Groundwater Monitoring System Certification

Monitoring Well Network Addendum

Limestone Electric Generating Station
Jewett, Texas

May 2025

Prepared For
NRG Texas Power, LLC

William Carter, P.E.
Senior
Environmental
Engineer

11767 Katy Freeway, Suite 850, Houston, TX 770079 ● 713.244.1073 Phone
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Section 1
Regulatory Requirement

Per the requirements in *30 TAC §352.911 9 (40 CFR §257.91),* the Limestone Electric Generating Station has installed single unit groundwater monitoring systems around its existing Landfill Unit (Unit 004).. Per 40 CFR 257.91(f), the owner or operator must obtain a certification from a qualified professional engineer, licensed in the State of Texas, stating that the groundwater monitoring system has been designed and constructed to meet the requirements of 40 CFR 257.91.

Section 2
Certification Update

Pursuant to 40 CFR 257.91(f), a qualified professional engineer prepared the initial certification for five single unit groundwater monitoring systems at the Limestone Electric Generating Station on October 17, 2017. The initial certification encompassed five active CCR units at the Limestone Electric Generating Station: Secondary E Pond (SWMU 003), E-Pond (SWMU 019), ST-18 (SWMU ST-18), K Pond (Bottom Ash Cooling Pond Unit [BACP]), and the Landfill (SWMU 004). The initial certification was prepared by Environmental Resource Management (ERM) on behalf of NRG Texas Power, LLC and stated that the groundwater monitoring systems have been designed and constructed to meet the requirements of 40 CFR 257.91.

Since preparation of the October 17, 2017 groundwater monitoring system certification, NRG Texas Power, LLC has reviewed its initial determination of the active CCR units at the Limestone Electric Generation Station under 40 CFR 257. Based on its review, NRG Texas Power, LLC determined that three of the four impoundments do not meet criteria provided in 40 CFR 257 for management as CCR impoundments. Therefore, NRG Texas Power, LLC has determined that the E-Pond (SWMU 019), ST-18 (SWMU ST-18), Secondary E Pond (SWMU 003) and the K Pond (BACP) should not be managed as CCR units under the CCR Rule. Only the Landfill (SWMU 004) should be managed as a CCR unit that is used to treat, store, dispose, or otherwise conduct solid waste management of CCR at the Limestone Electric Generating Station under 40 CFR 257. The addendum to the October 17, 2017 groundwater monitoring system certification was completed in August 2018.

The revised certification updated the original October 17, 2017 groundwater monitoring system certification and the August 2018 groundwater monitoring system certification addendum.

For the groundwater monitoring system at SWMU 004, three new monitor wells have been installed and added to the network, MW-51, MW-52, and MW-53. Existing monitoring wells MW-06, MW-09, MW-16 have been added to the network. Figure 1 of this certification shows the monitoring well network for the landfill with the new and existing monitor wells. Also attached to this certification are the boring and well completion logs for MW-51, MW-52, and MW-53.

Section 3
Certification

I, the undersigned Texas Professional Engineer, hereby certify that I am familiar with the technical requirements of *30 TAC §352.911 9 (40 CFR §257.91)*. I also certify that it is my professional opinion that, to the best of my knowledge, information, and belief, that the groundwater monitoring system at the Landfill (SWMU 004) has been designed and constructed in accordance with current good and accepted engineering practice(s) and standard(s) appropriate to the nature of the project per the requirements in *30 TAC §352.911 9 (40 CFR §257.91*.

For the purpose of this document, "certify" and "certification" shall be interpreted and construed to be a "statement of professional opinion". The certification is understood and intended to be an expression of my professional opinion as a Texas Licensed Professional Engineer, based upon knowledge, information, and belief. The statement(s) of professional opinion are not and shall not be interpreted or construed to be a guarantee or a warranty of the groundwater monitoring system.

William Carter, P.E.

