

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 2553           | 25         |                   | IGNEOUS ROCK (QUARTZ MONZONITE) thickly bedded; QUARTZ MONZONITE; light brown with black flakes; intensely weathered; very soft; moderately fractured; iron staining; light brown with black flakes. |                 | R1            |                 |                | 0            | 0       |                      |                       |                      |                 |              | Switched to HQ Coring   |
|                | 26         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).   |                 | R2            |                 |                | 17           | 0       |                      |                       |                      |                 |              | Start time:1526<br>End time: 1528<br>Start time:1536<br>End time:1544 |
| 2551           | 27         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 28         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 29         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2549           | 30         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 31         |                   |  |                 | R3            |                 |                | 67           | 0       |                      |                       |                      |                 |              | Start time:1600<br>End time:1607                                      |
| 2547           | 32         |                   | Decomposed; clay lenses, slickensided mica faces.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 33         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2545           | 34         |                   |  |                 | R4            |                 |                | 27           | 0       |                      |                       |                      |                 |              | Start time:1610<br>End time:1617                                      |
|                | 35         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2543           | 36         |                   |  |                 | R5            |                 |                | 50           | 0       |                      |                       |                      |                 |              | Start time:1620<br>End time:1630                                      |
|                | 37         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2541           | 38         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 39         |                   | Vertical fractured with iron staining.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2539           | 40         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 41         |                   |  |                 | R6            |                 |                | 6            | 0       |                      |                       |                      |                 |              | Start time:1635<br>End time:1643                                      |
| 2537           | 42         |                   | Fracture dipping 20 degree.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 43         |                   | Fracture dipping 20 degree with iron staining.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2535           | 44         |                   |  |                 | R7            |                 |                | 35           | 0       |                      |                       |                      |                 |              | Start time:1700<br>End time:1712                                      |
|                | 45         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2533           | 46         |                   | Fracture dipping 30 degree.<br>Fracture dipping 10 degree.   |                 | R8            |                 |                | 24           | 0       |                      |                       |                      |                 |              | Start time:1854<br>End time:1910                                      |
|                | 47         |                   | Moderately weathered; Rx in shoe, likely was caught in shoe and prevented decomposed material from entire core barrel; 3-inch chunks of moderately to slightly weathered..                           |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2531           | 48         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 49         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2529           | 50         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 51         |                   | Vertical fractured through out with iron staining.   |                 | R9            |                 |                | 67           | 0       |                      |                       |                      |                 |              | Start time:2017<br>End time:2023<br>UC                                |
| 2527           | 52         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
|                | 53         |                   | Vertical fractures; slickensided face.   |                 | R10           |                 |                | 50           | 0       |                      |                       |                      |                 |              | Start time:2027<br>End time:2034                                      |
| 2525           | 54         |                   | Slightly weathered; moderately hard to hard; slightly fractured.   |                 | R11           |                 |                | 68           | 48      |                      |                       |                      |                 |              | Start time:2039<br>End time:2049                                      |
|                | 55         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |

(continued)



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Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-06

REVISION DATE  
11/16/2023

SHEET  
2 of 3

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                                |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--|
| 2523           | 55         |                   | Healed 50 degree and 35 degree fracture.   |                 | R11           |                 |                | 68           | 48      |                      |                       |                      |                 |              |  |
|                | 56         |                   | Healed 20 degree joint.<br>37 degree fracture.   |                 | R12           |                 |                | 23           | 13      |                      |                       |                      |                 |              | Start time:2058<br>End time:2114       |
| 2521           | 57         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 58         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 59         |                   | Healed vertical fracture.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2519           | 60         |                   |  |                 | R13           |                 |                | 60           | 60      |                      |                       |                      |                 |              | UC<br>Start time:2119<br>End time:2025 |
|                | 61         |                   | Rust stained healed 30 degree fracture.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | P, UC                                  |
|                | 62         |                   | Bottom of borehole at 61.0 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2517           | 63         |                   | <p>This Boring Record was developed in accordance with the Caltrans Soil &amp; Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.</p> |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 64         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 65         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 66         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2515           | 67         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 68         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 69         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 70         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2511           | 71         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 72         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 73         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2509           | 74         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 75         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 76         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2507           | 77         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 78         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 79         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2505           | 80         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 81         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 82         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2503           | 83         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 84         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2501           | 85         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |



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Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-06

REVISION DATE  
11/16/2023

SHEET  
3 of 3

|   |  |                                   |  |   |
|---|--|-----------------------------------|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>10-5-23</b>   | COMPLETION DATE<br><b>10-6-23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-07</b>          |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9099°/-118.1571°</b> |                                   |  | SURFACE ELEVATION<br><b>2559.2 ft</b>   |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>                              |                                   |  | WEATHER NOTES<br><b>sunny, warm</b>     |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>120 yards west of drill pats 1</b>                      |                                   |  | BACKFILLED WITH<br><b>grout</b>         |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS<br><b>N/A</b>           |                                   |  | TOTAL DEPTH OF BORING<br><b>61.0 ft</b> |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---------|
| 0              | 0          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered to decomposed; very soft; fractured; (Well-graded SAND (SW); loose; moist; medium to coarse SAND); (QUARTZ MONZONITE). (very dense). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2557           | 1          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 2          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 3          |                   |  |                 | 77            | 20              | 80             | 78           |         | 8                    | 83                    |                      |                 |              |         |
|                | 4          |                   |  |                 |               | 37              |                |              |         |                      |                       |                      |                 |              |         |
| 2555           | 5          |                   |  |                 |               | 43              |                |              |         |                      |                       |                      |                 |              |         |
|                | 6          |                   | Iron staining, mica.   |                 | 78            | 30              | 50/5"          | 81           |         | 4                    | 104                   |                      |                 |              |         |
|                | 7          |                   |  |                 |               | 50/5"           |                |              |         |                      |                       |                      |                 |              |         |
| 2553           | 8          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 9          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 10         |                   | Black and white mottled with pink.   |                 | 79            | 43              | 50/3"          | 50           |         |                      |                       |                      |                 |              |         |
| 2549           | 11         |                   |  |                 |               | 50/3"           |                |              |         |                      |                       |                      |                 |              |         |
| 2547           | 12         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 13         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2545           | 14         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 15         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 16         |                   |  |                 | 80            | 50              | 50/1"          | 39           |         |                      |                       |                      |                 |              |         |
| 2543           | 17         |                   |  |                 |               | 50/1"           |                |              |         |                      |                       |                      |                 |              |         |
|                | 18         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2541           | 19         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 20         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2539           | 21         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 22         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2537           | 23         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 24         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2535           | 25         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |

