

**APPENDIX C**  
**SUBSURFACE CROSS-SECTIONS**

## APPENDIX C: SUBSURFACE CROSS-SECTIONS

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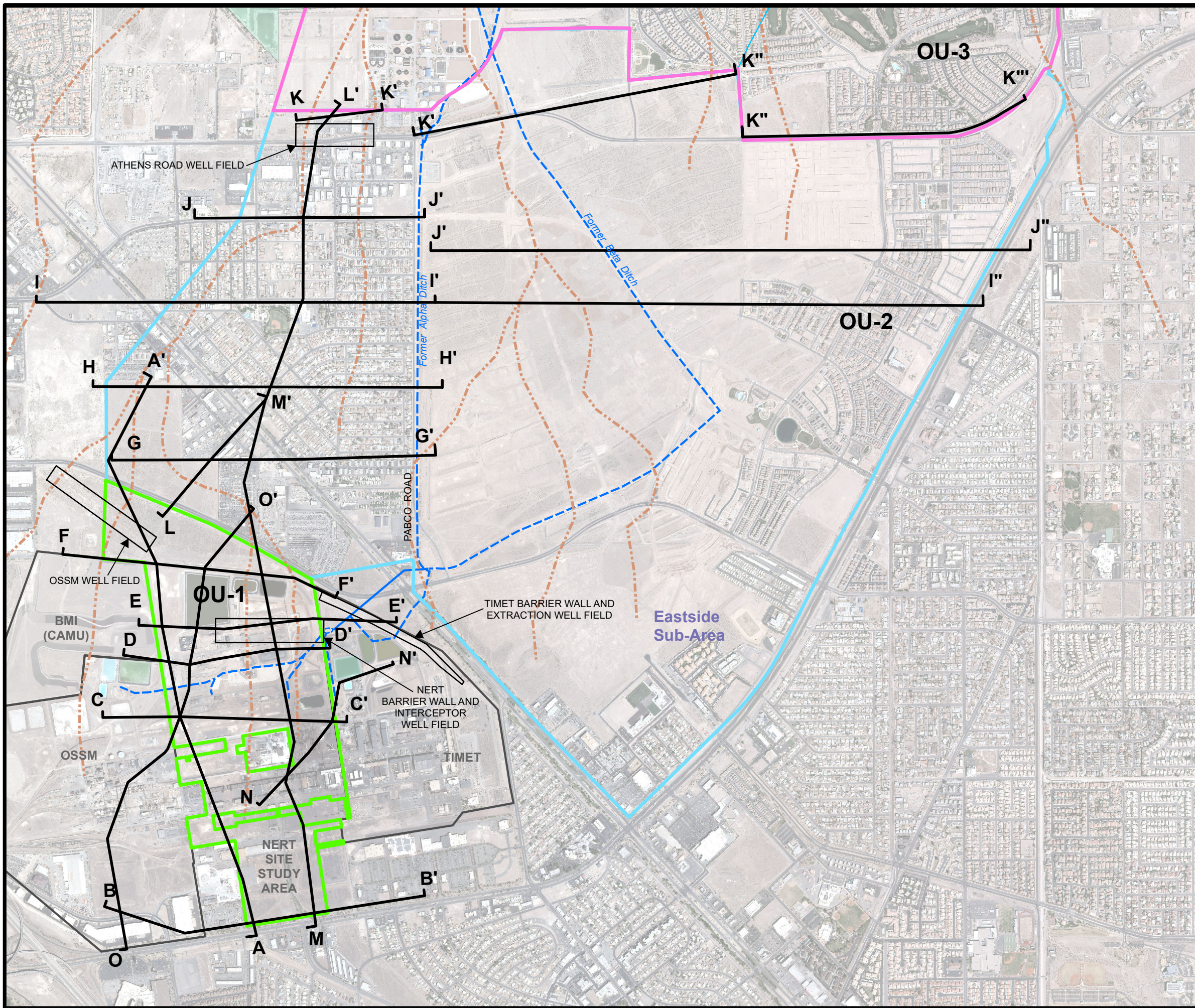


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## FIGURES

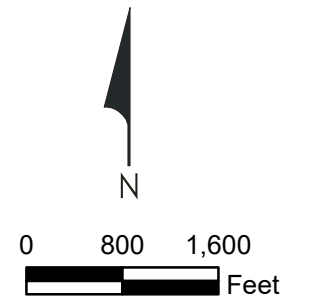


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**LEGEND:**

-  Cross-Section Location
-  Paleochannel



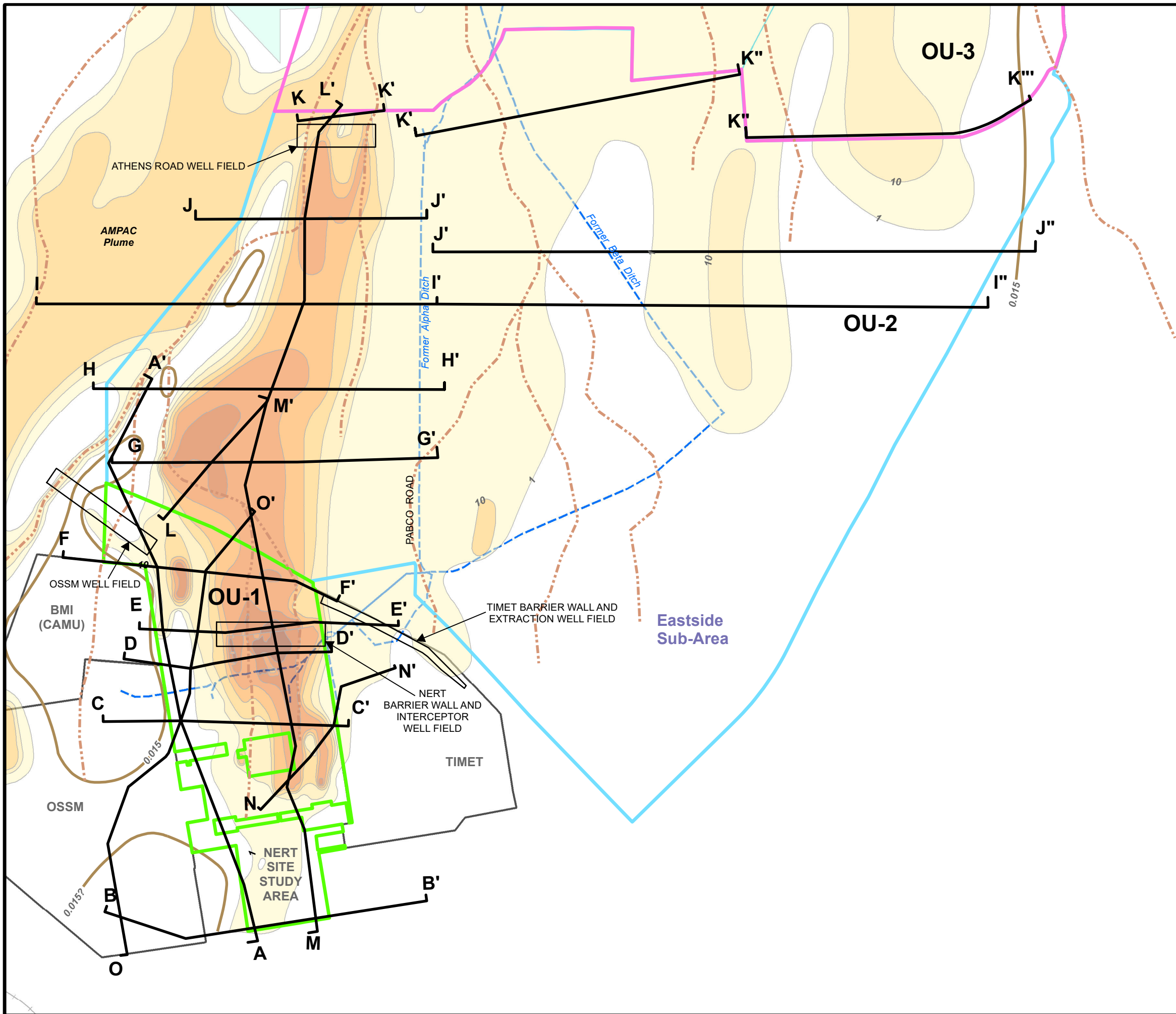
**Subsurface Cross-Section Location Map**  
 Nevada Environmental Response Trust Site  
 Henderson, Nevada

Date: 5/4/2020	Contract Number: 169002 9369	Figure
Drafter: RS	Approved:	Revised: 6/8/2023

**C-1**



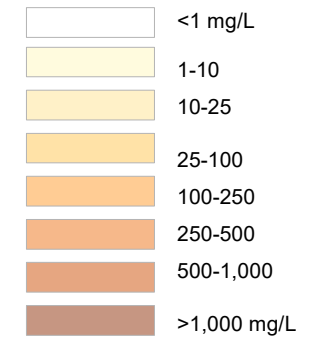
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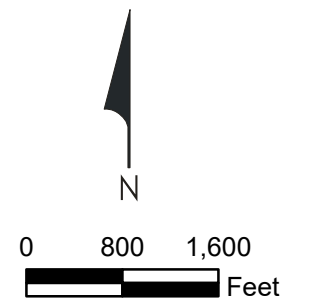
- Cross-Section Location
- Paleochannel

**Perchlorate Concentrations (mg/L)**



**Notes:**

1. Perchlorate concentrations are from 2015-2018.
2. The federal Preliminary Remediation Goal (PRG) for Perchlorate is 0.015 mg/L.
3. The Perchlorate groundwater screening level (GWSL) is 0.015 mg/L.



**Subsurface Cross-Section Location Map  
Showing Perchlorate**  
Nevada Environmental Response Trust Site  
Henderson, Nevada

Date: 5/4/2020	Contract Number: 169002 9369	Figure
Drafter: RS	Approved:	Revised: 6/8/2023













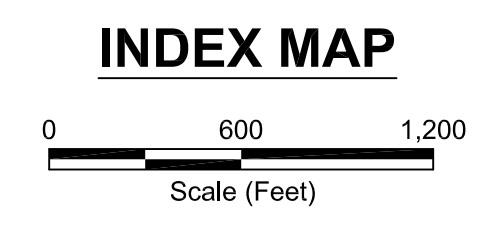
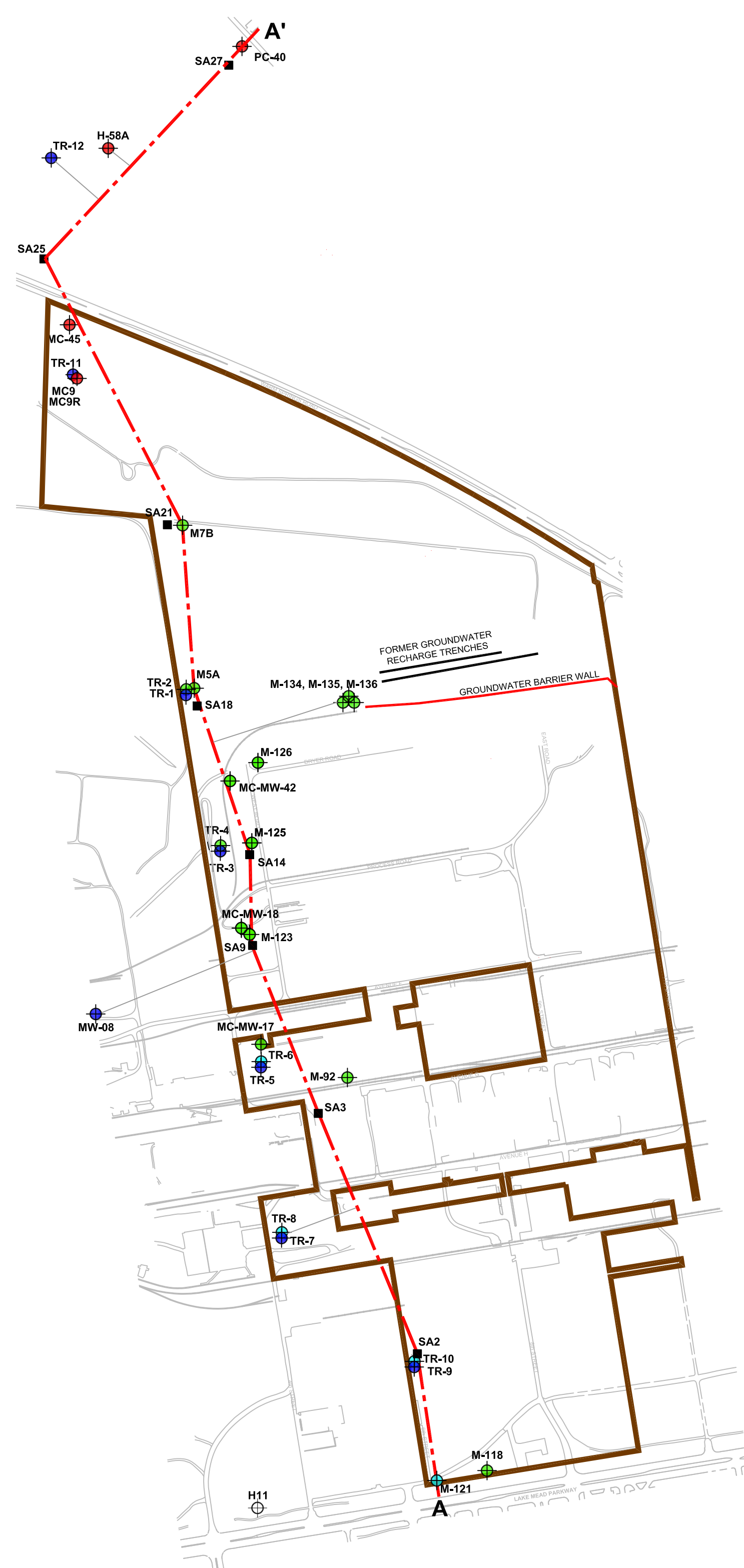


## PLATES





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**GROUNDWATER ELEVATIONS**

(feet, mean sea level datum)

**Shallow Water-Bearing Zone (0-90 ft)**

- Water Table Zone Well
- Deeper Shallow WBZ Well

**Middle Water-Bearing Zone (90-300 ft)**

- Upper Muddy Creek Formation, First Fine-Grained Unit (UMCf-fg1)
- Upper Muddy Creek Formation, Second Coarse-Grained Unit (UMCf-cg2)

**A-A'** LINE OF GEOLOGIC SECTION

- OU-1 BOUNDARY
- MONITORING WELL WITH SCREEN IN THE ALLUVIAL AQUIFER (Qal)
- MONITORING WELL WITH SCREEN IN THE UPPER MUDDY CREEK FINE GRAINED FACIES (UMCf-fg1)
- MONITORING WELL WITH SCREEN IN THE UPPER MUDDY CREEK COARSE GRAINED FACIES 1 (UMCf-cg1)
- MONITORING WELL WITH SCREEN IN THE UPPER MUDDY CREEK COARSE GRAINED FACIES 2 (UMCf-cg2)

**LEGEND**

- Qal QUATERNARY ALLUVIUM
- UMCf-fg1 UPPER MUDDY CREEK FORMATION FINE-GRAINED FACIES #1
- UPPER MUDDY CREEK FORMATION FINE-GRAINED FACIES #1 SILTY SAND AND SANDY BED
- UPPER MUDDY CREEK FORMATION FINE-GRAINED FACIES #1 VOLCANIC ASH DEPOSIT
- UMCf-cg1 UPPER MUDDY CREEK FORMATION COARSE-GRAINED FACIES #1
- UMCf-cg2 UPPER MUDDY CREEK FORMATION COARSE-GRAINED FACIES #2
- TR-1 EXISTING BORING/WELL IDENTIFICATION
- 1797' GROUND SURFACE ELEVATION (ft, msl)
- FILTER PACK
- SCREEN INTERVAL
- TR-1 WELL (SCREEN) IDENTIFICATION
- TD=40' TOTAL DEPTH OF BORING/WELL

**EXPLANATION:**

- (1799.47) GROUNDWATER ELEVATION (April/May 2012)
- 2.6 PERCHLORATE CONCENTRATION (May 2012) in milligrams/liter (mg/L).
- 0.11 TOTAL CHROMIUM CONCENTRATION (May 2012) in milligrams/liter (mg/L).
- 10.1 CHLOROFORM (January 2015) in micrograms/liter (µg/L).

**NOTES:**

- "<" NOT REPORTED AT THE PRACTICAL QUANTITATION LIMIT SHOWN
- (nm) NO WATER LEVEL
- ND NOT DETECTED
- NS NOT SAMPLED
- WBZ WATER-BEARING ZONE

1. Chloroform data for wells MC-MW-17, MC-MW-18, MC-MW-42, and MW-8 are from May 2013.

**REFERENCES:**

- APPENDIX A - ANNUAL REMEDIAL PERFORMANCE REPORT FOR CHROMIUM AND PERCHLORATE, JULY 2011 THROUGH JUNE 2012 [NEVADA ENVIRONMENTAL RESPONSE TRUST, HENDERSON, NEVADA] (AUGUST 2012)
- BMI COMPLEX DATABASE
- ADAPTED FROM FIGURE 4-1, PHASE A SOURCE AREA INVESTIGATION, TRONOX FACILITY, HENDERSON, NEVADA (ENSR/AECOM 2008)
- HYDROSTRATIGRAPHIC NOMENCLATURE FOLLOWS UNIFIED HYDROGEOLOGIC NOMENCLATURE PROPOSED BY NDEP IN JANUARY 6, 2009 LETTER

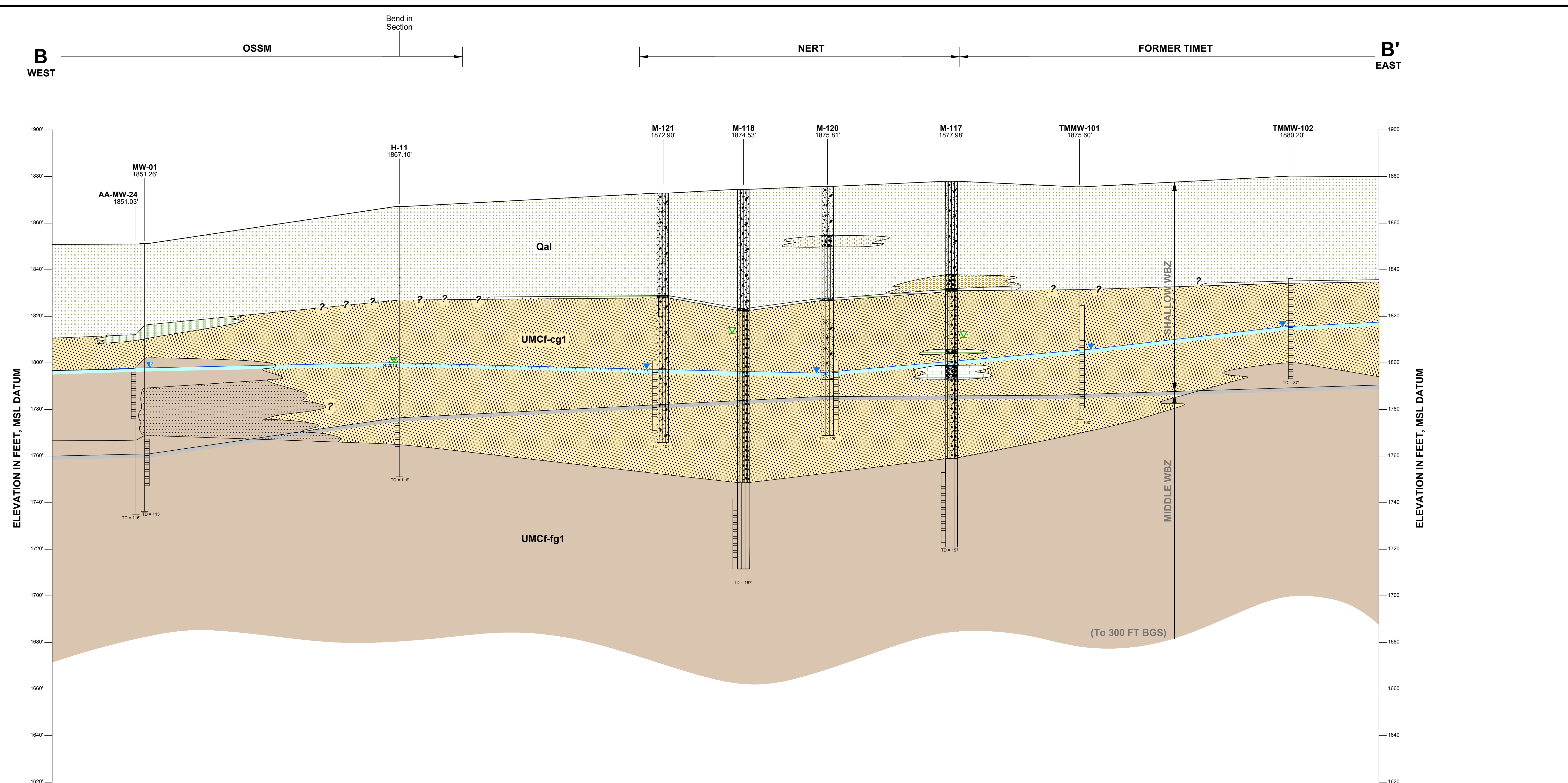
**Subsurface Cross-Section A-A'  
Location Map and Explanation**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

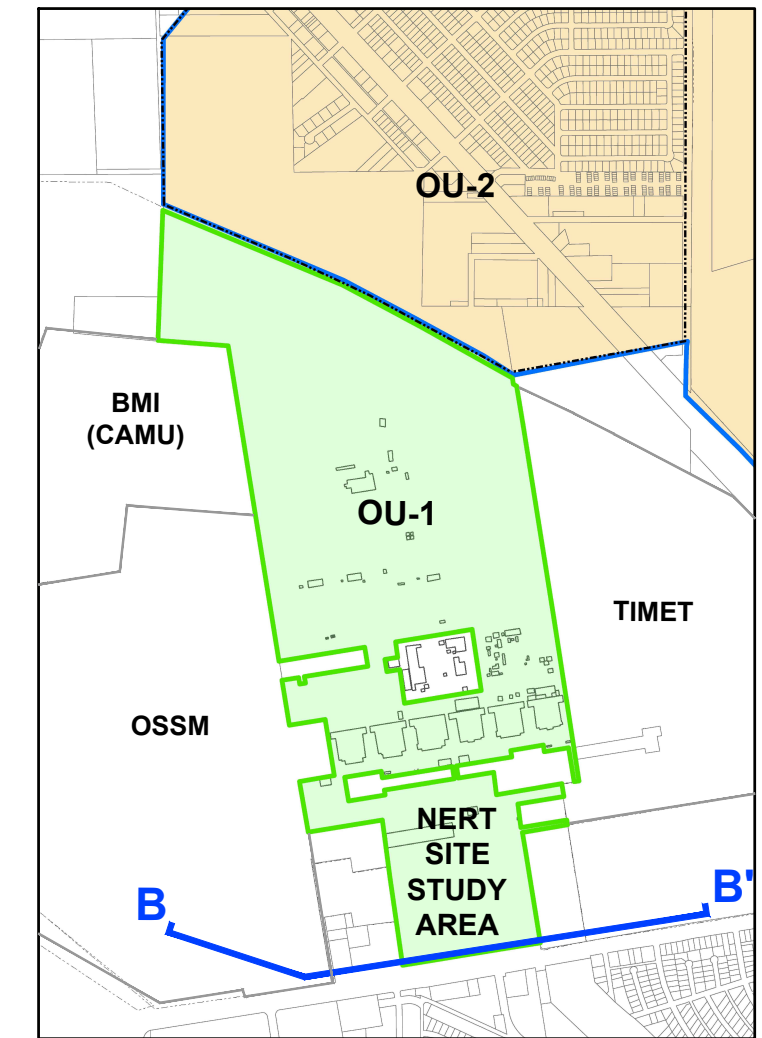


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APPROVED BY: JD	PROJECT: 169001 6064	



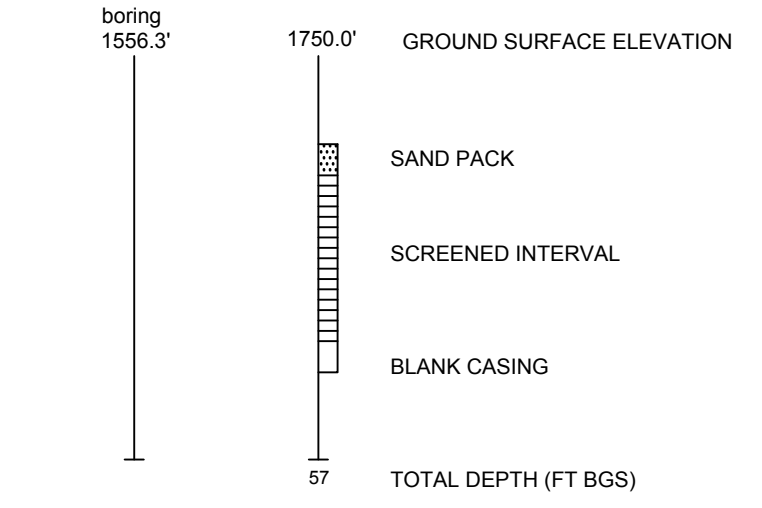
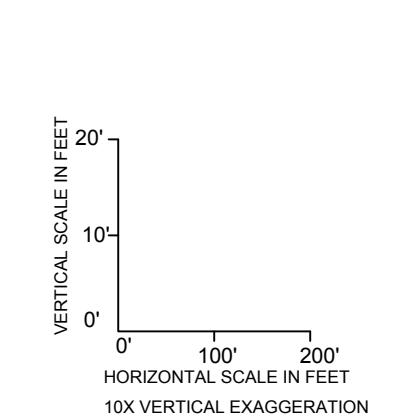


**CROSS-SECTION LOCATION**



**LEGEND**

FILL	CALICHE
FILL	CALICHE
<b>ALLUVIUM (Qal)</b>	
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL
SILTY SAND/ SILTY GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND
SANDY CLAY/ SILTY CLAY	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION (UMCf)</b>	
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)
SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL



- NOTES:**
- Stratigraphic interpretation is based primarily on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
  - The UMCf-cg1 unit is identified as alluvium in TIMET wells TMMW-101 and TMMW-102.
  - The UMCf-cg1 unit is identified both as alluvium and as "Transition Zone" at the OSSM site.
  - Groundwater elevations measured March-May 2018, unless noted otherwise.

- GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)
- Shallow Water-Bearing Zone (0-90 ft)**
- Water Table Zone Well
  - Deeper Shallow WBZ Well
- Middle Water-Bearing Zone (90-300 ft)**
- Upper Muddy Creek Formation, First Fine-Grained Unit (UMCf-fg1)
  - Upper Muddy Creek Formation, First Coarse-Grained Unit (UMCf-cg1)



**Schematic Subsurface Cross-Section B-B'**

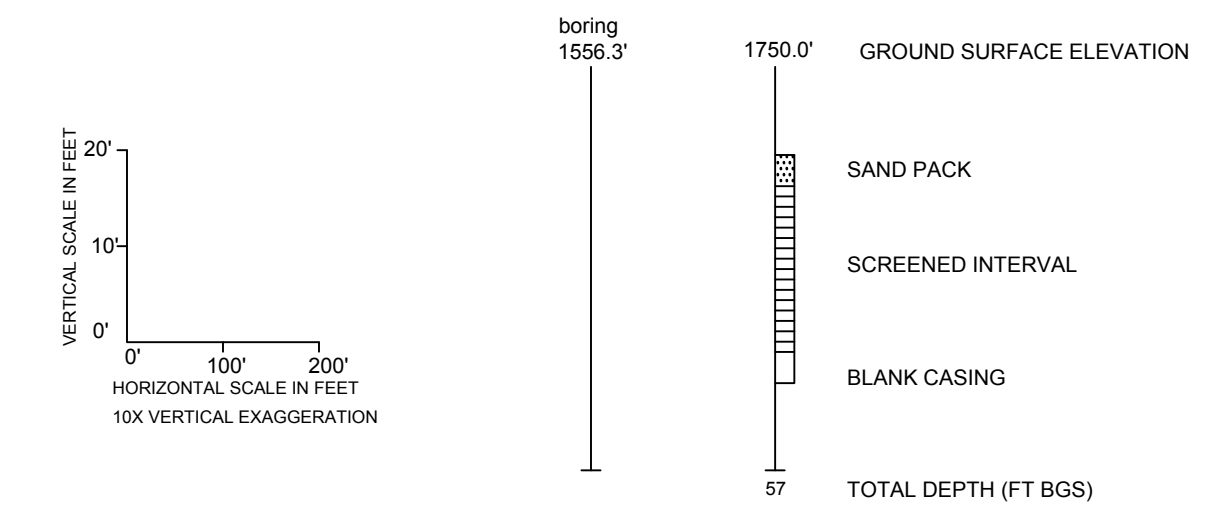
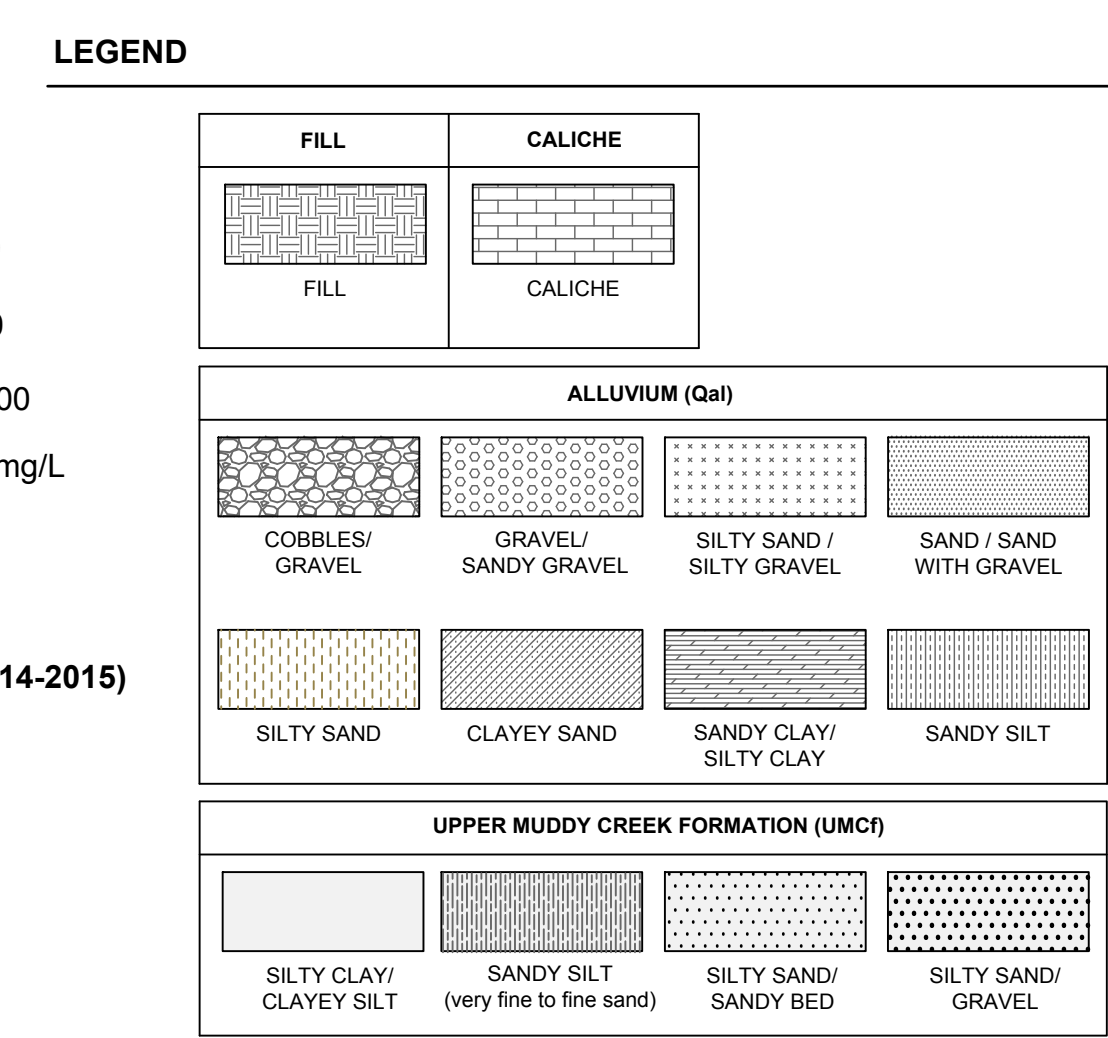
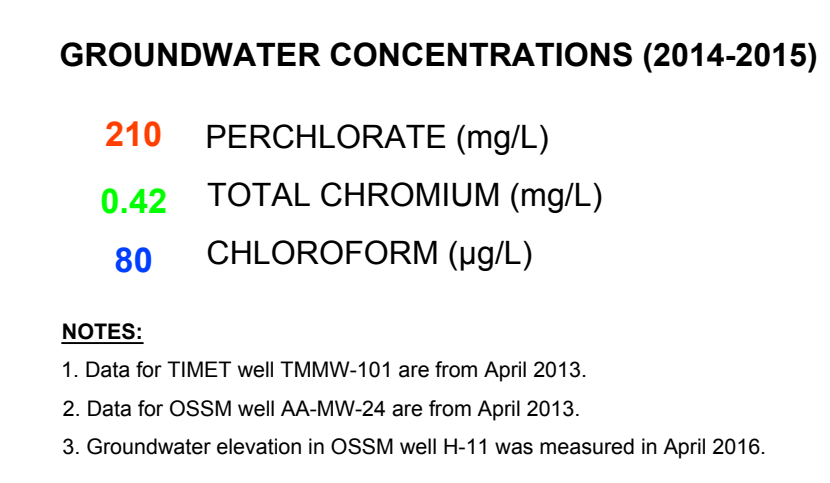
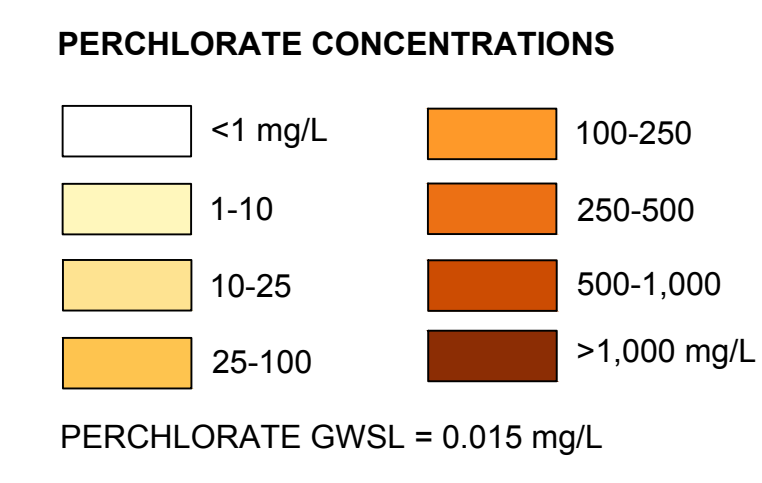
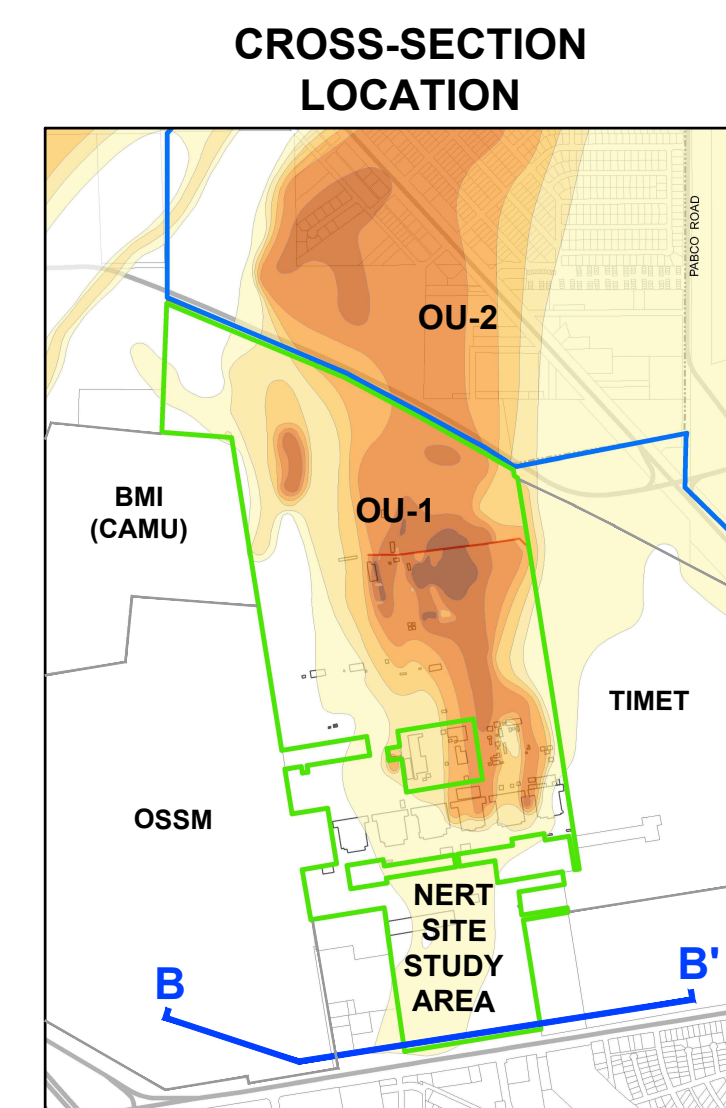
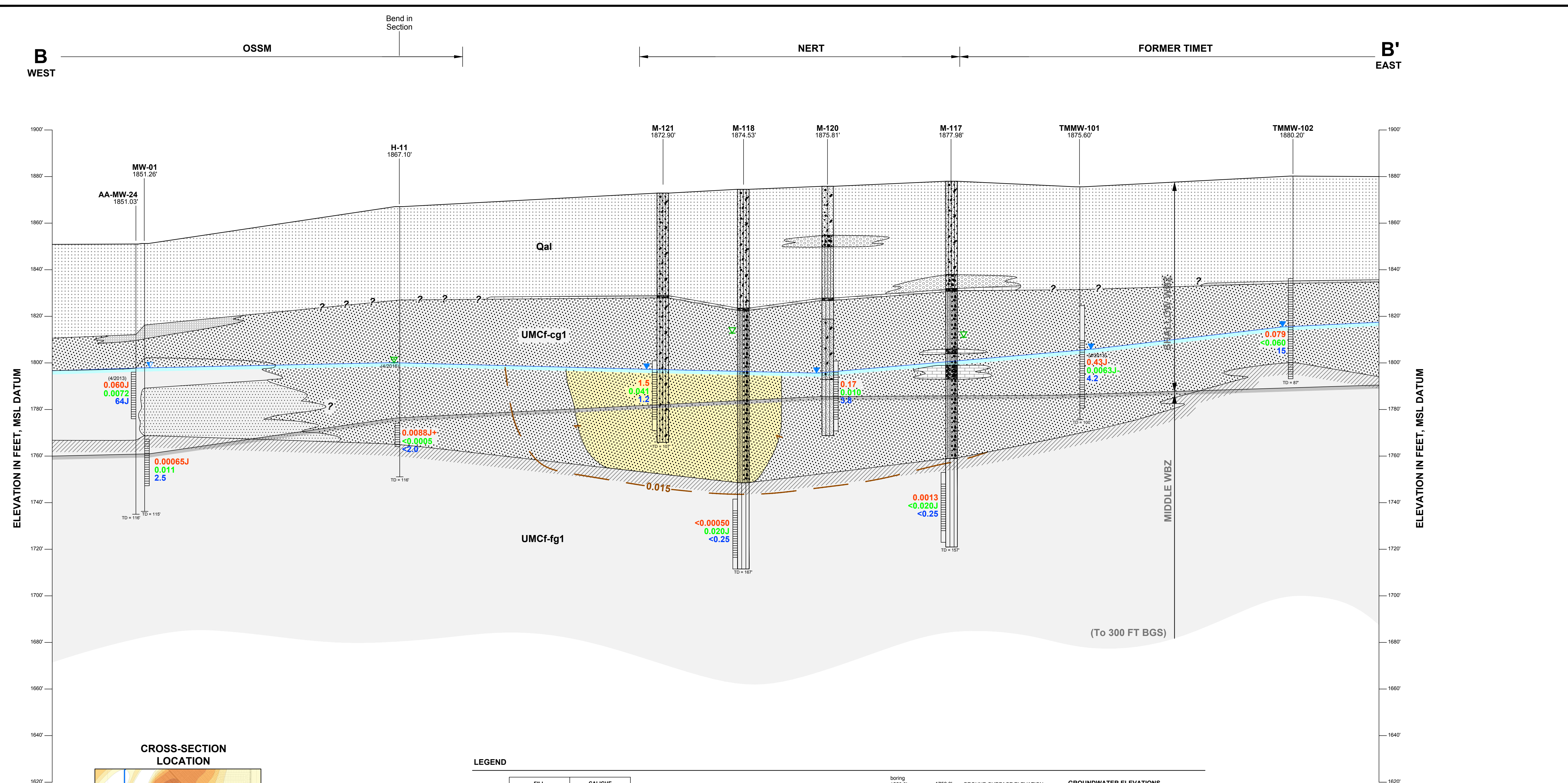
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



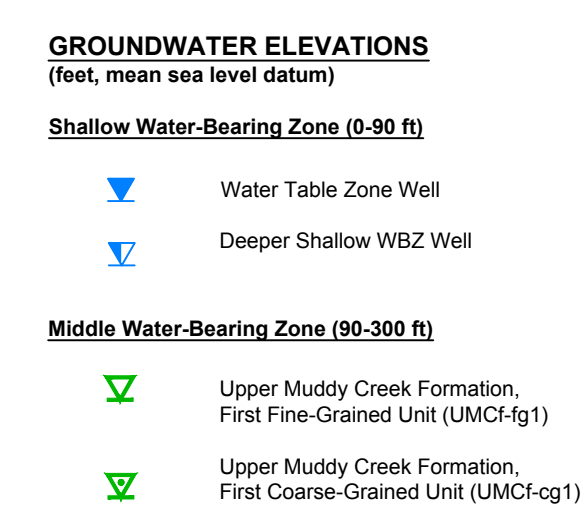
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  - The UMCf-cg1 unit is identified both as alluvium and as "Transition Zone" at the OSSM site.
  - Groundwater elevations measured March-May 2018.
  - The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.