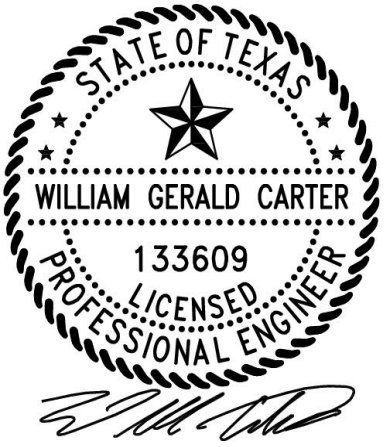
Registration Number: 133609

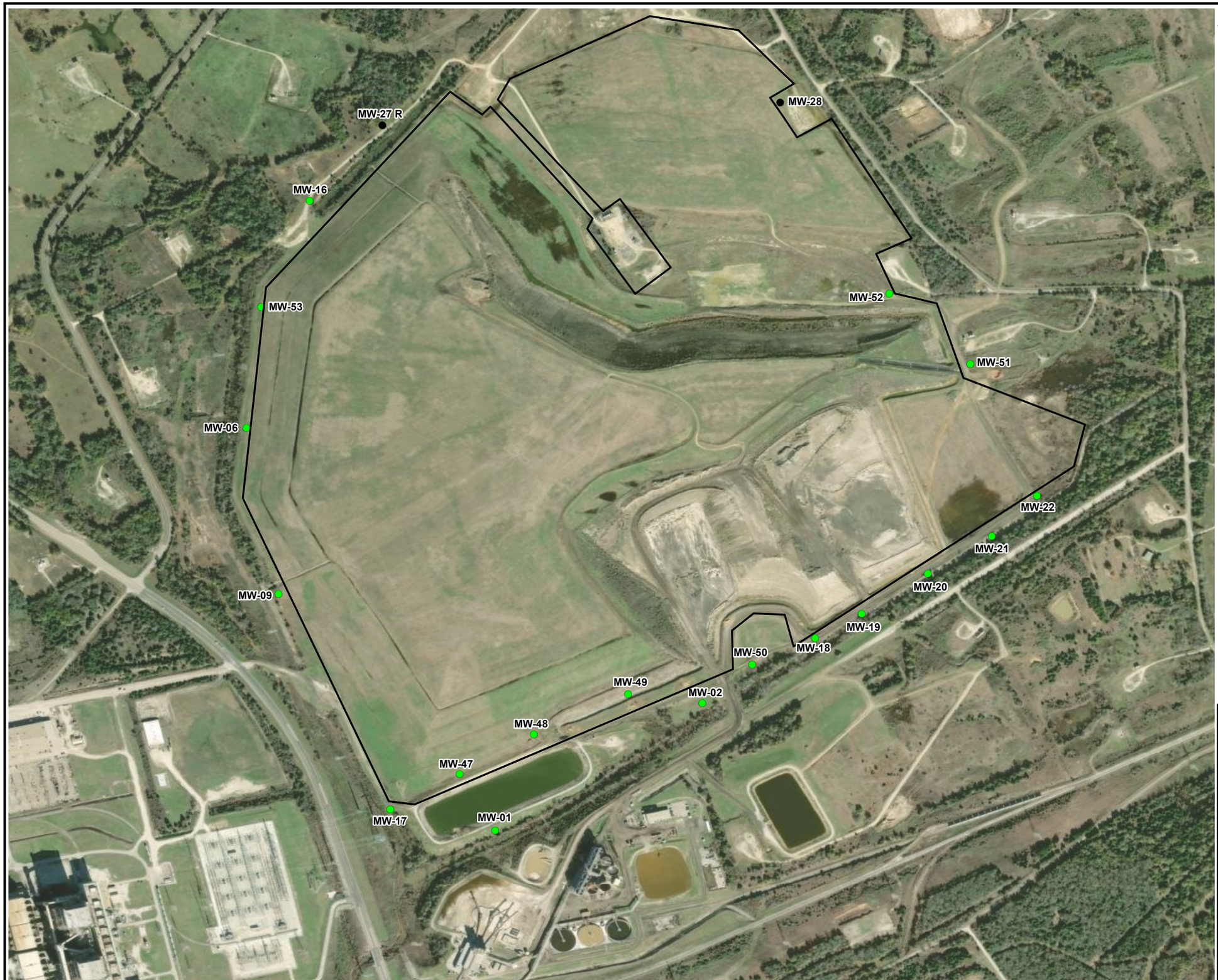
Firm Registration Number: 3775

May 14, 2025

Date

Signature of Professional Engineer





LEGEND

- Landfill Background CCR Locations
- Landfill CCR Monitor Well
- CCR Landfill Boundary