(continued)



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-07**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 3**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks               |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------|
| 2533           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).               |                 | 81            | 50/4"           |                | 22           |         |                      |                       |                      |                 |              |                       |
| 2531           | 26         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2529           | 27         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2527           | 28         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2525           | 29         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2523           | 30         |                   | Slightly weathered; moderately hard; moderately fractured. |                 | R1            |                 |                | 100          | 100     |                      |                       |                      |                 |              | Switched to HQ Coring |
| 2521           | 31         |                   |  |                 | R2            |                 |                | 100          | 100     |                      |                       |                      |                 |              |                       |
| 2519           | 32         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2517           | 33         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2515           | 34         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2513           | 35         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2511           | 36         |                   | Pink discoloration; decomposed.                            |                 | R3            |                 |                | 24           | 12      |                      |                       |                      |                 |              |                       |
| 2509           | 37         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2507           | 38         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
| 2505           | 39         |                   |  |                 | R4            |                 |                | 87           | 60      |                      |                       |                      |                 |              |                       |
|                | 40         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 41         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 42         |                   | Moderately to intensely fractured.                         |                 | R5            |                 |                | 100          | 57      |                      |                       |                      |                 |              |                       |
|                | 43         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 44         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 45         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 46         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 47         |                   |  |                 | R6            |                 |                | 100          | 62      |                      |                       |                      |                 |              |                       |
|                | 48         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 49         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 50         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 51         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 52         |                   |  |                 | R7            |                 |                | 60           | 17      |                      |                       |                      |                 |              |                       |
|                | 53         |                   | Gray to white; intensely weathered; intensely fractured.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |
|                | 54         |                   |  |                 | R8            |                 |                | 60           | 0       |                      |                       |                      |                 |              |                       |
|                | 55         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                       |

(continued)



**Yeh and Associates, Inc.**  
Geotechnical • Geological • Construction Services

PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-07

REVISION DATE  
11/16/2023

SHEET  
2 of 3



| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---------|
| 2503           | 55         |                   |   |                 | R8            |                 |                | 80           | 0       |                      |                       |                      |                 |              |         |
|                | 56         |                   |   |                 | R9            |                 |                | 100          | 90      |                      |                       |                      |                 |              |         |
| 2501           | 57         |                   | Instantly to moderately weathered; moderately soft; slightly fractured.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 58         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 59         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2499           | 60         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 61         |                   | Bottom of borehole at 61.0 ft bgs   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2497           | 62         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 63         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2495           | 64         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 65         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2493           | 66         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 67         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2491           | 68         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 69         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2489           | 70         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 71         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2487           | 72         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 73         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2485           | 74         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 75         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2483           | 76         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 77         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2481           | 78         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 79         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2479           | 80         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 81         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2477           | 82         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 83         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2475           | 84         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
|                | 85         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |



**Yeh and Associates, Inc.**  
Geotechnical • Geological • Construction Services

PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-07

REVISION DATE  
11/16/2023

SHEET  
3 of 3

|   |  |                                   |  |   |
|---|--|-----------------------------------|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-13-23</b>   | COMPLETION DATE<br><b>9-14-23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-08</b>          |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9127°/-118.1520°</b> |                                   |  | SURFACE ELEVATION<br><b>2548.9 ft</b>   |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>                              |                                   |  | WEATHER NOTES<br><b>sunny, warm</b>     |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>NE corner of property</b>                               |                                   |  | BACKFILLED WITH<br><b>grout</b>         |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER DURING DRILLING AFTER DRILLING (DATE)<br>READINGS <b>N/A</b>           |                                   |  | TOTAL DEPTH OF BORING<br><b>56.0 ft</b> |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks   |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---|
| 2547           | 1          |                   | CLAYEY SAND (SC); dense; light yellowish brown to white; dry; fine to medium SAND; trace coarse sand (ALLUVIUM).                                    |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2545           | 2          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2545           | 3          |                   | SILTY SAND (SM); dense; light yellowish brown to white; dry.  | X               | 7A/B          | 27<br>30<br>36  | 66             | 100          |         | 11                   | 91                    |                      |                 |              | CU  |
| 2543           | 4          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2543           | 5          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2543           | 6          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); white with green/black flakes; Intensely weathered to decomposed; very soft; fractured; (QUARTZ MONZONITE).        | X               | 18            | 18<br>25<br>37  | 82             | 100          |         | 10                   | 95                    |                      |                 |              | PA (1% G, 82% S, 36% F)<br>CR (pH = 8.50, r = 422 ohm-cm,<br>SO <sub>4</sub> <sup>2-</sup> = 16 mg/kg, Cl <sup>-</sup> = 4 mg/kg) |
| 2541           | 7          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2541           | 8          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2539           | 9          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2539           | 10         |                   | White to light gray with black spot; intensely weathered to decomposed; moderately hard; intensely fractured; (SILTY SAND (SM); very dense; moist). | X               | 19            | 50/4"           | 22             |              |         |                      |                       |                      |                 |              |   |
| 2537           | 11         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2537           | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2535           | 13         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2535           | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2533           | 15         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2533           | 16         |                   |   | X               | 20            | 50/4"           | 22             |              |         |                      |                       |                      |                 |              |   |
| 2531           | 17         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2531           | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2529           | 19         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2529           | 20         |                   |   | X               | 21            | 50/3"           | 17             |              |         |                      |                       |                      |                 |              |   |
| 2527           | 21         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2527           | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2525           | 23         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2525           | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |
| 2525           | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |   |

