Phone: (707) 441-8855 Email: info@shn-engr.com Web: shn-engr.com
812 West Wabash, Eureka, CA 95501-2138

Reference: 019155

August 2, 2019

Michael Brosgart
1815 Seventh Street
Berkeley, CA 94705

Subject: Groundwater Measurements, 1691 Glendale Drive, Blue Lake, California

Dear Michael Brosgart:

As you requested, SHN provided a technician to hand auger three temporary borings at your site at 1691 Glendale Drive, Blue Lake, California to assess depth to groundwater. The surface of the site is paved so the borings were located at the edge pavement (see attached boring location map). The subgrade materials were often gravelly and difficult to excavate by hand methods. Screened PVC pipe was left in the hole overnight for a stabilized water level. Measurements for water depth were taken the next day and the borings were then closed with cuttings from the excavation. The information gathered is summarized below.

Hand Boring Identification	Approximate depth of boring from AC surface (feet)	Approximate depth to free water from AC surface (feet)
TPW-01	10	7.86
TPW-02	11.5	No free water
TPW-03	8.0	No free water

Attached you will find back up information, including soils logs, boring location site map and a boring permit.

Please call me at (707) 441-8855 if you have any questions.

Sincerely,

SHN

Greg Williston
Project Manager

GSW:lms
Attachments: 1. Field Logs (3)
2. Boring Location Map
3. Boring Permit Application

\\eureka\projects\2019\019155-Brosgart\Rpts\Brosgart.docx

Field Logs 1


TWP-1) 82' ← EDGE OF ASPHALT
Brosgart
1691 GLENDALE DRIVE
BLUE LAKE, CA
Legend
TWP-01
TWP-02
TWP-03
Glendale Dr
Google Earth
©2018 Google
N
200 ft

Boring Permit Application 3

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FIELD LOG

HOLE # TWP-01

Project	BROSGART	Job Number	019155
Location	BLUE LAKE - GLENDALE	Date Drilled	7/31/19
Ground Surface Elevation	~98' MSL	Sampler Type	NA
Excavation Method	HAND AUGER		
Logged By	J. WELLIK	Total Depth Of Hole	10 FEET BGS

	Depth (ft.)	Blows/6"	Samples	USCS Class	Lithologic Description
~98' MSL	0			GM	SILTY GRAVEL OLIVE; DRY, LOOSE TO MEDIUM DENSE WELL GRADED ROUNDED TO SUB ROUNDED
	1			SM	GRAVEL, WELL GRADED SAND, SILT
	2				REDDISH BROWN; DRY, LOOSE TO MEDIUM DENSE FINE TO MEDIUM SAND, SILT; SILTY SAND
	3			ML/SM	YELLOWISH BROWN; DRY GRADING TO MOIST AT APPROX. 5.5' BGS, FIRM, SILT, FINE SAND.
	4				SILT WITH SAND
	5				
	6				IRON MOTTLES
	7				
	8				
▽ 8.5' FREE WATER LENS.	9			SM/ML	YELLOWISH BROWN/OLIVE; MOIST TO WET AT 9' LOOSE TO MEDIUM DENSE, FINE SAND, SILT;
	10			ML/CL	STRONG IRON MOTTLES AT 9'; SILTY SAND YELLOWISH BROWN/REDDISH BROWN, MOIST; FIRM, SILT, FINE SAND; SILT WITH SAND HALT AT 10' BGS IN SAME.

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FIELD LOG

HOLE # TWP-02

Project	BROSGART	Job Number	019155
Location	BLUE LAKE – GLENDALE	Date Drilled	7/31/19
Ground Surface Elevation	~98' MSL	Sampler Type	NA
Excavation Method	HAND AUGER		
Logged By	J. WELLIK	Total Depth Of Hole	9.5' BGS

98'	Depth (ft.)	Blows/6"	Samples	USCS Class	Lithologic Description (11.5' to top of AC.)
	1			OL/ML	BROWN, FIRM, DRY, ROOTS TO ~1.5' BGS, SILT, FINE SAND, ORGANIC MATTER; SANDY ORGANIC SILT.
	2			ML	REDDISH BROWN, FIRM, DRY, SILT, FINE SAND, COLOR CHANGE AT APPROX. 2.5' AND INCREASE IN MOISTURE AT SAME DEPTH. SANDY SILT.
	3				
	4			ML/SM	REDDISH BROWN, FIRM, MOIST, SILT, FINE SAND, TRACE FINE ROUNDED GRAVEL AT 3.1', APPROX. 1" THICK. SANDY SILT.
	5			SM/ML	YELLOWISH BROWN, LOOSE TO MEDIUM DENSE, DRY, FINE SAND, SILT; SILTY SAND
	6			GM	YELLOWISH BROWN, MEDIUM DENSE, DRY, WELL GRADED SUBANGULAR TO SUB ROUNDED GRAVEL, WELL GRADED SAND, SILT; SILTY GRAVEL
	7				
	8			SW	YELLOWISH BROWN, MEDIUM DENSE, DRY GRADING TO MOIST AT ~8.5' BGS, WELL GRADED SAND, SILT, FINE ROUNDED GRAVEL, SILTY SAND
	9				
	10			ML/CL	YELLOWISH BROWN / REDDISH BROWN, SOFT, MOIST, MOTTLING PRESENT; SILT, FINE SAND; SILTY SAND
				ML	YELLOWISH BROWN, REDDISH BROWN, MOIST, MEDIUM DENSE, WELL GRADED SUBANGULAR GRAVEL, WELL GRADED
					HALT AT 9.5' BGS