**Schematic Subsurface Cross-Section B-B'  
Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

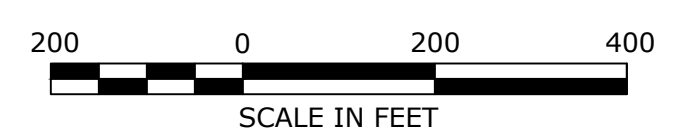
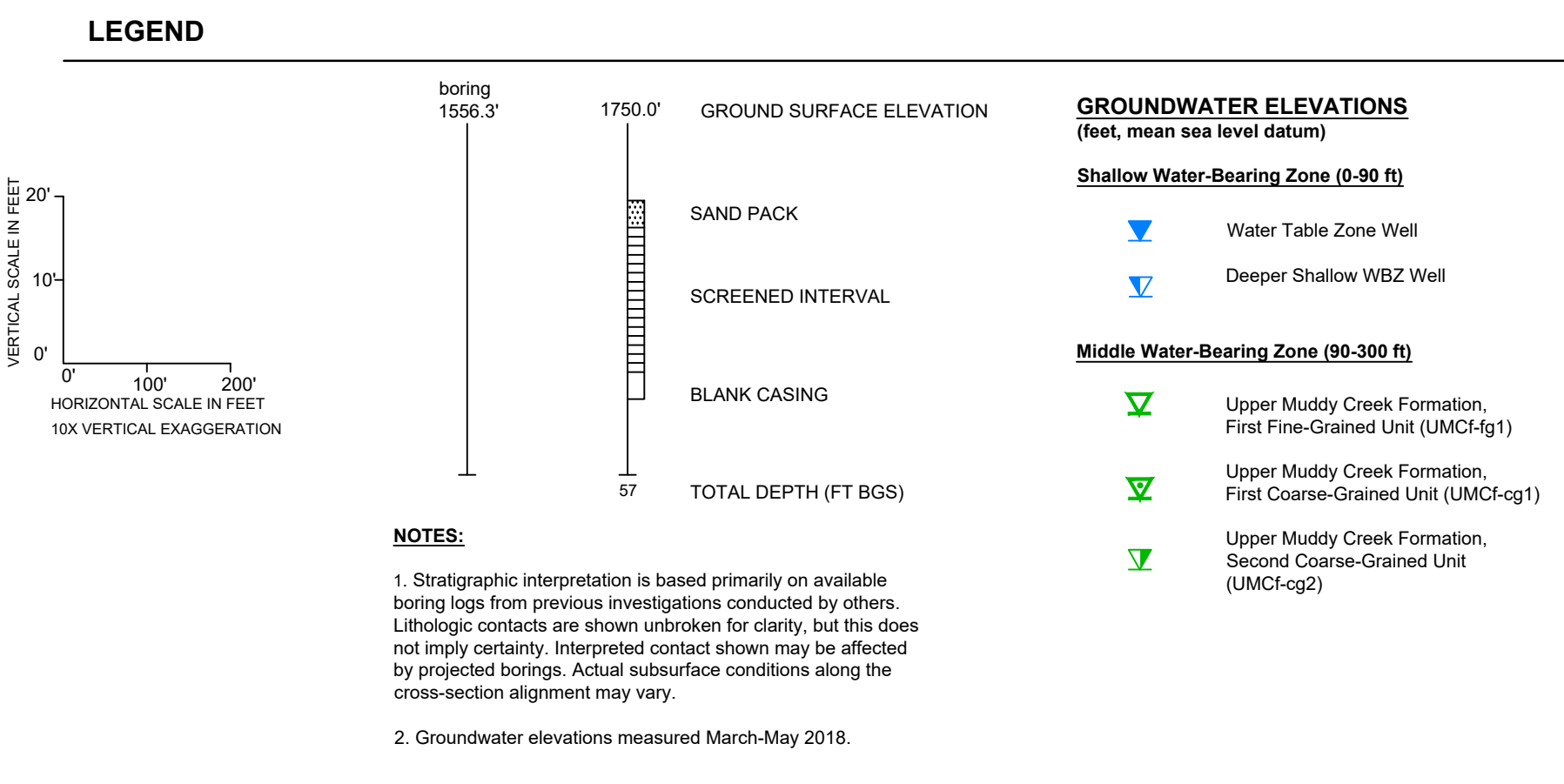
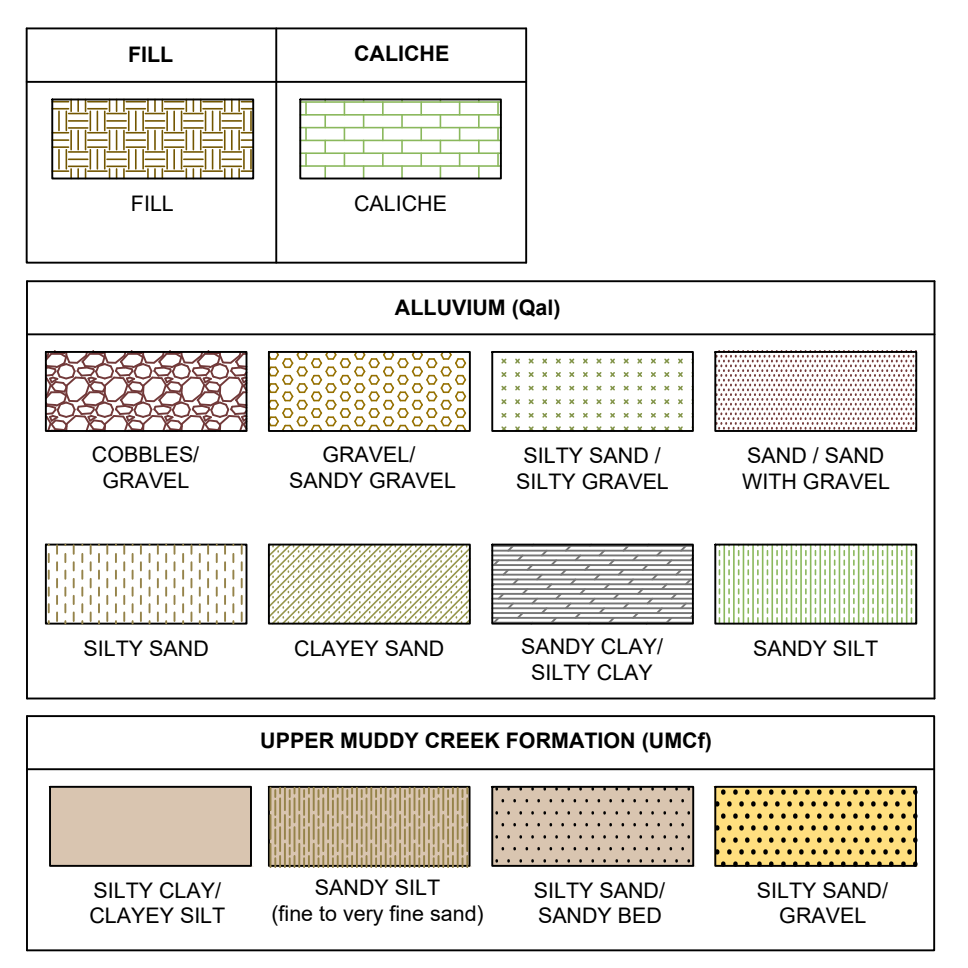
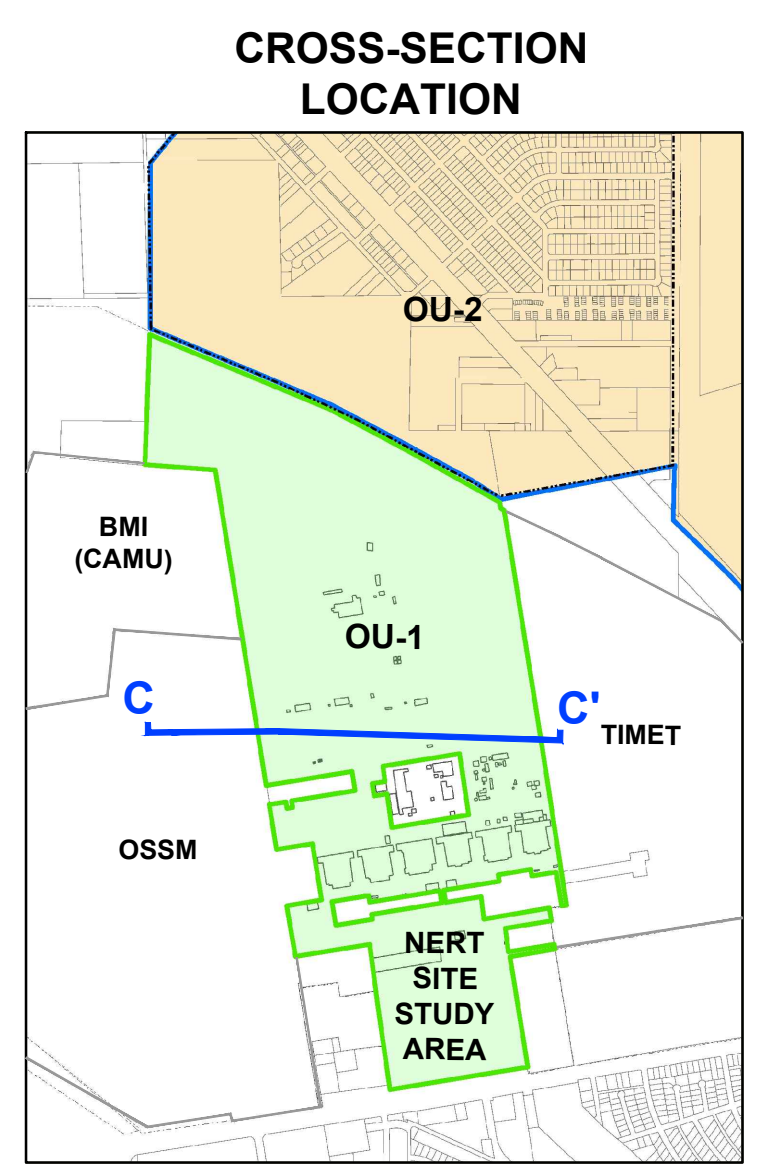
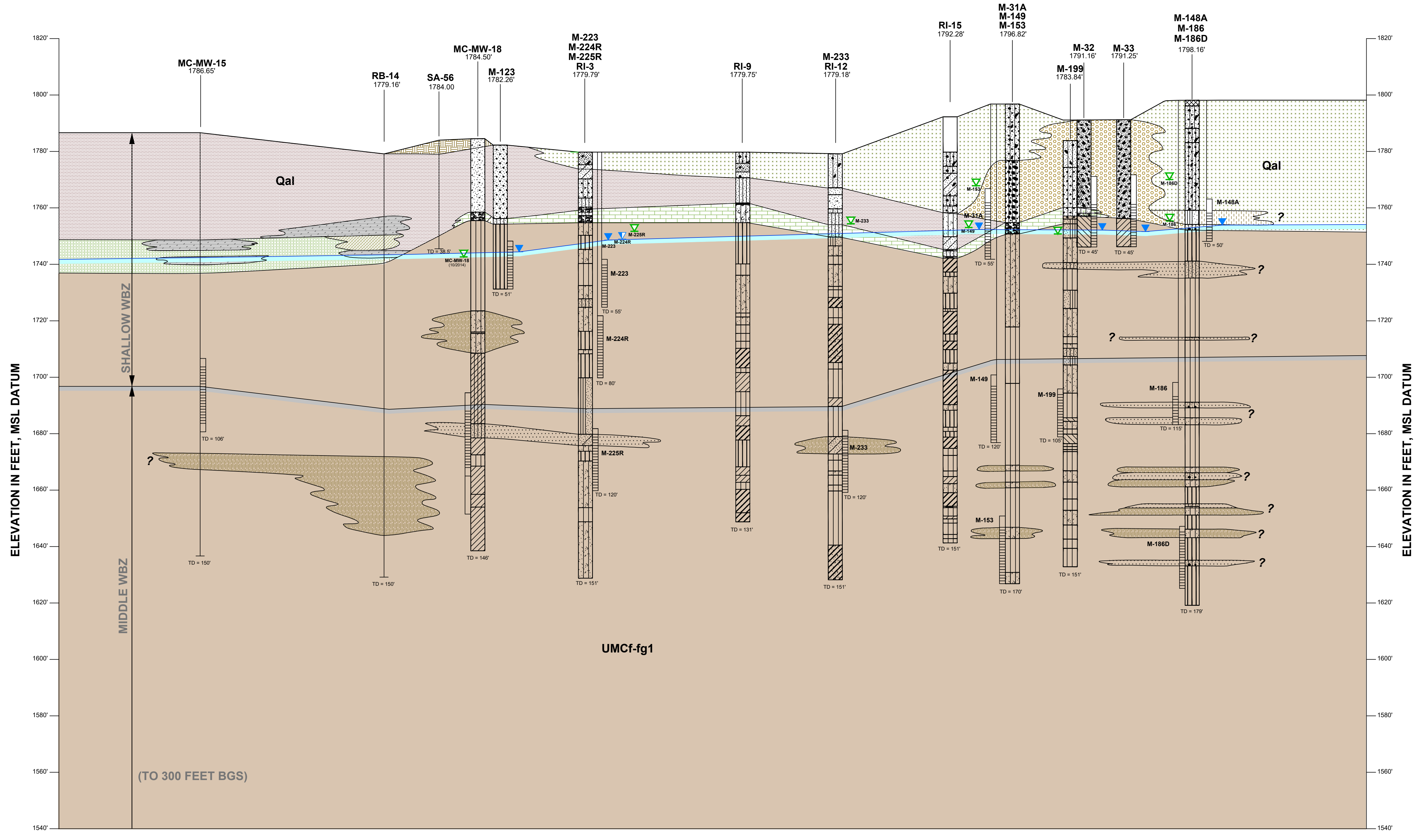
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C WEST      OSSM      NERT      TIMET      C' EAST



**Schematic Subsurface Cross-Section C-C'**

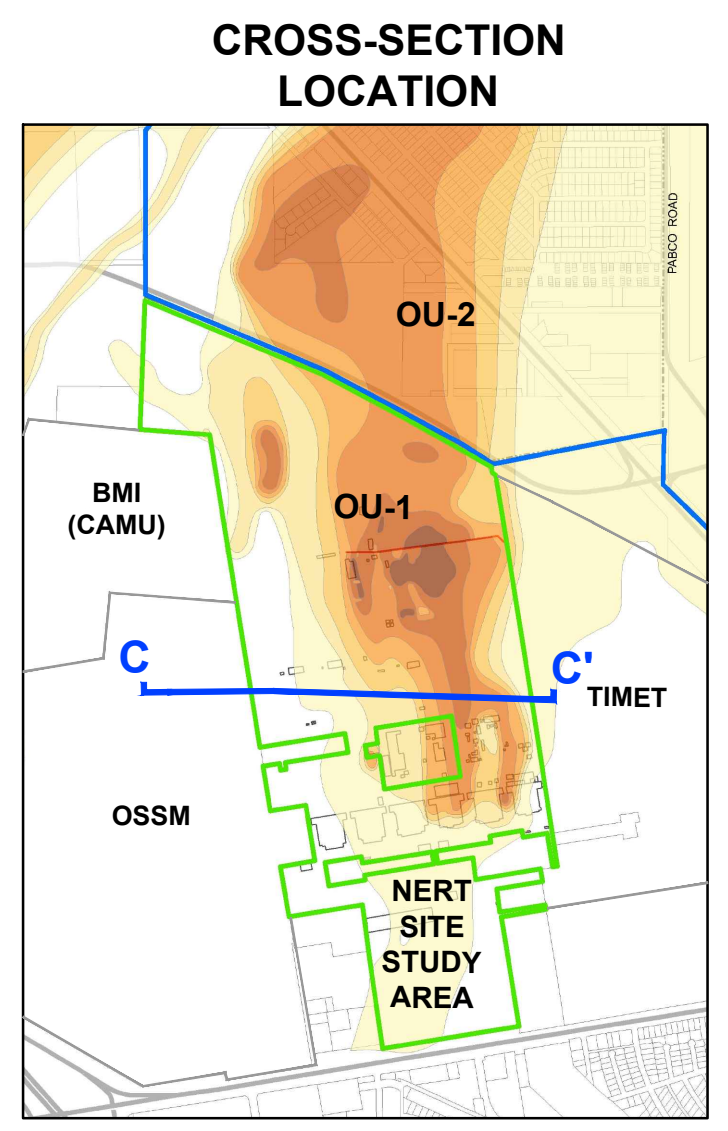
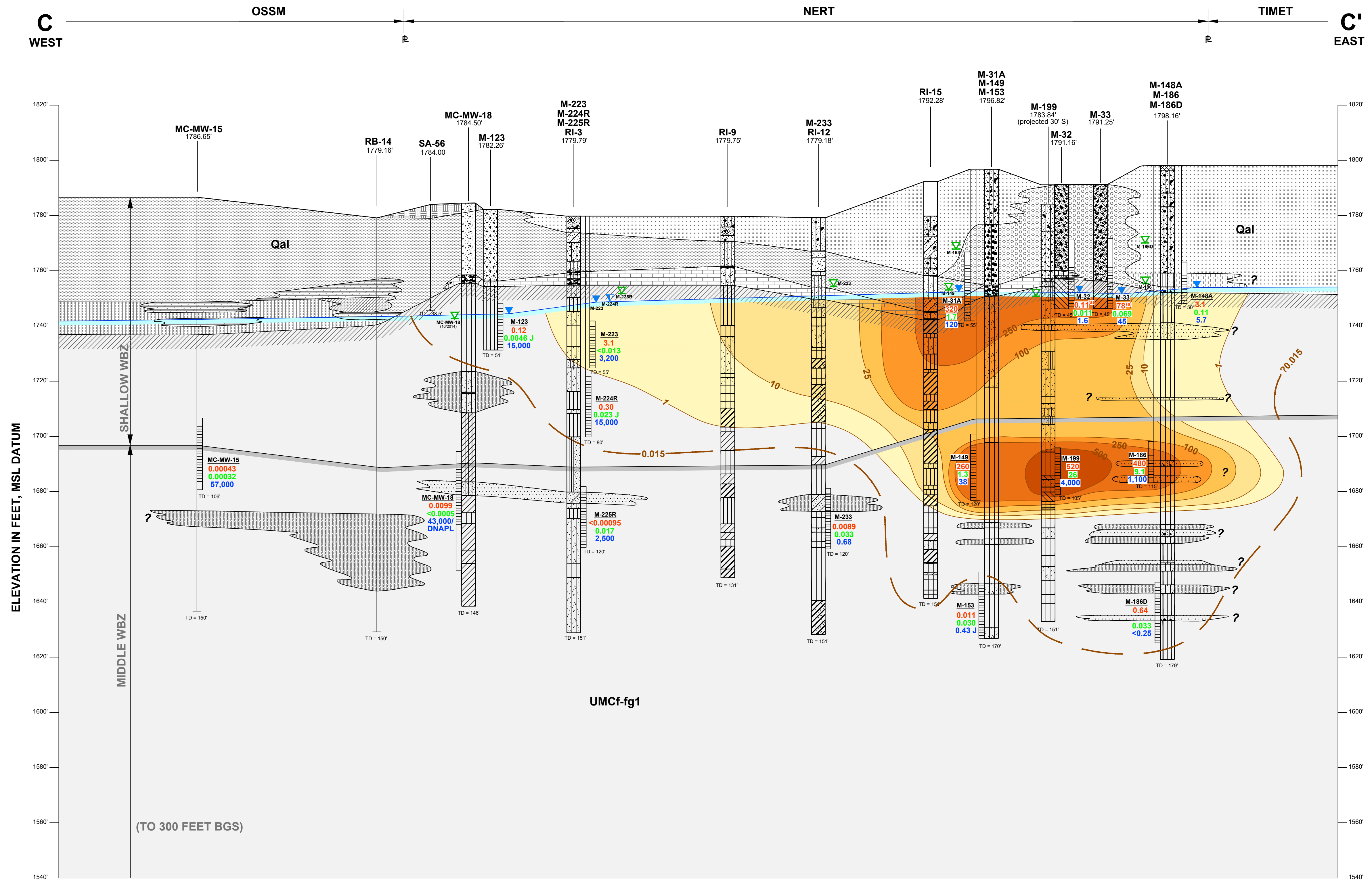
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Henderson, Nevada

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APPROVED BY: JD	PROJECT: 169002 9369	

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**STRATIGRAPHIC UNITS AND SOIL TYPES**

FILL	CALICHE		
ALLUVIUM (Qal)			
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / SILTY GRAVEL	SAND / SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT
UPPER MUDDY CREEK FORMATION (UMCF)			
SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)	SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL

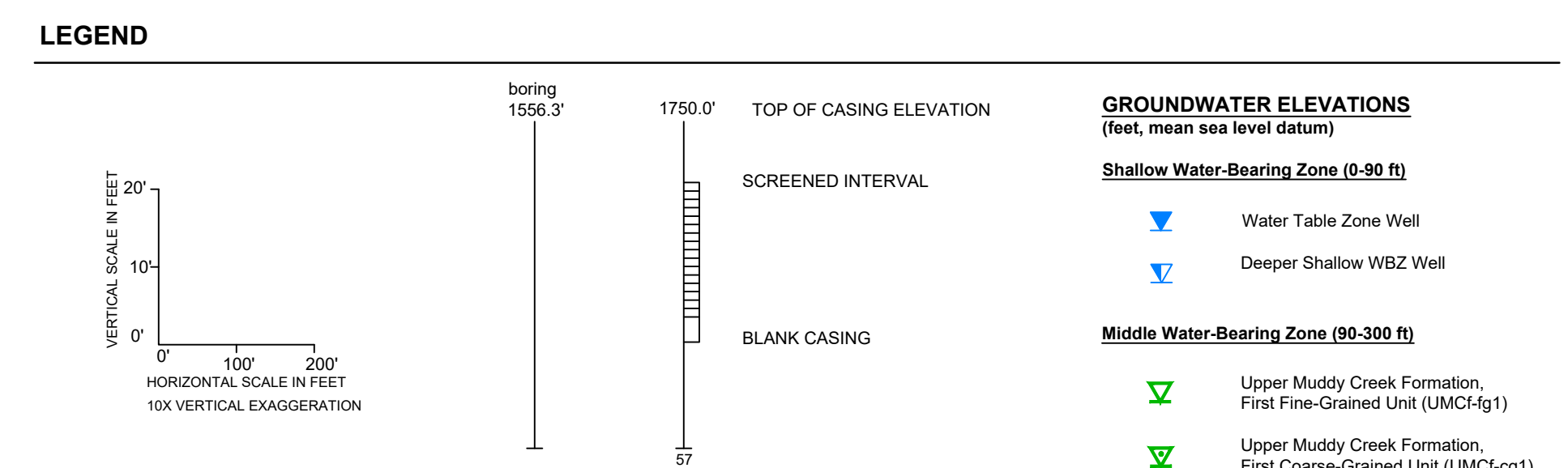
**PERCHLORATE CONCENTRATIONS**

	<1 mg/L		100-250
	1-10		250-500
	10-25		500-1,000
	25-100		>1,000 mg/L

PERCHLORATE GWSL = 0.015 mg/L

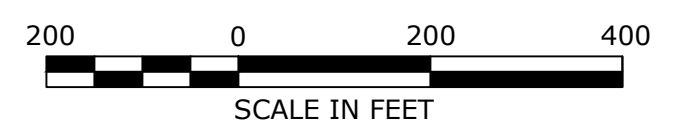
**GROUNDWATER CONCENTRATIONS (2017-2018)**

210 PERCHLORATE (mg/L)  
0.42 TOTAL CHROMIUM (mg/L)  
80 CHLOROFORM (µg/L)



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- Groundwater elevations measured March-May 2018, unless noted otherwise.



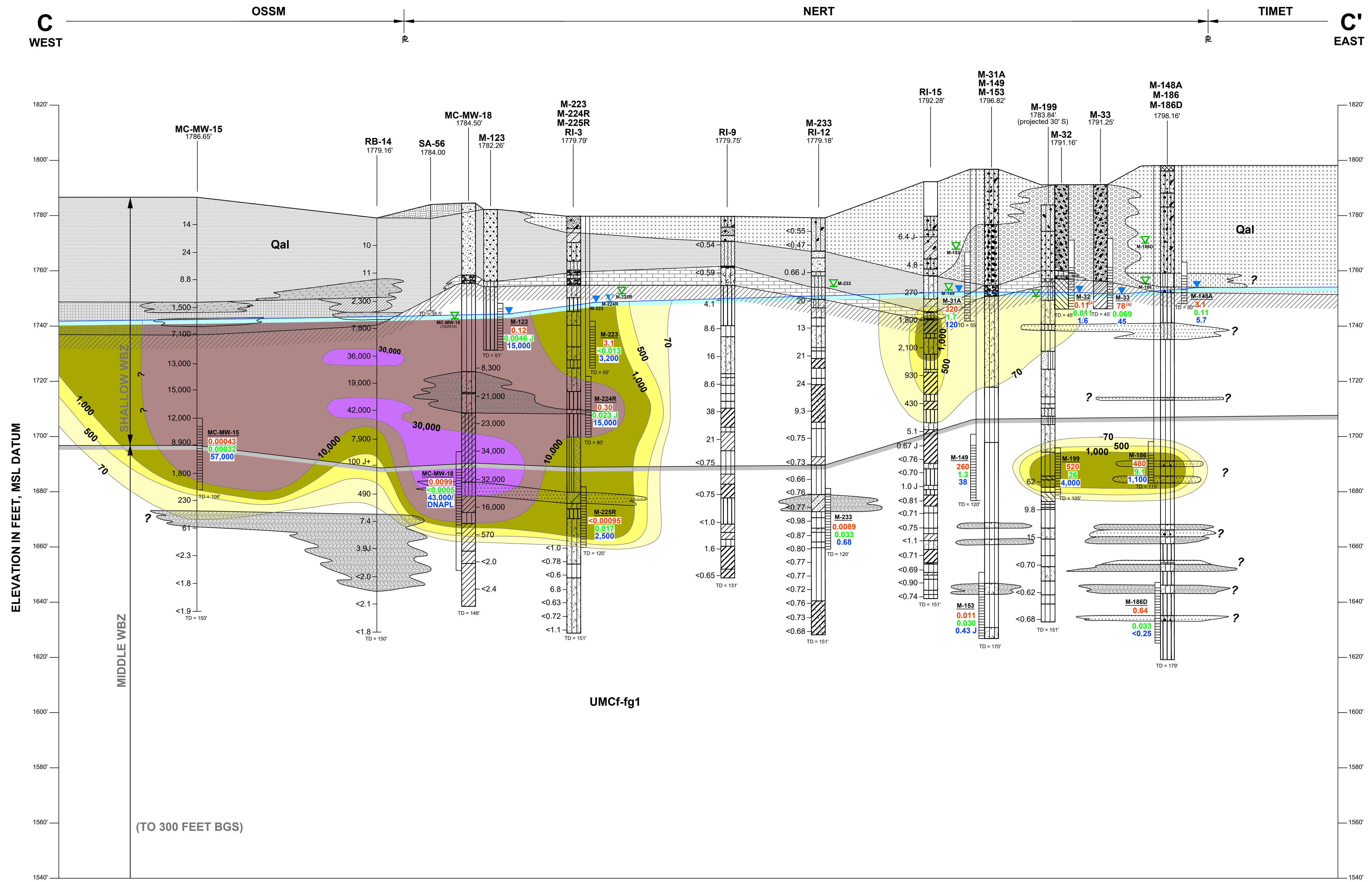
**Schematic Subsurface Cross-Section C-C'**  
Showing Perchlorate in Groundwater

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

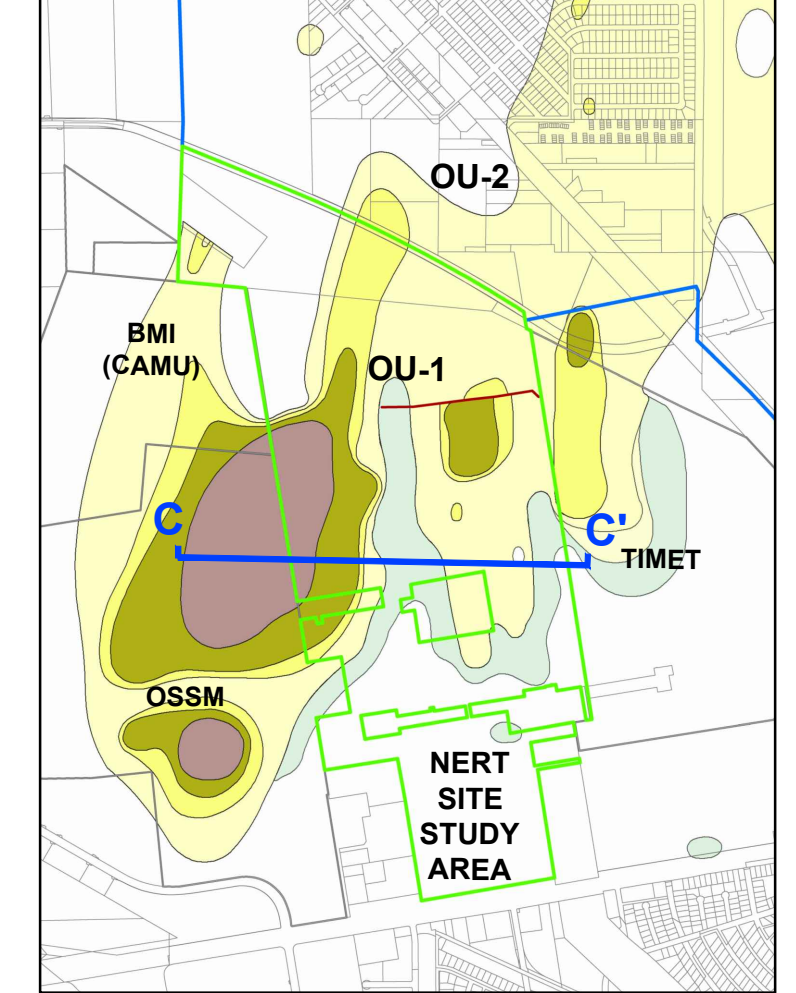
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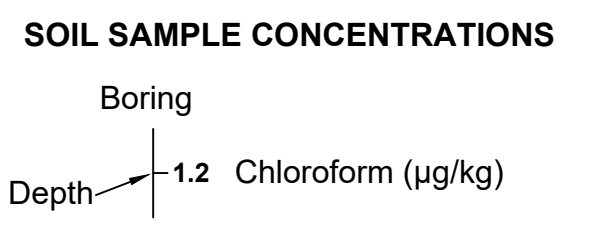
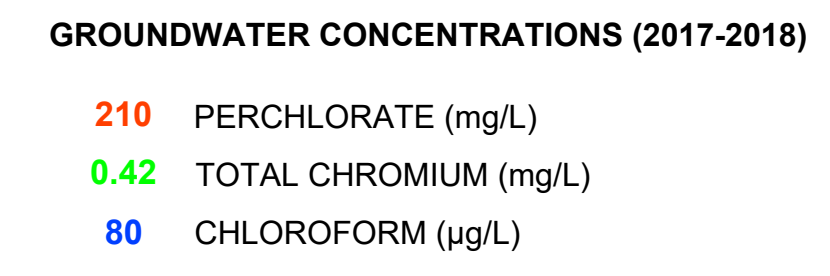
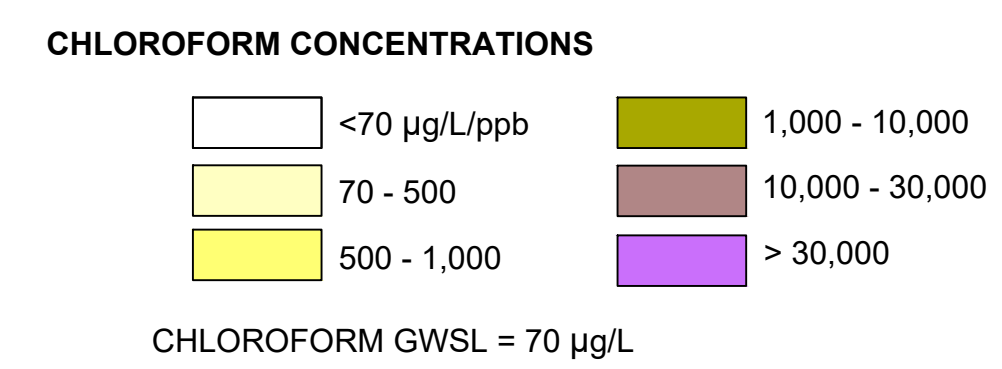
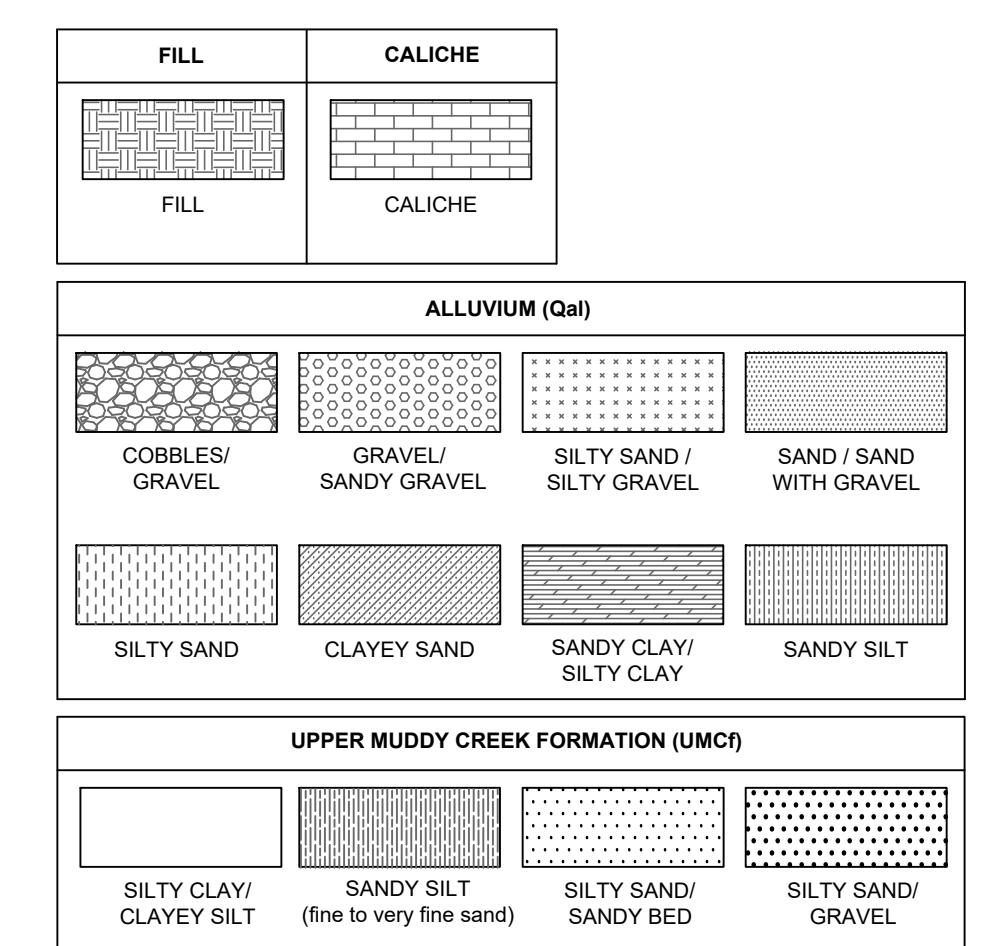




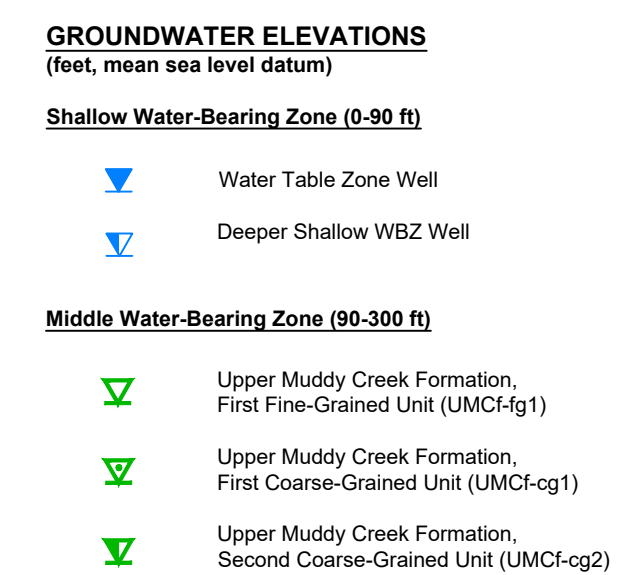
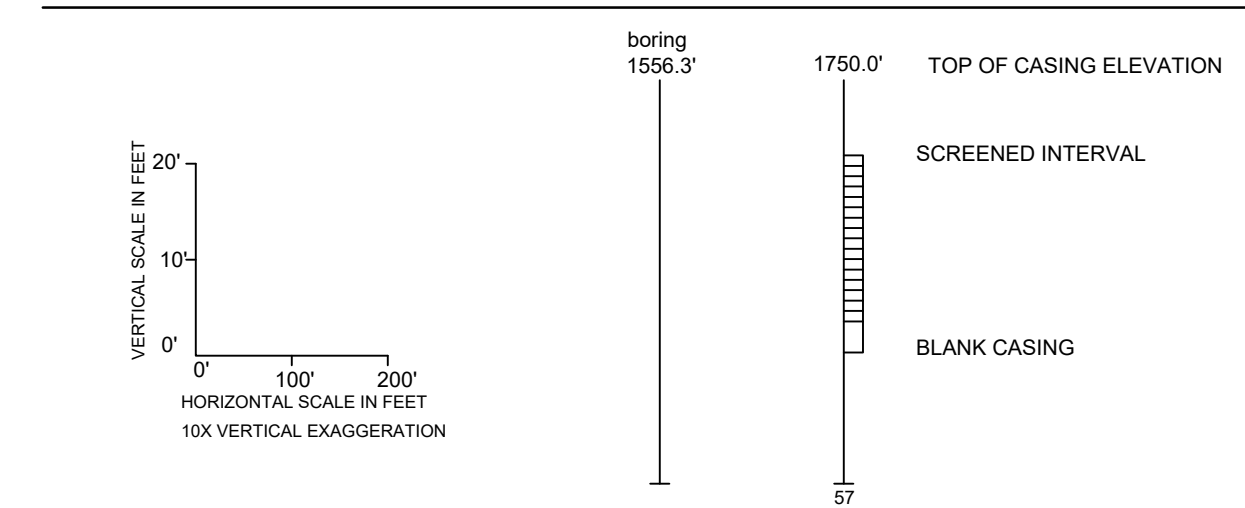
**CROSS-SECTION LOCATION**



**STRATIGRAPHIC UNITS AND SOIL TYPES**

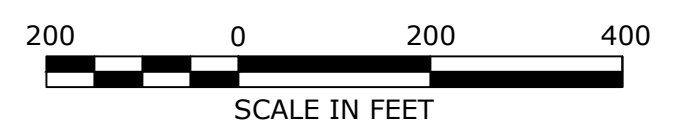


**LEGEND**



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- Groundwater elevations measured March-May 2018, unless noted otherwise.