(continued)



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-08**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 3**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location<br>Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                          |
|----------------|------------|-------------------|---|----------------------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|----------------------------------|
| 2523           | 25         |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered; very soft; moderately fractured.<br>IGNEOUS ROCK (Quartz Monzonite) (continued). | R1                               |                 |                | 69           |         |                      |                       |                      |                 |              | Switched to HQ Coring            |
| 2521           | 26         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              | Start time:1605<br>End time:1615 |
|                | 27         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 28         |                   | 20 degree joint.  |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 29         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2519           | 30         |                   | Decomposed.   | R2                               |                 |                | 75           | 0       |                      |                       |                      |                 |              | Start time:1617<br>End time:1622 |
|                | 31         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 32         |                   | Moderately weathered; iron staining.  | R3                               |                 |                | 36           | 0       |                      |                       |                      |                 |              | Start time:1633<br>End time:1639 |
| 2517           | 33         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 34         |                   | Yellow/orange tint; decomposed; iron staining.  | R4                               |                 |                | 52           | 0       |                      |                       |                      |                 |              | Start time:1650<br>End time:1654 |
|                | 35         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2513           | 36         |                   | Light gray and white; decomposed.   | R5                               |                 |                | 24           | 0       |                      |                       |                      |                 |              | Start time:1700<br>End time:1710 |
|                | 37         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2511           | 38         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 39         |                   |   | R6                               |                 |                | 0            | 0       |                      |                       |                      |                 |              | Start time:1715<br>End time:1723 |
| 2509           | 40         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 41         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 42         |                   |   | R7                               |                 |                | 100          | 0       |                      |                       |                      |                 |              | Start time:740<br>End time:748   |
| 2507           | 43         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 44         |                   |   | R8                               |                 |                | 0            | 0       |                      |                       |                      |                 |              | Start time:755<br>End time:805   |
| 2505           | 45         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 46         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2503           | 47         |                   |   | R9                               |                 |                | 0            | 0       |                      |                       |                      |                 |              | Start time:815<br>End time:828   |
|                | 48         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2501           | 49         |                   |   | R10                              |                 |                | 0            | 0       |                      |                       |                      |                 |              | Start time:846<br>End time:850   |
|                | 50         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
| 2499           | 51         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 52         |                   |   | R11                              |                 |                | 0            | 0       |                      |                       |                      |                 |              | Start time:905<br>End time:910   |
| 2497           | 53         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 54         |                   |   | R12                              |                 |                | 0            | 0       |                      |                       |                      |                 |              |                                  |
| 2495           | 55         |                   |   |                                  |                 |                |              |         |                      |                       |                      |                 |              |                                  |

(continued)



**Yeh and Associates, Inc.**  
Geotechnical • Geological • Construction Services

PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-08

REVISION DATE  
11/16/2023

SHEET  
2 of 3

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                          |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|----------------------------------|
| 2493           | 56         |                   | Bottom of borehole at 56.0 ft bgs  | R12             |               |                 |                | 0            | 0       |                      |                       |                      |                 |              | Start time:1005<br>End time:1020 |
| 2491           | 58         |                   | <p>This Boring Record was developed in accordance with the Caltrans Soil &amp; Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.</p> |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 57         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 59         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 60         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 61         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 62         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 63         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 64         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 65         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 66         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 67         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 68         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 69         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 70         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 71         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 72         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 73         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 74         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 75         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 76         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 77         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 78         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 79         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 80         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 81         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 82         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 83         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 84         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |
|                | 85         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                  |



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Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-08

REVISION DATE  
11/16/2023

SHEET  
3 of 3

|   |   |   |  |   |
|---|---|---|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>9-19-23</b>  | COMPLETION DATE<br><b>9-20-23</b>                   | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-09</b>          |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9114°/-118.551°</b> |   |  | SURFACE ELEVATION<br><b>2555.4 ft</b>   |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>                             |   |  | WEATHER NOTES<br><b>sunny, warm</b>     |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>See plate 1</b>  |   |  | BACKFILLED WITH<br><b>grout</b>         |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER READINGS  | DURING DRILLING AFTER DRILLING (DATE)<br><b>N/A</b> |  | TOTAL DEPTH OF BORING<br><b>51.0 ft</b> |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks  |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--|
| 0              | 0          |                   | SILTY SAND (SM); medium dense; dark brown mottled with light brown; moist; fine to medium SAND; trace organics (ALLUVIUM).   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2553           | 1          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 2          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 3          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2551           | 4          |                   |  | X               | 52            | 11              | 28             | 100          |         | 14                   | 90                    |                      |                 |              | CU   |
|                | 5          |                   |  |                 |               | 11              |                |              |         |                      |                       |                      |                 |              |  |
|                | 6          |                   | Dense; light brown.  | X               | 53            | 24              | 50             | 100          |         | 5                    | 104                   |                      |                 |              | PA (3% G, 78% S, 19% F)<br>CR (pH = 7.13, r = 382 ohm-cm,<br>SO <sub>4</sub> <sup>2-</sup> = 37 mg/kg, Cl = 500 mg/kg) |
| 2549           | 7          |                   |  |                 |               | 25              |                |              |         |                      |                       |                      |                 |              |  |
|                | 8          |                   | IGNEOUS ROCK; white with black, gray and pink mottling; decomposed; (SILTY SAND (SM); very dense; moist; fine to medium SAND; iron staining, mica flakes); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2547           | 9          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 10         |                   |  | X               | 54            | 29              | 50/4"          | 58           |         |                      |                       |                      |                 |              |  |
| 2545           | 11         |                   |  |                 |               | 50/4"           |                |              |         |                      |                       |                      |                 |              |  |
|                | 12         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2543           | 13         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 14         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2541           | 15         |                   |  | X               | 55            |                 | 50/4"          | 50           |         | 8                    | 121                   |                      |                 |              |  |
| 2539           | 16         |                   |  |                 |               | 50/4"           |                |              |         |                      |                       |                      |                 |              |  |
|                | 17         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2537           | 18         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 19         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2535           | 20         |                   | Light gray and white.  | X               | 56            |                 | 50/5"          | 28           |         |                      |                       |                      |                 |              |  |
|                | 21         |                   |  |                 |               | 50/5"           |                |              |         |                      |                       |                      |                 |              |  |
| 2533           | 22         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 23         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
| 2531           | 24         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |
|                | 25         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |  |