0 690 1,380
FT

N

PROJECT:
NRG TEXAS POWER, LLC
LIMESTONE
JEWETT, TEXAS

TITLE:
AMENDED GROUNDWATER MONITOR WELL NETWORK

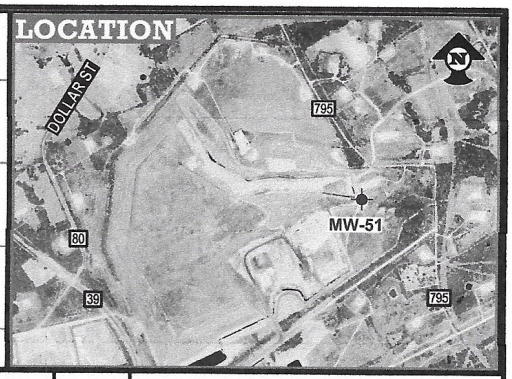
DRAWN BY:	F. Yarbrough	PROJ. NO.:	652117.0000.0000
CHECKED BY:	J. Atwell		
APPROVED BY:	A. Dworaczyk		**FIGURE 1**
DATE:	May 2025		

TRC
11767 Katy Freeway
Suite 850
Houston, TX, 77079
Phone 281.616.0100
www.trccompanies.com

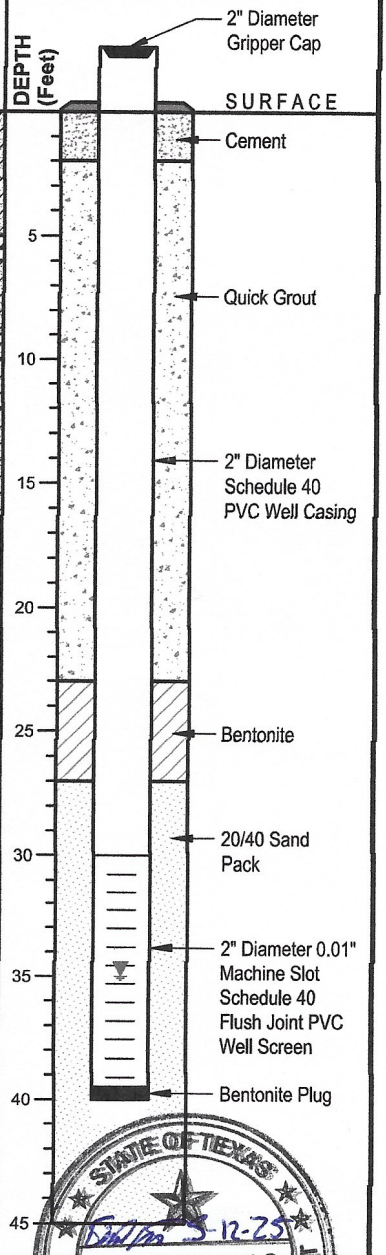
FILE NO.: 652117_Fig1.mxd

WELL ID:	MW-51	
DATE STARTED:	04/21/2025	LOCATION COORDINATES:
DATE COMPLETED:	04/21/2025	31.434980, -96.232531
DRILLING CONTRACTOR:	Best Drilling	SURFACE ELEVATION
DRILLER NAME:	Bruce Milton	455.31 FT-AMSL
DRILLING METHOD:	Hollow Stem	T.O.C. ELEVATION
SAMPLE METHOD:	Split Spoon	457.84 FT-AMSL
LOGGED BY:	Dan Tibbals	TOTAL DEPTH: 45 FT.