**Schematic Subsurface Cross-Section C-C'**  
Showing Chloroform in Groundwater

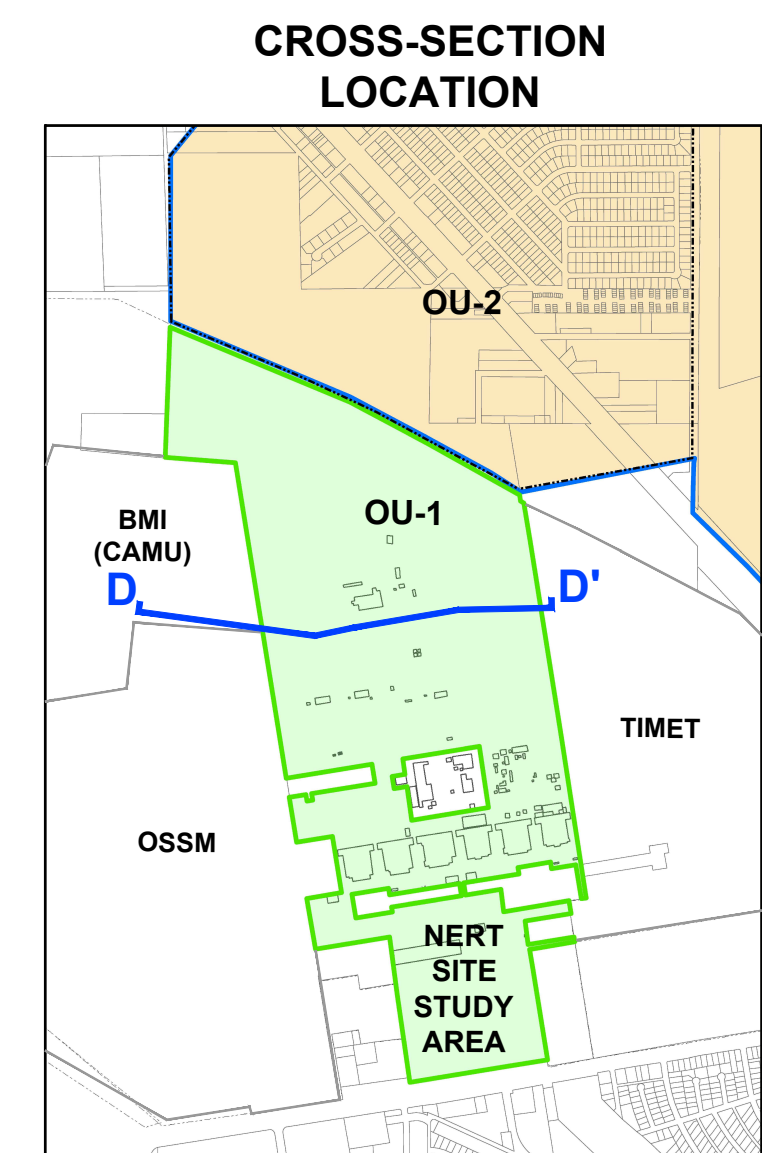
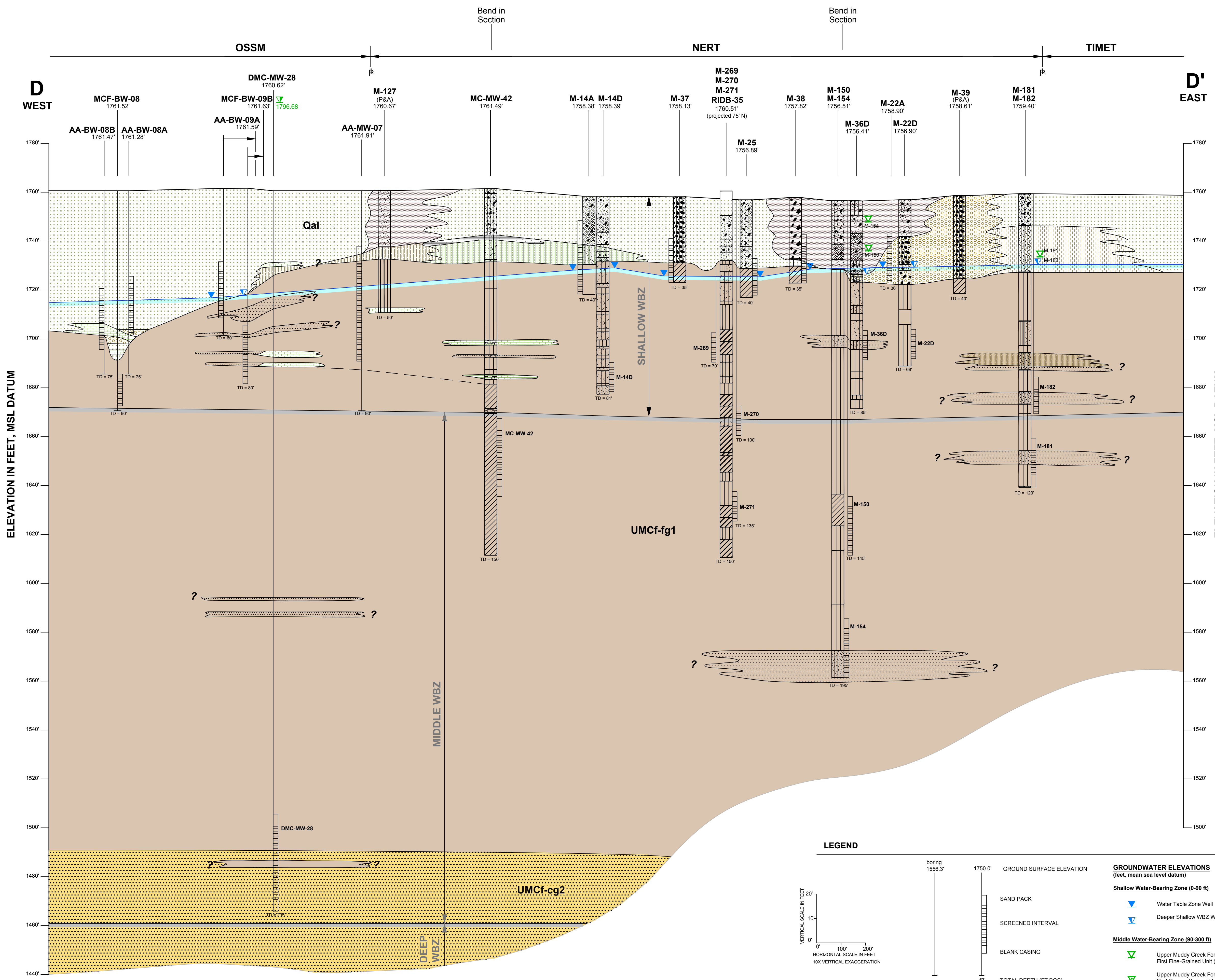
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



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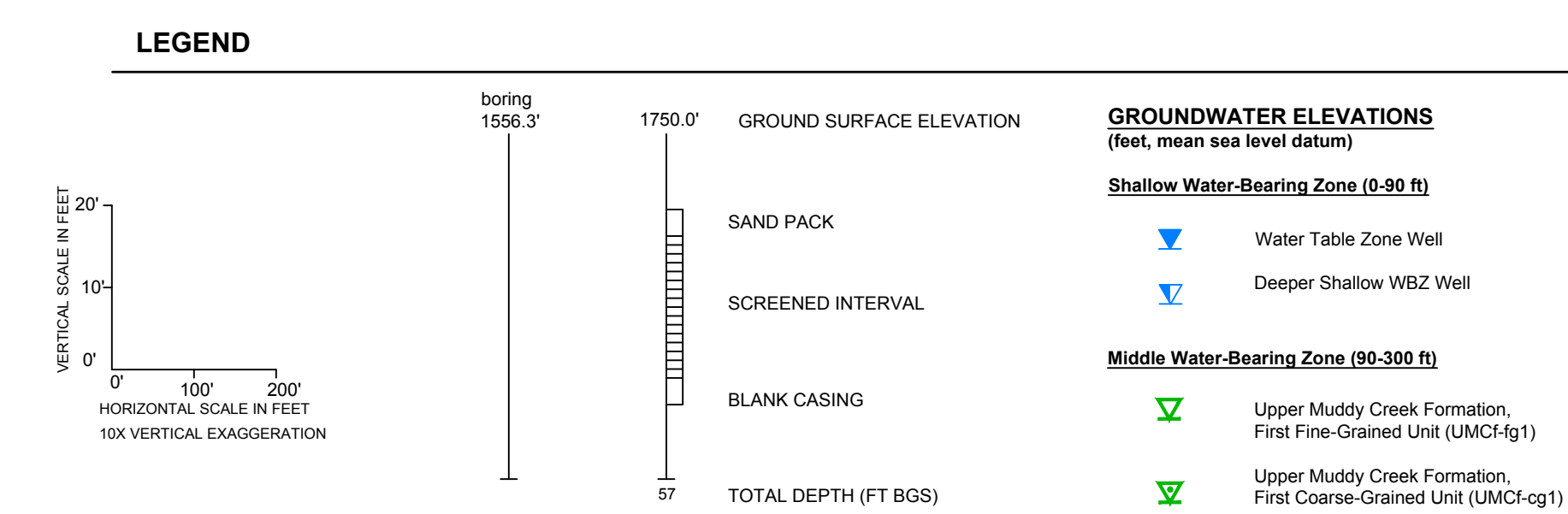
FILL	CALICHE

ALLUVIUM (Qal)			
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / SILTY GRAVEL	SAND / SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT

UPPER MUDDY CREEK FORMATION (UMCF)			
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL



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 2. Groundwater levels measured April-May 2018.

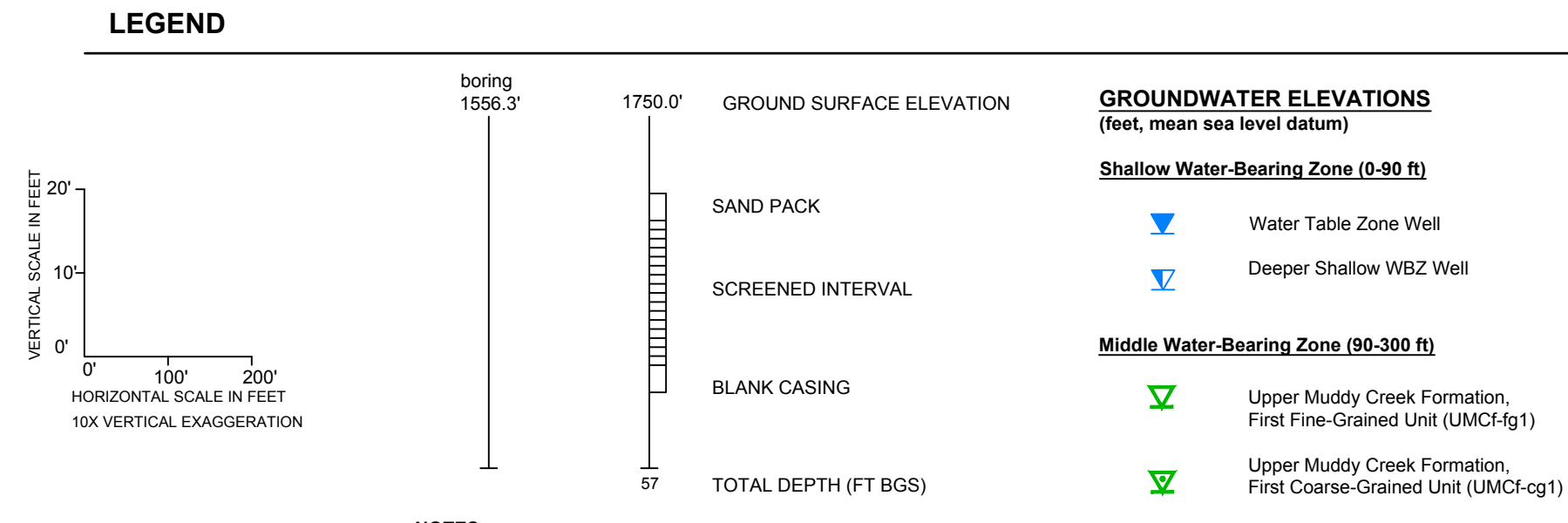
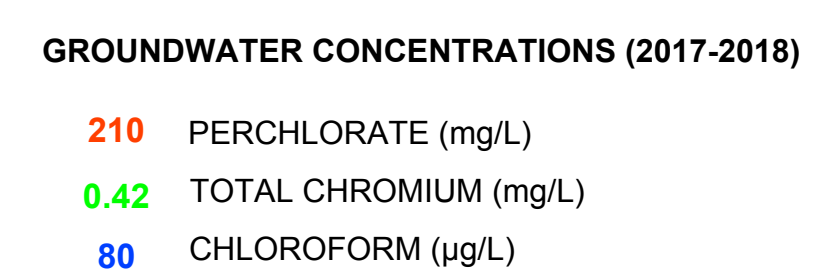
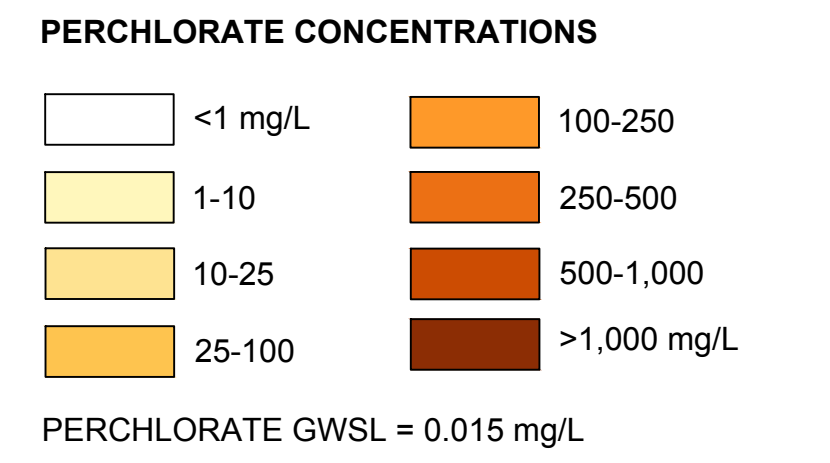
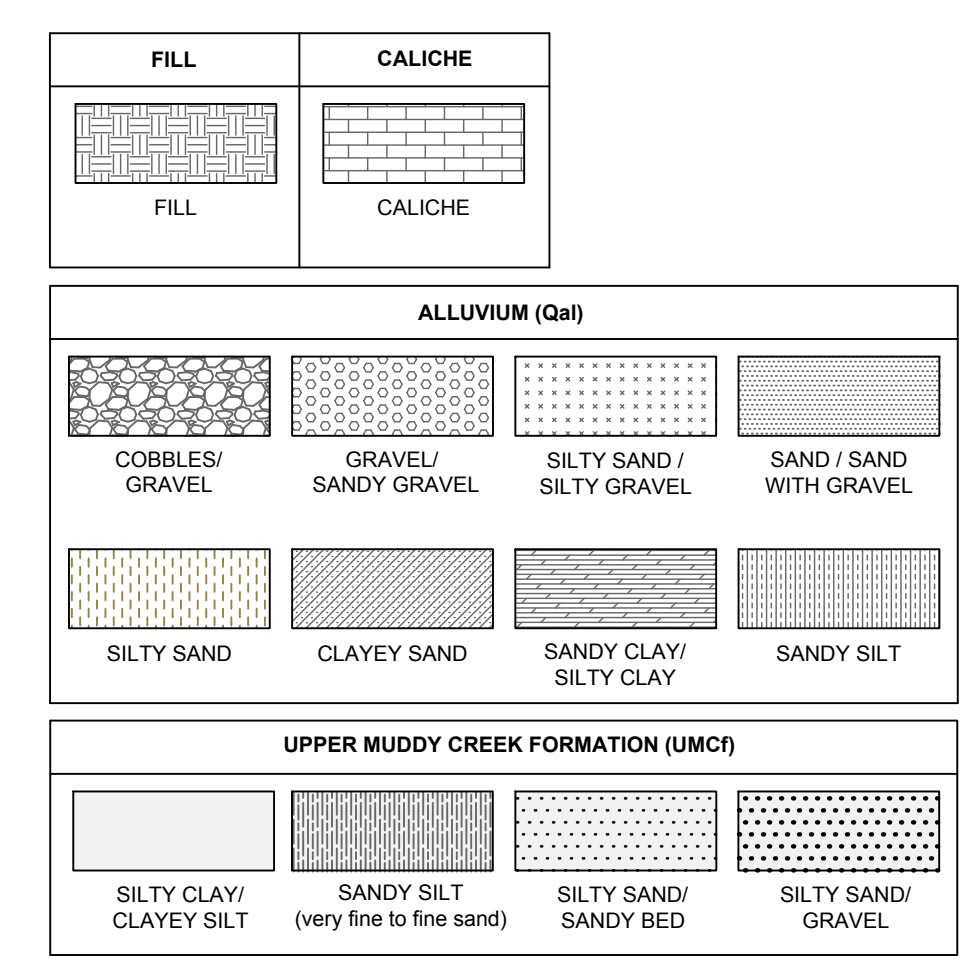
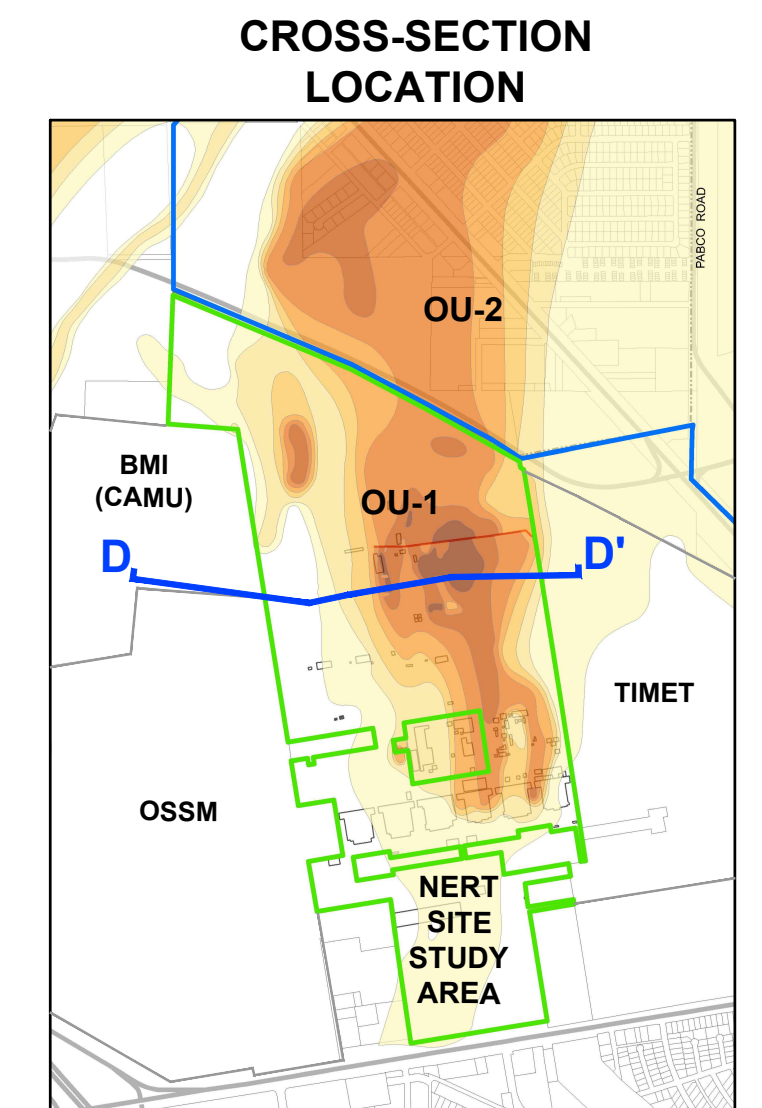
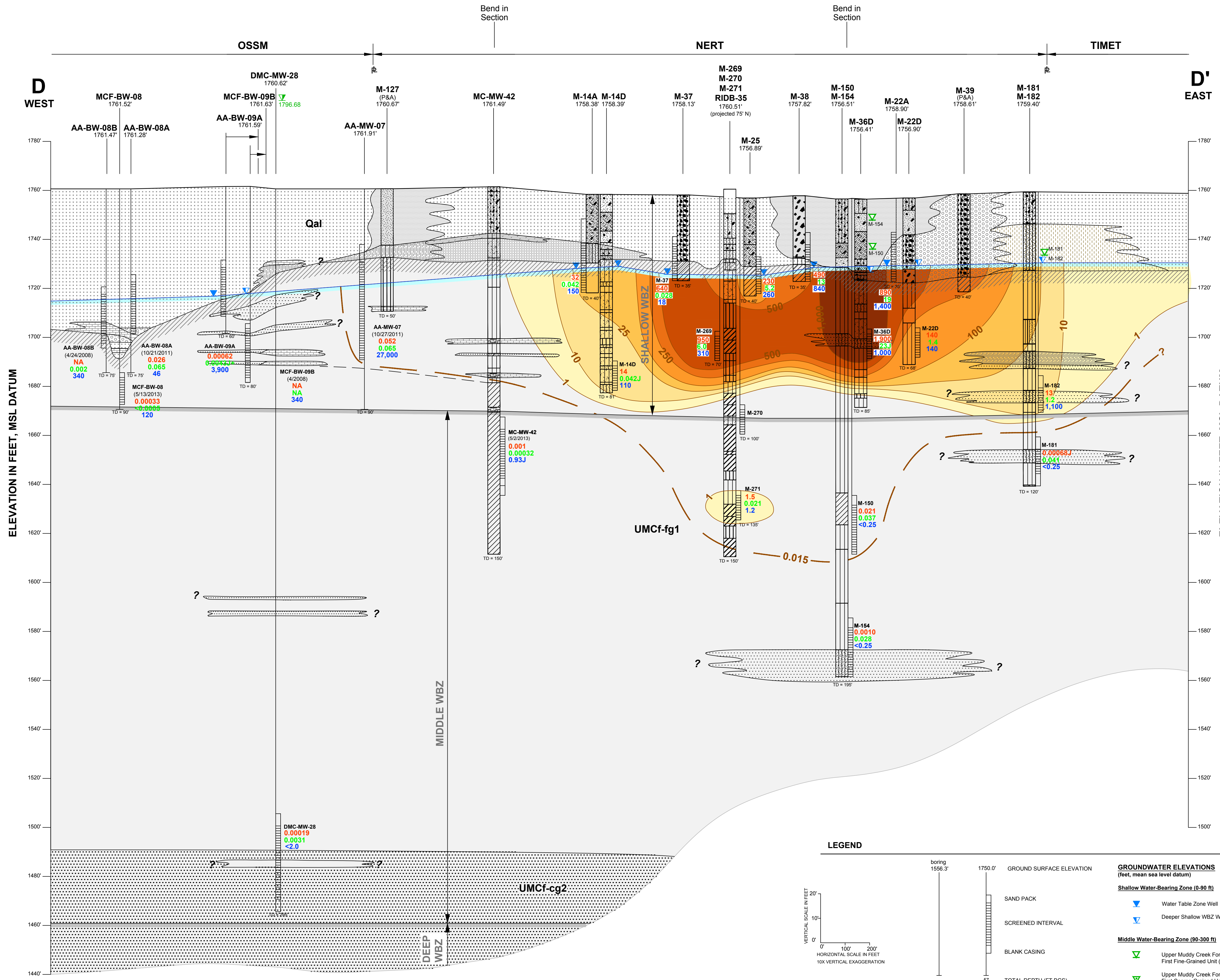
**Schematic Subsurface Cross-Section D-D'**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-4a</b>
DRAFTED BY: RS/KM	SCALE: AS SHOWN	
APPROVED BY: JD	PROJECT: 169001 6064	

RW50 7/6/21  
 Q:\DRAWINGS\169001\6064\3 - XSEC-D-D' >





**NOTES:**  
 1. Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.  
 2. Groundwater levels measured April-May 2018.

**Schematic Subsurface Cross-Section D-D'  
Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

**RAMBOLL**

PREPARED BY: JD, RR	DATE: 5/4/2020
DRAFTED BY: RS/KM/DB	SCALE: AS SHOWN
APPROVED BY: JD	PROJECT: 169001 6064

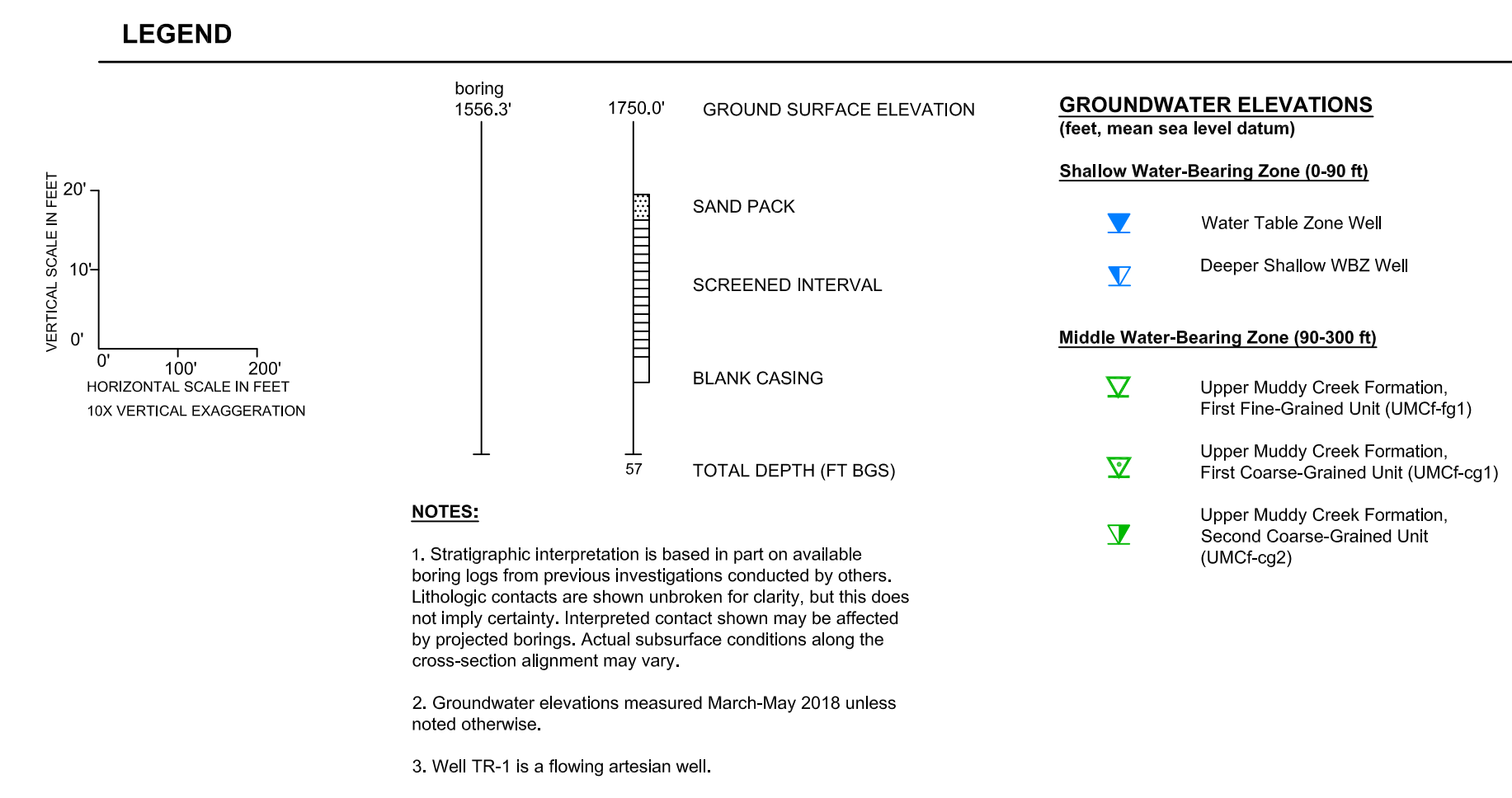
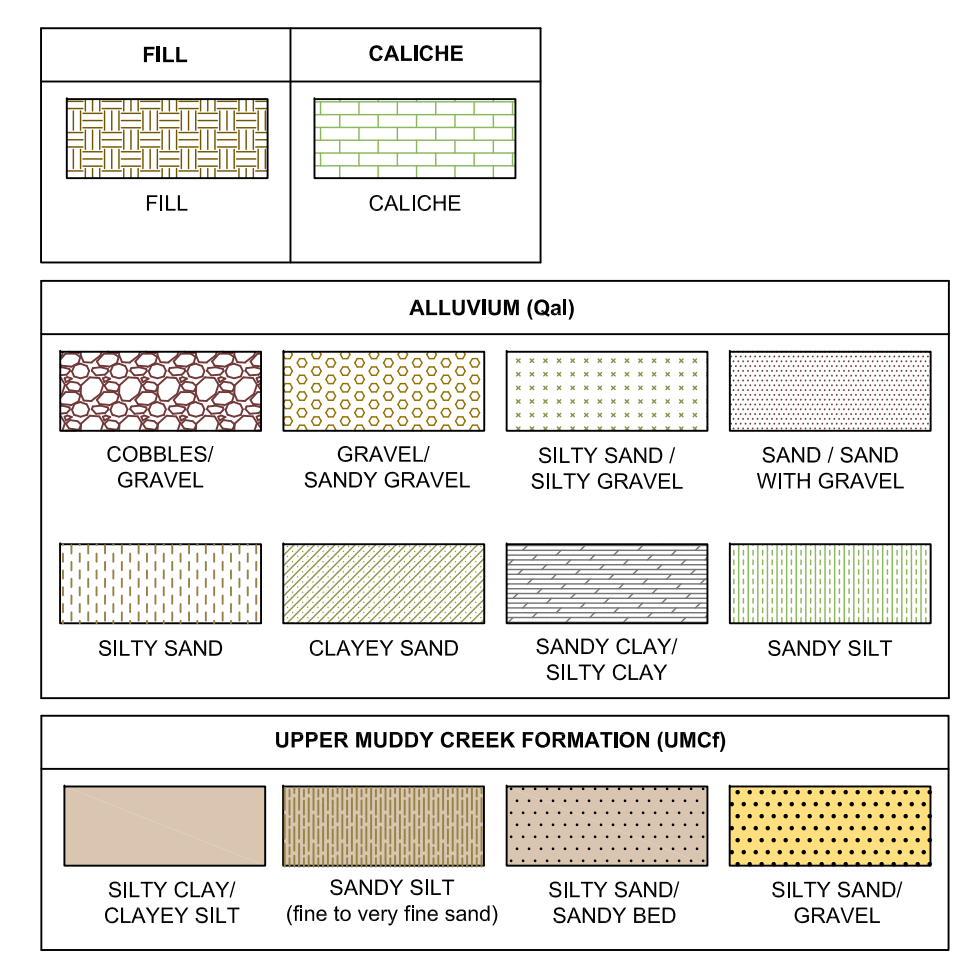
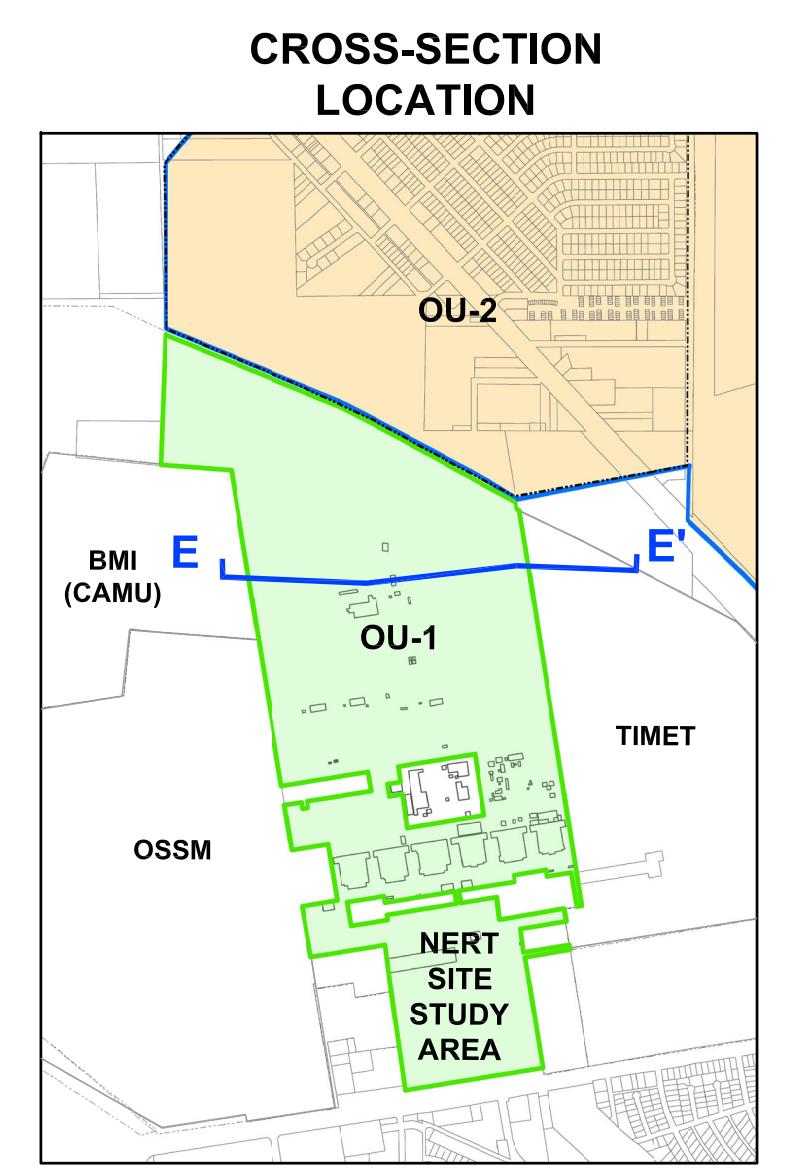
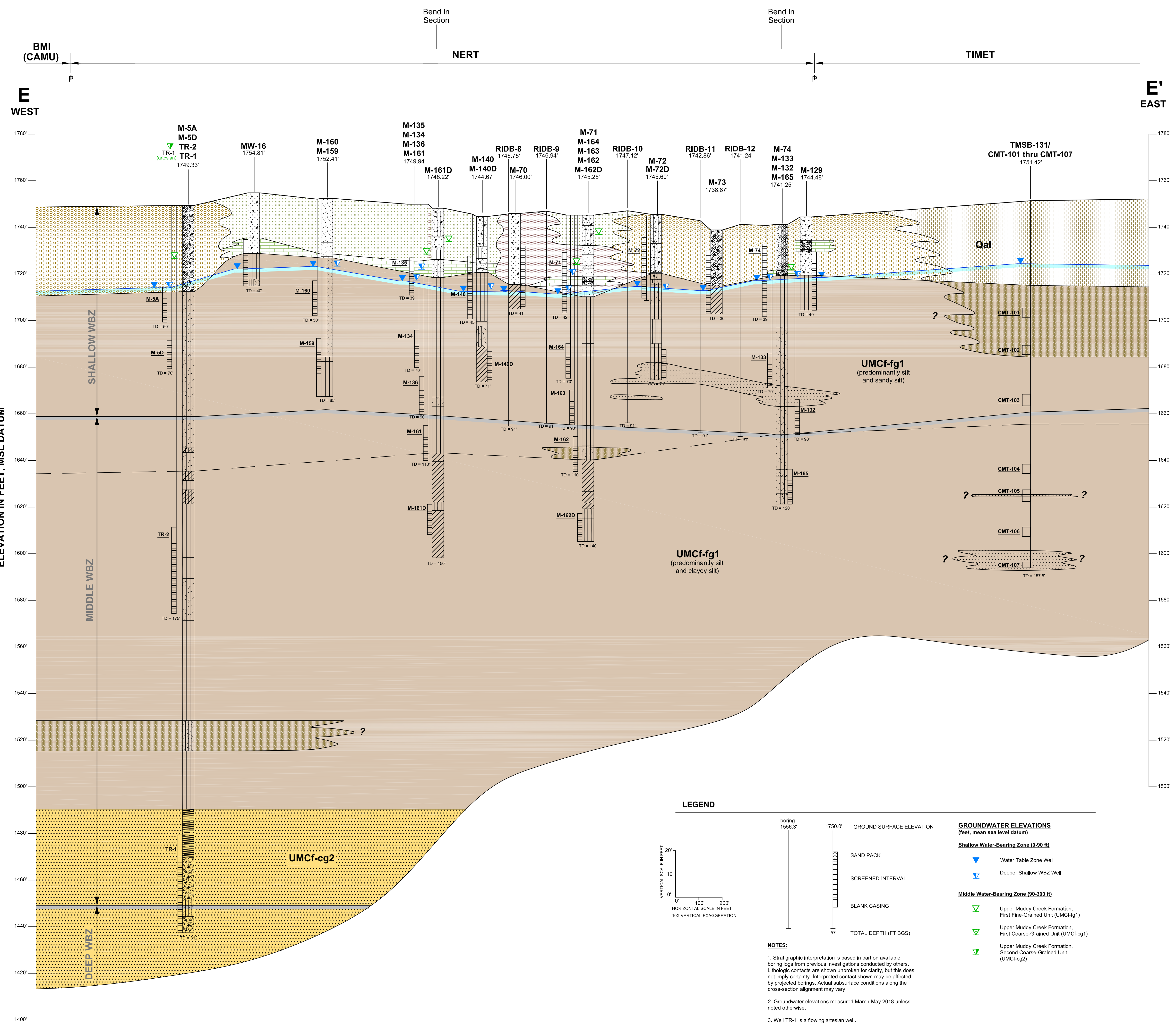
**PLATE  
C-4b**

RWS0 7/6/21  
 Q:\DRAWINGS\169001\6064 - 169001\6064 - XSEC-D-D' PERCHLORATE









**Schematic Subsurface Cross-Section E-E'**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

**RAMBOLL**

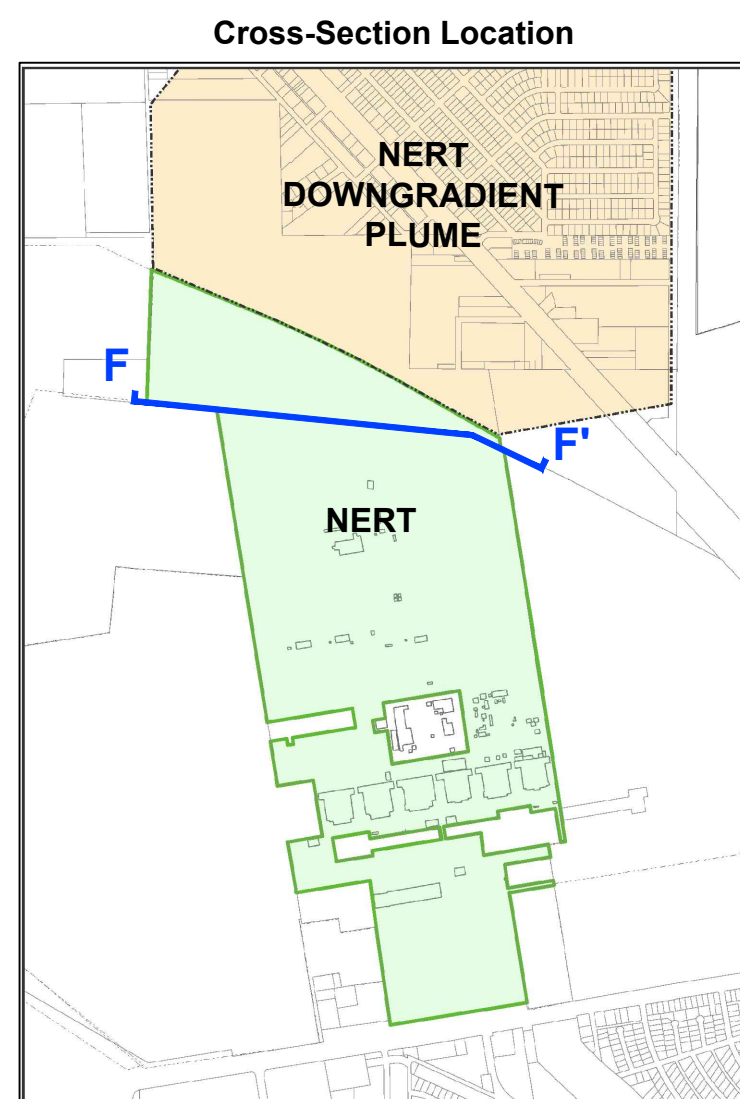
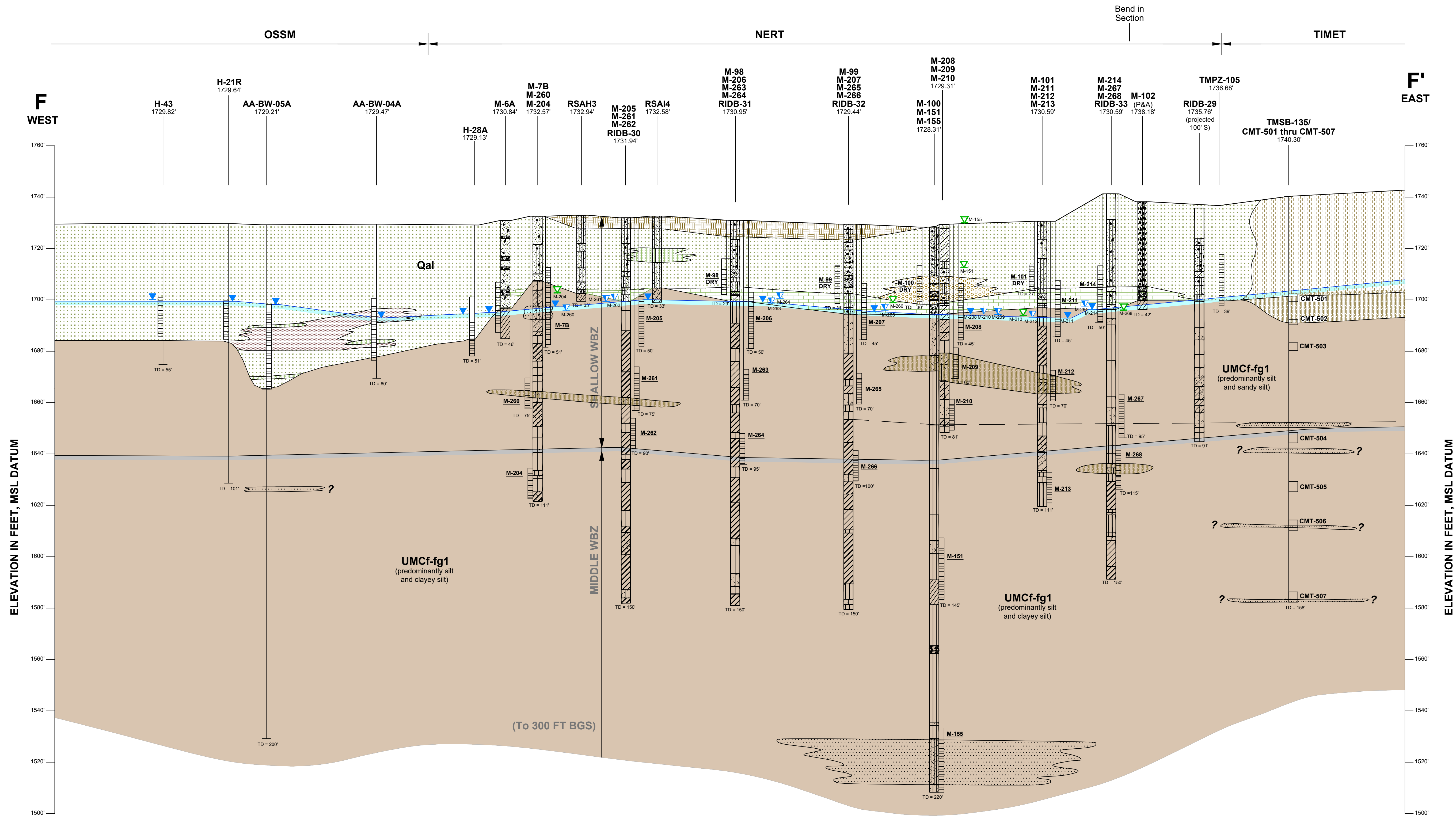
PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE</b> <b>C-5a</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

RWS0 7/6/21 Q:\DRAWINGS\169001\1000\_XSEC.E-E' >



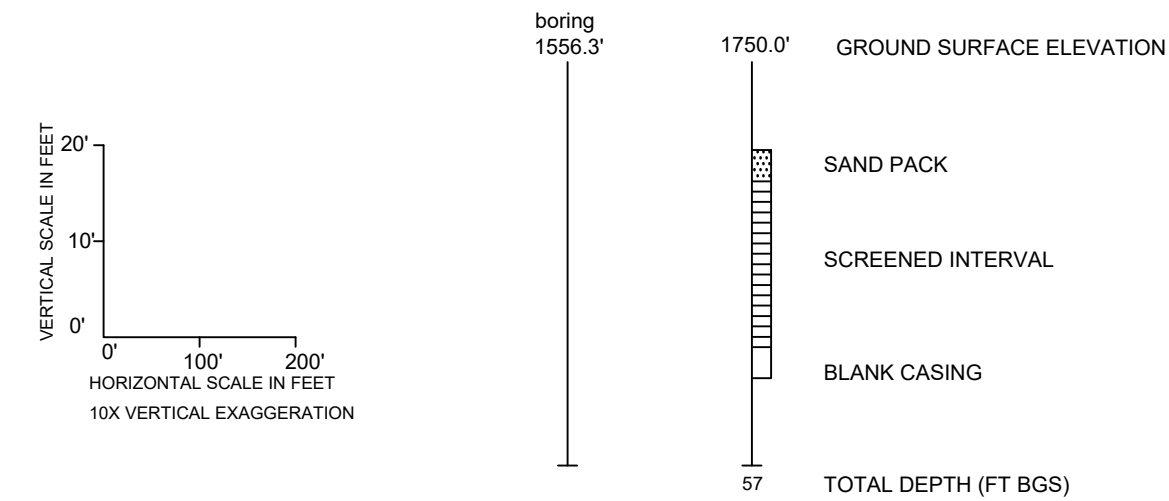






**LEGEND**

FILL	CALICHE
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL
SILTY SAND	CLAYEY SAND
SILTY SAND / SILTY GRAVEL	SAND / SAND WITH GRAVEL
SANDY CLAY/ SILTY CLAY	SANDY SILT
SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)
SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL



- NOTES:**
- Stratigraphic interpretation is based primarily on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
  - Groundwater elevations measured March 2018-May 2019.
- (P&A) Plugged and Abandoned  
 DRY Groundwater table is below the bottom of the well screen

**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

**Shallow Water-Bearing Zone (0-90 ft)**

- Water Table Zone Well
- Deeper Shallow WBZ Well

**Middle Water-Bearing Zone (90-300 ft)**

- Upper Muddy Creek Formation, First Fine-Grained Unit (UMCf-fg1)