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**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-09**

REVISION DATE  
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SHEET  
**1 of 2**



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|----------------|---------------------------------|
| PROJECT NAME   | Hydrostor Zevsar Energy Storage |
| PROJECT NUMBER | 223-202                         |
| BORING NUMBER  | 23E-09                          |
| REVISION DATE  | 11/16/2023                      |

**SHEET**  
**2 of 2**

|   |  |                                   |  |   |
|---|--|-----------------------------------|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>10-4-23</b>   | COMPLETION DATE<br><b>10-5-23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-10</b>          |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9112°/-118.1569°</b>           |                                   |  | SURFACE ELEVATION<br><b>2561.8 ft</b>   |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |                                   |  | WEATHER NOTES<br><b>sunny, warm</b>     |
| DRILLER<br><b>Yeh and Associates</b>                              | LOCATION DESCRIPTION<br><b>120 yards NW of drill pad 1 and 300 yards E of drill pad 3</b>    |                                   |  | BACKFILLED WITH<br><b>grout</b>         |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS<br><b>N/A 39.6 ft on 10-23-23</b> |                                   |  | TOTAL DEPTH OF BORING<br><b>61.0 ft</b> |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|---------|
| 2560           | 1          |                   | CLAYEY SAND (SC); medium dense; light brown; dry; (ALLUVIUM).   |                 | D             |                 |                | 100          |         |                      |                       |                      |                 |              |         |
| 2558           | 2          |                   |   |                 | 72            | 8<br>8<br>11    | 19             | 100          |         | 7                    | 90                    |                      |                 |              |         |
| 2556           | 3          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); brownish white with black flakes; intensely weathered to decomposed; very soft; fractured; (Well-graded SAND (SW); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 | 73            | 17<br>20<br>35  | 55             | 100          |         | 3                    | 105                   |                      |                 |              |         |
| 2552           | 4          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2550           | 5          |                   | White and black; (very dense).  |                 | 74            | 30<br>50/5"     | 50/5"          | 50           |         |                      |                       |                      |                 |              |         |
| 2548           | 6          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2546           | 7          |                   |   |                 | 75            | 38<br>50/4"     | 50/4"          | 33           |         |                      |                       |                      |                 |              |         |
| 2544           | 8          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2542           | 9          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2540           | 10         |                   |   |                 | 76            | 39<br>50/5"     | 50/5"          | 33           |         |                      |                       |                      |                 |              |         |
| 2538           | 11         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2536           | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2534           | 13         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2532           | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2530           | 15         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2528           | 16         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2526           | 17         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2524           | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2522           | 19         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2520           | 20         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2518           | 21         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2516           | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2514           | 23         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2512           | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |
| 2510           | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |         |

(continued)



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**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-10**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 3**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                              |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--------------------------------------|
| 2536           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).  |                 | 77            | 50/4"           |                | 22           |         |                      |                       |                      |                 |              |                                      |
| 2534           | 26         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2532           | 27         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2530           | 28         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2528           | 29         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2526           | 30         |                   | IGNEOUS ROCK (QUARTZ MONZONITE) thickly bedded; QUARTZ MONZONITE; light brown with black flakes; intensely weathered; very soft; moderately fractured; light brown with black flakes. | R1              |               |                 |                | 4            |         |                      |                       |                      |                 |              | Switched to HQ Coring                |
| 2524           | 31         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Start time:800<br>End time:805       |
| 2522           | 32         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2520           | 33         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2518           | 34         |                   | Slightly weathered; moderately hard to hard; intensely fractured.   | R2              |               |                 |                | 100          | 90      |                      |                       |                      |                 |              | Start time:806<br>End time:811       |
| 2516           | 35         |                   | Decomposed; moderately hard to hard; intensely fractured.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2514           | 36         |                   | Slightly weathered; moderately hard to hard; intensely fractured.   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2512           | 37         |                   | Moderately fractured.   | R3              |               |                 |                | 100          | 108     |                      |                       |                      |                 |              | Start time:817<br>End time:825       |
| 2510           | 38         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2508           | 39         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2506           | 40         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2504           | 41         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2502           | 42         |                   | Moderately fractured; iron staining.  | R4              |               |                 |                | 100          | 83      |                      |                       |                      |                 |              | Start time:834<br>End time:839       |
| 2500           | 43         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2498           | 44         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2496           | 45         |                   | 30 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2494           | 46         |                   | 55 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2492           | 47         |                   |   | R5              |               |                 |                | 91           | 84      |                      |                       |                      |                 |              | Start time:848<br>End time:855<br>UC |
| 2490           | 48         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2488           | 49         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2486           | 50         |                   | 45 degree joint.<br>45 degree joint.  | R6              |               |                 |                | 100          | 84      |                      |                       |                      |                 |              | UC                                   |
| 2484           | 51         |                   | Vertical fracture top 2-inch.   | R7              |               |                 |                | 100          | 92      |                      |                       |                      |                 |              | Start time:915<br>End time:919       |
| 2482           | 52         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2480           | 53         |                   | 70 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2478           | 54         |                   | 75 degree joint.  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |
| 2476           | 55         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                      |