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FIELD LOG

HOLE # TWP-02

Project	BROSGART	Job Number	019155
Location	BLUE LAKE – GLENDALE	Date Drilled	7/31/19
Ground Surface Elevation	~98' MSL	Sampler Type	NA
Excavation Method	HAND AUGER		
Logged By	J. WELLIK	Total Depth Of Hole	9.5' BGS

11.5' to top of A.C.

98'	Depth (ft.)	Blows/6"	Samples	USCS Class	Lithologic Description
	1			OL/ML	BROWN, FIRM, DRY, ROOTS TO ~1.5' BGS, SILT, FINE SAND, ORGANIC MATTER; SANDY ORGANIC SILT.
	2			ML	REDDISH BROWN, FIRM, DRY, SILT, FINE SAND, COLOR CHANGE AT APPROX. 2.5' AND INCREASE IN MOISTURE AT SAME DEPTH. SANDY SILT.
	3				
	4			ML/SM	REDDISH BROWN, FIRM, MOIST, SILT, FINE SAND, TRACE FINE ROUNDED GRAVEL AT 3.1', APPROX. 1" THICK. SANDY SILT.
	5			SM/ML	YELLOWISH BROWN, LOOSE TO MEDIUM DENSE, DRY, FINE SAND, SILT; SILTY SAND
	6			GM	YELLOWISH BROWN, MEDIUM DENSE, DRY, WELL GRADED SUBANGULAR TO SUB ROUNDED GRAVEL, WELL GRADED SAND, SILT; SILTY GRAVEL
	7			SM	YELLOWISH BROWN, MEDIUM DENSE, DRY GRADING TO MOIST AT ~8.5' BGS, WELL GRADED SAND, SILT, FINE ROUNDED GRAVEL, SILTY SAND
	8				
	9			ML/CL	YELLOWISH BROWN / REDDISH BROWN, SOFT, MOIST, MOTTLING PRESENT; SILT, FINE SAND; SILTY SAND
	10			ML	YELLOWISH BROWN, REDDISH BROWN, MOIST, MEDIUM DENSE, WELL GRADED SUBANGULAR GRAVEL, WELL GRADED
					HALT AT 9.5' BGS

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FIELD LOG

HOLE # TWP-03

Project	BROSGART	Job Number	019155
Location	BLUE LAKE - GLENDALE	Date Drilled	7/31/19
Ground Surface Elevation	~98' MSL	Sampler Type	NA
Excavation Method	HAND AUGER		
Logged By	J. WELLIK	Total Depth Of Hole	8.5 FEET BGS

Depth (ft.)	Blows/6"	Samples	USCS Class	Lithologic Description
0			GM	OLIVE, DRY, LOOSE TO MEDIUM DENSE, WELL GRADED ROUNDED TO SUBROUNDED GRAVEL, WELL GRADED SAND, SILT, SILTY GRAVEL
1				
2			SM	REDDISH BROWN, MEDIUM DENSE, DRY, FINE TO MEDIUM SAND, SILT, TRACE WELL GRADED ROUNDED GRAVEL; SILTY SAND
3			ML	REDDISH BROWN, FIRM, DRY GRADING TO MOIST A ~4', SILT, FINE SAND; SILT WITH SAND
4				
5			SM	OLIVE, MEDIUM DENSE, MOIST, FINE SAND, SILT, OCCASSIONAL ROUNDED GRAVEL, SILTY SAND.
6				
7			SM	OLIVE, MEDIUM DENSE, MOIST, WELL GRADED SAND, SILT, FINE SUBROUNDED TO ROUNDED GRAVEL, SILTY SAND WITH GRAVEL.
8				
9				HALT AT 8' BGS IN SAME DUE TO REJECTION IN COARSE(?) GRAVEL - COULD NOT GET RETURN.