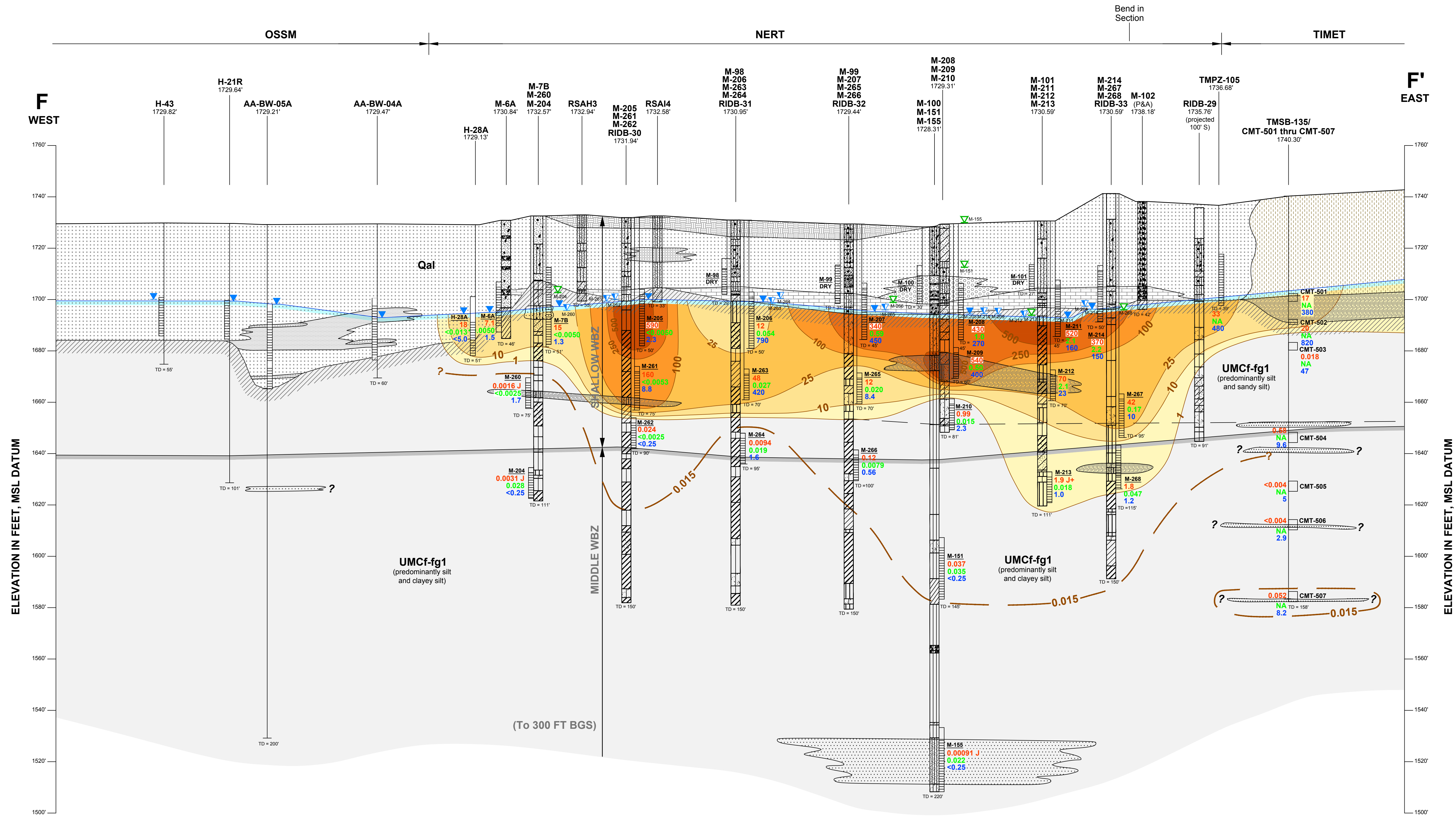
**Schematic Subsurface Cross-Section F-F'**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

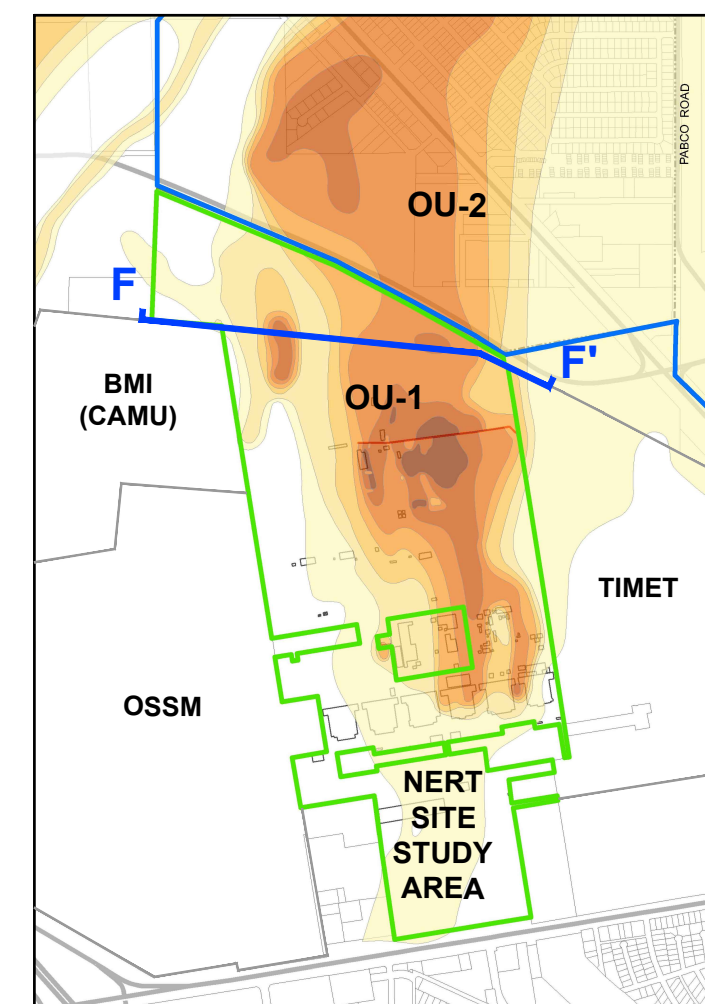
PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE C-6a</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 12/30/22 C:\DRAWINGS\169001\20L\_XSEC\_F\_VER2 >



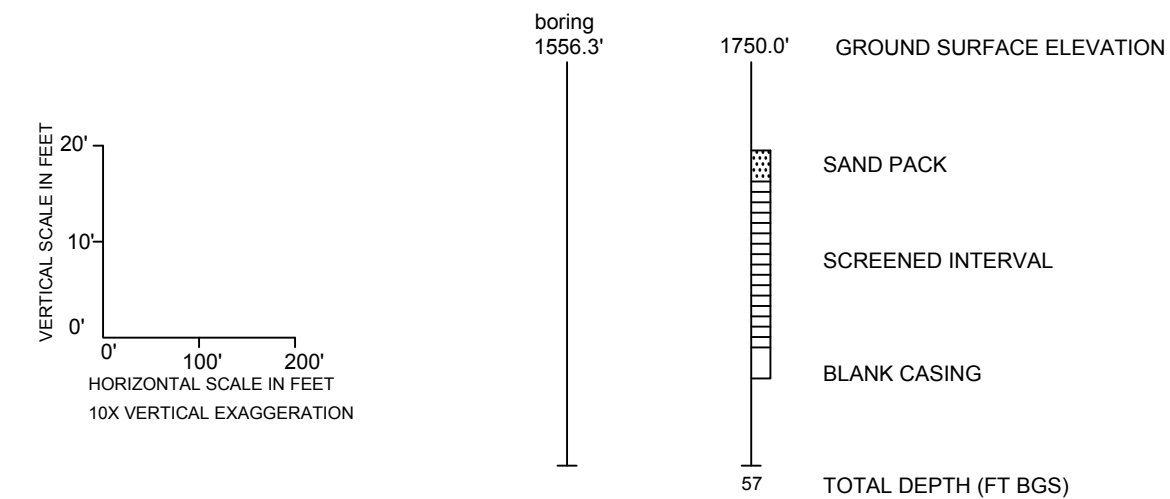


CROSS-SECTION LOCATION



LEGEND

FILL	CALICHE		
ALLUVIUM (Qal)	ALLUVIUM (Qal)		
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / SILTY GRAVEL	SAND / SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT
UPPER MUDDY CREEK FORMATION (UMC)	UPPER MUDDY CREEK FORMATION (UMC)	UPPER MUDDY CREEK FORMATION (UMC)	UPPER MUDDY CREEK FORMATION (UMC)
SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)	SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL



NOTES:  
 1. Data for TIMET wells TMPZ-105 and CMT-501 thru CMT-507 are from March-April 2008.  
 2. NA - Not Analyzed.

GROUNDWATER ELEVATIONS (feet, mean sea level datum)

Shallow Water-Bearing Zone (0-90 ft)

Water Table Zone Well

Deeper Shallow WBZ Well

Middle Water-Bearing Zone (90-300 ft)

Upper Muddy Creek Formation, First Fine-Grained Unit (UMCf-fg1)

PERCHLORATE CONCENTRATIONS


PERCHLORATE GWSL = 0.015 mg/L

GROUNDWATER CONCENTRATIONS (2017-2018)

210	PERCHLORATE (mg/L)
0.42	TOTAL CHROMIUM (mg/L)
80	CHLOROFORM (µg/L)

Schematic Subsurface Cross-Section F-F' Showing Perchlorate in Groundwater

Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

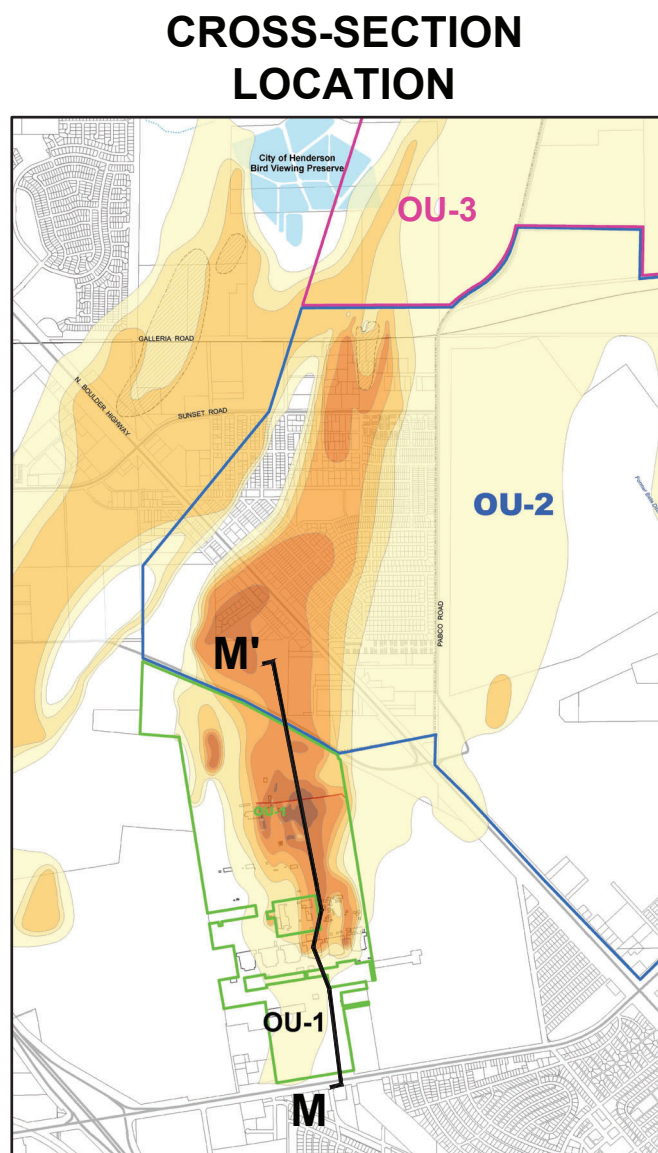
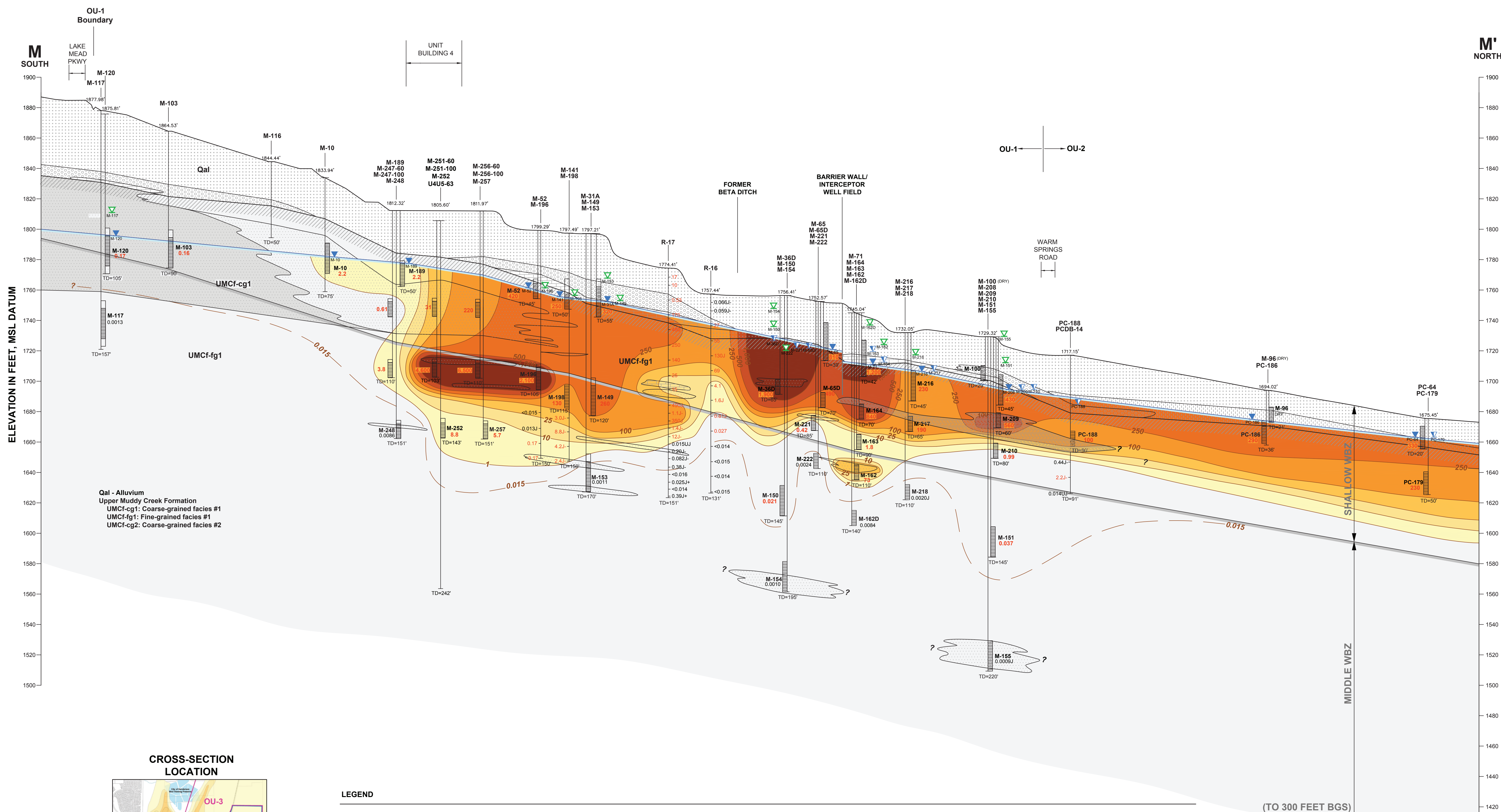


PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE
DRAFTED BY: RS/KM/DB	SCALE: AS SHOWN	C-6b
APPROVED BY: JD	PROJECT: 169001 6064	







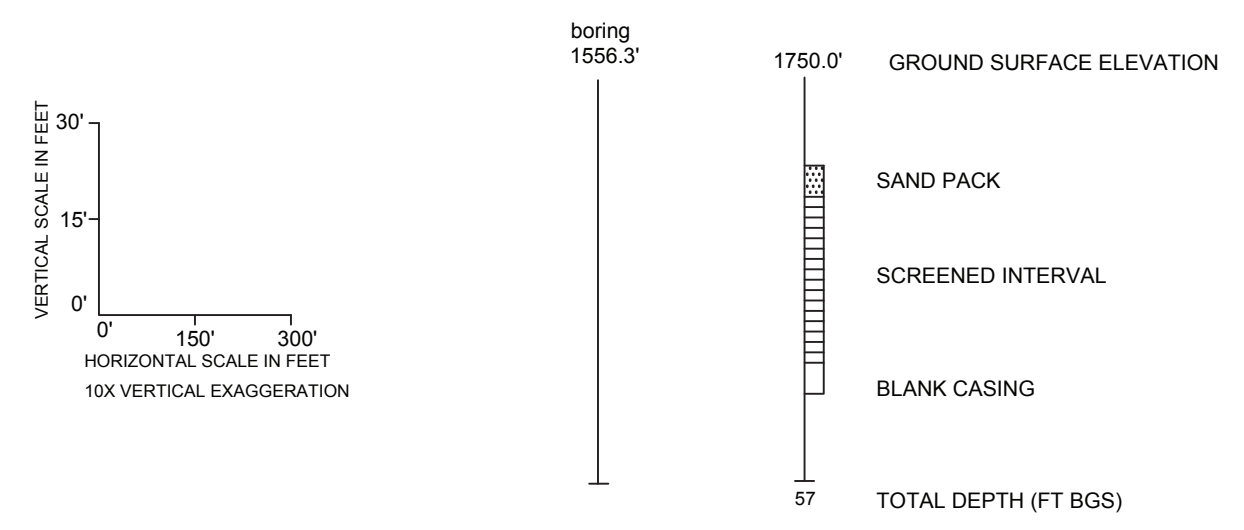


**LEGEND**

**PERCHLORATE CONCENTRATIONS**

<1 mg/L	100-250
1-10	250-500
10-25	500-1,000
25-100	>1,000 mg/L

PERCHLORATE GWSL = 0.015 mg/L



**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

**Shallow Water-Bearing Zone (0-90 ft)**

- Water Table Zone Well
- Deeper Shallow WBZ Well

**Middle Water-Bearing Zone (90-300 ft)**

- Upper Muddy Creek Formation, First Fine-Grained Unit (UMCF-fg1)
- Upper Muddy Creek Formation, Second Coarse-Grained Unit (UMCF-cg2)

**GROUNDWATER CONCENTRATIONS, 2017 - 2018**

**210** PERCHLORATE (mg/L)

**Notes:**

- NA - Not Analyzed
- ND - Not Detected
- NS - Not Sampled

1. The federal Preliminary Remediation Goal (PRG) for perchlorate in groundwater is 0.015 mg/L.  
2. Soil perchlorate concentrations (mg/kg) are shown in smaller non-bold font.

**STRATIGRAPHIC UNITS AND SOIL TYPES**

FILL	CALICHE	ALLUVIUM						UPPER MUDDY CREEK FORMATION (UMCF)					
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL

**Schematic Subsurface Cross-Section M-M'**  
**Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

**RAMBOLL**

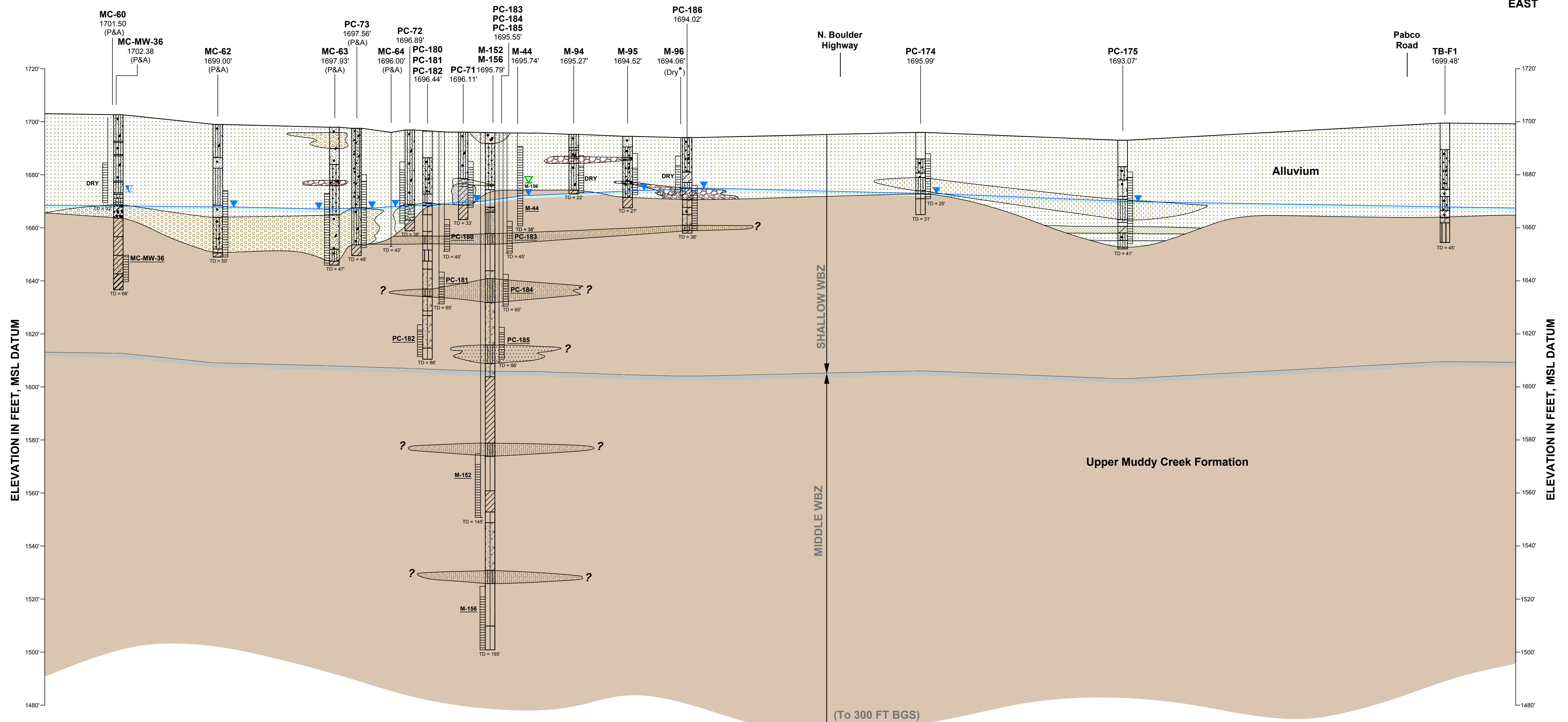
PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE</b> <b>C-7b</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

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G WEST

G' EAST



LEGEND

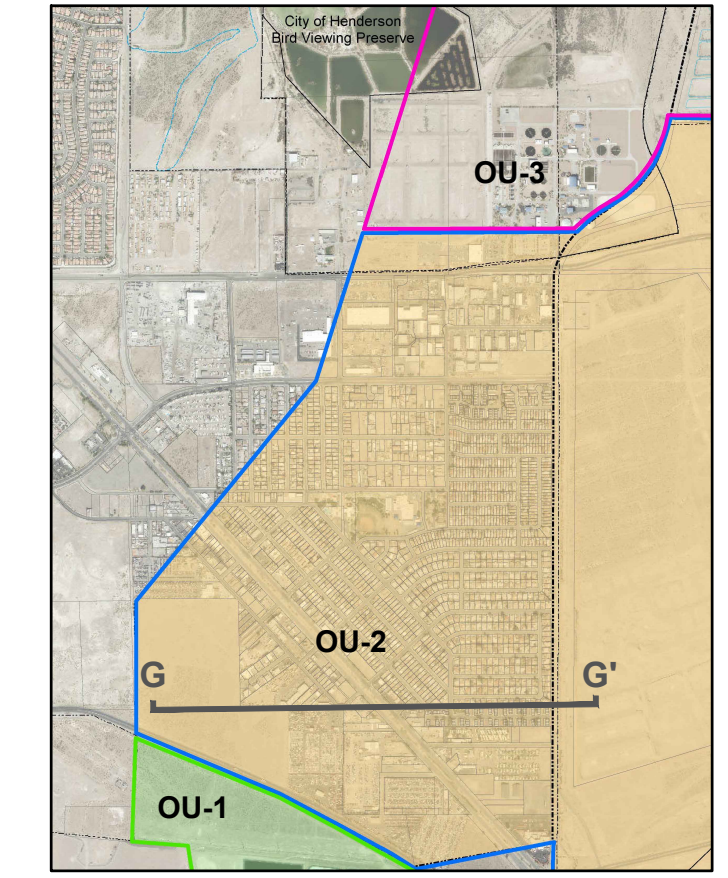
FILL	CALICHE	ALLUVIUM					UPPER MUDDY CREEK FORMATION					
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SANDY SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED

GROUNDWATER ELEVATIONS (feet, mean sea level datum)

- Shallow Water-Bearing Zone (0-90 ft)
  - Water Table Zone Well
  - Deeper Shallow WBZ Well
- Middle Water-Bearing Zone (90-300 ft)
  - Upper Muddy Creek Formation, First Fine-Grained Unit (UMCF-fg1)

- NOTES:
- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
  - Groundwater levels measured October 2017 - May 2018.
  - (P&A) Plugged and Abandoned. Wells MC-60, MC-62, MC-63, MC-MW-36, and PC-73 were sampled in October 2017 prior to being decommissioned.

CROSS-SECTION LOCATION



Schematic Subsurface Cross-Section G-G'

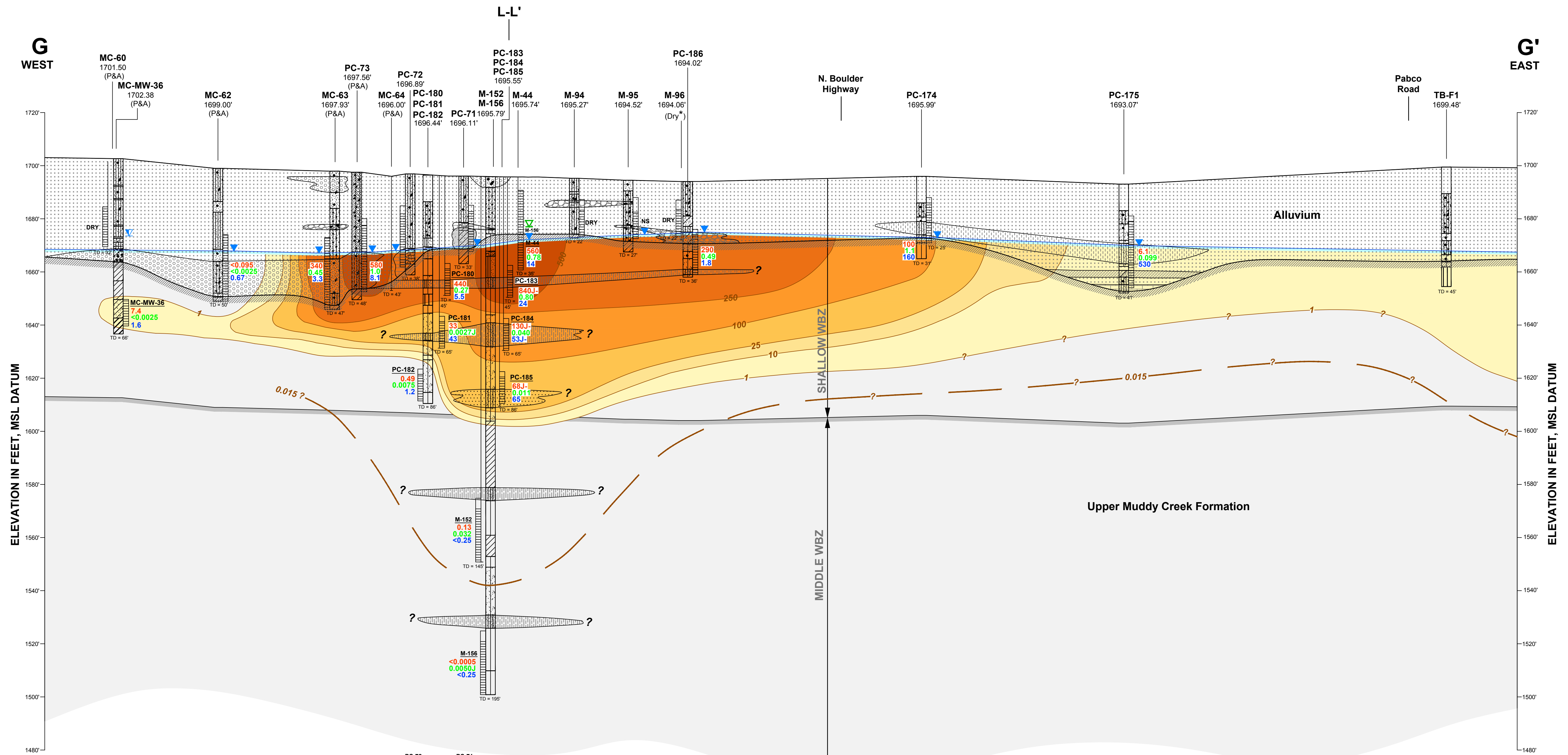
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-8a</b>
DRAFTED BY: RS	SCALE: 1" = 100'	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 7/6/21  
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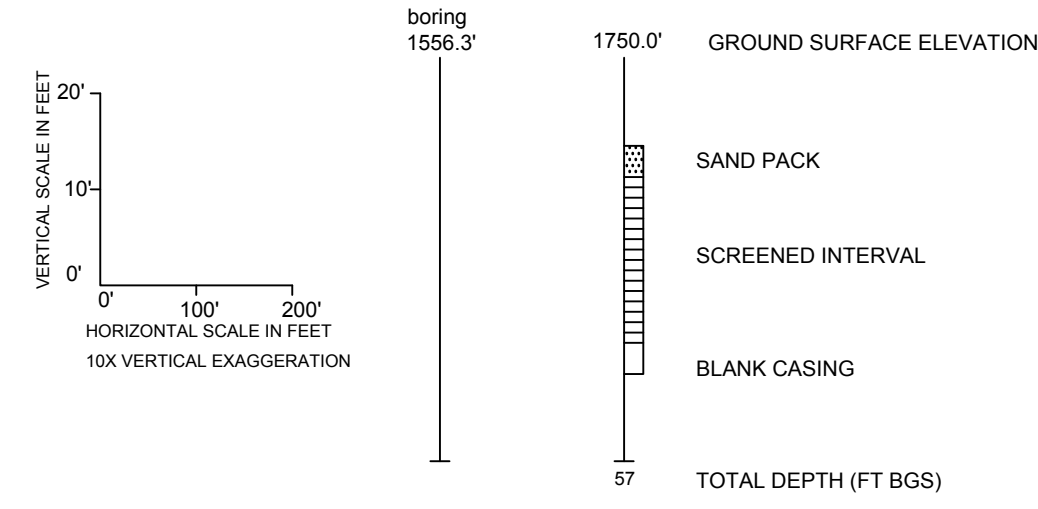


Note: Data for wells PC-71 and PC-72 are shown below the cross-section for clarity.

PC-72	290	320
	0.16	0.25
	35	5.3

**LEGEND**

FILL	CALICHE	ALLUVIUM						UPPER MUDDY CREEK FORMATION				
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED



**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

Shallow Water-Bearing Zone (0-90 ft)      Middle Water-Bearing Zone (90-300 ft)

Water Table Zone Well      Deeper Shallow WBZ Well

Upper Muddy Creek Formation, First Fine-Grained Unit (UMCF-1g1)

**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater levels measured October 2017 - May 2018.
- (P&A) Plugged and Abandoned. Wells MC-60, MC-62, MC-63, MC-MW-36, and PC-73 were sampled in October 2017 prior to being decommissioned.

**PERCHLORATE CONCENTRATIONS**

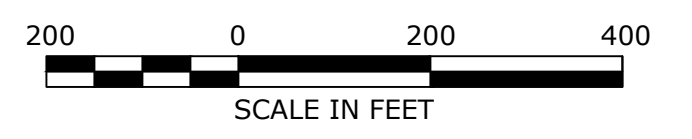
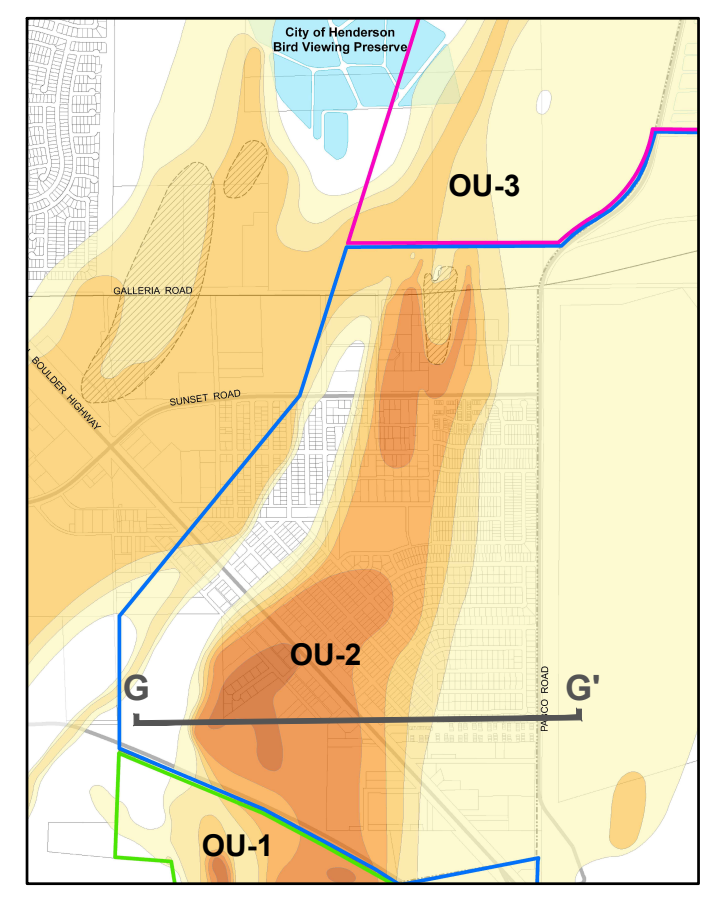
	<1 mg/L		25-100		500-1,000
	1-10		100-250		>1,000 mg/L
	10-25		250-500		

PERCHLORATE GWSL = 0.015 mg/L

**GROUNDWATER CONCENTRATIONS, 2018**

210	PERCHLORATE (mg/L)
0.42	TOTAL CHROMIUM (mg/L)
80	CHLOROFORM (µg/L)
NS	Not Sampled

**CROSS-SECTION LOCATION**



**Schematic Subsurface Cross-Section G-G' Showing Perchlorate in Groundwater**

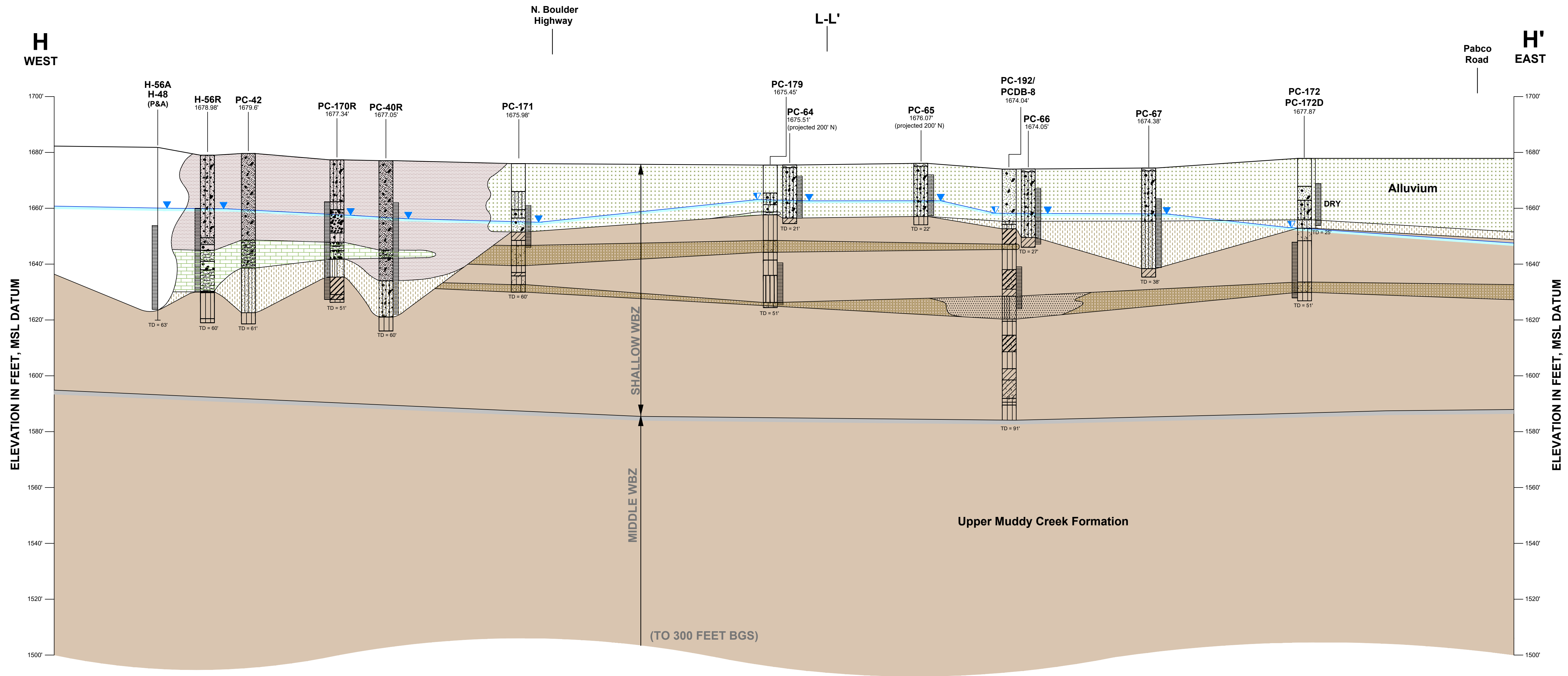
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



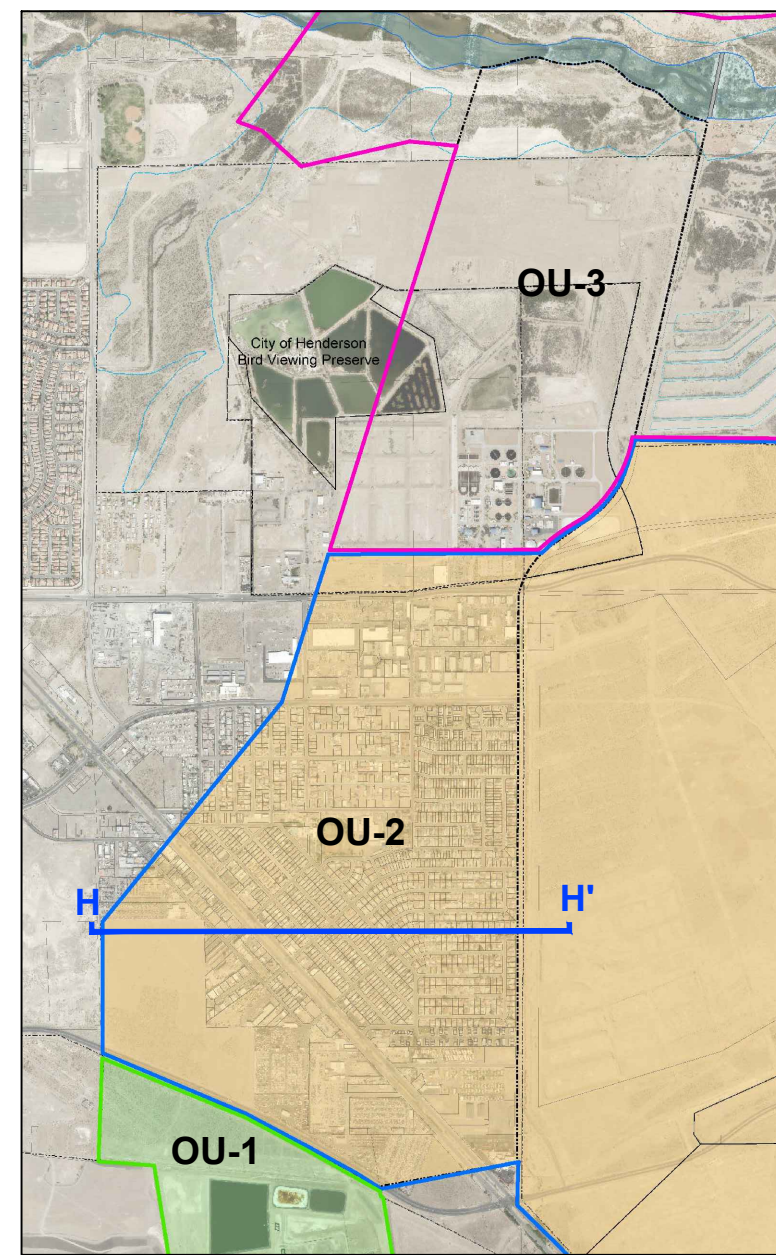
PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-8b</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 7/6/21 C:\DRAWINGS\1690006064\3 - 1690006064\_3\_XSEC\_G-G'-20THVERTSCALE\_PERCHLORATE



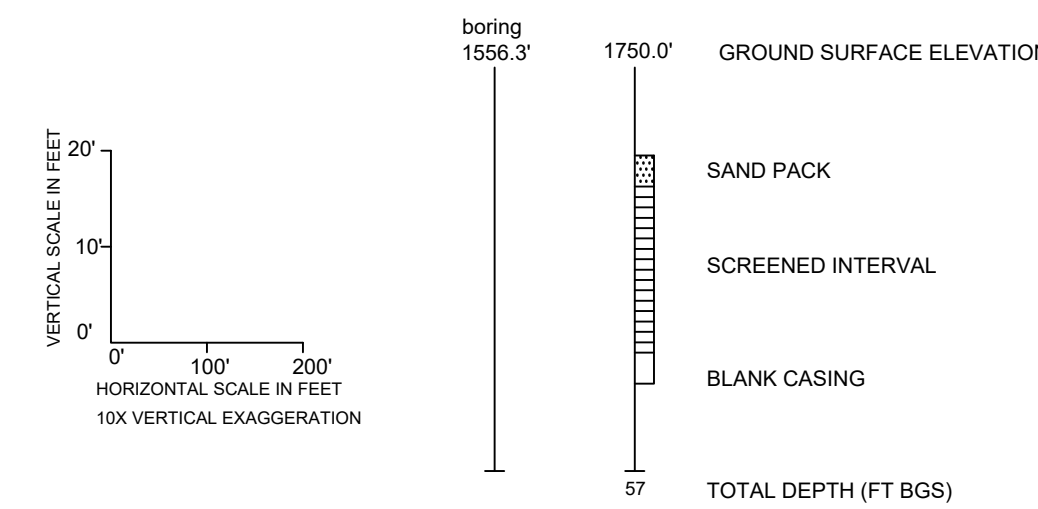


CROSS-SECTION LOCATION



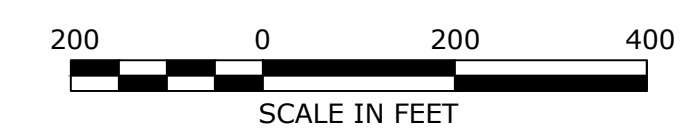
LEGEND

FILL	CALICHE	ALLUVIUM					UPPER MUDDY CREEK FORMATION					
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND / SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED



- Groundwater Levels Measured October 2017 - April 2018
- Deeper Shallow WBZ Well

**NOTES:**  
 1. The boring logs for wells H-48 and H-56A were not available.  
 2. Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.