(continued)



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PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-10

REVISION DATE  
11/16/2023

SHEET  
2 of 3

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                        |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--------------------------------|
| 2506           | 55         |                   |   |                 | R7            |                 |                | 100          | 92      |                      |                       |                      |                 |              |                                |
|                | 56         |                   |   |                 | R8            |                 |                | 100          | 100     |                      |                       |                      |                 |              | Start time:943<br>End time:950 |
| 2504           | 57         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 58         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 59         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2502           | 60         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 61         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 62         |                   | Bottom of borehole at 61.0 ft bgs   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2500           | 63         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 64         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2498           | 65         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 66         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2496           | 67         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 68         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2494           | 69         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 70         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2492           | 71         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 72         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2490           | 73         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 74         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2488           | 75         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 76         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2486           | 77         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 78         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2484           | 79         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 80         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2482           | 81         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 82         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2480           | 83         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
|                | 84         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |
| 2478           | 85         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                                |



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PROJECT NAME  
Hydrostor Zevsar Energy Storage

PROJECT NUMBER  
223-202

BORING NUMBER  
23E-10

REVISION DATE  
11/16/2023

SHEET  
3 of 3

|   |   |                                   |  |   |
|---|---|-----------------------------------|--|---|
| LOGGED BY<br><b>H. Brake</b>                                      | BEGIN DATE<br><b>10/3/23</b>  | COMPLETION DATE<br><b>10/3/23</b> | HAMMER TYPE<br><b>Automatic, 140 lbs</b> | BORING NUMBER<br><b>23E-11</b>            |
| FINAL BY<br><b>J. King</b>  | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9126°/-118.1566°</b>              |                                   |  | SURFACE ELEVATION<br><b>2567.3 ft</b>     |
| DRILLING METHOD<br><b>Rotary Wash, 4-inch diameter, HQ Coring</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>   |                                   |  | WEATHER NOTES<br><b>sunny, warm</b>       |
| DRILLER<br><b>Gregg Drilling</b>                                  | LOCATION DESCRIPTION<br><b>130 yards east of drill pad 3 and 100 yards south of access road</b> |                                   |  | BACKFILLED WITH<br><b>Monitoring well</b> |
| DRILL RIG<br><b>Fraste Multi-Drill</b>                            | GROUNDWATER DURING DRILLING AFTER DRILLING (DATE)<br>READINGS <b>N/A</b>                        |                                   |  | TOTAL DEPTH OF BORING<br><b>61.0 ft</b>   |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample or Run Location | Sample or Run Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Well Diagram | Well Description         | Remarks                     |
|----------------|------------|-------------------|---|------------------------|----------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|--------------------------|-----------------------------|
| 0              | 0          |                   | CLAYEY SAND (SC); loose; brown; dry; (ALLUVIUM).  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              | Traffic-rated vault      |                             |
| 2565           | 2          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              | 3' Steel mount riser     |                             |
| 2563           | 3          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered; very soft; fractured; (Well-graded SAND (SW); dense; moist; medium to coarse SAND; iron staining); (QUARTZ MONZONITE). |                        | 65                   | 11              | 49             | 100          |         | 6                    | 108                   |                      |                 |              | 2" PVC pipe              |                             |
|                | 4          |                   |   |                        |                      | 14              |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 5          |                   |   |                        |                      | 35              |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2561           | 6          |                   |   |                        | 66                   | 32              | 50/4"          | 58           |         | 5                    | 80                    |                      |                 |              |                          |                             |
|                | 7          |                   |   |                        |                      | 50/4"           |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2559           | 8          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 9          |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2557           | 10         |                   |   |                        | 67                   | 50/5"           | 50/5"          | 28           |         |                      |                       |                      |                 |              |                          | Driller noted hard drilling |
|                | 11         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2555           | 12         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 13         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2553           | 14         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 15         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2551           | 16         |                   |   |                        | N/A                  |                 |                |              |         |                      |                       |                      |                 |              | Bentonite chips          |                             |
|                | 17         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2549           | 18         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 19         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2547           | 20         |                   |   |                        | 68                   | 50              | 50/1"          | 39           |         |                      |                       |                      |                 |              | #3 sand                  |                             |
|                | 21         |                   |   |                        |                      | 50/1"           |                |              |         |                      |                       |                      |                 |              |                          |                             |
| 2545           | 22         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 23         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              | 2" PVC pipe, 0.01" slots |                             |
| 2543           | 24         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |
|                | 25         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                          |                             |