LOCATION



DEPTH (Feet)	SAMPLE	RECOVERY (%)	PID* (ppm)	LITHOLOGIC DESCRIPTION
5		75		Lean Clay, CL, with sand, brown 2.5 YR 3/3, dark reddish brown, dry to moist soft clay. Semi cohesive, medium, low plasticity (0- 4'). highly cohesive, hard, high plasticity (4'-5')
		80		Clay, CH, 5 YR 3/3, dark reddish-brown, dry to moist, high plasticity, high cohesive, hard, with small amounts of sand.
				Clay, CH, 5 YR 4/4, reddish brown, moist, hard, high cohesive, high plasticity.
10				Sandy Clay, CL, 7.5 YR 3/3, dark brown, dry to moist, semi cohesive, medium plasticity.
		80		Sandy Clay, CL, 7.5 YR 4/3 brown, moist, semi cohesive, low plasticity
				Clay, brown, CH, 5 YR 4/3 dry to moist, high plasticity, high cohesive
15				Sandy Clay, CL, 7.5 YR 4/3, brown, dry to moist, semi cohesive, low plasticity. med plasticity, semi cohesive, medium.
		75		
20				Clayey Sand, SC, 7.5 YR 4/4, brown, dry to moist, low cohesive, soft.
		30		
25				Clayey Sand, SC, with thin beds of Lignite, 7.5 YR 5/5, brown, dry to moist, hard.
		30		
30				Clay, CH, 7.5 YR 5/5, reddish brown, moist, high plasticity, high cohesiveness.
		70		Clay, CL, 2.5 YR, 5/6, red, with sand, very fine, low to medium cohesive, soft.
35				Thin layers of lignite rock, with reddish brown sand, medium to hard, low cohesive.
		70		
40				Silty Sand, SM, 7.5 YR 3/3, dark brown, very moist, very fine, low cohesive, poorly sorted, well graded, very fine.
		50		Saturated Silty Sand, SM, 7.5 YR 4/4, brown, high cohesive.
45				Clay, CH, 5 YR 4/3, dark brown, high plasticity, high cohesive 44.5 – 45.



▼ Initial Water Level (35 ft)

Sample Collected for Laboratory Analysis

*PID readings were not conducted as part of the installation of the CCR monitor wells.

Note: THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

STATE OF TEXAS
DANIEL TIBBALS
GEOLOGY
11193
LICENSED
PROFESSIONAL GEOSCIENTIST
5-12-25
Exp. 4/30/26

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NRG TEXAS POWER, LLC
Limestone Generating Station
F.M. 39 Road, Jewett, Texas 75838

Soil Log and Well Construction Details
MW-51

REVISION DATE: 05/05/2025
DRAWING DATE: 05/05/2025
REQUEST BY: J. Atwell
DRAWING BY: O. Fonseka

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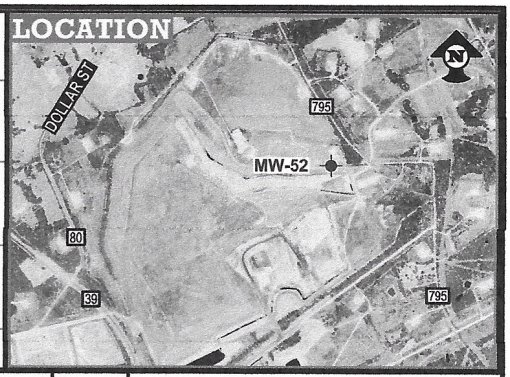
LAST EDIT: 05/12/2025 - FILE LOCATION: HOU C:\OF-TRC\DRAFTING-CDrive\ECR-Files\NRG\Limestone Generating Stn - Jewett-TX\2025\ NRG-LimestoneStation - MW Logs.dwg

DRAWING By: Oskar Fonseka - FILE NAME: NRG-LimestoneStation - MW Logs.dwg

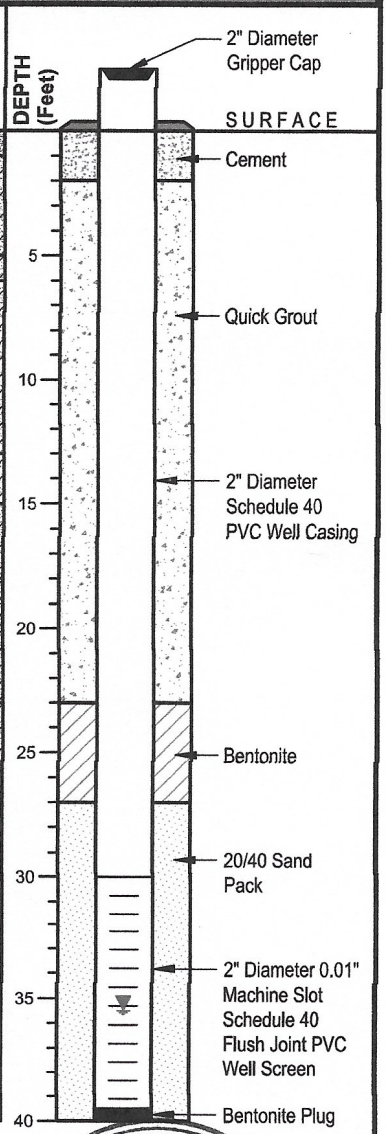
PROJECT NUMBER: 652117

WELL ID:	MW-52	
DATE STARTED:	04/21/2025	LOCATION COORDINATES:
DATE COMPLETED:	04/21/2025	31.436578, -96.234201
DRILLING CONTRACTOR:	Best Drilling	SURFACE ELEVATION
DRILLER NAME:	Bruce Milton	467.35 FT-AMSL
DRILLING METHOD:	Hollow Stem	T.O.C. ELEVATION
SAMPLE METHOD:	Split Spoon	469.85 FT-AMSL
LOGGED BY:	Dan Tibbals	TOTAL DEPTH: 40 FT.