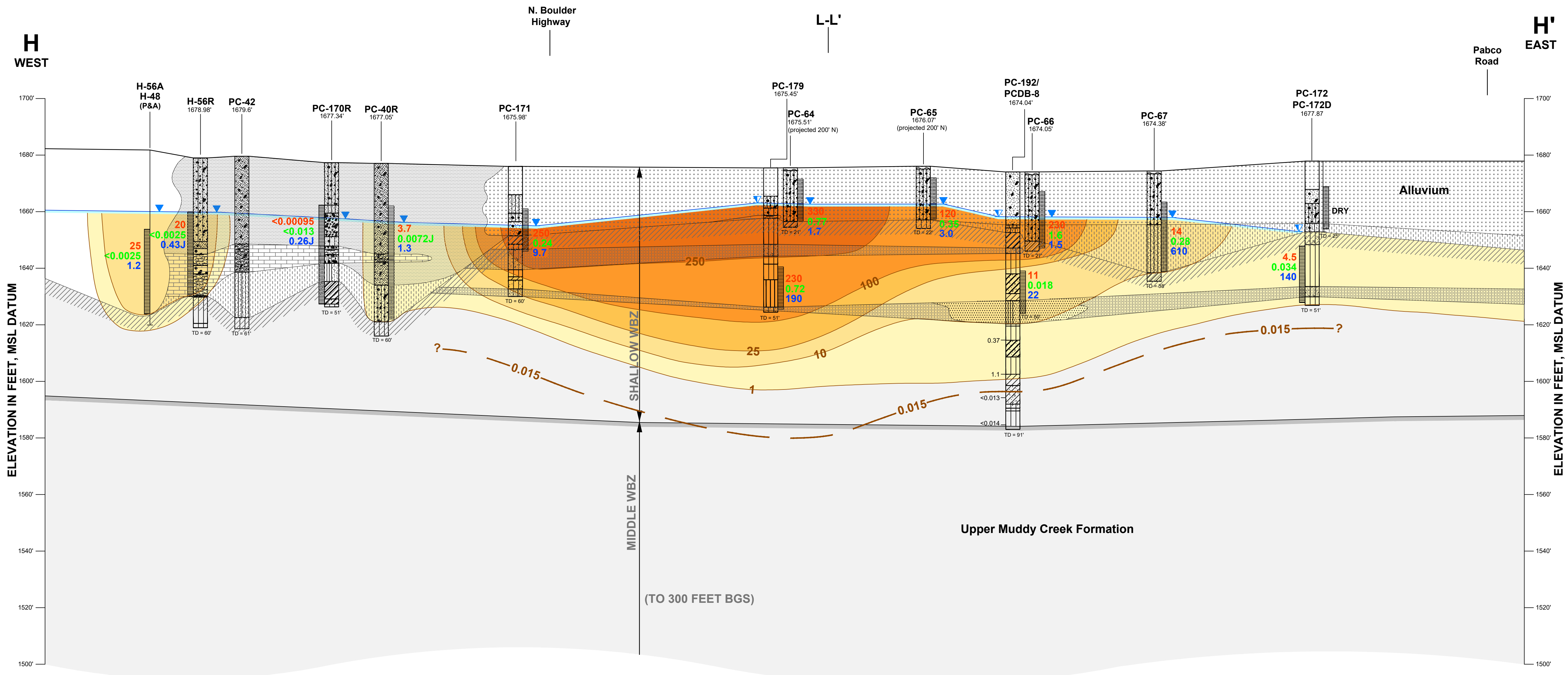
Schematic Subsurface Cross-Section H-H'

Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

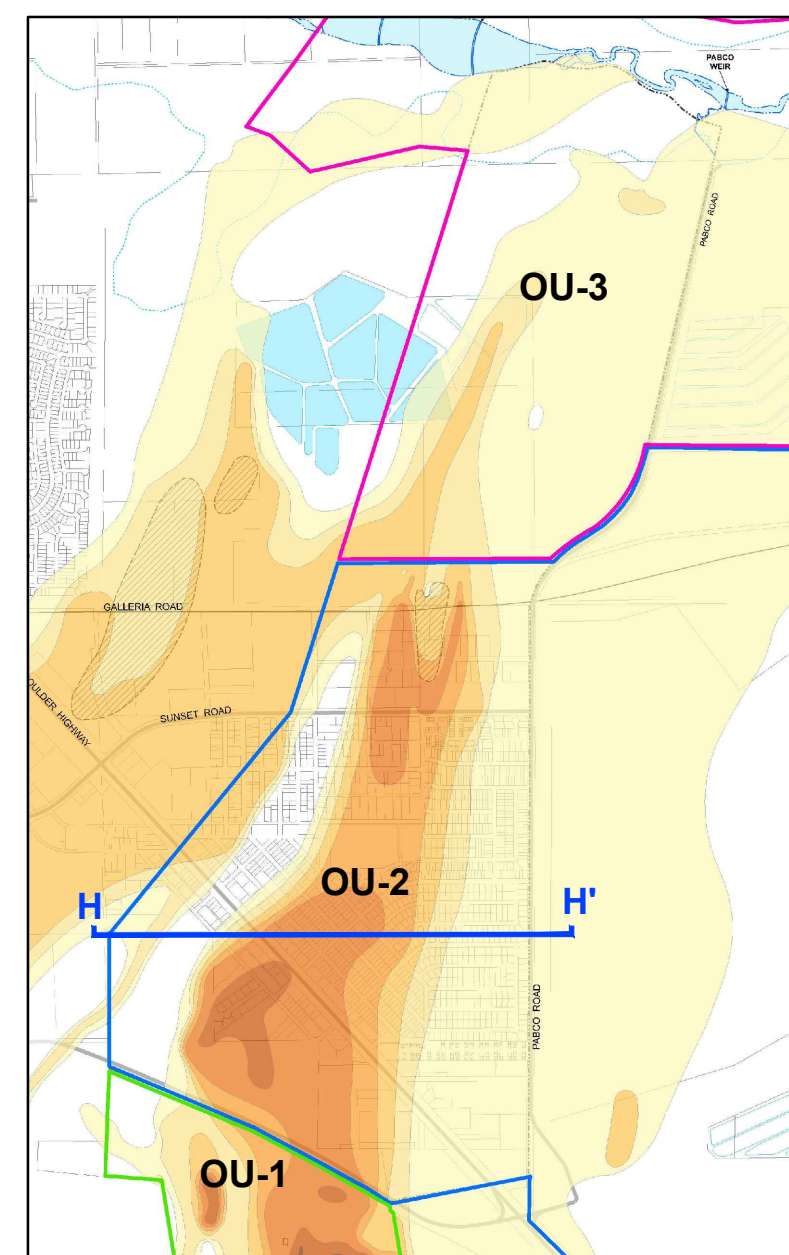


PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-9a</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	





**CROSS-SECTION LOCATION**



**PERCHLORATE CONCENTRATIONS**

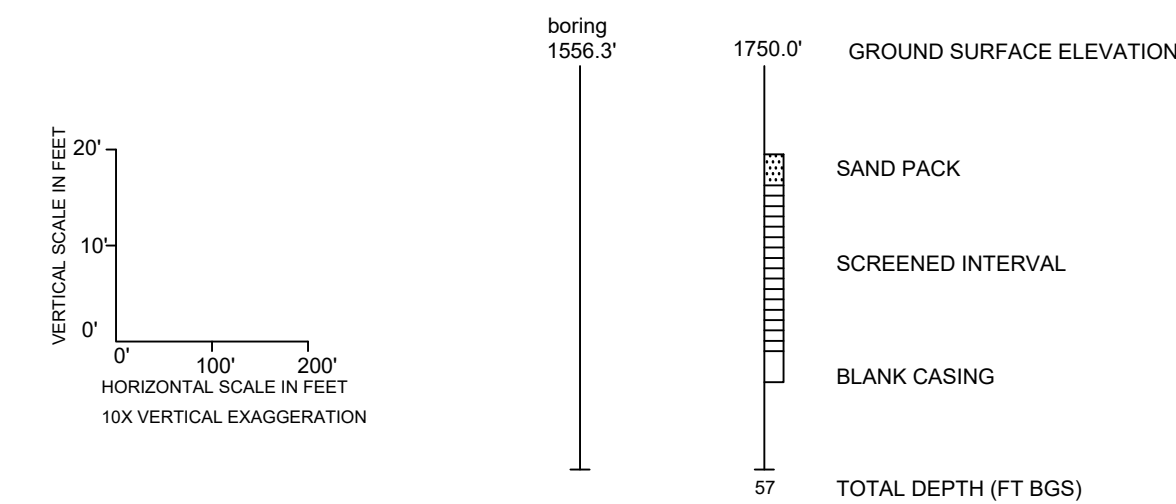


**GROUNDWATER CONCENTRATIONS (2017-2018)**

- 210 PERCHLORATE (mg/L)
- 0.42 TOTAL CHROMIUM (mg/L)
- 80 CHLOROFORM (µg/L)

**LEGEND**

FILL	CALICHE
<b>ALLUVIUM (Qal)</b>	
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL
SILTY SAND	SILTY SAND / SILTY GRAVEL
CLAYEY SAND	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION (UMCf)</b>	
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)
SILTY SAND/ SANDY BED	



**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater elevations measured between October 2017 and May 2018.
- Well H-SBA was sampled in October 2017 prior to decommissioning.
- At boring PCDB-8, deeper Soil perchlorate results at depths of 60, 70, 80, and 90 feet are in mg/kg.
- The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.



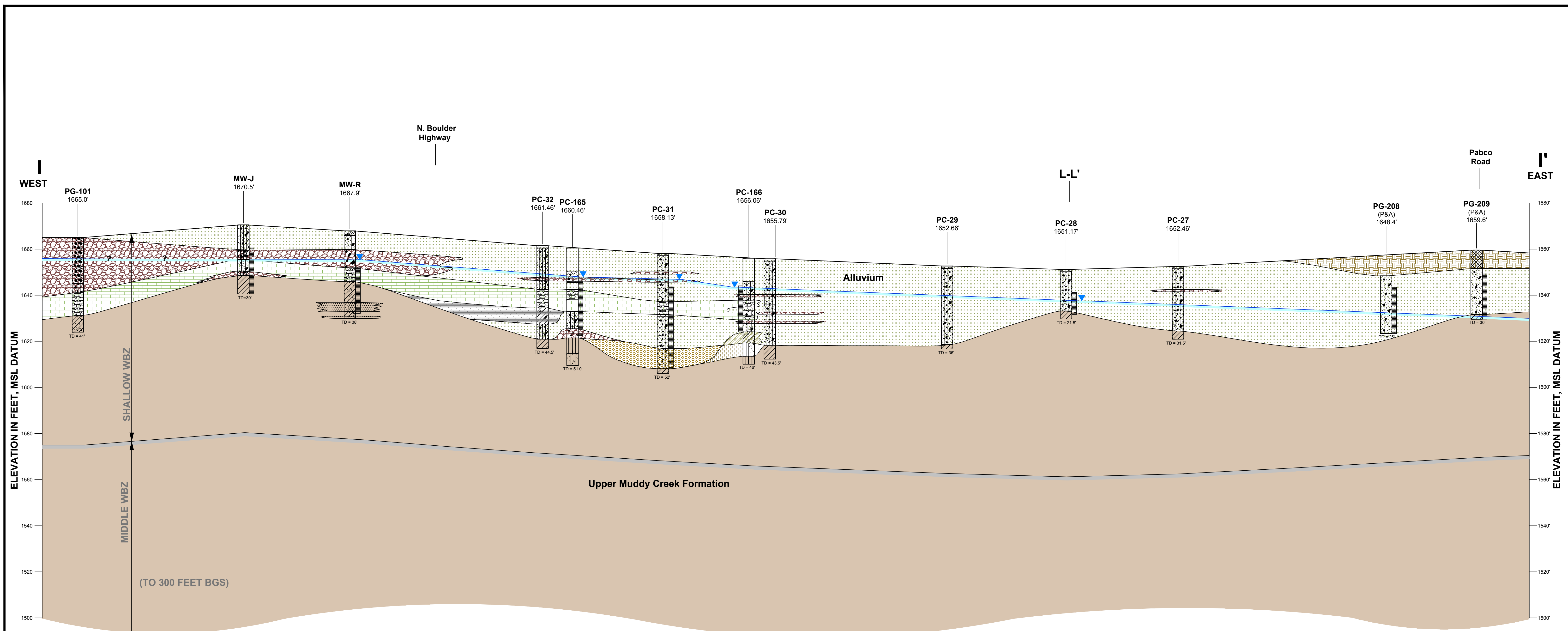
**Schematic Subsurface Cross-Section H-H' Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

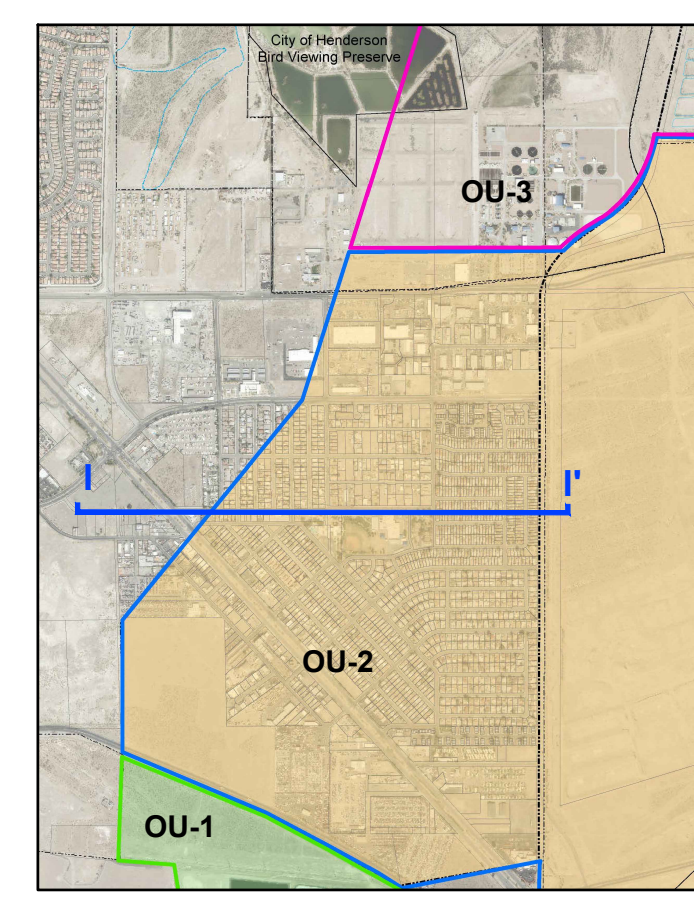


PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-9b</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	



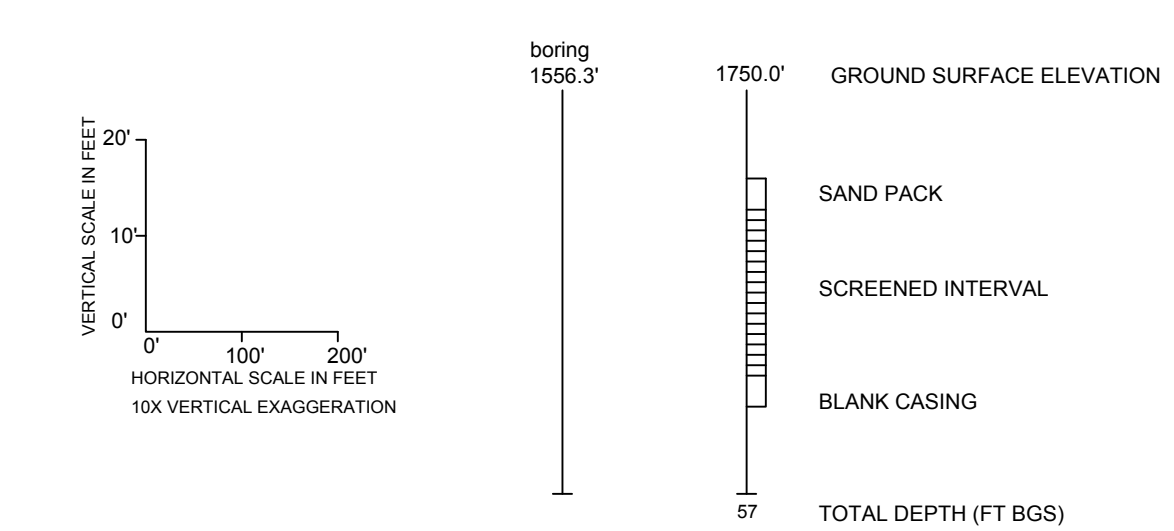


**CROSS-SECTION LOCATION**



**LEGEND**

FILL	CALICHE	ALLUVIUM					UPPER MUDDY CREEK FORMATION					
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND / SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED

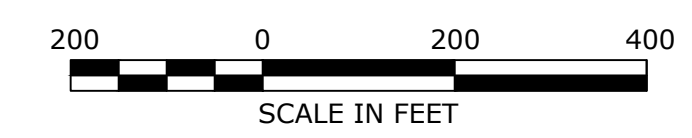


▼ GROUNDWATER LEVELS MEASURED  
APRIL - MAY 2018

**NOTE:**

1. Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.

2. P&A means Plugged and Abandoned.



**Schematic Subsurface Cross-Section I-I'**

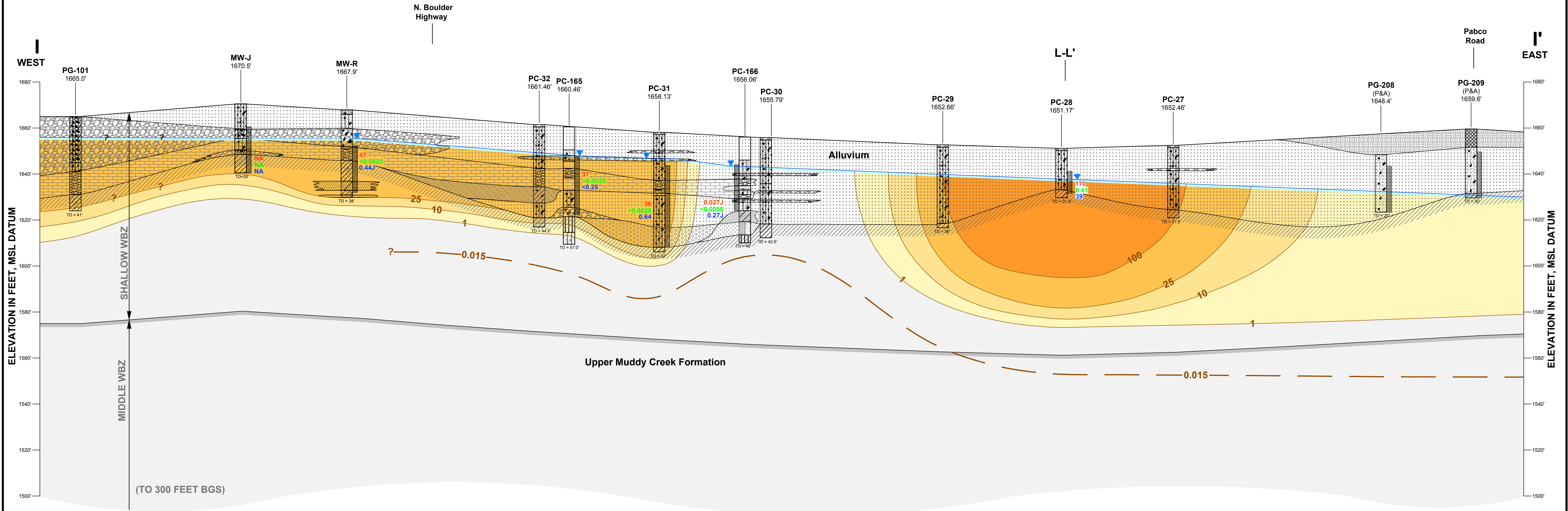
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



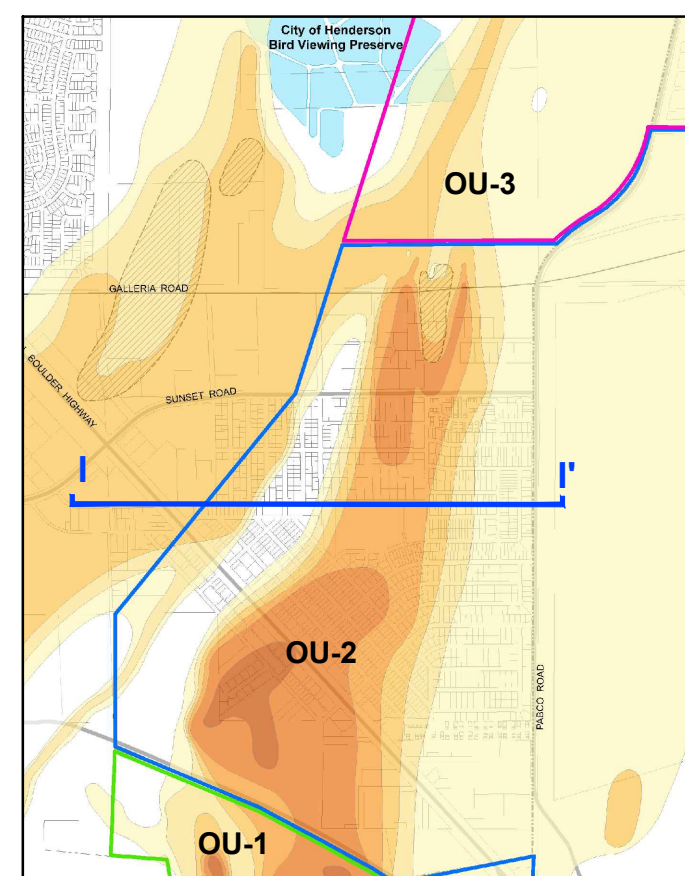
PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE</b> <b>C-10a</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

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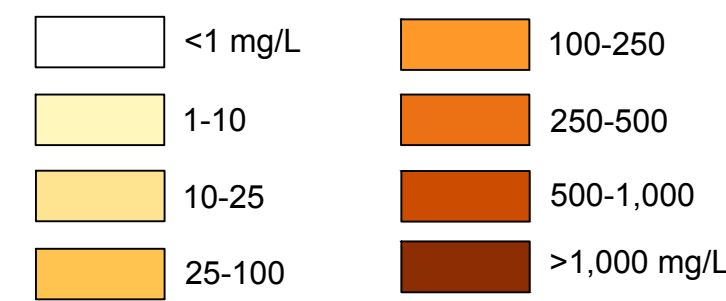




**CROSS-SECTION LOCATION**



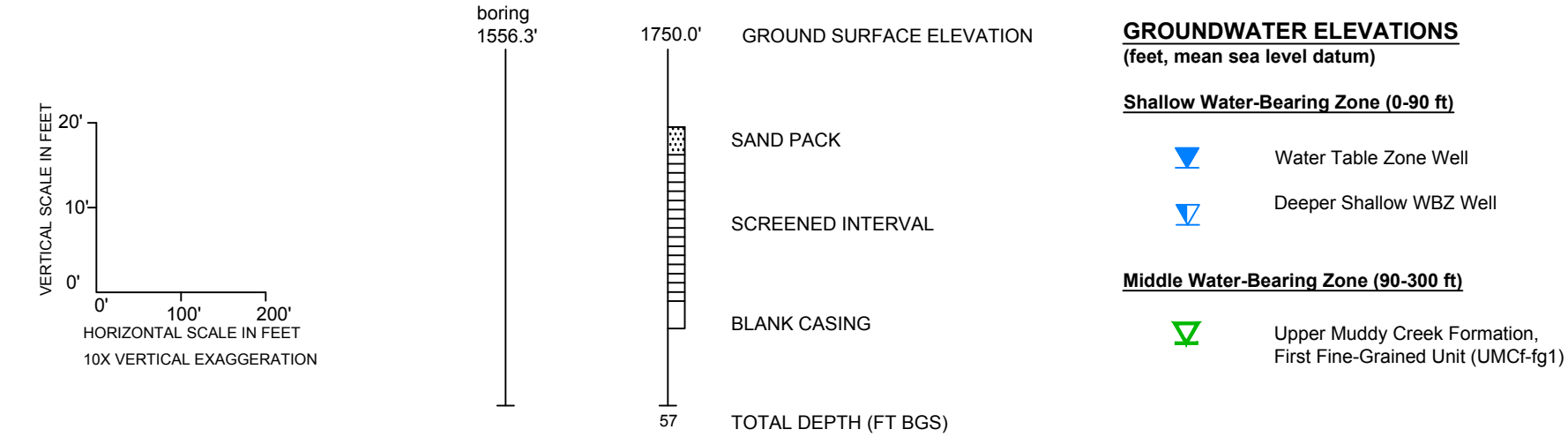
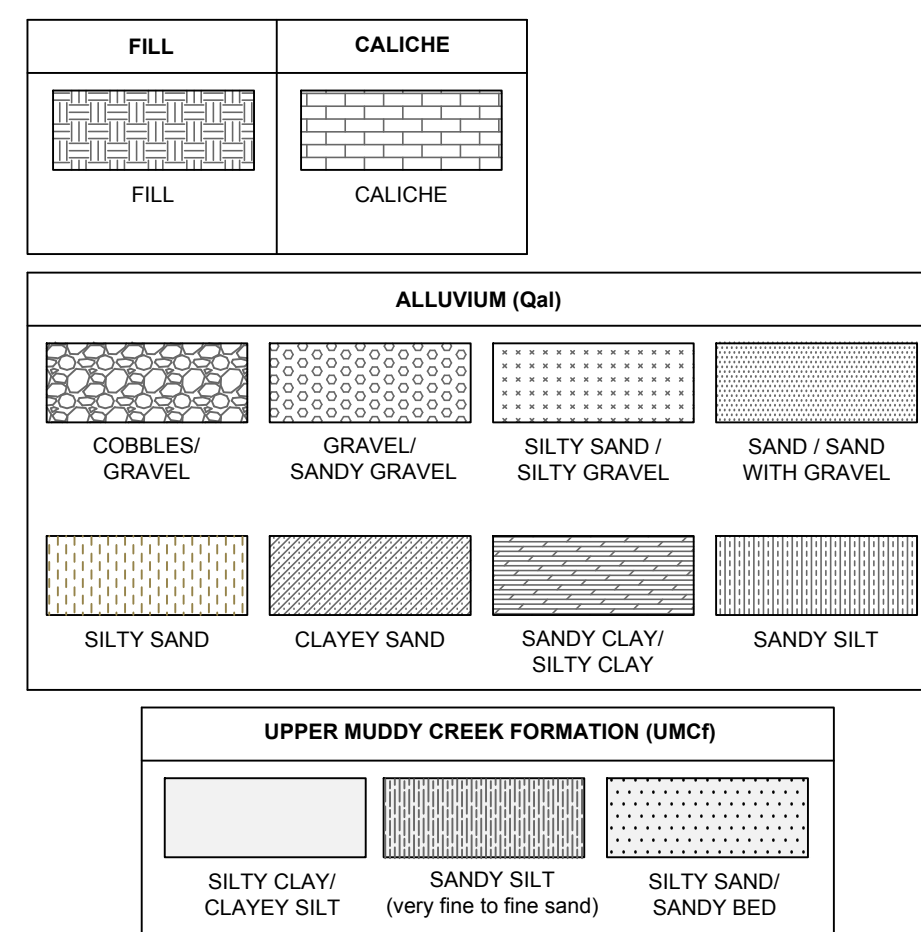
**PERCHLORATE CONCENTRATIONS**



**GROUNDWATER CONCENTRATIONS (2017-2018)**

- 210 PERCHLORATE (mg/L)
- 0.42 TOTAL CHROMIUM (mg/L)
- 80 CHLOROFORM ( $\mu$ g/L)

**LEGEND**



- NOTES:**
- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
  - P&A means Plugged and Abandoned.
  - Groundwater elevations measured March-May 2018.
  - The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.



**Schematic Subsurface Cross-Section I-I' Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



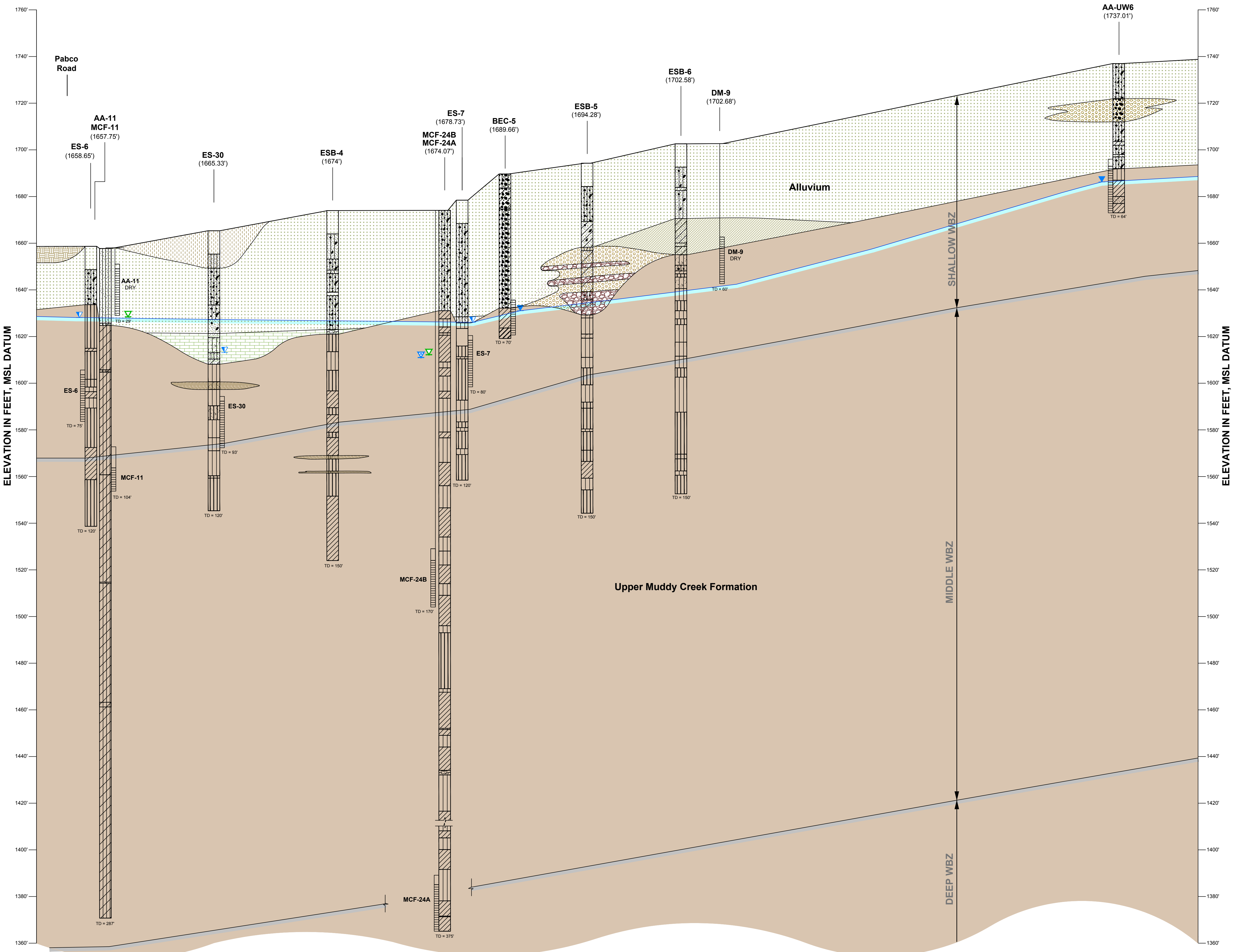
PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE</b> <b>C-10b</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 4/29/20 C:\DRAWINGS\1690006064\3 - PERCHLORATE

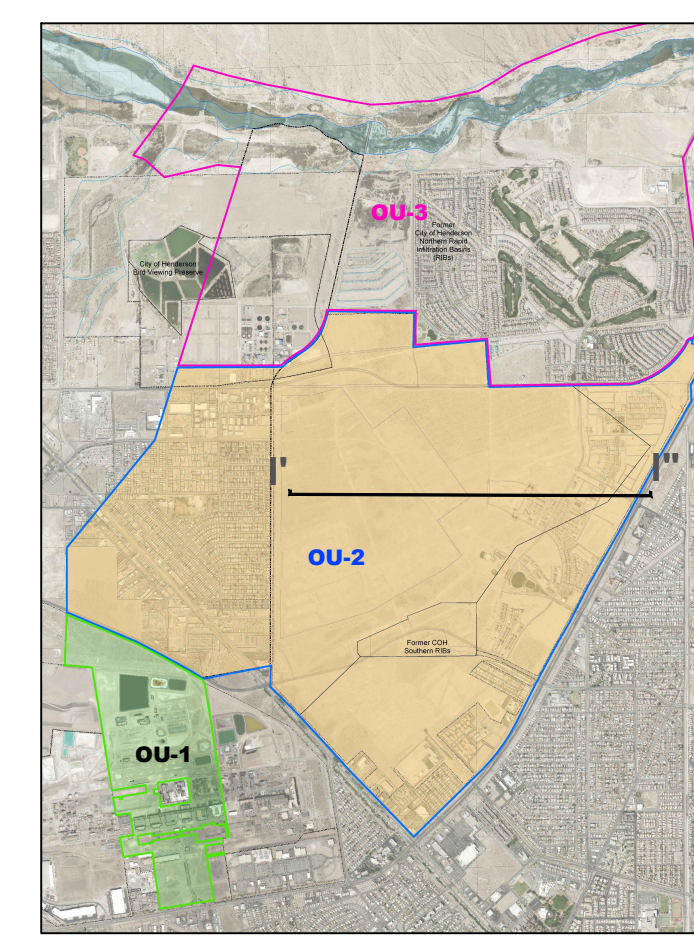


WEST

EAST

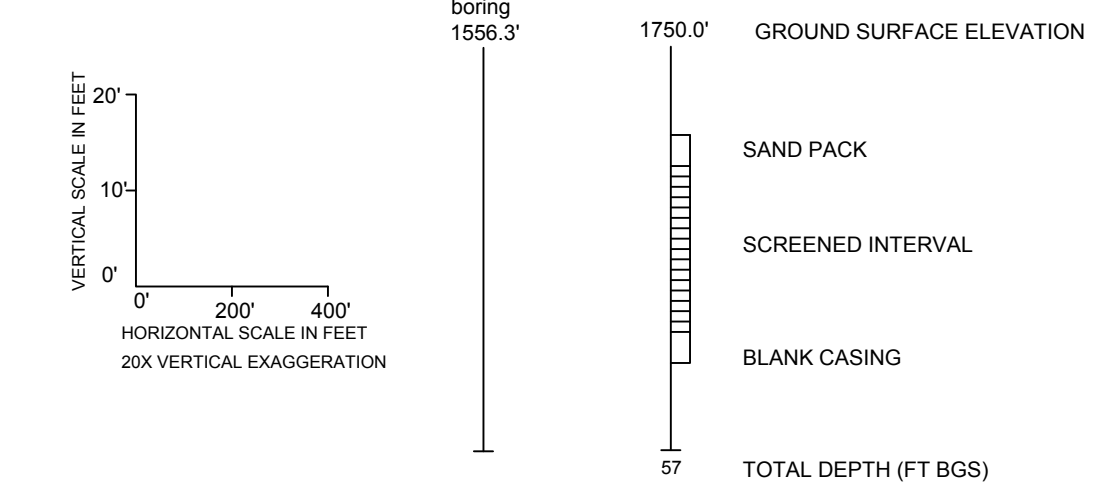


CROSS-SECTION LOCATION



LEGEND

FILL	CALICHE		
<b>ALLUVIUM</b>			
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND/ GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION</b>			
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED	

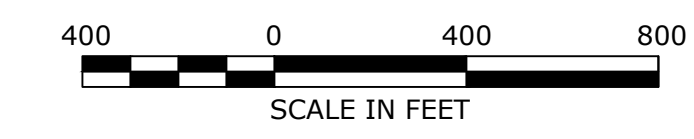


**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

	Water Table Zone Well		Upper Muddy Creek Formation, First Fine-Grained Unit (UMCF-1g1)
	Deeper Shallow WBZ Well		Deep Water-Bearing Zone (>300 ft)
			Upper Muddy Creek Formation, (UMCF-1g1)

**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater levels measured October 2017 - May 2018.



Schematic Subsurface Cross-Section I'-I''

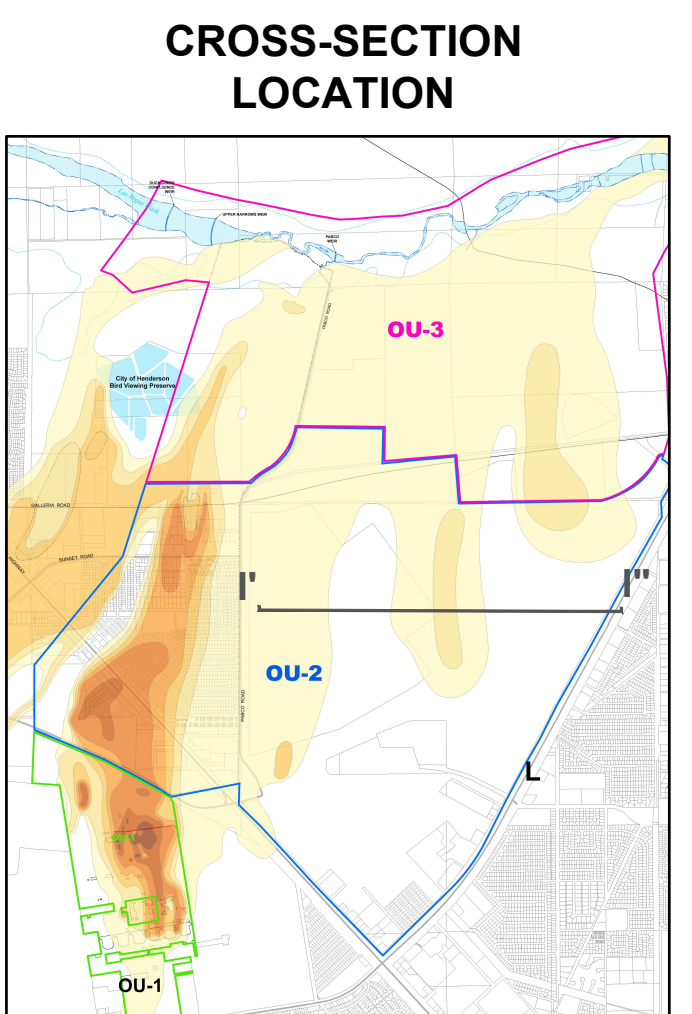
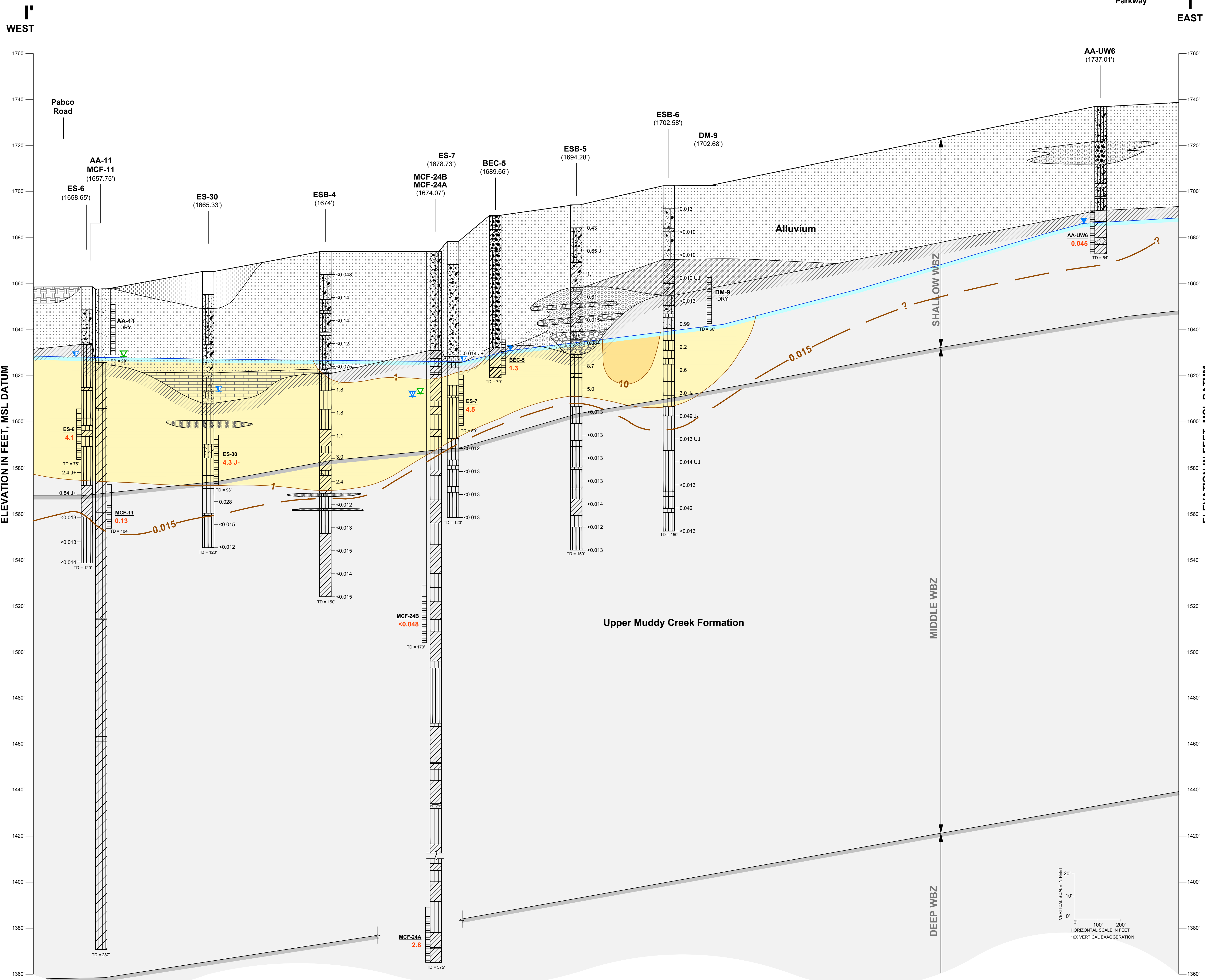
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-10c</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

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C:\DRAWINGS\1690006064\3 < 1690006064\_3\_XSEC\_I'-I'' >





**LEGEND**

**PERCHLORATE CONCENTRATIONS**

<1 mg/L	25-100	500-1,000
1-10	100-250	>1,000 mg/L
10-25	250-500	

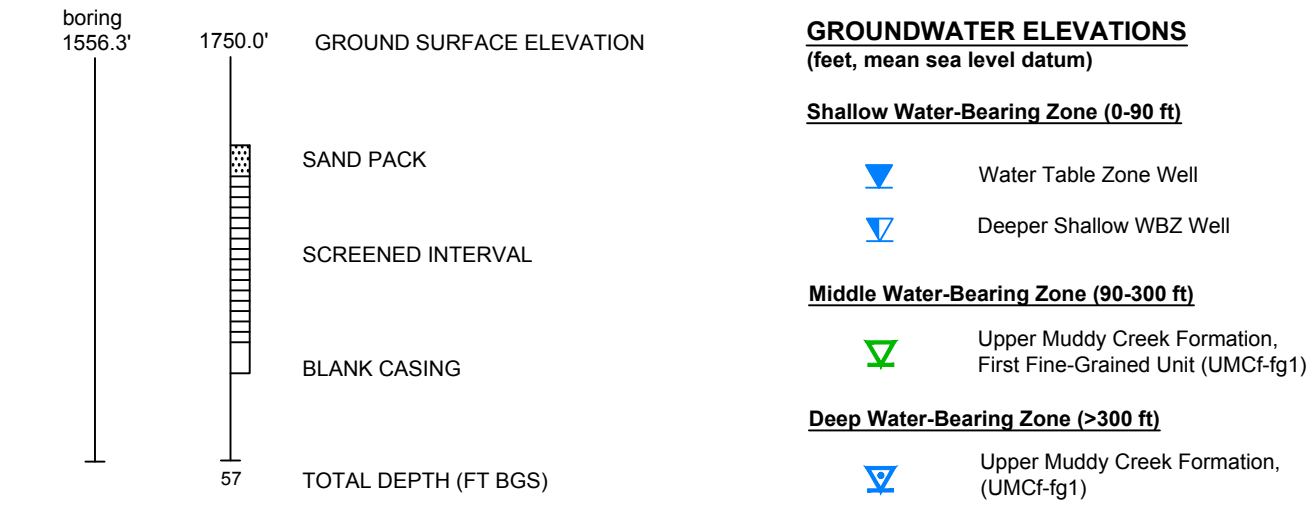
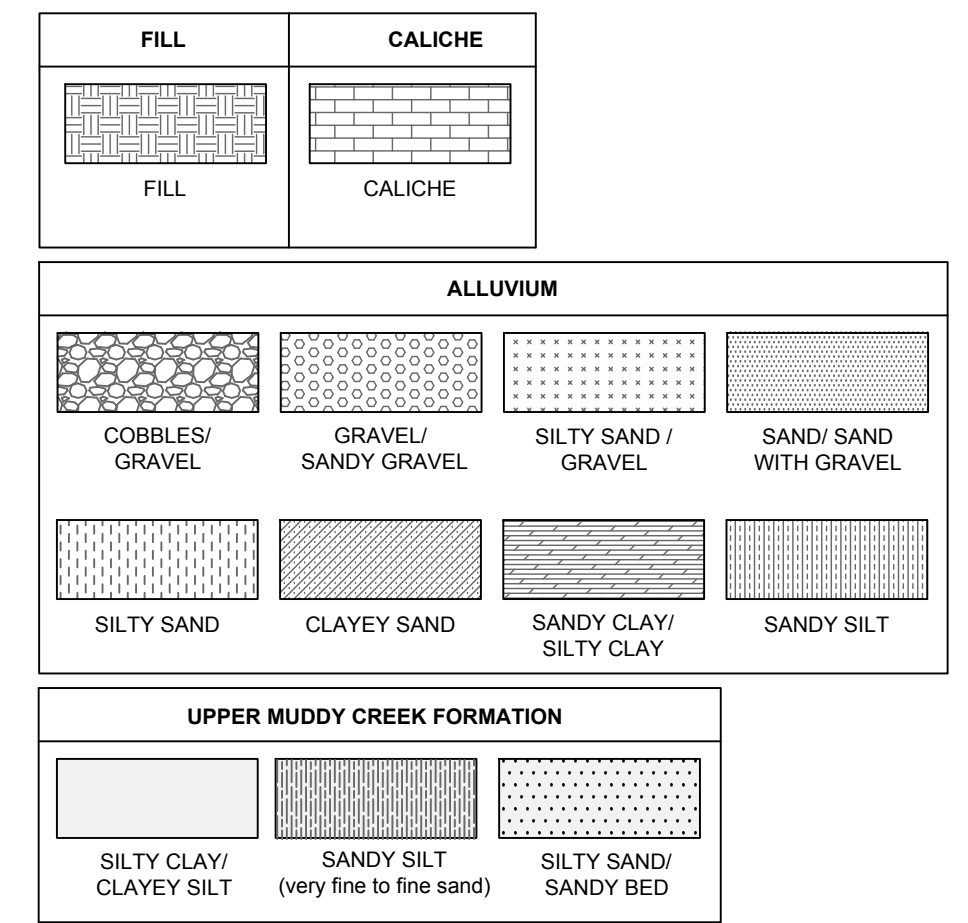
PERCHLORATE GWSL = 0.015 mg/L

**GROUNDWATER CONCENTRATIONS, 2018**

210 PERCHLORATE (mg/L)  
NS Not Sampled

**SOIL SAMPLE CONCENTRATIONS, 2018**

Boring  
Depth 1-12 Perchlorate (mg/kg)



**NOTES:**

1. Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.