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| PROJECT NAME<br><b>Hydrostor Zevsar Energy Storage</b> |
| PROJECT NUMBER<br><b>223-202</b>                       |
| BORING NUMBER<br><b>23E-11</b>                         |
| REVISION DATE<br><b>11/16/2023</b>                     |
| SHEET<br><b>1 of 3</b>                                 |



| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample or Run Location | Sample or Run Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Well Diagram | Well Description | Remarks   |
|----------------|------------|-------------------|--|------------------------|----------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|------------------|---|
| 2541           | 25         |                   | IGNEOUS ROCK (Quartz Monzonite) (continued).   |                        | 69                   | 50/4"           | 50/4"          | 22           |         |                      |                       |                      |                 |              |                  |   |
| 2539           | 26         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2537           | 27         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
| 2535           | 28         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 29         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 30         |                   |  |                        | R1                   |                 |                | 100          | 0       |                      |                       |                      |                 |              |                  | Start time:1600<br>End time:1602  |
|                | 31         |                   | IGNEOUS ROCK (QUARTZ MONZONITE) thickly bedded; QUARTZ MONZONITE; light brown with black flakes; intensely weathered; very soft; moderately fractured; light brown with black flakes. Fracture, slickensided and pink. |                        | R2                   |                 |                | 6            | 0       |                      |                       |                      |                 |              |                  | Start time:1629<br>End time:1633  |
|                | 32         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 33         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 34         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 35         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 36         |                   |  |                        | R3                   |                 |                | 0            | 0       |                      |                       |                      |                 |              |                  | Start time:1645<br>End time:1648<br>poor recovery, very fast drilling<br>Start time:0747<br>End time:0749 |
|                | 37         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 38         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 39         |                   |  |                        | R4                   |                 |                | 0            | 0       |                      |                       |                      |                 |              |                  |   |
|                | 40         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 41         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 42         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 43         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 44         |                   |  |                        | R5                   |                 |                | 47           | 0       |                      |                       |                      |                 |              |                  | Start time:0751<br>End time:0753  |
|                | 45         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 46         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 47         |                   |  |                        | R6                   |                 |                | 48           | 0       |                      |                       |                      |                 |              |                  | Start time:0800<br>End time:0805  |
|                | 48         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 49         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 50         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 51         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 52         |                   | Moderately weathered; very soft; unfractured; 70 degree joint, moderately soft sections.   |                        | R7                   |                 |                | 40           | 17      |                      |                       |                      |                 |              |                  | Start time:0807<br>End time:0812  |
|                | 53         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 54         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |
|                | 55         |                   |  |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |   |

(continued)



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-11**

REVISION DATE  
**11/16/2023**

SHEET  
**2 of 3**

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample or Run Location | Sample or Run Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Well Diagram | Well Description | Remarks                                |
|----------------|------------|-------------------|---|------------------------|----------------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|------------------|--|
| 2511           | 56         |                   |   |                        | R7                   |                 |                | 40           | 17      |                      |                       |                      |                 |              |                  |  |
|                | 57         |                   |   |                        | R8                   |                 |                | 40           | 27      |                      |                       |                      |                 |              |                  | Start time:0815<br>End time:0820<br>UC |
| 2509           | 58         |                   | Slightly weathered; hard; moderately fractured.   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 59         |                   |   |                        | R9                   |                 |                | 77           |         |                      |                       |                      |                 |              |                  | Start time:0855<br>End time:0900       |
| 2507           | 80         |                   | Moderately soft to moderately hard; moderately to intensely fractured; iron staining, 2- 25 degree joint.   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 81         |                   | Bottom of borehole at 61.0 ft bgs   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              | Bottom cap       |  |
| 2505           | 82         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 83         |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2503           | 84         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 85         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 86         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 87         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2499           | 88         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 89         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2497           | 90         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 91         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2495           | 92         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 93         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2493           | 94         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 95         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2491           | 96         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 97         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2489           | 98         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 99         |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2487           | 100        |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 101        |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2485           | 102        |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 103        |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
| 2483           | 104        |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |
|                | 105        |                   |   |                        |                      |                 |                |              |         |                      |                       |                      |                 |              |                  |  |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23E-11**

REVISION DATE  
**11/16/2023**

SHEET  
**3 of 3**

|  |  |                                       |  |  |
|--|--|---------------------------------------|--|--|
| LOGGED BY<br><b>C. Kuchta</b>                | BEGIN DATE<br><b>9-18-23</b>   | COMPLETION DATE<br><b>9-18-23</b>     | HAMMER TYPE<br><b>N/A</b>              | BORING NUMBER<br><b>23IN-01</b>                  |
| FINAL BY<br><b>J. King</b>                   | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9086°/-118.1541°</b>                           |                                       |  | SURFACE ELEVATION<br><b>2533.3 ft</b>            |
| DRILLING METHOD<br><b>12" Diameter Auger</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |                                       |  | WEATHER NOTES<br><b>sunny</b>                    |
| DRILLER<br><b>Yeh and Associates</b>         | LOCATION DESCRIPTION<br><b>Proposed Stormwater Pond Area in Southeast corner of site near Sierra Highway</b> |                                       |  | BACKFILLED WITH<br><b>Infiltration Test/Soil</b> |
| DRILL RIG<br><b>Bob Cat</b>                  | GROUNDWATER READINGS   | DURING DRILLING AFTER DRILLING (DATE) | TOTAL DEPTH OF BORING<br><b>4.7 ft</b> |  |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                     |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------------|
|                | 0          |                   | CLAYEY SAND (SC); dense; brown mottled with white; moist; fine to medium SAND; (ALLUVIUM).  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Performed Infiltration test |
| 2531           | 2          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2529           | 4          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered to decomposed; very soft; fractured; (CLAYEY SAND (SC); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2527           | 6          |                   | Bottom of borehole at 4.7 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2525           | 8          |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 9          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 10         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 11         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 13         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 15         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 16         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 17         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 19         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 20         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 21         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 23         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |

5 BR - STANDARD 223-202 ES HYDROSTOR ZEVSAR ENERGY STORAGE\_GINT.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 11/16/23