Boring Location Map 2

Facility ID # FA0003185 Permit # SR0001879

Permits will not be processed with out the following information:

- ☐ Scaled Construction Detail
- ■ Detailed Site Plan
- ■ Lead Agency Approval Letter
- ☐ Off-site Well Requirements
  - ☐ Legal Right of Entry
  - ☐ Off Site Address/Location
  - ☐ Encroachment Permit
  - ☐ Coastal Zone Permit
- ■ Appropriate Fees
- ☐ Copy of Workplan (if not on file at HCDEH)

I hereby agree to comply with all laws, ordinances and regulations of the County of Humboldt and State of California pertaining to water well construction. I will contact the Humboldt County Hazardous Materials Unit at (707) 445-6215 five (5) working days prior to commencing this work. I will furnish to the County of Humboldt, Division of Environmental Health, and the owner a legible copy of the State Water Well Completion Report (form DWR 188) within fifteen (15) days after completion of work to obtain final approval of the well(s). I acknowledge that the application will become a permit ONLY after site approval by the Local Implementing Agency (HCDEH, NCRWQCB, DTSC, EPA). I understand this permit is not transferable and expires one hundred twenty (120) days from the date of issuance.

Certificates of Insurance:

✓ A currently effective General Liability Certificate of Insurance is on file with this office, endorsed to include the Humboldt County Division of Environmental Health named as additional named insured.

✓ A currently effective Worker's Compensation Certificate of Insurance is on file with this office, endorsed to include the Humboldt County Division of Environmental Health as additional named insured.

Signature of Well Driller – no proxies – original signature only blue ink

7/26/19
Date

- **Well identification number and type must be affixed to exterior surface of security structure.**
- **The applicant is responsible for notifying Underground Services Alert at least 48 hours prior to the scheduled work date.**
- **A State of California Department of Water Resources Well Completion Report (Form DWR 1-88) must be filed within 15 days of completion of work for all well completions and destructions.**
- **A licensed California C-57 Well Driller is required for all wells and direct push work.**

FOR OFFICE USE ONLY

Permit Approval: Norman Crawford Date: 7/29/2019

Fee: $177.00 Date: 7/24/19 Invoice/Receipt: IN0023120 SR: SR0001879

Initial Inspection: _____ Date: _____ Related FA#: FA0003185

Final Inspection: _____ Date: _____

RECEIVED

JUL 26 2019

HUMBOLDT CO. DIVISION
OF ENVIRONMENTAL HEALTH

Department of Health & Human Services

Division of Environmental Health
100 H Street - Suite 100 - Eureka, CA 95501
Phone: 707-445-6215 - Toll Free: 800-963-9241
Fax: 707-441-5699
envhealth@co.humboldt.ca.us

HAZARDOUS MATERIALS UNIT
WELL AND BORING PERMIT APPLICATION

Facility ID # FA0003185 **Permit #** SR0001879

Facility Name commercial property — **AP #:** 516-111-064

Site Address 1691 Glendale Dr, Fieldbrook, CA 95521 — **Proposed Work Date:** 7/31/19

Site Owner Michael Brosgart — **Telephone:** 202-320-7645

Owner Address 1815 Seventh Street, Berkeley, CA 94705 — **E-mail:** mbrosgart@gmail.com

Responsible Party Name same — **Telephone:**

Address same — **E-mail:**

Consultant Name John Wellik — **Telephone:** 707-296-3660

Consultant Company SHN — **E-mail:** jwellik@shn_engr.com

Address 812 W Wabash, Eureka, CA 95501 — **Reg.#/Type:** PG 9221

Driller none – hand augered — **Telephone:**

Driller Company: — **E-mail:**

Address — **C-57 Lic.#:** na

# On-site			# Off-site		
Wells		**Borings** 3	**Wells**		**Borings**

Activity: ☒ Construct ☐ Destroy ☐ Repair/Modify **Electrode Type:**

Well Type: ☐ Monitoring Well ☐ Injection Well ☐ Vapor Extraction ☑ Geologic Boring
☐ Extraction Well Piezometer ☐ Vapor Point ☐ Soil Gas Survey
☐ Vadose Well ☐ Cathodic Protection ☐ Direct Push Boring ☒ Temporary Well Point

Investigation Type: ☐ Site Assessment ☐ Disposal Practice ☐ UST ☒ Other *
☐ Surface Contamination ☐ Surface Impoundment ☐ AST
* Specify: groundwater level measurement

Investigation Phase: ☒ Initial ☐ Subsequent ☐ Remediation ☐ Closure

Suspected Contaminants: none

Disposal/Containment for Soil Cuttings: broadcast on site

Disposal/Containment for Rinsate: na

Disposal/Containment for Development Water: na