2. Groundwater levels measured October 2017 - May 2018.



**Schematic Subsurface Cross-Section I'-I''  
Showing Perchlorate in Groundwater**

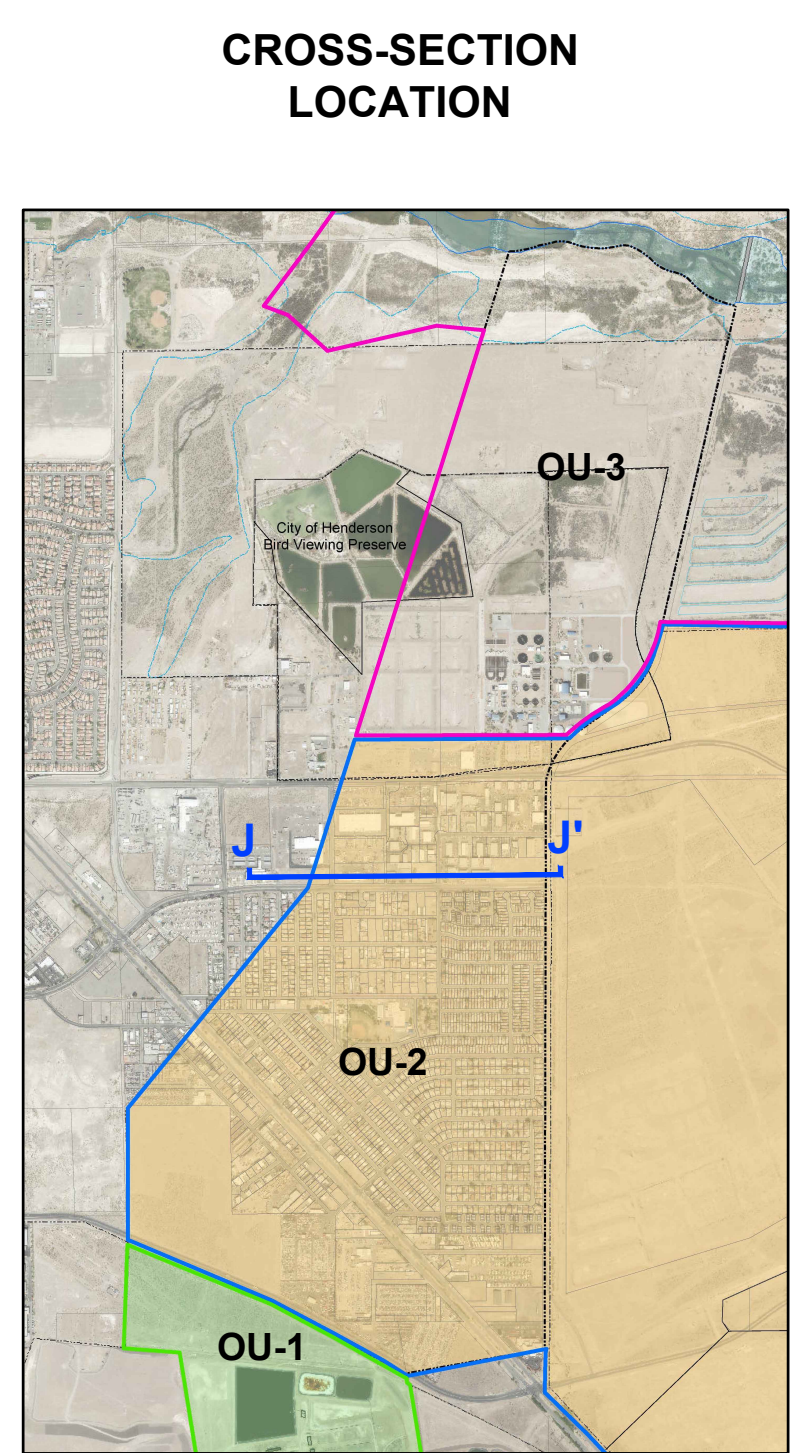
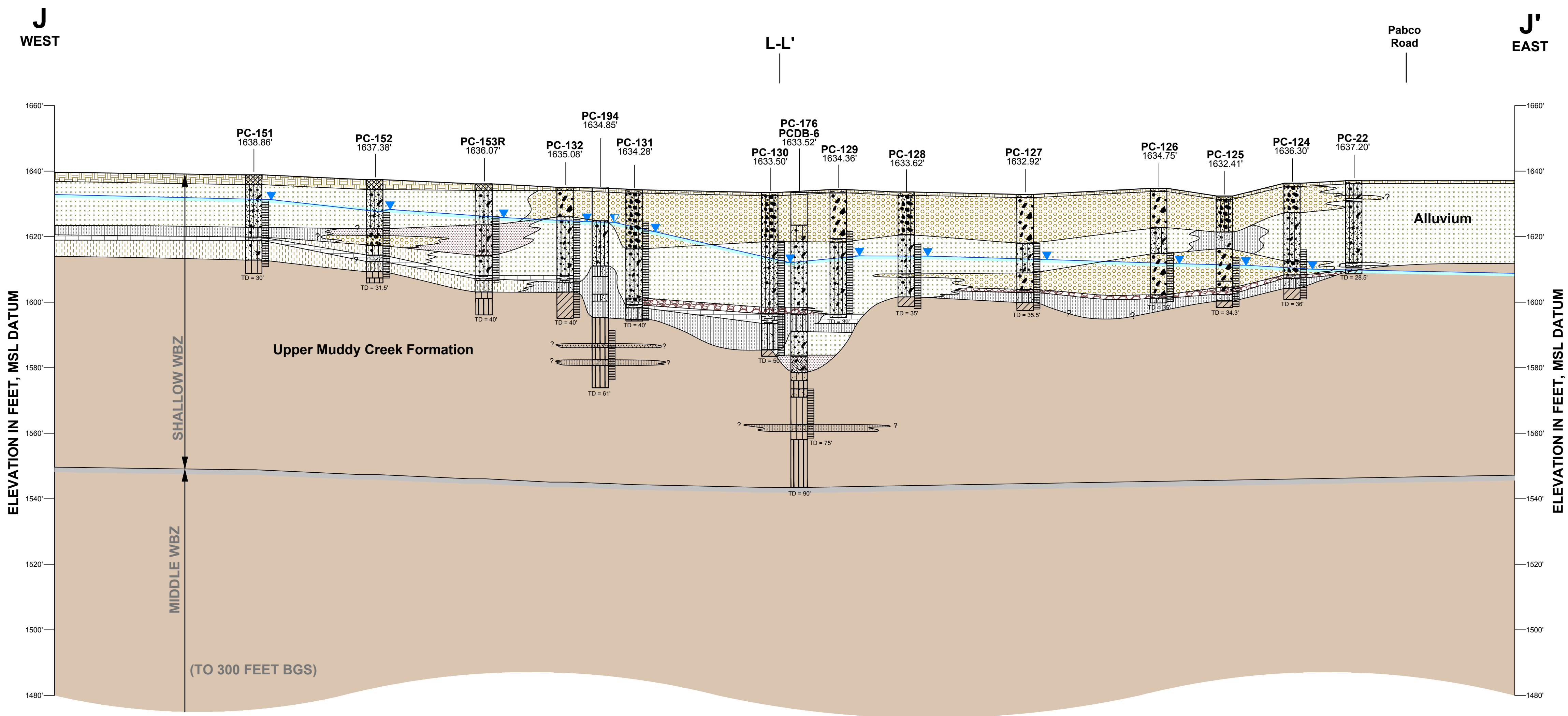
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

**RAMBOLL**

PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE C-10d</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

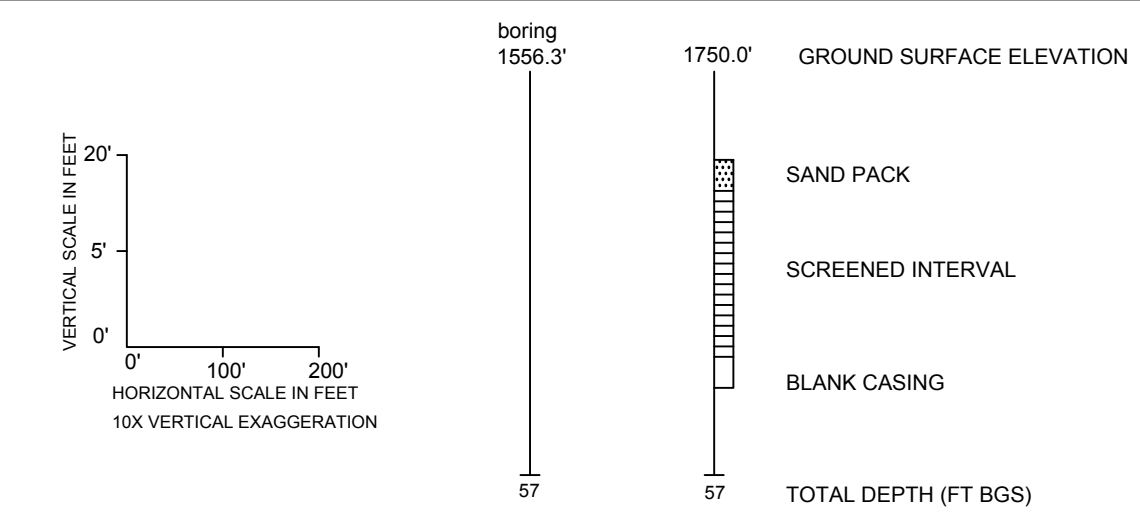
RMSO 7/6/21  
C:\DRAWINGS\1690006064\3 - PERCHLORATE - I'-I''





**LEGEND**

FILL	CALICHE	ALLUVIUM							UPPER MUDDY CREEK FORMATION			
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND / SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED



- NOTES:**
- Lithology is based primarily on wells installed along Sunset Road in 2007. Earlier borings (PC-22 thru PC-25 and PC-49 thru PC-51) drilled in 1998 were logged from cuttings.
  - Wells PC-151 and PC-152 were installed in December 2014. Wells PC-153R and PC-194 were installed in September 2017. Well PC-176 was installed in March 2018.
  - Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.



**Schematic Subsurface Cross-Section J-J'**

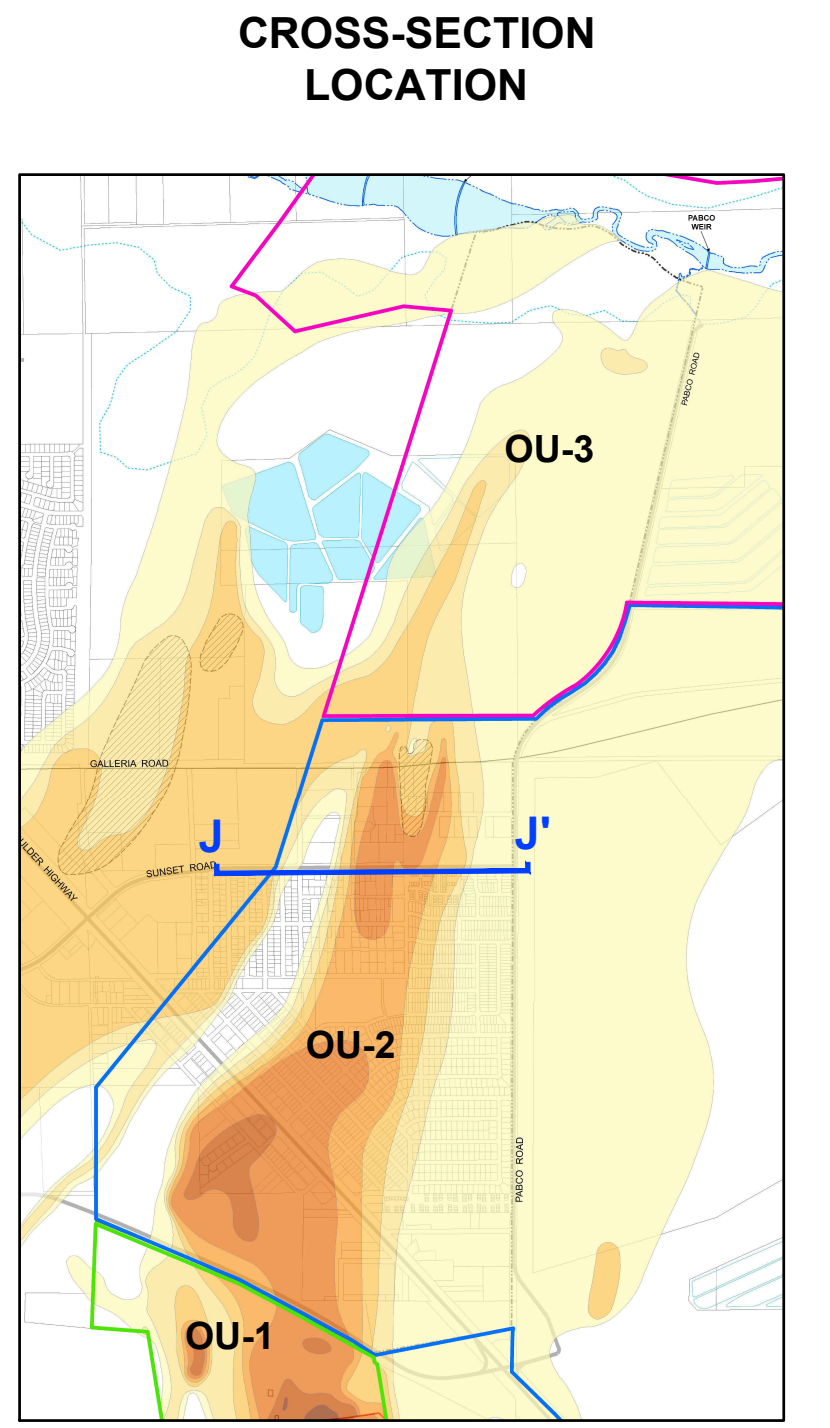
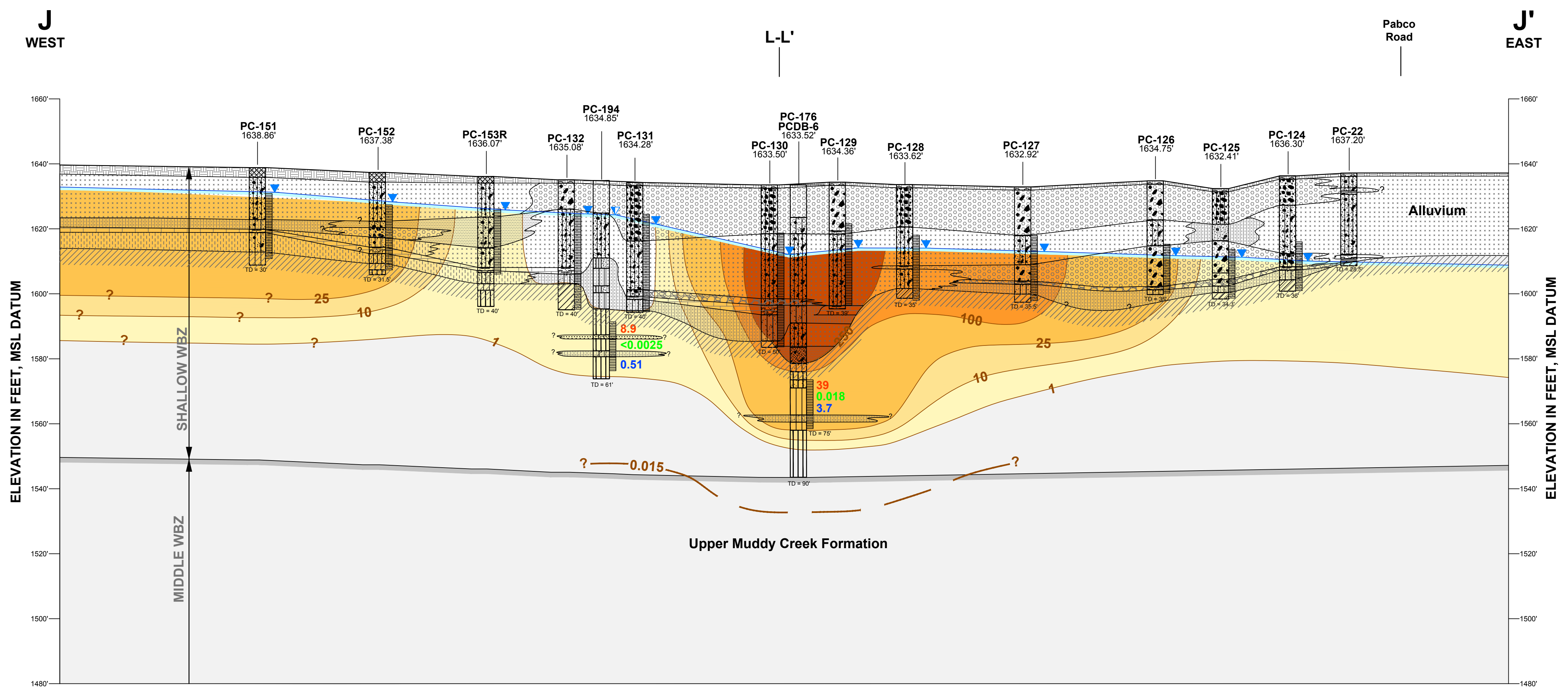
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

**RAMBOLL**

PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-11a</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 7/6/21  
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Well ID	PC-151	PC-152	PC-153R	PC-132	PC-131	PC-130	PC-129	PC-128	PC-127	PC-126	PC-125	PC-124
Elevation (ft)	51	37	8.4	<math><0.0050</math>	0.18	330	290	130	190	24	6.9	6.1
Perchlorate (mg/L)	<math><0.0025</math>	0.0042J	0.0055	<math><0.0025</math>	0.36	0.61	0.58	0.25	0.72	0.25	0.077	0.074
Chloroform (µg/L)	1.6	0.52	0.68	0.33J	0.85	20	54	110	120	540	340	420

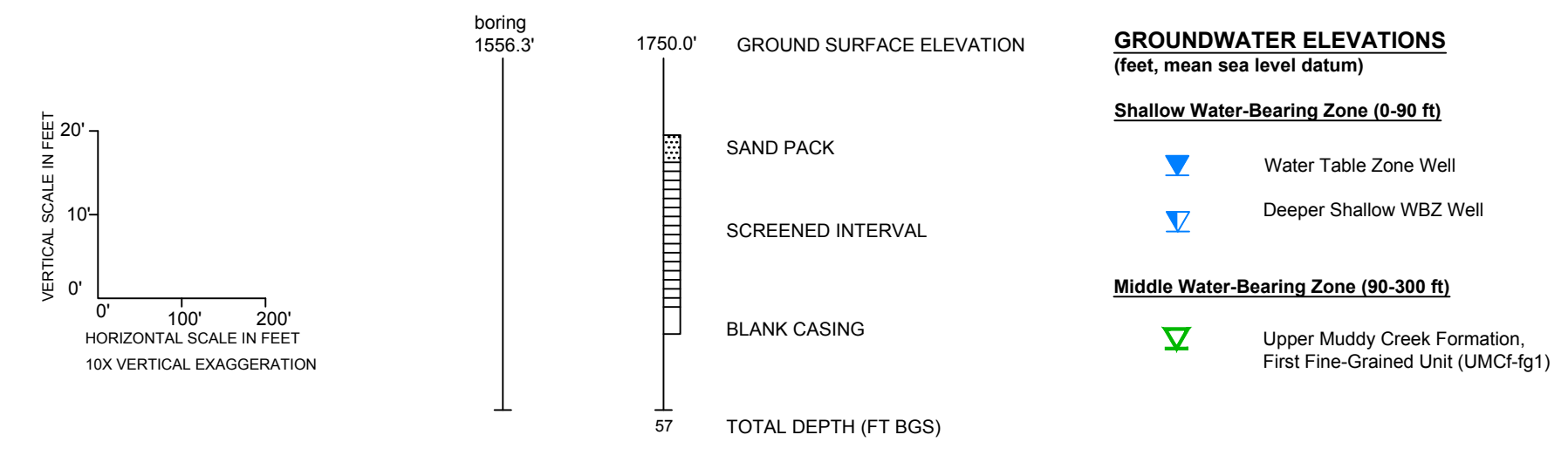
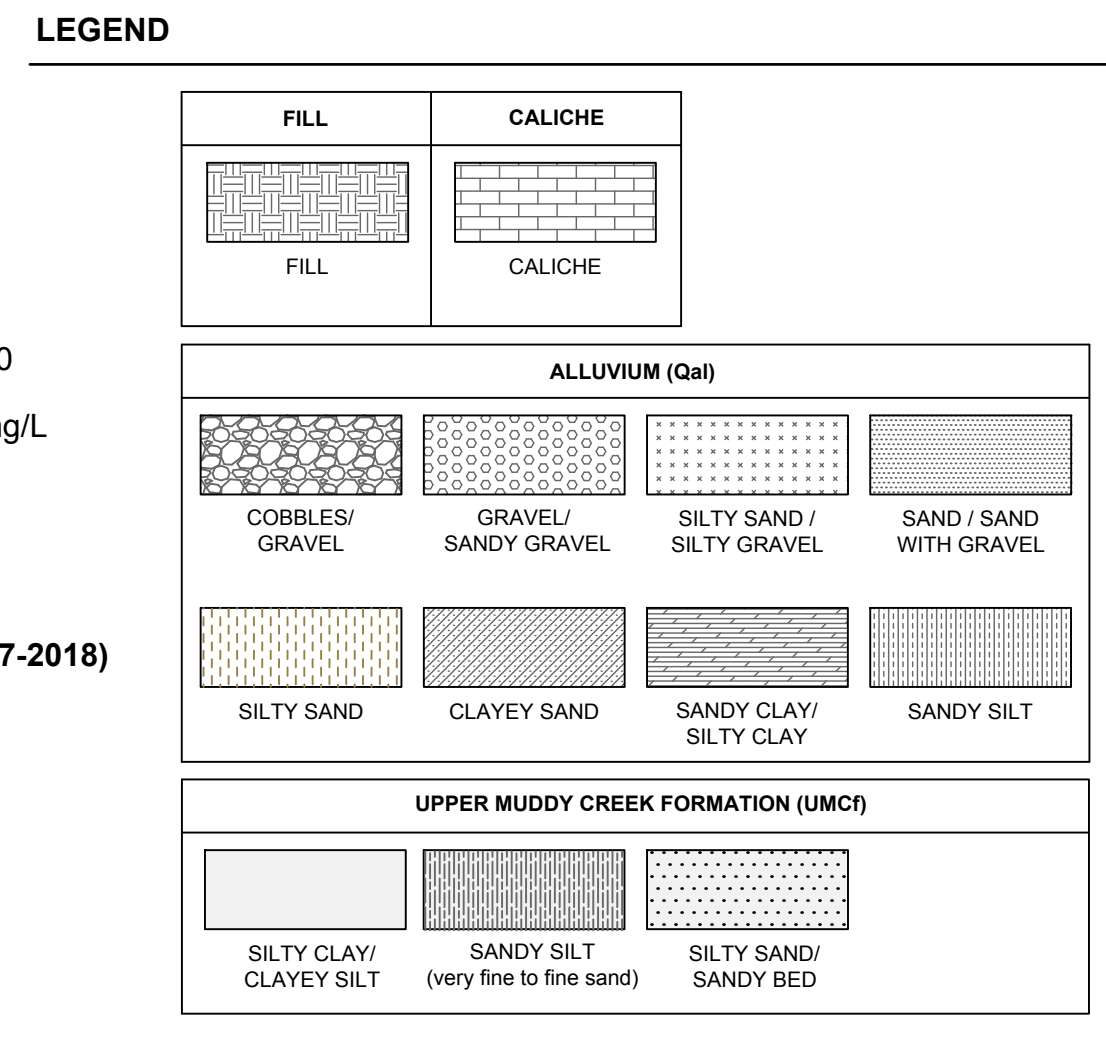
**PERCHLORATE CONCENTRATIONS**

<math><1</math> mg/L	100-250
1-10	250-500
10-25	500-1,000
25-100	>1,000 mg/L

PERCHLORATE GWSL = 0.015 mg/L

**GROUNDWATER CONCENTRATIONS (2017-2018)**

210	PERCHLORATE (mg/L)
0.42	TOTAL CHROMIUM (mg/L)
80	CHLOROFORM (µg/L)



**NOTES:**

1. Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
2. Groundwater elevations measured March-May 2018.
3. The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.



**Schematic Subsurface Cross-Section J-J'**  
Showing Perchlorate in Groundwater

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

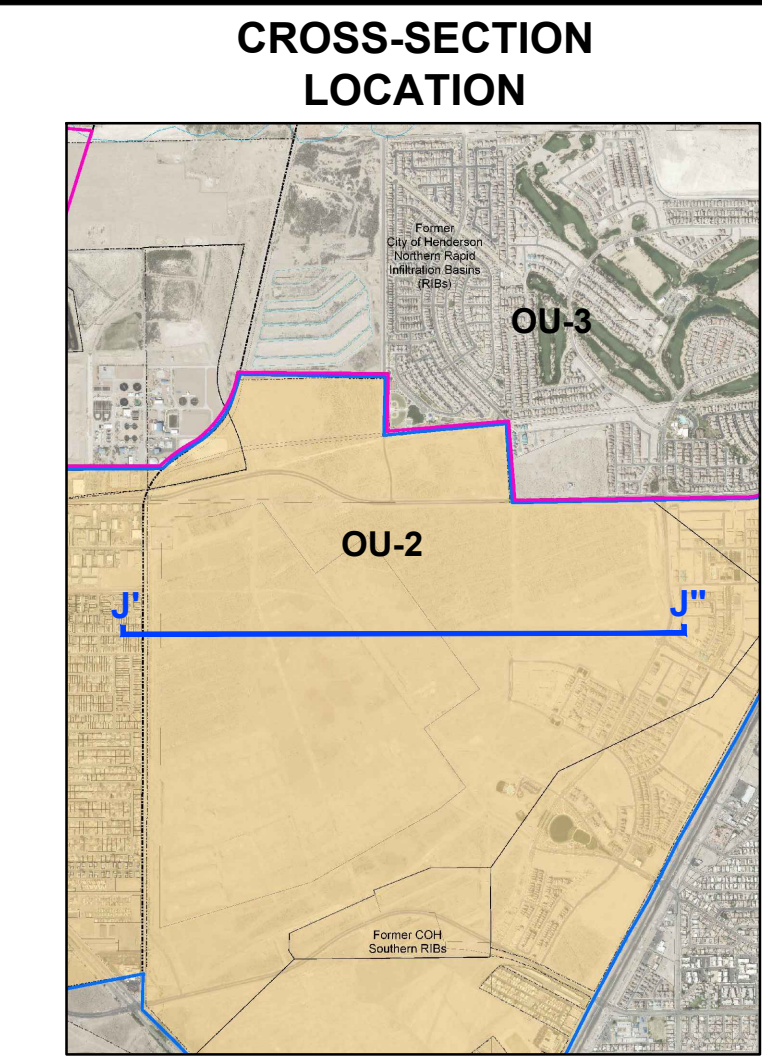
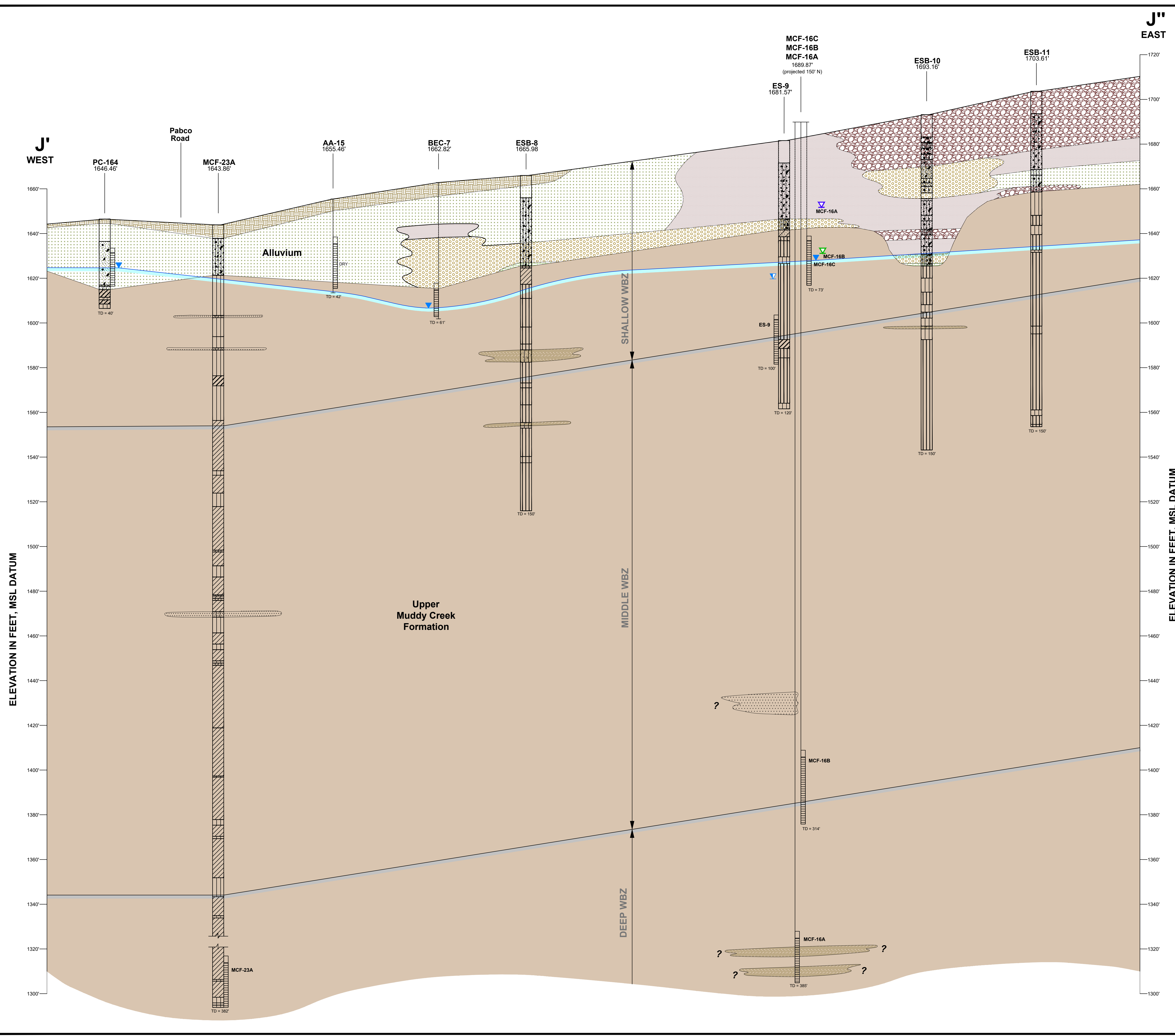
**RAMBOLL**

PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-11b</b>
DRAFTED BY: RS	SCALE: 1" = 200'	
APPROVED BY: JD	PROJECT: 169001 6064	

RWS0 7/6/21 Q:\DRAWINGS\169001\6064\3 - 169001\6064\3\_XSEC\_J-J'-PERCHLORATE



RMSO 6/5/23 C:\DRAWINGS\16900160643\_XSEC\_J'-J''



**LEGEND**

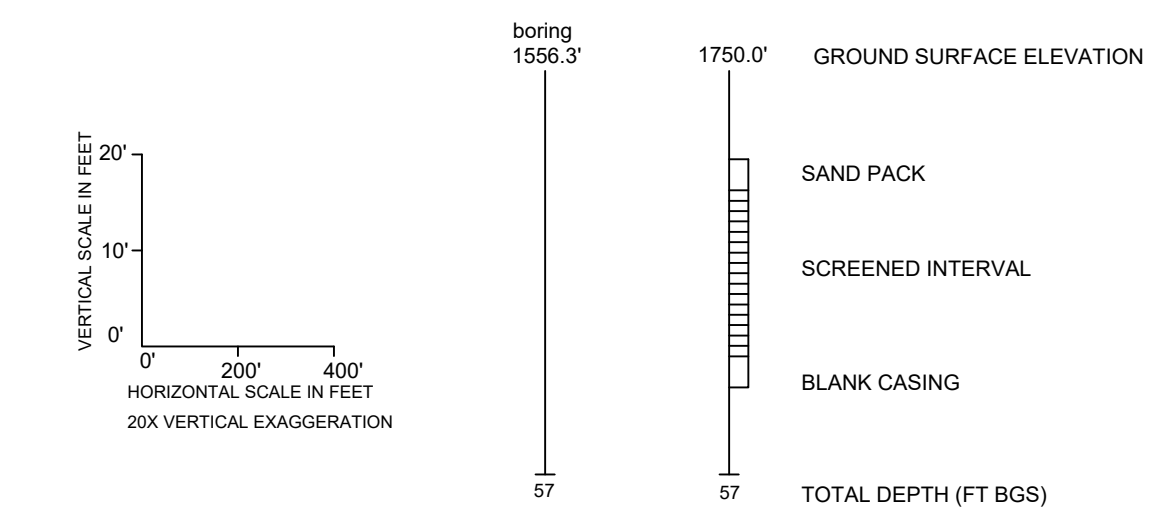
FILL	CALICHE
FILL	CALICHE

**ALLUVIUM**

COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT

**UPPER MUDDY CREEK FORMATION**

SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)	SILTY SAND/ SANDY BED



- NOTES:**
- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
  - Groundwater levels measured October 2017-April 2018.
- GROUNDWATER ELEVATIONS (feet, mean sea level datum)**
- Water Table Zone Well (0-90 ft)
  - Deeper Shallow WBZ Well
  - Middle Water-Bearing Zone (90-300 ft)
  - Upper Muddy Creek Formation.
  - Deep Water-Bearing Zone (>300 ft)
  - Upper Muddy Creek Formation.