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|--|------------------------|
| PROJECT NAME<br><b>Hydrostor Zevsar Energy Storage</b> | SHEET<br><b>1 of 1</b> |
| PROJECT NUMBER<br><b>223-202</b>                       |                        |
| BORING NUMBER<br><b>23IN-01</b>                        |                        |
| REVISION DATE<br><b>11/16/2023</b>                     |                        |

|  |  |                                   |                           |  |
|--|--|-----------------------------------|---------------------------|--|
| LOGGED BY<br><b>C. Kuchta</b>                | BEGIN DATE<br><b>9-18-23</b>   | COMPLETION DATE<br><b>9-18-23</b> | HAMMER TYPE<br><b>N/A</b> | BORING NUMBER<br><b>23IN-02</b>                  |
| FINAL BY<br><b>J. King</b>                   | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9086°/-118.1536°</b>                           |                                   |                           | SURFACE ELEVATION<br><b>2527.7 ft</b>            |
| DRILLING METHOD<br><b>12" Diameter Auger</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |                                   |                           | WEATHER NOTES<br><b>sunny</b>                    |
| DRILLER<br><b>Yeh and Associates</b>         | LOCATION DESCRIPTION<br><b>Proposed Stormwater Pond Area in Southeast corner of site near Sierra Highway</b> |                                   |                           | BACKFILLED WITH<br><b>Infiltration Test/Soil</b> |
| DRILL RIG<br><b>Bob Cat</b>                  | GROUNDWATER READINGS   | DURING DRILLING                   | AFTER DRILLING (DATE)     | TOTAL DEPTH OF BORING<br><b>6.5 ft</b>           |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                     |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------------|
| 0              | 0          |                   | CLAYEY SAND (SC); dense; brown mottled with white; dry; fine to medium SAND; (ALLUVIUM).  |                 | A             |                 |                | 100          |         |                      |                       |                      |                 |              | Performed Infiltration test |
| 2528           | 2          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2524           | 4          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered to decomposed; very soft; fractured; (CLAYEY SAND (SC); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2522           | 6          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 7          |                   | Bottom of borehole at 6.5 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2520           | 8          |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2518           | 10         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2516           | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2514           | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2512           | 16         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2510           | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2508           | 20         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2506           | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2504           | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23IN-02**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 1**

|  |   |                                       |  |  |
|--|---|---------------------------------------|--|--|
| LOGGED BY<br><b>C. Kuchta</b>                | BEGIN DATE<br><b>9-18-23</b>  | COMPLETION DATE<br><b>9-18-23</b>     | HAMMER TYPE<br><b>N/A</b>              | BORING NUMBER<br><b>23IN-03</b>                  |
| FINAL BY<br><b>J. King</b>                   | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9086°/-118.1534°</b>              |                                       |  | SURFACE ELEVATION<br><b>2527.0 ft</b>            |
| DRILLING METHOD<br><b>12" Diameter Auger</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>   |                                       |  | WEATHER NOTES<br><b>sunny</b>                    |
| DRILLER<br><b>Yeh and Associates</b>         | LOCATION DESCRIPTION<br><b>15 feet north of access road and 260 feet east of sierra highway</b> |                                       |  | BACKFILLED WITH<br><b>Infiltration Test/Soil</b> |
| DRILL RIG<br><b>Bob Cat</b>                  | GROUNDWATER READINGS  | DURING DRILLING AFTER DRILLING (DATE) | TOTAL DEPTH OF BORING<br><b>4.0 ft</b> |  |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                     |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------------|
| 0              | 0          |                   | CLAYEY SAND (SC); dense; brown mottled with white; dry; fine to medium SAND; (ALLUVIUM).  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Performed Infiltration test |
| 2525           | 2          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2523           | 4          |                   | Bottom of borehole at 4.0 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2521           | 6          |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2519           | 8          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2517           | 10         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2515           | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2513           | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2511           | 16         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2509           | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2507           | 20         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2505           | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2503           | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 25             | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23IN-03**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 1**



|  |  |                                       |  |  |
|--|--|---------------------------------------|--|--|
| LOGGED BY<br><b>C. Kuchta</b>                | BEGIN DATE<br><b>9-18-23</b>   | COMPLETION DATE<br><b>9-18-23</b>     | HAMMER TYPE<br><b>N/A</b>              | BORING NUMBER<br><b>23IN-04</b>                  |
| FINAL BY<br><b>J. King</b>                   | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9083°/-118.1542°</b>                           |                                       |  | SURFACE ELEVATION<br><b>2532.9 ft</b>            |
| DRILLING METHOD<br><b>12" Diameter Auger</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |                                       |  | WEATHER NOTES<br><b>sunny</b>                    |
| DRILLER<br><b>Yeh and Associates</b>         | LOCATION DESCRIPTION<br><b>Proposed Stormwater Pond Area in Southeast corner of site near Sierra Highway</b> |                                       |  | BACKFILLED WITH<br><b>Infiltration Test/Soil</b> |
| DRILL RIG<br><b>Bob Cat</b>                  | GROUNDWATER READINGS   | DURING DRILLING AFTER DRILLING (DATE) | TOTAL DEPTH OF BORING<br><b>4.9 ft</b> |  |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                     |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------------|
| 2531           | 0          |                   | CLAYEY SAND (SC); dense; brown mottled with white; dry; fine to medium SAND; (ALLUVIUM).  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Performed Infiltration test |
| 2529           | 4          |                   | IGNEOUS ROCK (QUARTZ MONZONITE); light brown with black flakes; intensely weathered to decomposed; very soft; fractured; (CLAYEY SAND (SC); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2527           | 5          |                   | Bottom of borehole at 4.9 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2525           | 8          |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.             |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2523           | 10         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2521           | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2519           | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2517           | 16         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2515           | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2513           | 20         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2511           | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2509           | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23IN-04**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 1**