LOCATION



DEPTH (Feet)	SAMPLE	RECOVERY (%)	PID* (ppm)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG
0				Coarse Sand, dark brown, 7.5 YR 3/3, soft dry, low cohesive.	
		60		Clayey Sand, SC, 7.5 YR 4/4, brown, dry, semi cohesive.	
5				Sandy Clay, CL, 7.5 YR 4/4, brown, moist, semi cohesive low plasticity, soft.	
		80		Clayey Sand, SC, 7.5 YR 5/4 brown, semi cohesive, medium soft.	
10					
		85		Sandy Clay, CL, 10YR 5/2, greyish brown, dry to moist low plasticity, high cohesive, medium soft.	
15				Clayey Sand, SC, high cohesive 7.5 YR 6/3, light brown, soft, dry to moist.	
		90		Lean Clay, CL with sand, 7.5 YR 5/2, brown, moist, high cohesive.	
20					
		70		Clayey Sand, 10 YR 5/2, grayish brown, layered, dry to moist, soft very fine, high cohesive.	
25					
		30		Thin layers of lignite, hard, sandy 7.5 YR 5/3, brown w/ dark pieces of rock, dry to moist, layered.	
30				Rock 29.5 – 30 lignite, 5 YR 6/1 gray hard, gravel, dry.	
		20		Silty Sand, very fine, 10 YR 5/3, brown high cohesive, soft, very moist.	
				No Recovery	
35				Lean Clay, CL, with sand, wet, saturated, 7.5 YR 4/4, brown, high cohesive, medium soft.	
		10		Clayey Sand, SC, 7.5 YR 4/4, brown, low plasticity, no recovery –, on auger, no recovery.	
				High Plasticity Clay, CH, 2.5YR 3/6, dark red, on auger, no recovery, high plasticity, high cohesive.	
40				Lean Clay with sand, CL, 7.5 YR 4/4, brown, Clay, wet, soft, high cohesive, semi hard (40'). Low plasticity.	



▼ Initial Water Level (34.55 ft)

Sample Collected for Laboratory Analysis

STATE OF TEXAS
DANIEL TIBBALS
GEOLOGY
11193
LICENSED
PROFESSIONAL GEOSCIENTIST
5-12-25
Exp. 4/30/26

*PID readings were not conducted as part of the installation of the CCR monitor wells.

Note: THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

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NRG TEXAS POWER, LLC
Limestone Generating Station
F.M. 39 Road, Jewett, Texas 75838