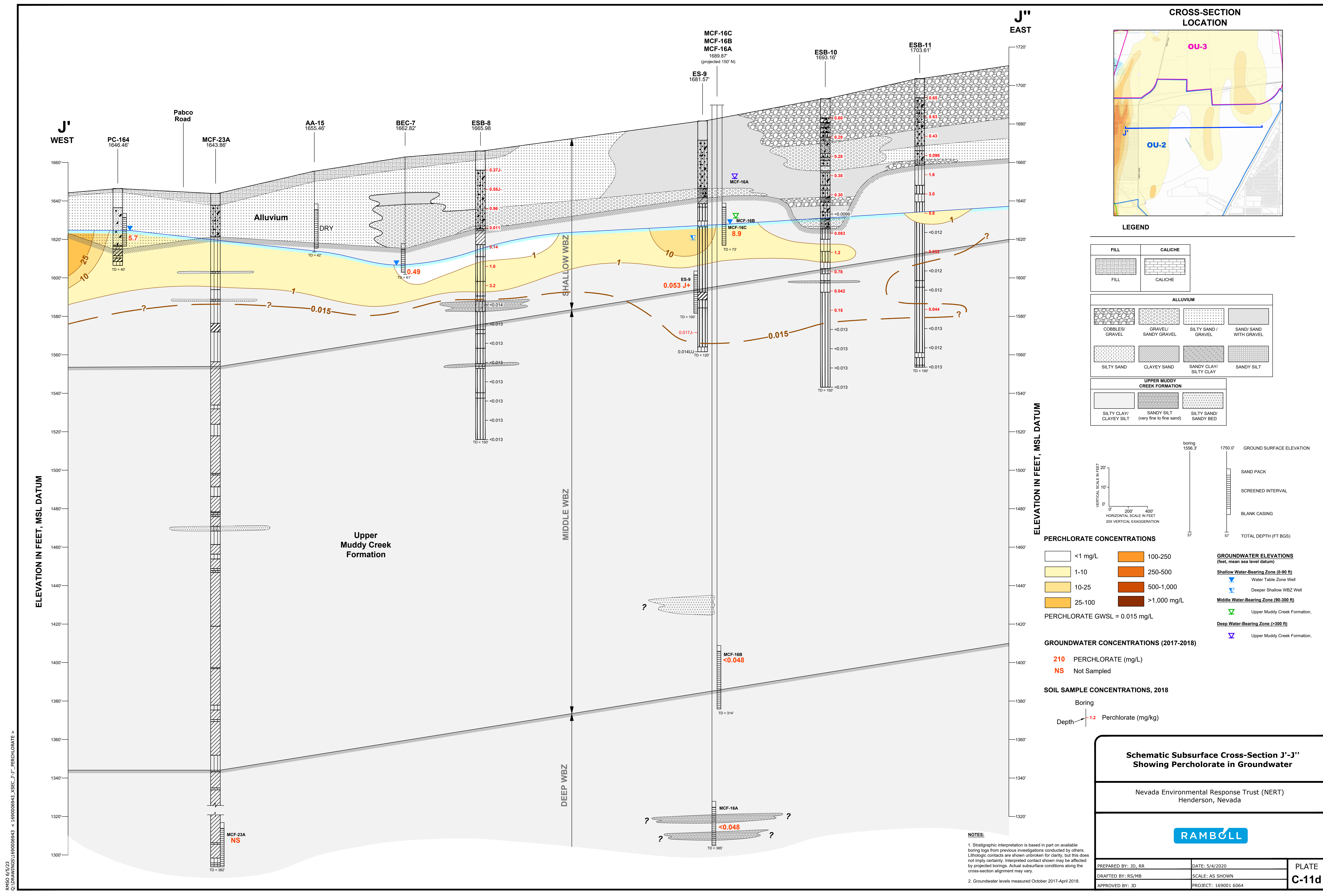
**Schematic Subsurface Cross-Section J'-J''**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

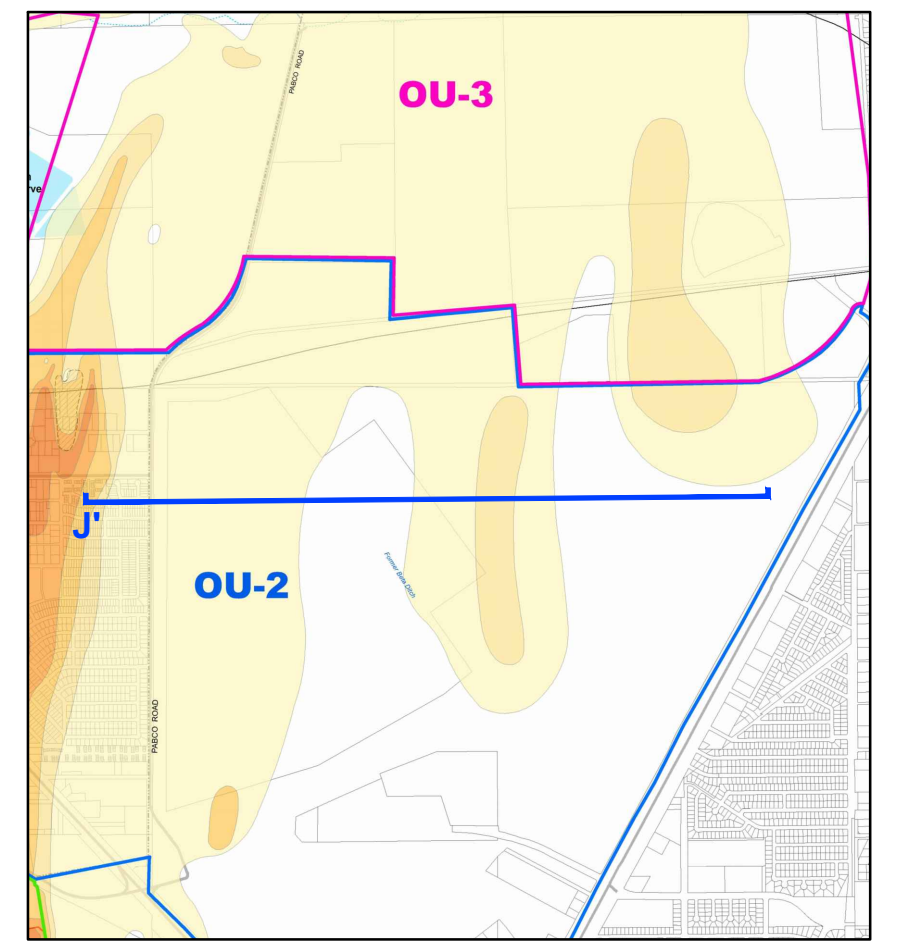
**RAMBOLL**

PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE C-11c</b>
DRAFTED BY: RS/MB	SCALE: AS SHOWN	
APPROVED BY: JD	PROJECT: 169001 6064	



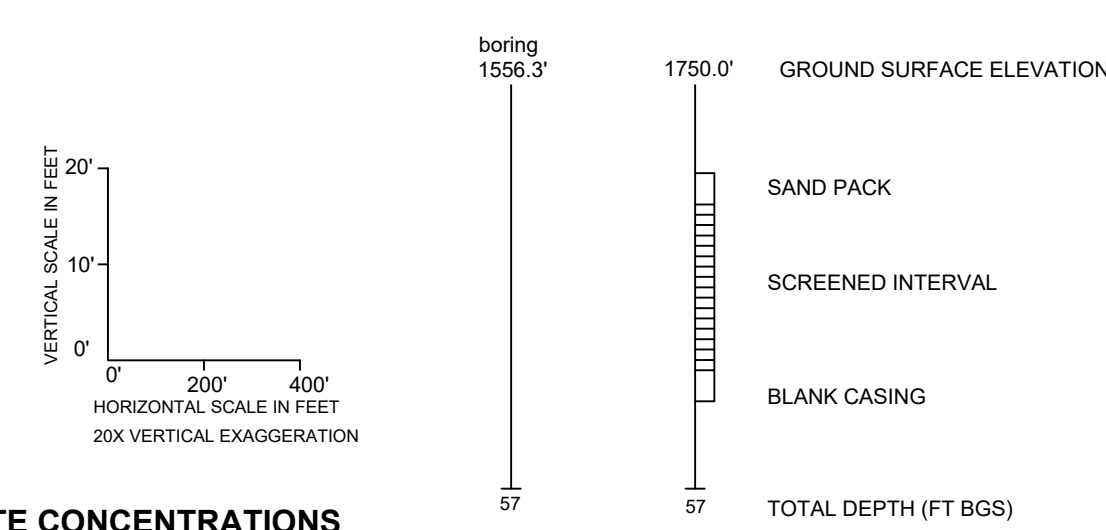


**CROSS-SECTION LOCATION**



**LEGEND**

FILL	CALICHE		
<b>ALLUVIUM</b>			
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION</b>			
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED	



**PERCHLORATE CONCENTRATIONS**

	<1 mg/L		100-250
	1-10		250-500
	10-25		500-1,000
	25-100		>1,000 mg/L

PERCHLORATE GWSL = 0.015 mg/L

**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

- Shallow Water-Bearing Zone (0-90 ft)
  - Water Table Zone Well
  - Deeper Shallow WBZ Well
- Middle Water-Bearing Zone (90-300 ft)
  - Upper Muddy Creek Formation
- Deep Water-Bearing Zone (>300 ft)
  - Upper Muddy Creek Formation

**GROUNDWATER CONCENTRATIONS (2017-2018)**

210 PERCHLORATE (mg/L)  
NS Not Sampled

**SOIL SAMPLE CONCENTRATIONS, 2018**

Boring  
Depth -1.2 Perchlorate (mg/kg)

**Schematic Subsurface Cross-Section J'-J'' Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

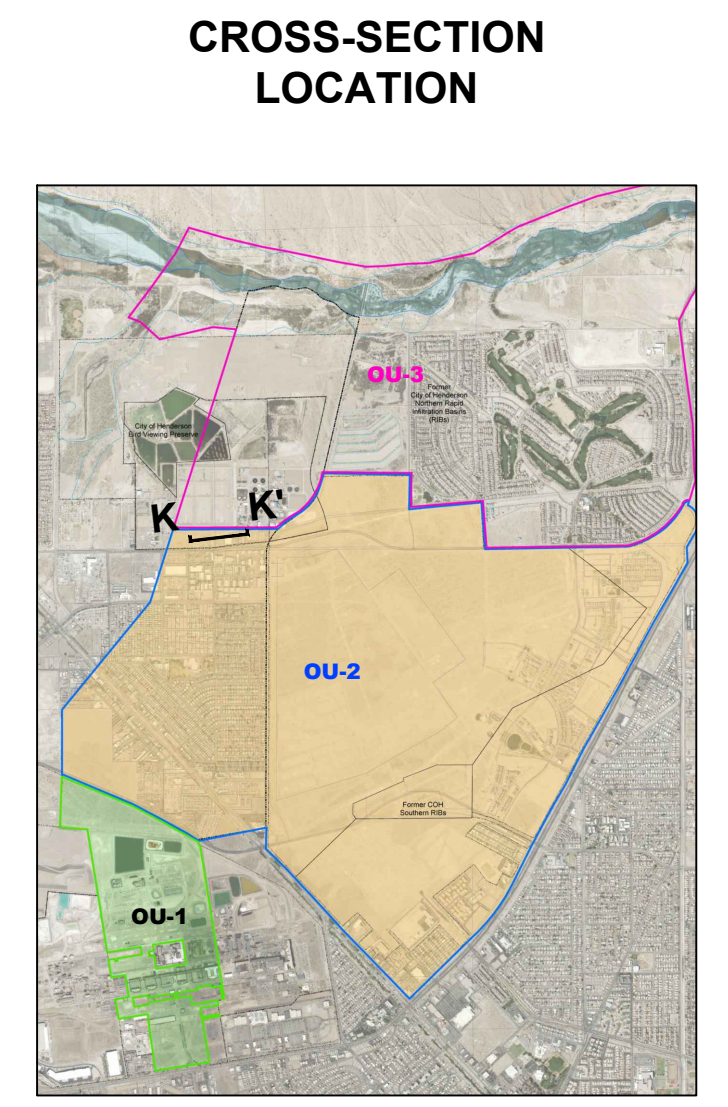
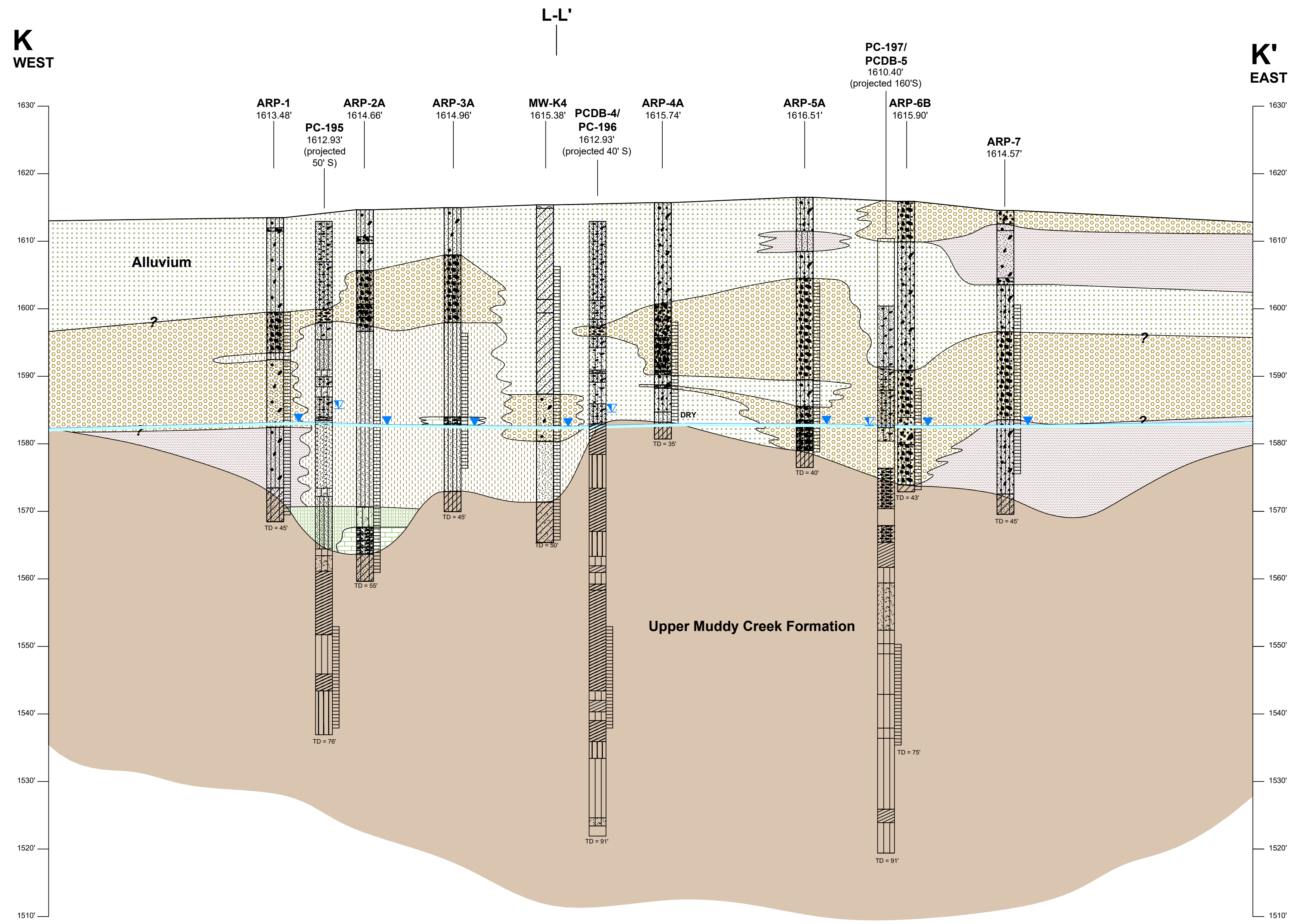


PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-11d</b>
DRAFTED BY: RS/MB	SCALE: AS SHOWN	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 6/5/23 C:\DRAWINGS\1690006064\3 < 1690006064\_3\_XSEC\_J'-J''\_PERCHLORATE >

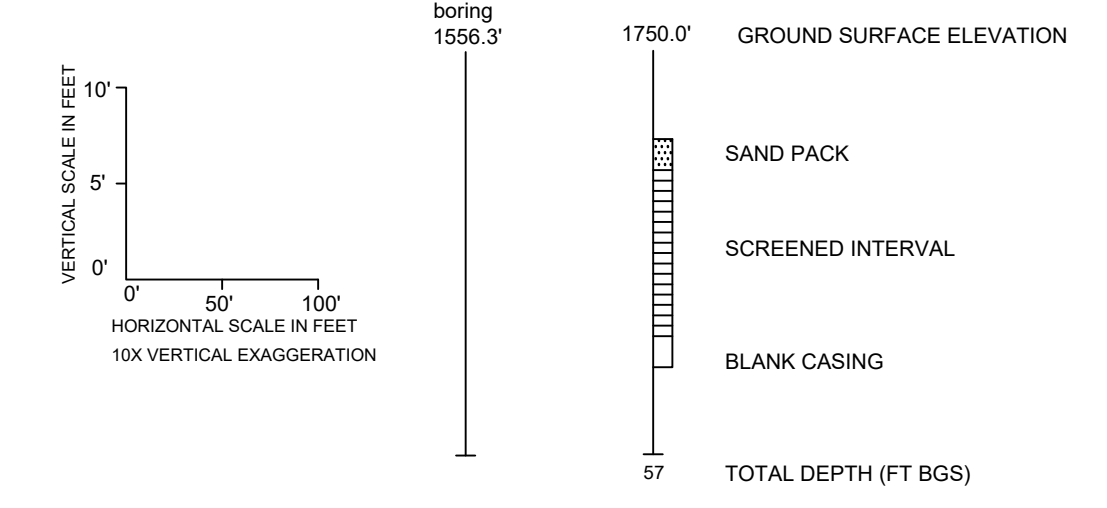
**NOTES:**  
1. Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.  
2. Groundwater levels measured October 2017-April 2018.





**LEGEND**

FILL	CALICHE	ALLUVIUM					UPPER MUDDY CREEK FORMATION		
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT
								SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)
									SILTY SAND/ SANDY BED



**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

Shallow Water-Bearing Zone (0-90 ft)

Water Table Zone Well  
Deeper Shallow WBZ Well

**NOTES:**  
1. Stratigraphic interpretation is based primarily on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.

**Schematic Subsurface Cross-Section K-K'**

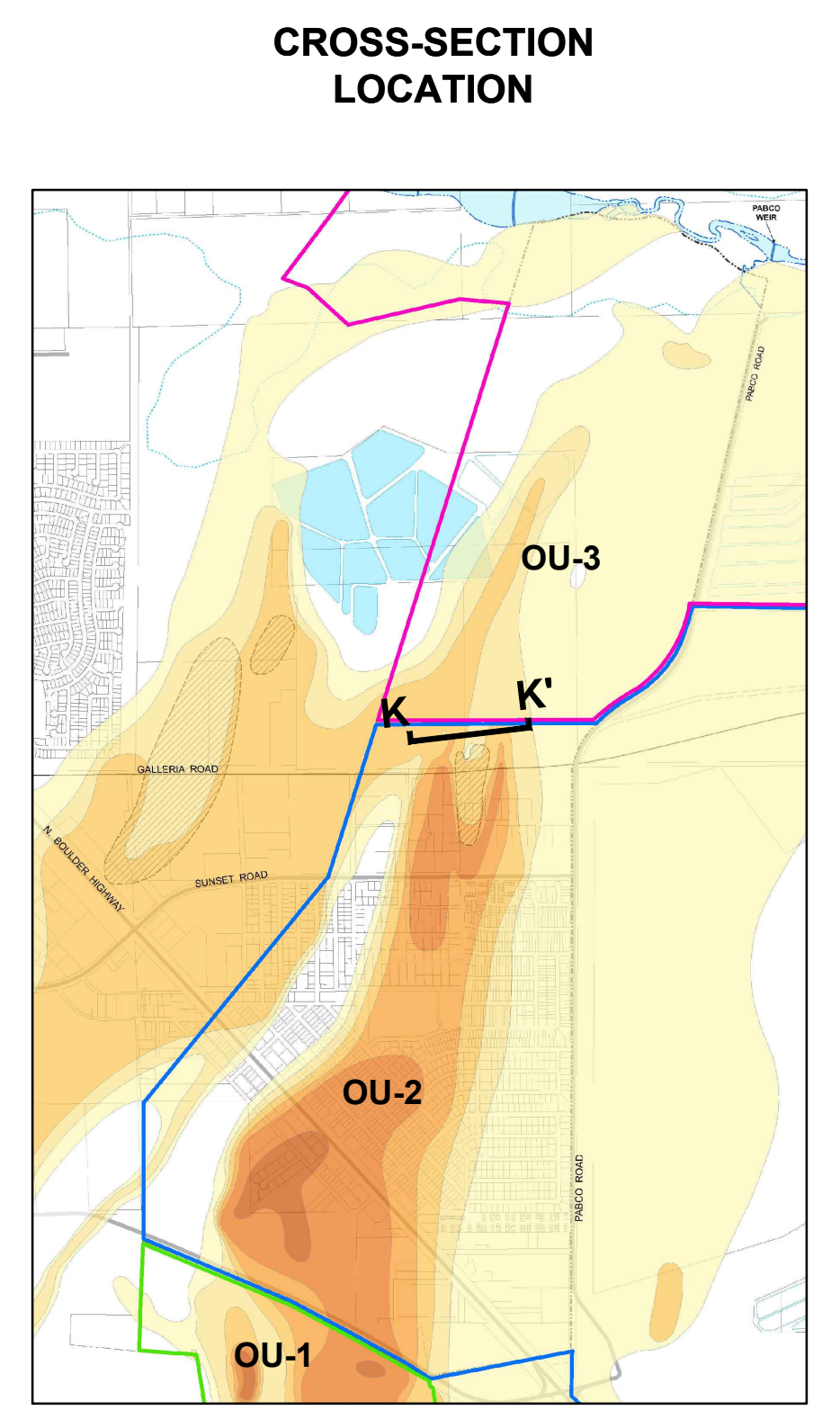
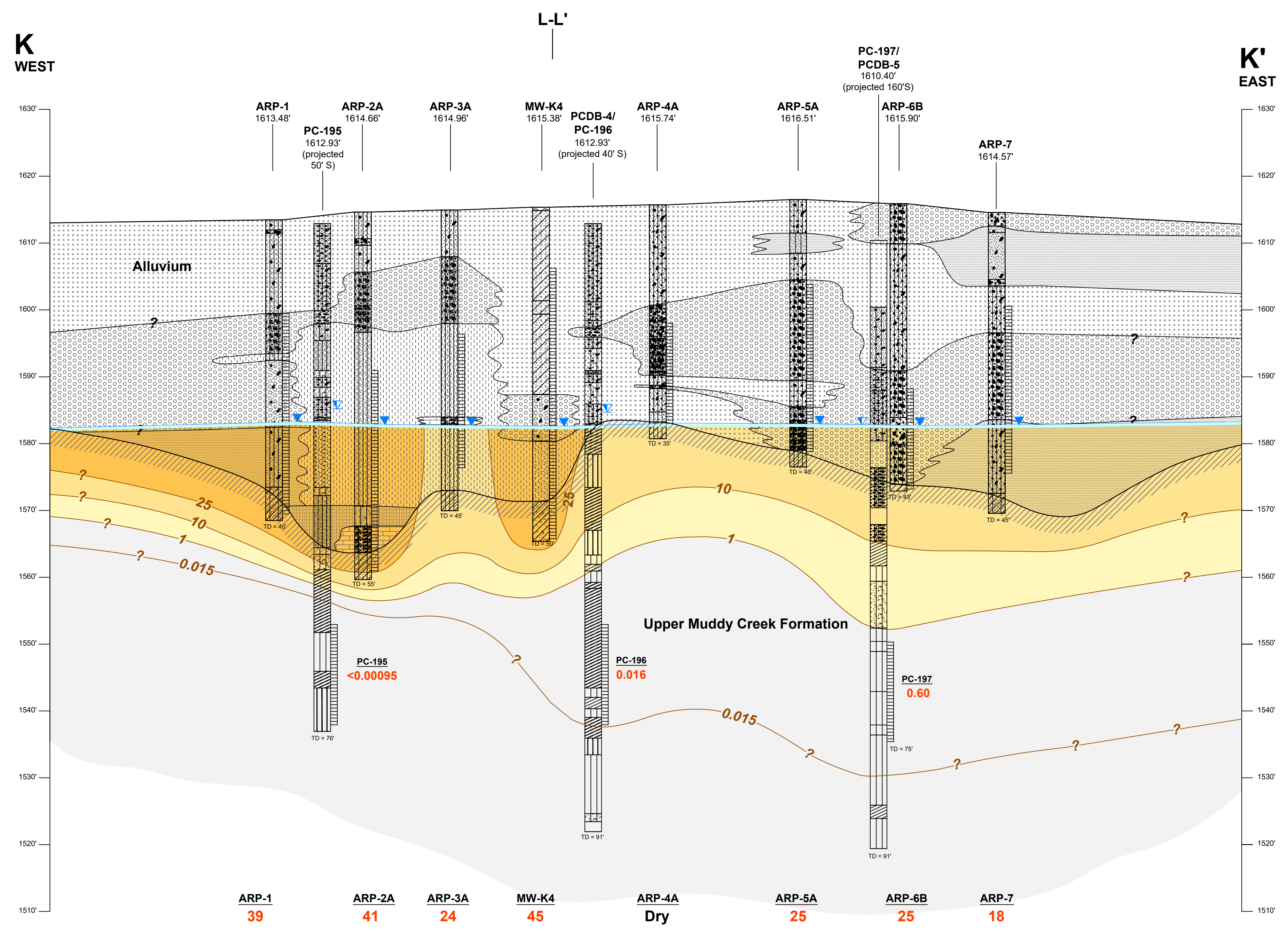
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-12a</b>
DRAFTED BY: RS	SCALE: 1" = 100'	
APPROVED BY: JD	PROJECT: 169001 6064	

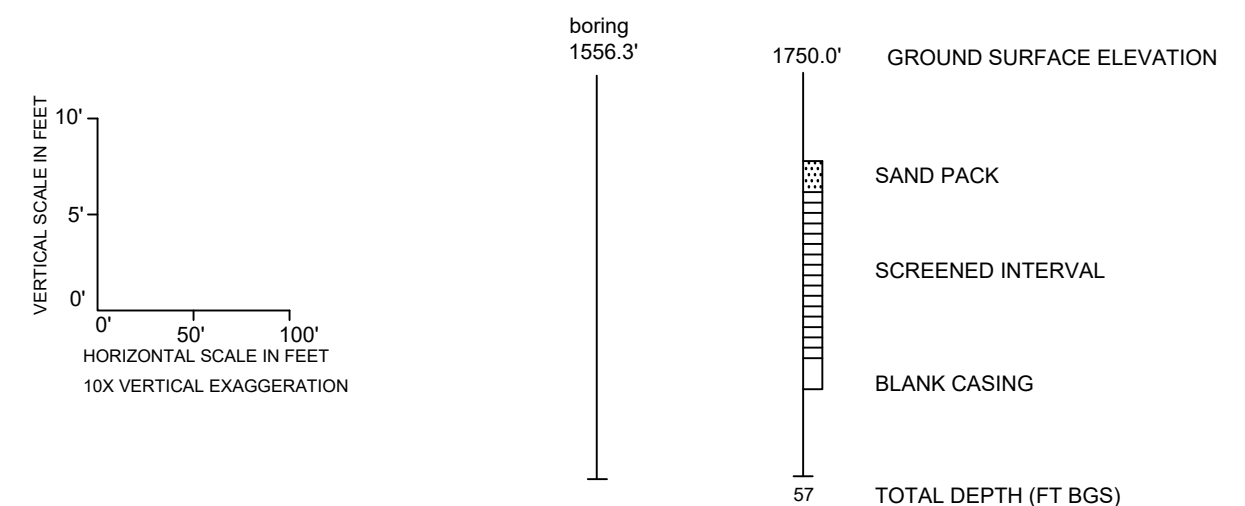
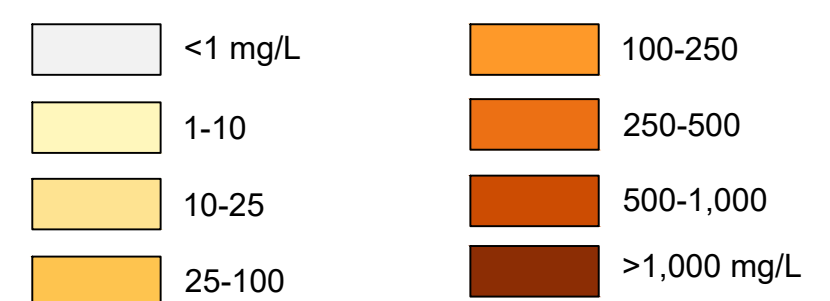
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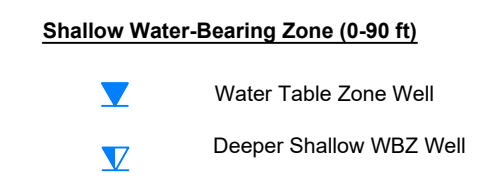


**LEGEND**

**PERCHLORATE CONCENTRATIONS**



**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)



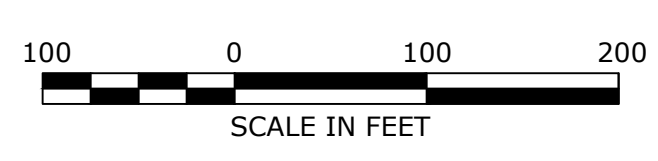
**GROUNDWATER CONCENTRATIONS, 2017 - 2018**

**210** PERCHLORATE (mg/L)

**Notes:**  
NA - Not Analyzed  
ND - Not Detected  
NS - Not Sampled  
1. The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.

**STRATIGRAPHIC UNITS AND SOIL TYPES**

FILL		ALLUVIUM							UPPER MUDDY CREEK FORMATION			
FILL	CALICHE	COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND/ GRAVEL	SAND/ SAND WITH GRAVEL	SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT	SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)	SILTY SAND/ SANDY BED



**Schematic Subsurface Cross-Section K-K'**  
**Showing Perchlorate in Groundwater**

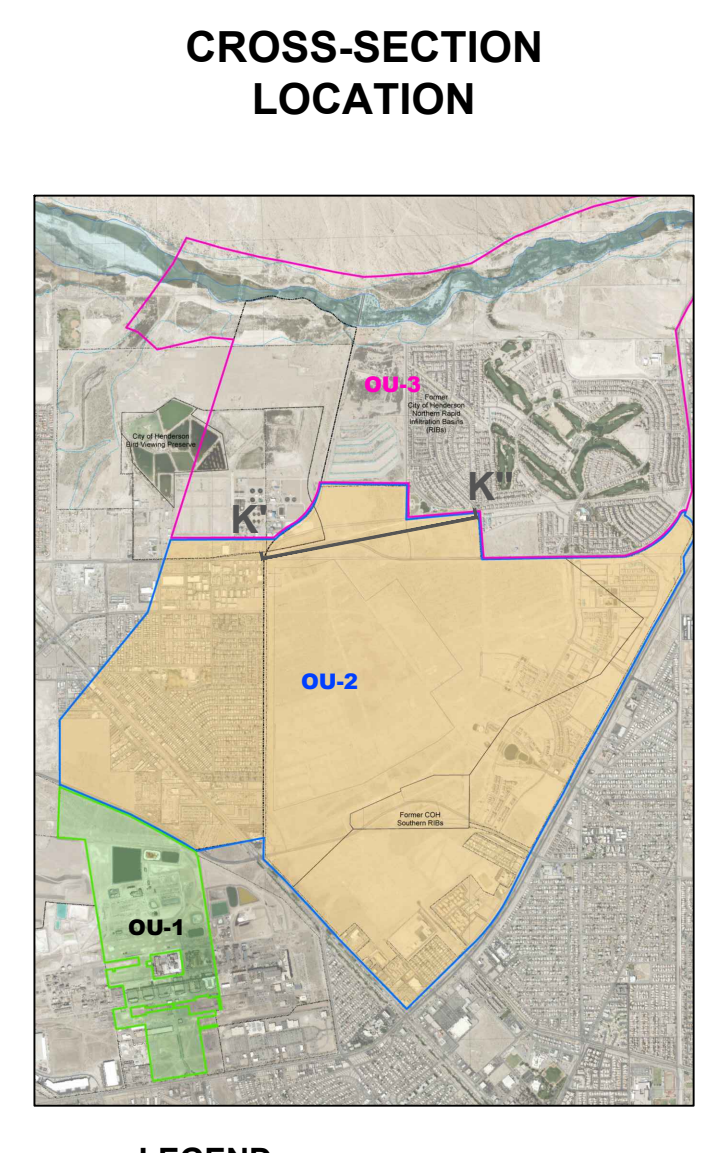
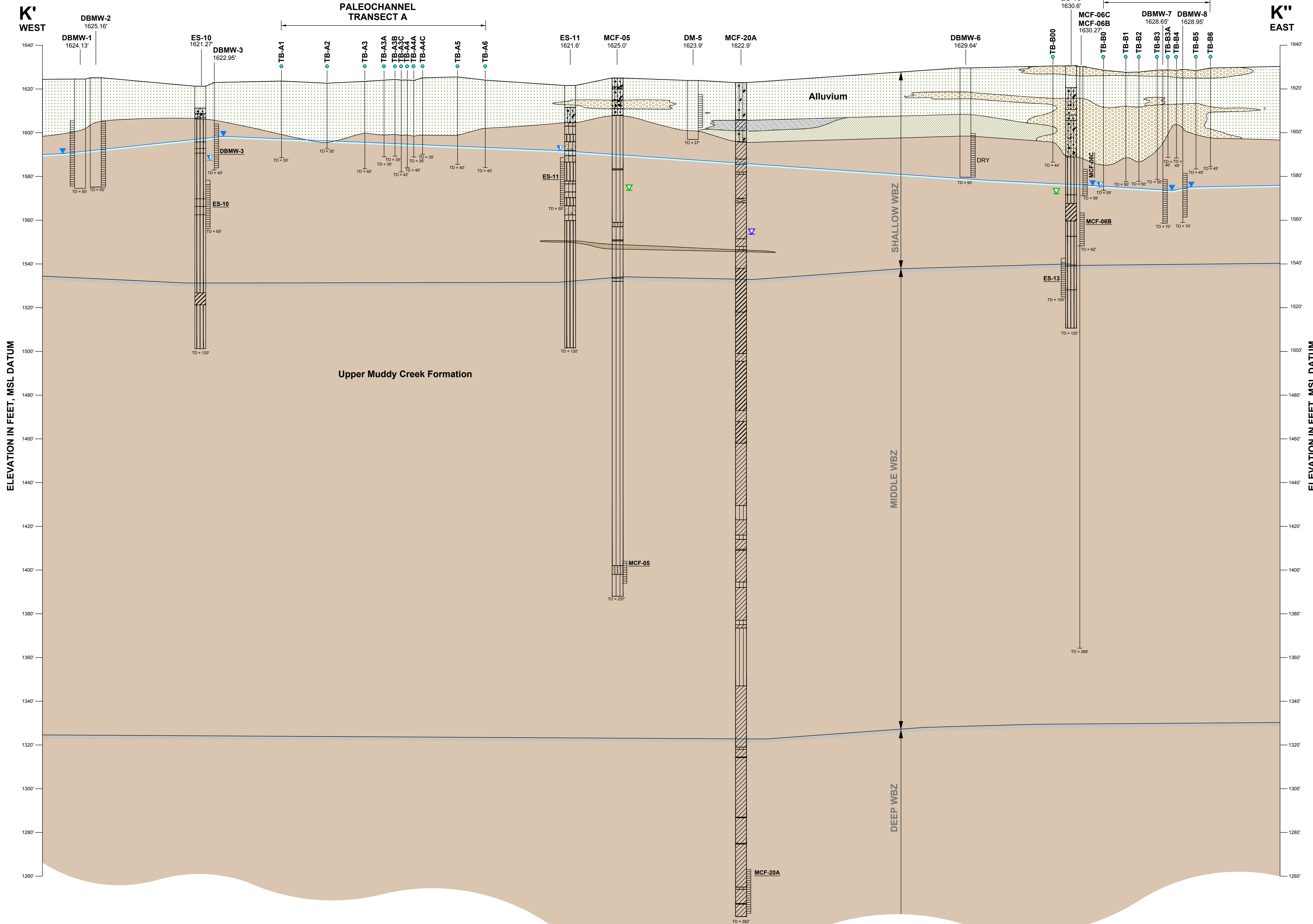
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

**RAMBOLL**

PREPARED BY: JD, RR    DATE: 5/4/2020    PLATE  
DRAFTED BY: RS    SCALE: 1" = 100'    C-12b  
APPROVED BY: JD    PROJECT: 169001 6064

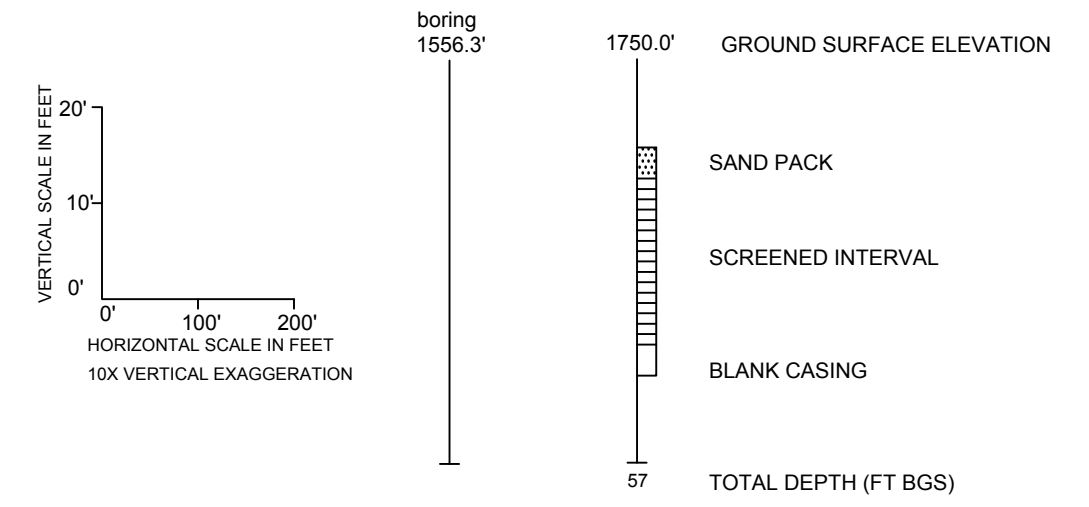
RMSO 6/6/23 C:\DRAWINGS\1690006064\3 - 1690006064\3 - SEC. K-K' PERCHLORATE





**LEGEND**

FILL	CALICHE		
<b>ALLUVIUM</b>			
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION</b>			
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED	



**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

	Water Table Zone Well		Upper Muddy Creek Formation
	Deeper Shallow WBZ Well		Deep Water-Bearing Zone (>300 ft)
			Upper Muddy Creek Formation

**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater levels measured October 2017 - May 2018.

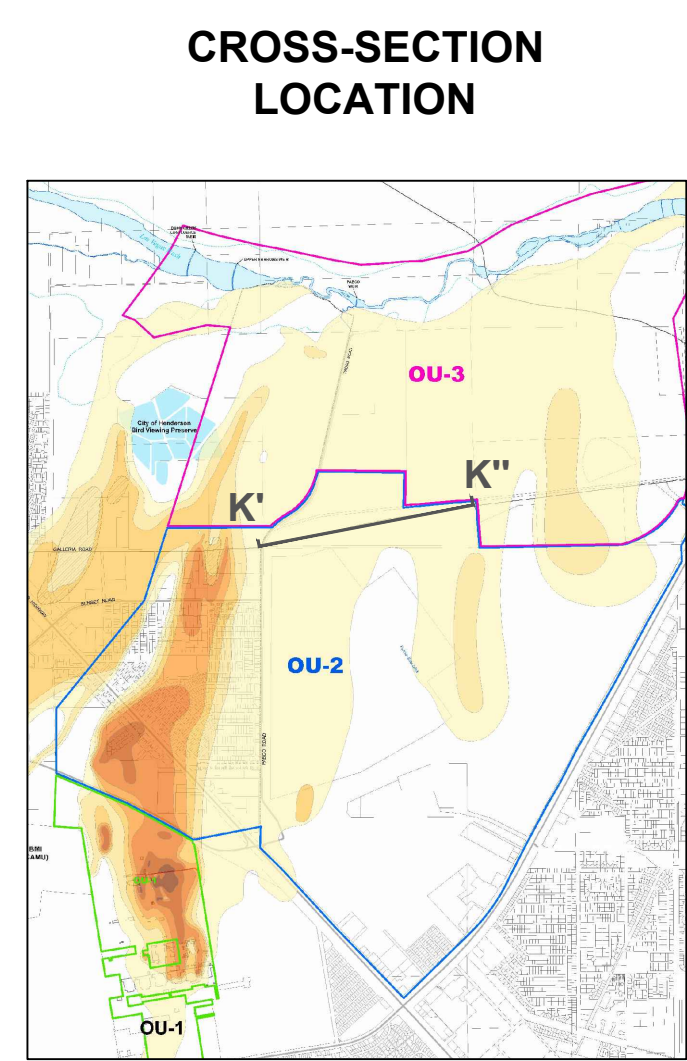
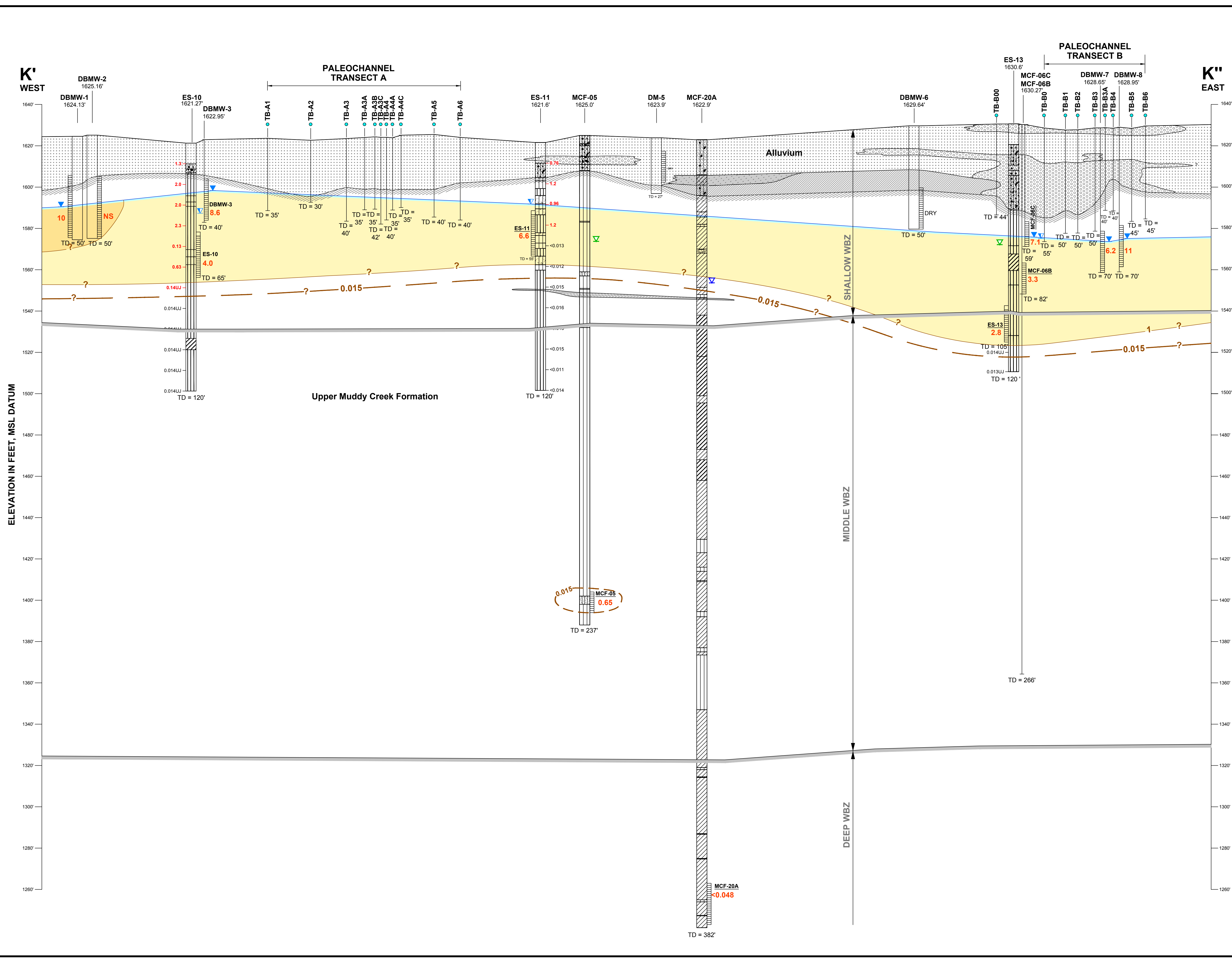
**Schematic Subsurface Cross-Section K'-K''**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-12c</b>
DRAFTED BY: RS	SCALE: AS SHOWN	
APPROVED BY: JD	PROJECT: 169001 6064	

RMSO 4/29/20  
C:\DRAWINGS\1690006943\_XSEC\_K-K' >





**LEGEND**

**PERCHLORATE CONCENTRATIONS**

	<1 mg/L		100-250
	1-10		250-500
	10-25		500-1,000
	25-100		>1,000 mg/L

PERCHLORATE GWSL = 0.015 mg/L

**GROUNDWATER CONCENTRATIONS, 2018**

210 PERCHLORATE (mg/L)  
 NS Not Sampled

**SOIL SAMPLE CONCENTRATIONS, 2018**

Boring  
 Depth -1.2 Perchlorate (mg/kg)

FILL	CALICHE
FILL	CALICHE

**ALLUVIUM**

COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND / GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT

**UPPER MUDDY CREEK FORMATION**

SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED

**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

Shallow Water-Bearing Zone (0-90 ft)

- Water Table Zone Well
- Deeper Shallow WBZ Well

Middle Water-Bearing Zone (90-300 ft)

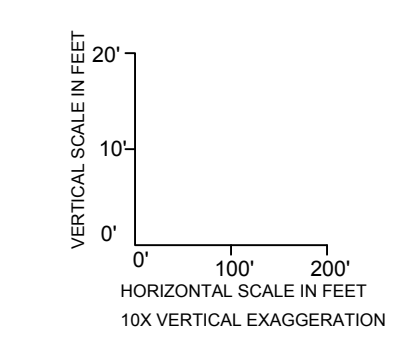
- Upper Muddy Creek Formation

Deep Water-Bearing Zone (>300 ft)

- Upper Muddy Creek Formation

**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater levels measured between October 2017 and May 2018.
- The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.