|  |  |                                   |                           |  |
|--|--|-----------------------------------|---------------------------|--|
| LOGGED BY<br><b>C. Kuchta</b>                | BEGIN DATE<br><b>9-18-23</b>   | COMPLETION DATE<br><b>9-18-23</b> | HAMMER TYPE<br><b>N/A</b> | BORING NUMBER<br><b>23IN-05</b>                  |
| FINAL BY<br><b>J. King</b>                   | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9083°/-118.1537°</b>                           |                                   |                           | SURFACE ELEVATION<br><b>2526.3 ft</b>            |
| DRILLING METHOD<br><b>12" Diameter Auger</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |                                   |                           | WEATHER NOTES<br><b>sunny</b>                    |
| DRILLER<br><b>Yeh and Associates</b>         | LOCATION DESCRIPTION<br><b>Proposed Stormwater Pond Area in Southeast corner of site near Sierra Highway</b> |                                   |                           | BACKFILLED WITH<br><b>Infiltration Test/Soil</b> |
| DRILL RIG<br><b>Bob Cat</b>                  | GROUNDWATER READINGS   | DURING DRILLING                   | AFTER DRILLING (DATE)     | TOTAL DEPTH OF BORING<br><b>6.3 ft</b>           |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION   | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                     |
|----------------|------------|-------------------|---|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------------|
| 0              | 0          |                   | CLAYEY SAND (SC); dense; brown mottled with white; dry; fine to medium SAND; (ALLUVIUM).  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Performed Infiltration test |
| 2524           | 2          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2522           | 4          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2520           | 6          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 7          |                   | Bottom of borehole at 6.3 ft bgs  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2518           | 8          |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below. |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 9          |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2516           | 10         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 11         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2514           | 12         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 13         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2512           | 14         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 15         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2510           | 16         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 17         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2508           | 18         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 19         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2506           | 20         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 21         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2504           | 22         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 23         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2502           | 24         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 25         |                   |   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |



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PROJECT NAME  
**Hydrostor Zevsar Energy Storage**

PROJECT NUMBER  
**223-202**

BORING NUMBER  
**23IN-05**

REVISION DATE  
**11/16/2023**

SHEET  
**1 of 1**

|  |  |                                   |                           |  |
|--|--|-----------------------------------|---------------------------|--|
| LOGGED BY<br><b>C. Kuchta</b>                | BEGIN DATE<br><b>9-18-23</b>   | COMPLETION DATE<br><b>9-18-23</b> | HAMMER TYPE<br><b>N/A</b> | BORING NUMBER<br><b>23IN-06</b>                  |
| FINAL BY<br><b>J. King</b>                   | BOREHOLE LOCATION (Lat/Long or North/East and Datum)<br><b>34.9083°/-118.1534°</b>                           |                                   |                           | SURFACE ELEVATION<br><b>2526.7 ft</b>            |
| DRILLING METHOD<br><b>12" Diameter Auger</b> | BOREHOLE LOCATION (Offset, Station, Line)<br><b>—</b>  |                                   |                           | WEATHER NOTES<br><b>sunny</b>                    |
| DRILLER<br><b>Yeh and Associates</b>         | LOCATION DESCRIPTION<br><b>Proposed Stormwater Pond Area in Southeast corner of site near Sierra Highway</b> |                                   |                           | BACKFILLED WITH<br><b>Infiltration Test/Soil</b> |
| DRILL RIG<br><b>Bob Cat</b>                  | GROUNDWATER<br>READINGS  | DURING DRILLING                   | AFTER DRILLING (DATE)     | TOTAL DEPTH OF BORING<br><b>6.4 ft</b>           |

| ELEVATION (ft) | DEPTH (ft) | Material Graphics | DESCRIPTION  | Sample Location | Sample Number | Blows per 6 in. | Blows per foot | Recovery (%) | RQD (%) | Moisture Content (%) | Dry Unit Weight (pcf) | Shear Strength (ksf) | Drilling Method | Casing Depth | Remarks                     |
|----------------|------------|-------------------|--|-----------------|---------------|-----------------|----------------|--------------|---------|----------------------|-----------------------|----------------------|-----------------|--------------|-----------------------------|
|                | 0          |                   | CLAYEY SAND (SC); dense; brown with mottled with white; dry; fine to medium SAND; (ALLUVIUM).  |                 |               |                 |                |              |         |                      |                       |                      |                 |              | Performed Infiltration test |
| 2525           | 2          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2523           | 4          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2521           | 6          |                   | IGNEOUS ROCK (GRANITE); light brown with black flakes; intensely weathered to decomposed; very soft; fractured; (CLAYEY SAND (SC); dense; moist; medium to coarse SAND); (QUARTZ MONZONITE). |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 7          |                   | Bottom of borehole at 6.4 ft bgs   |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2519           | 8          |                   | This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.    |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 9          |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2517           | 10         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 11         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2515           | 12         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 13         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2513           | 14         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 15         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2511           | 16         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 17         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2509           | 18         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 19         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2507           | 20         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 21         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2505           | 22         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 23         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
| 2503           | 24         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |
|                | 25         |                   |  |                 |               |                 |                |              |         |                      |                       |                      |                 |              |                             |

5 BR - STANDARD 223-202 ES HYDROSTOR ZEVSAR ENERGY STORAGE\_GINT.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 11/16/23



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|--|------------------------|
| PROJECT NAME<br><b>Hydrostor Zevsar Energy Storage</b> |                        |
| PROJECT NUMBER<br><b>223-202</b>                       |                        |
| BORING NUMBER<br><b>23IN-06</b>                        |                        |
| REVISION DATE<br><b>11/16/2023</b>                     | SHEET<br><b>1 of 1</b> |