Soil Log and Well Construction Details
MW-52

REVISION DATE: 05/06/2025
DRAWING DATE: 05/06/2025
REQUEST BY: J. Atwell
DRAWING BY: O. Fonseka

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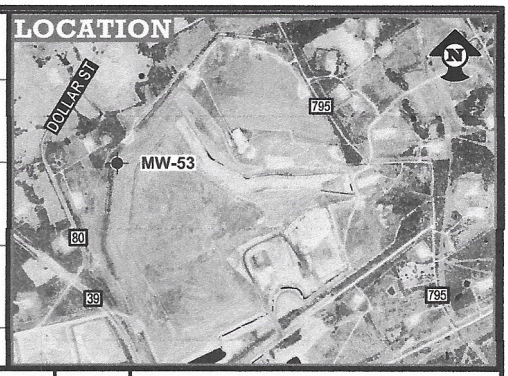
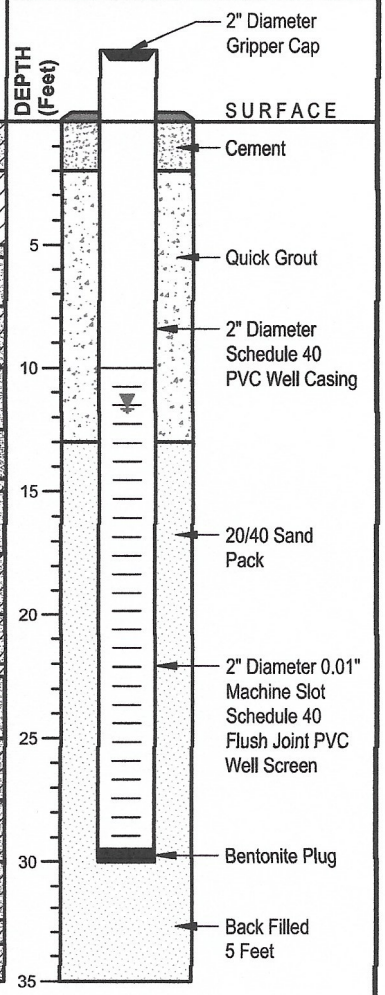
LAST EDIT: 05/12/2025 - FILE LOCATION: HOU C:\OF-TRC\DRAFTING-CD\rive\ECR-Files\NRG\Limestone Generating Stn - Jewett-TX\2025\ NRG-LimestoneStation - MW Logs.dwg
DRAWING By: Oskar Fonseka - FILE NAME: NRG-LimestoneStation - MW Logs.dwg
PROJECT NUMBER: 652117

WELL ID:	**MW-53**	
DATE STARTED:	04/22/2025	LOCATION COORDINATES:
DATE COMPLETED:	04/22/2025	31.436640, -96.246780
DRILLING CONTRACTOR:	Best Drilling	SURFACE ELEVATION
DRILLER NAME:	Bruce Milton	453.55 FT-AMSL
DRILLING METHOD:	Hollow Stem	T.O.C. ELEVATION
SAMPLE METHOD:	Split Spoon	456.50 FT-AMSL
LOGGED BY:	Dan Tibbals	TOTAL DEPTH: 35 FT.

LOCATION



DEPTH (Feet)	SAMPLE	RECOVERY (%)	PID* (ppm)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG
0		95		Sandy Clay, CL, brown 7.5 YR 4/4, dry to moist, high cohesive, low to med plasticity.	
				Clay, CH, 10 YR 5/2, grayish brown, high cohesive, moist, high plasticity.	
5		75		Silty Sand, SM, very fine dry to moist, 10 YR 5/1, gray, low cohesive, portly sorted, well graded.	
				weathering, 5 YR 5/3, reddish brown.	
10		50		High Plasticity, Clay, CH, with sand, 7.5 YR 4/4, brown, moist, high cohesive	
				Silty Sand, SM, YR 5/3, reddish brown, very moist, soft, poorly sorted, well graded, very fine.	
				Sand, grayish, brown, very fine, very moist, low cohesive, 10 YR 5/2.	
15		80		Low plasticity Clay with sand, 7.5 YR 4/4, brown, moist, high cohesive, , soft.	
				Silty Sand, SM, 10 YR 5/2, brownish gray, moist, very fine.	
				Lean Clay CL, with sand, reddish brown, high cohesive, moist . Low plasticity.	
20		80		Clayey Sand, SC, 5 YR 5/3, reddish brown, soft, wet, high cohesive.	
				Clay, CH, brown, 7.5 YR 4/4, high plasticity.	
25		90		Silty Sand, SM, brown weathered red, very fine, high cohesive, wet.	
				High Plasticity Clay, CH, with sand, 7.5 Yr 4/4, reddish brown, moist, weathered brown.	
30		70		very moist	
				Low Plasticity Clay, CL with sand, 7.5 Yr 4/4, reddish brown, weathered, moist.	
				Clayey Sand, SC, 7.5 4/4, brown, weathered reddish brown, wet, brown.	
35				Sandy Clay, CL, brown 7.5Yr4/4.	



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DANIEL TIBBALS
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5-12-25
Exp 4/30/26

▼ Initial Water Level (11.80 ft)

Sample Collected for Laboratory Analysis

*PID readings were not conducted as part of the installation of the CCR monitor wells.

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NRG TEXAS POWER, LLC
Limestone Generating Station
F.M. 39 Road, Jewett, Texas 75838

Soil Log and Well Construction Details
MW-53

REVISION DATE	05/06/2025
DRAWING DATE	05/06/2025
REQUEST BY	J. Atwell
DRAWING BY	O. Fonseka

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