**Schematic Subsurface Cross-Section K'-K''  
 Showing Perchlorate in Groundwater**

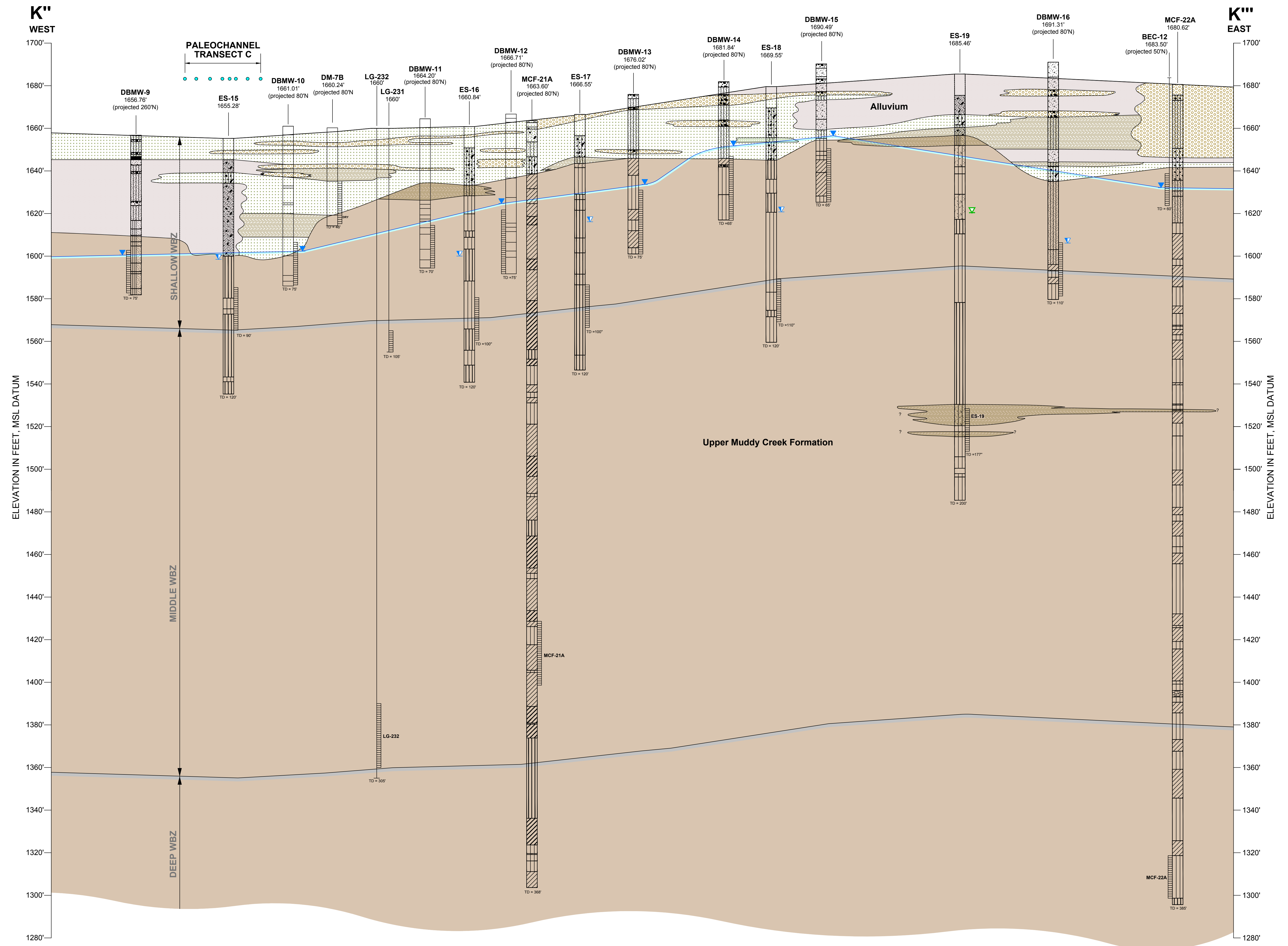
Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

**RAMBOLL**

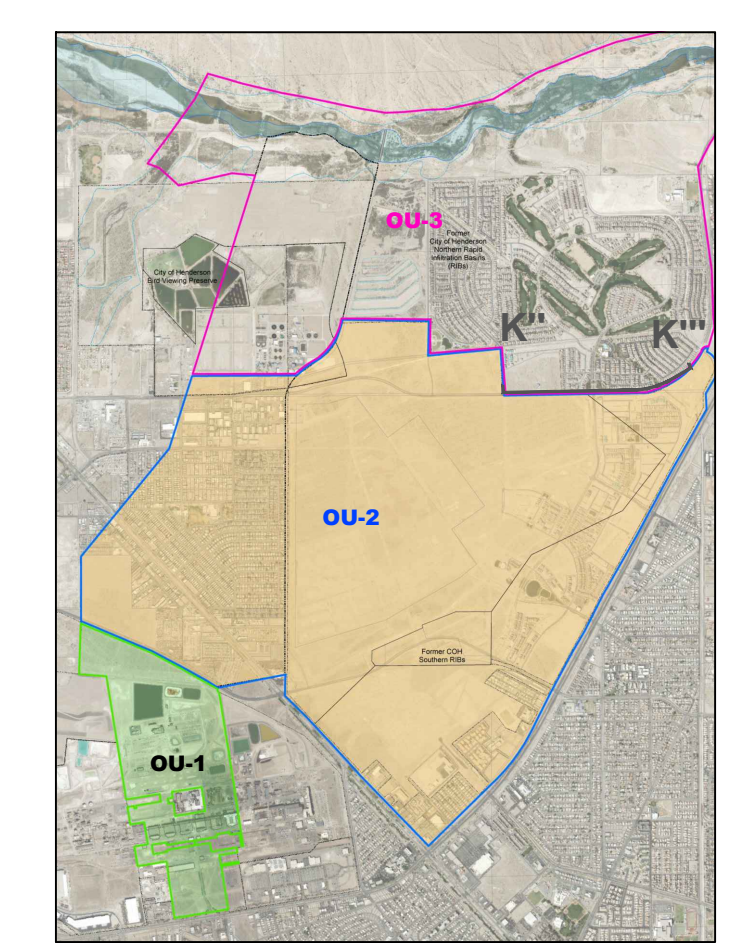
PREPARED BY: JD, RR	DATE: 5/4/2020	PLATE <b>C-12d</b>
DRAFTED BY: RS	SCALE: 1" = 100'	
APPROVED BY: JD	PROJECT: 169001 6064	

P:\65041\2020\169001\6064\1690016064\_3\_XSEC\_K'-K''\_PERCHLORATE\_20THSCALE.dwg  
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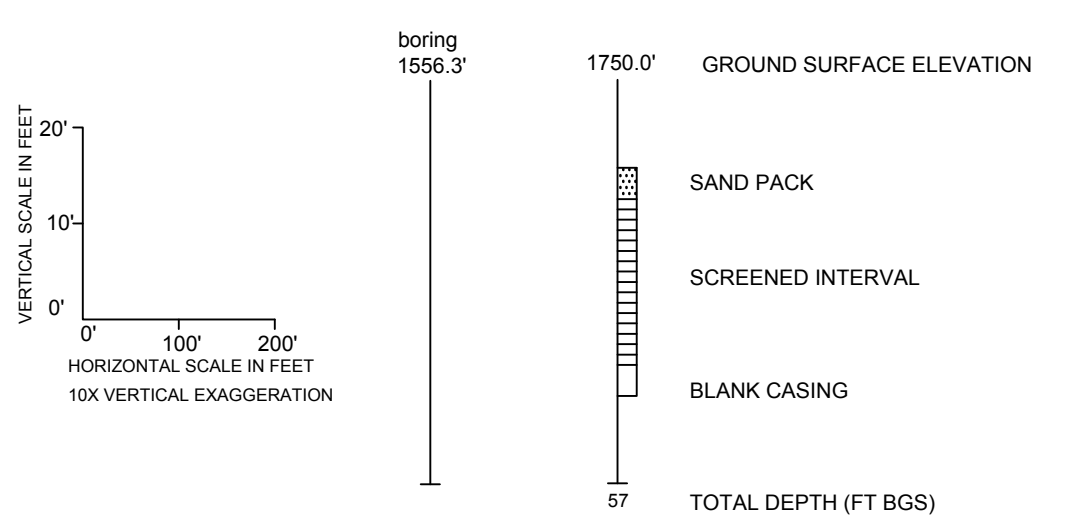


**CROSS-SECTION LOCATION**



**LEGEND**

FILL	CALICHE
<b>ALLUVIUM</b>	
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL
SILTY SAND / GRAVEL	SANDY SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND
SANDY CLAY/ SILTY CLAY	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION</b>	
SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)
SILTY SAND/ SANDY BED	



**GROUNDWATER ELEVATIONS**  
(feet, mean sea level datum)

Shallow Water-Bearing Zone (0-90 ft)		Middle Water-Bearing Zone (90-300 ft)	
	Water Table Zone Well		Upper Muddy Creek Formation, First Fine-Grained Unit (UMCF-1g1)
	Deeper Shallow WBZ Well		

**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater levels measured October 2017 - May 2018.

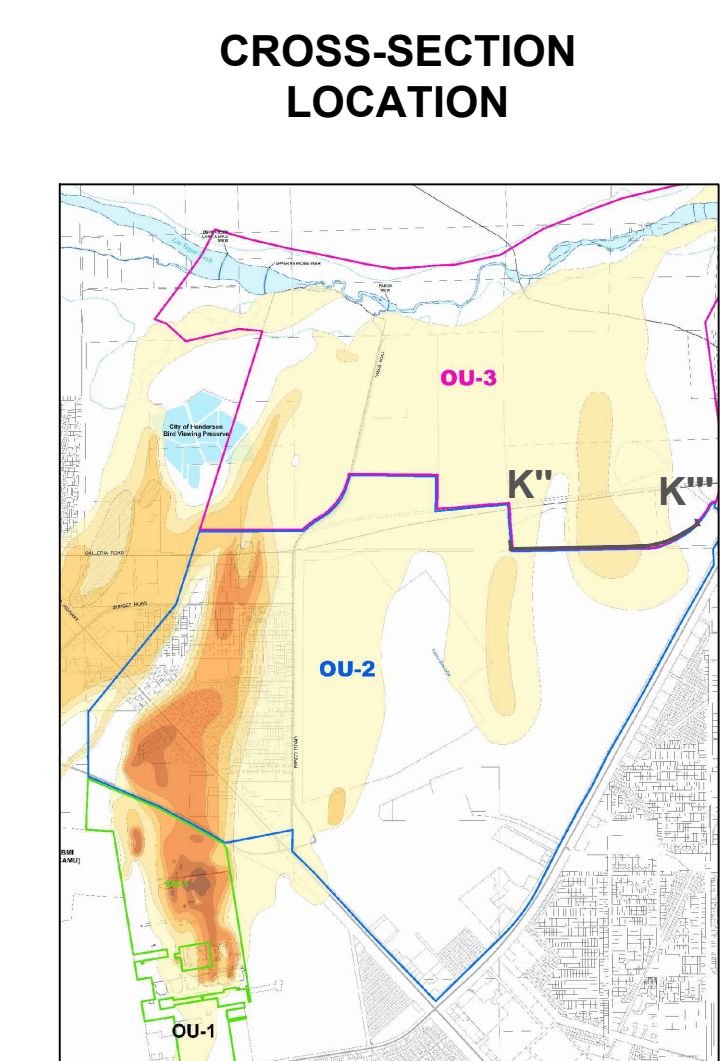
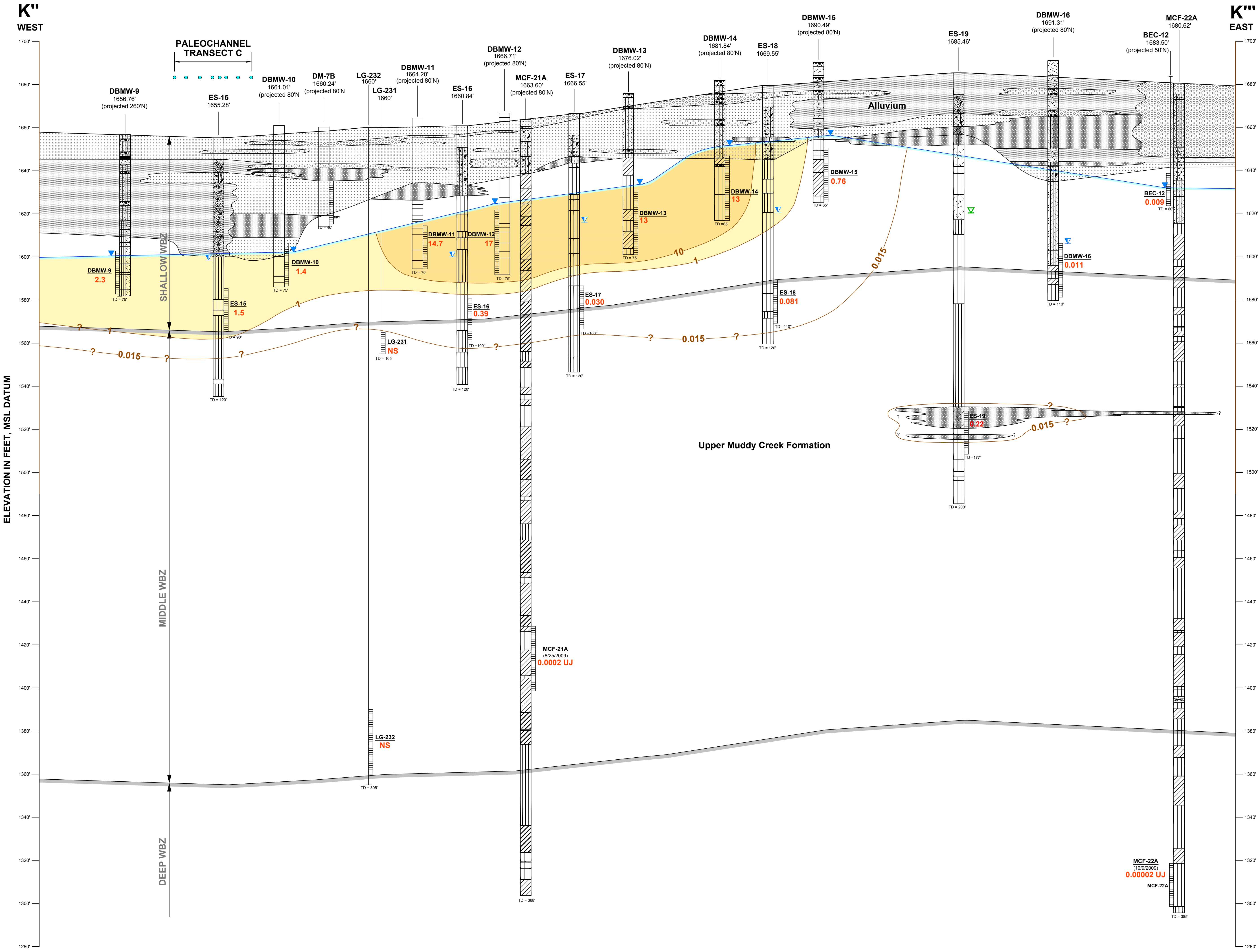
**Schematic Subsurface Cross-Section K''-K'''**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada

PREPARED BY: JD, RR	DATE: 5/4/2020	<b>PLATE C-12e</b>
DRAFTED BY: RS	SCALE: AS SHOWN	
APPROVED BY: JD	PROJECT: 169001 6064	

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**LEGEND**

**PERCHLORATE CONCENTRATIONS**

<1 mg/L	100-250
1-10	250-500
10-25	500-1,000
25-100	>1,000 mg/L

PERCHLORATE GWSL = 0.015 mg/L

**GROUNDWATER CONCENTRATIONS, 2018**

210 PERCHLORATE (mg/L)  
 NS NOT SAMPLED

**FILL**  
 FILL

**CALICHE**  
 CALICHE

**ALLUVIUM**

COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL	SILTY SAND/ GRAVEL	SAND/ SAND WITH GRAVEL
SILTY SAND	CLAYEY SAND	SANDY CLAY/ SILTY CLAY	SANDY SILT

**UPPER MUDDY CREEK FORMATION**

SILTY CLAY/ CLAYEY SILT	SANDY SILT (very fine to fine sand)	SILTY SAND/ SANDY BED
-------------------------	-------------------------------------	-----------------------

**GROUNDWATER ELEVATIONS**  
 (feet, mean sea level datum)

**Shallow Water-Bearing Zone (0-90 ft)**

- Water Table Zone Well
- Deeper Shallow WBZ Well

**Middle Water-Bearing Zone (90-300 ft)**

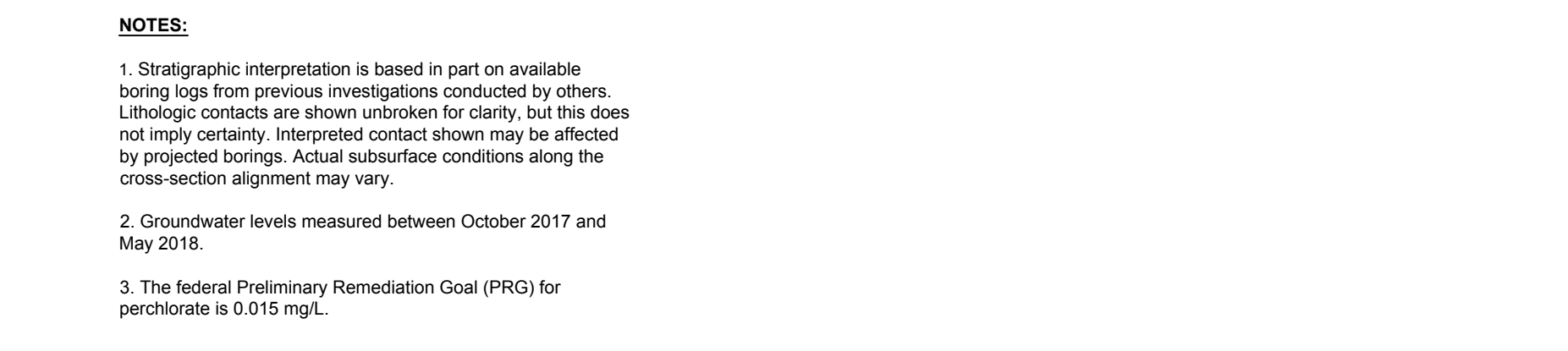
- Upper Muddy Creek Formation

**Deep Water-Bearing Zone (>300 ft)**

- Upper Muddy Creek Formation

**NOTES:**

- Stratigraphic interpretation is based in part on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- Groundwater levels measured between October 2017 and May 2018.
- The federal Preliminary Remediation Goal (PRG) for perchlorate is 0.015 mg/L.



**Schematic Subsurface Cross-Section K''-K''' Showing Perchlorate in Groundwater**

Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

**RAMBOLL**

PREPARED BY: JD, RR DATE: 5/4/2020  
 DRAFTED BY: RS SCALE: 1" = 100'  
 APPROVED BY: JD PROJECT: 169001 6064

SCALE IN FEET  
 200 0 200 400

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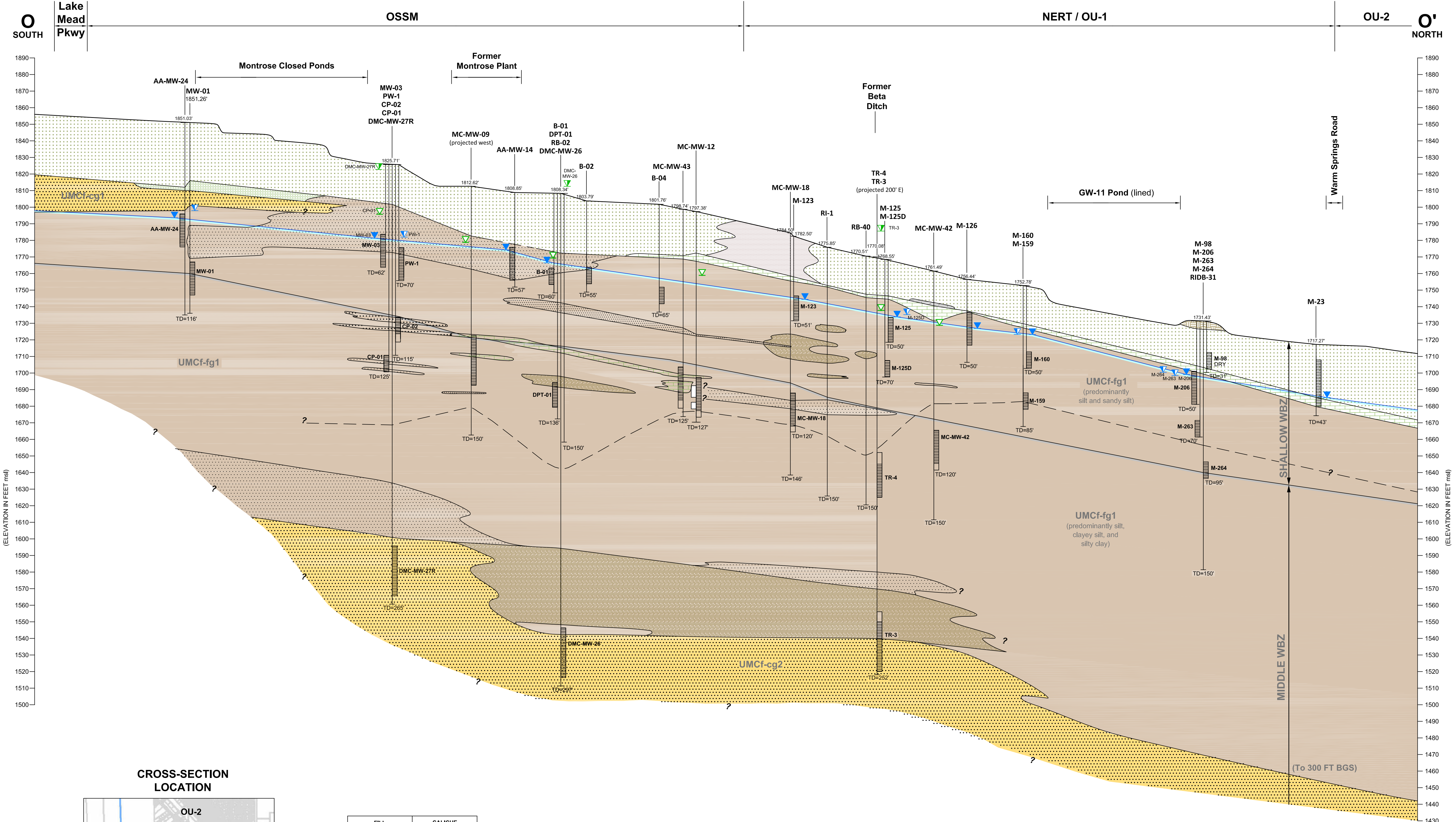




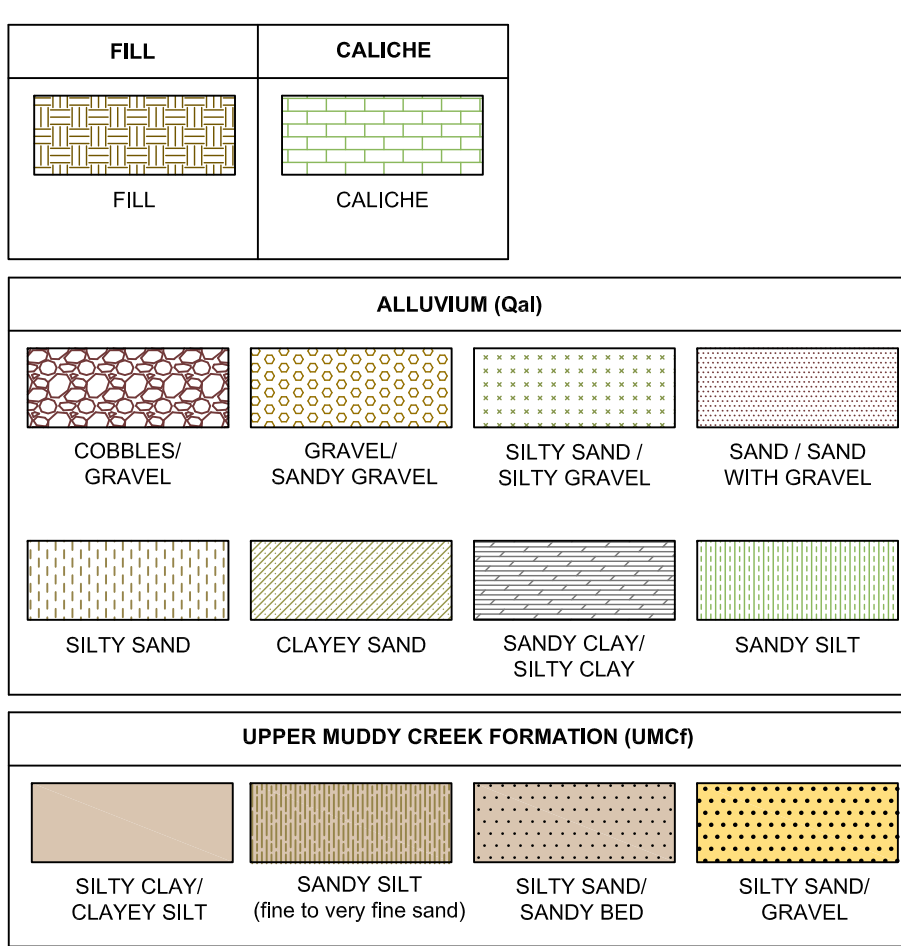
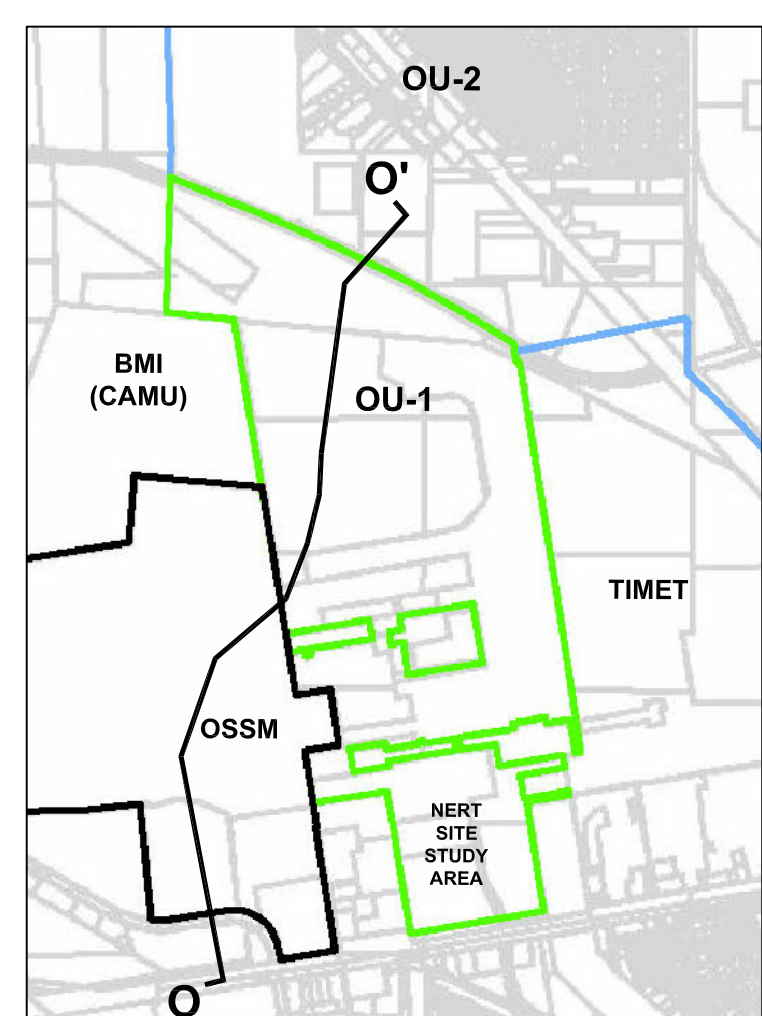




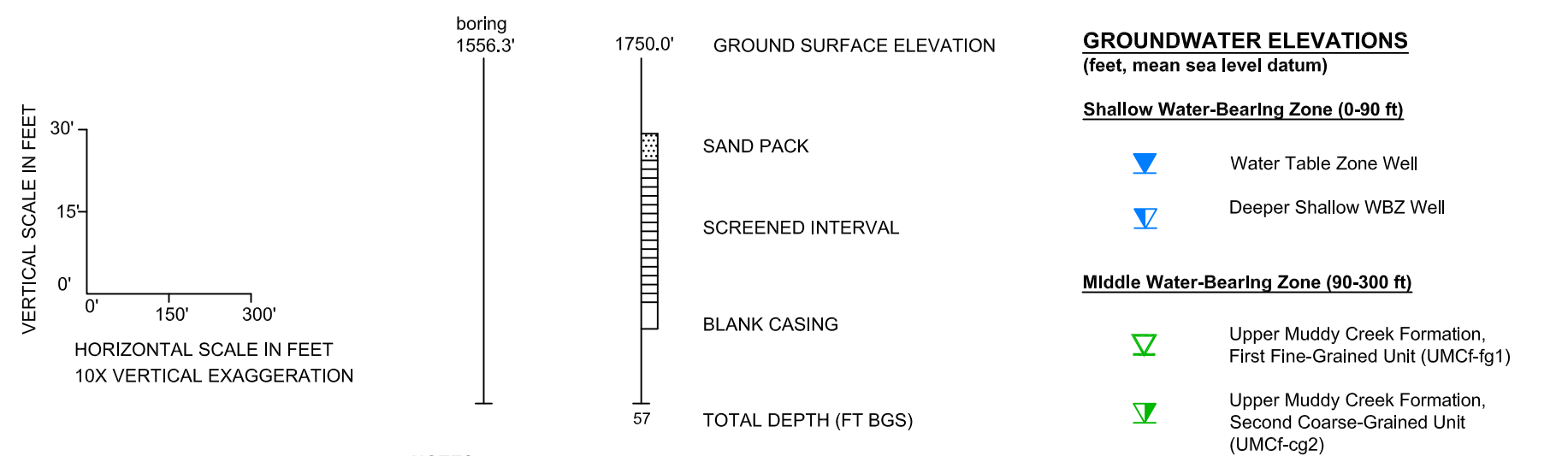




CROSS-SECTION LOCATION



LEGEND



NOTES:

- Stratigraphic interpretation is based primarily on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
- At MC-MW-12, there was no core recovery from 105-112 ft and 115-119 ft.
- Groundwater elevations measured October 2017 - May 2018, or most recent available data.



Schematic Subsurface Cross-Section O-O'

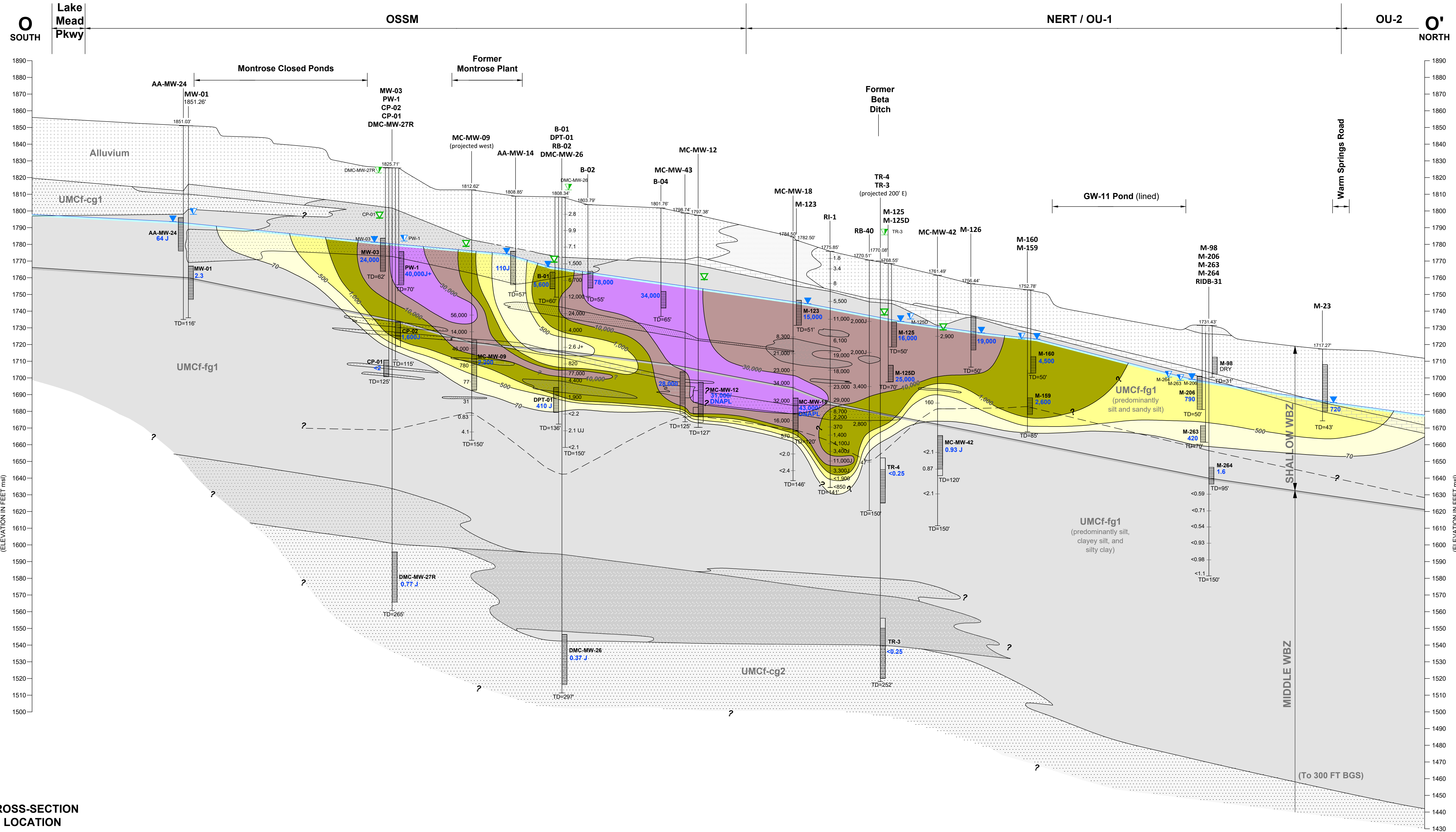
Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



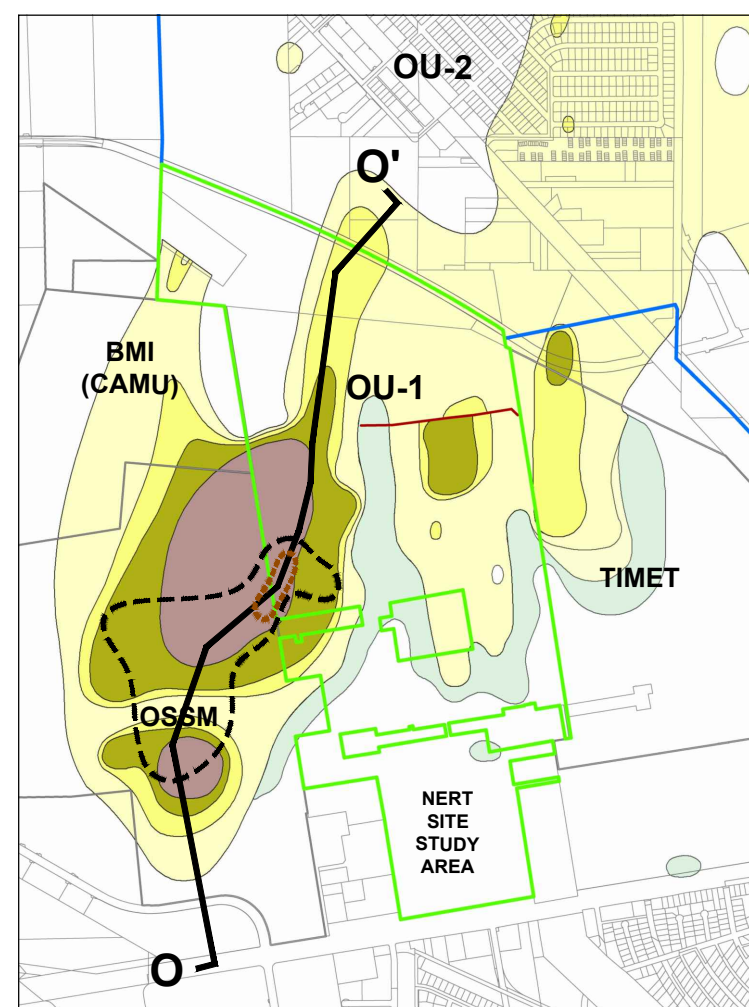
PREPARED BY: JD, RR	DATE: 1/17/23	PLATE <b>C-14a</b>
DRAFTED BY: RS	SCALE: 1" = 300'	
APPROVED BY: JD	PROJECT: 169002.9369	

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**CROSS-SECTION LOCATION**



FILL	CALICHE
ALLUVIUM (Gai)	
COBBLES/ GRAVEL	GRAVEL/ SANDY GRAVEL
SILTY SAND	CLAYEY SAND
SILTY SAND / SILTY GRAVEL	SANDY CLAY/ SILTY CLAY
SAND / SAND WITH GRAVEL	SANDY SILT
<b>UPPER MUDDY CREEK FORMATION (UMCF)</b>	
SILTY CLAY/ CLAYEY SILT	SANDY SILT (fine to very fine sand)
SILTY SAND/ SANDY BED	SILTY SAND/ GRAVEL

**CHLOROFORM CONCENTRATIONS**

<math><70\ \mu\text{g/L}</math>	1,000 - 10,000
70 - 500	10,000 - 30,000
500 - 1,000	> 30,000

CHLOROFORM GWSL = 70  $\mu\text{g/L}$

**SOIL SAMPLE CONCENTRATIONS**

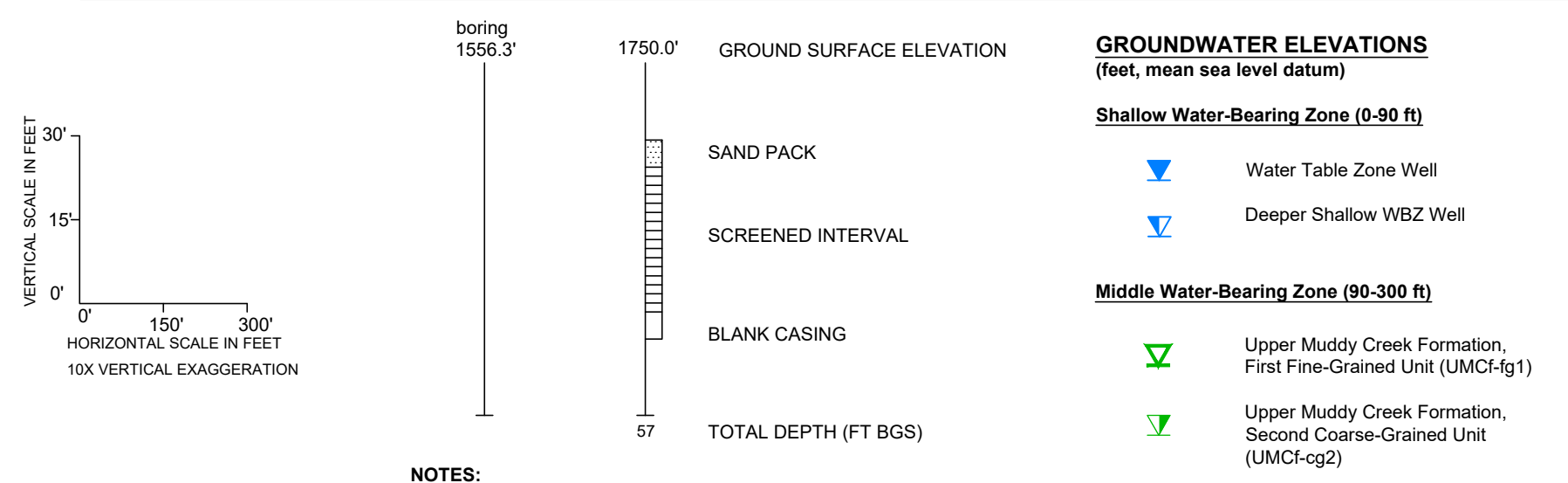
Boring Depth: 1.2 Chloroform ( $\mu\text{g/kg}$ )

**GROUNDWATER CONCENTRATIONS (2015-2018)**

80 CHLOROFORM ( $\mu\text{g/L}$ )

- NOTES:**
1. DNAPL = Dense Non-Aqueous Phase Liquid.
  2. Chloroform is one component of the DNAPL found at the OSSM site.
  3. Chloroform groundwater data are from 2015-2018, or most recent available data.
  4. Data for 9 of the 18 OSSM wells are from 2012-2013.
  5. Data for OSSM well B-02 is from April 1998; data from OSSM well B-04 is from November 2008.

**LEGEND**



- NOTES:**
1. Stratigraphic interpretation is based primarily on available boring logs from previous investigations conducted by others. Lithologic contacts are shown unbroken for clarity, but this does not imply certainty. Interpreted contact shown may be affected by projected borings. Actual subsurface conditions along the cross-section alignment may vary.
  2. At MC-MW-12, there was no core recovery from 105-112 ft and 115-119 ft.
  3. Groundwater elevations measured October 2017 - May 2018, or most recent available data.



**Schematic Subsurface Cross-Section O-O' Showing Chloroform**

Nevada Environmental Response Trust (NERT)  
Henderson, Nevada



PREPARED BY: JD, RR	DATE: 1/17/23	PLATE <b>C-14b</b>
DRAFTED BY: RS	SCALE: 1" = 300'	
APPROVED BY: JD	PROJECT: 169002.9369	

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