



EA Engineering, Science, and Technology, Inc., PBC
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September 27, 2019

Ms. Susan von Gonten
New Mexico Environment Department
Petroleum Storage Tank Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Dear Ms. von Gonten:

EA Engineering, Science, and Technology, Inc., PBC (EA) is pleased to submit this letter report documenting the MW-14 well vault repair and monitoring well assessment for the Santa Fe County Judicial Complex (SFCJC) State Lead Site (the site) in Santa Fe, New Mexico. The work was performed under EA's State Lead remediation contract number (#) 19-667-3200-0007 for the SFCJC Site and in accordance with work plan identification (WPID) number 4073, approved by the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) on July 11, 2019.

MW-14 Well Vault Repair

On July 25, 2019, Mr. Joe Canepa with the West De Vargas Condominium Association notified the NMED PSTB via email that the well vault lid for MW-14 was not closing properly and presented a potential trip hazard to the tenants. Photos of the MW-14 well vault provided to EA by the NMED PSTB showed that the lid was likely bent. EA contracted with Enviroworks, LLC (Enviroworks) to repair the bent lid so that it would close flush with the ground surface. Enviroworks heated up the lid with a welding torch and bent it back into proper alignment so that it would close flush with the ground surface once again. A photo of the completed repair is included in Attachment 1.

Monitoring Well Assessment

On August 10, 2019, EA completed the monitoring well assessment at the site. The 54 monitoring and soil vapor extraction (SVE) wells included in the assessment are listed in Table 1. The well locations are shown on Figure 1. The assessment included inspecting each well for damage or issues requiring maintenance. Damage included items such as bent or broken well vault lids or cans, sunken or broken concrete pads, or broken well casings. Maintenance issues included missing j-plugs, well vault lids, locks, or bolts.

Of the 54 site wells, EA inspected a total of 53 wells during the assessment, including wells installed on behalf of the NMED PSTB and wells installed by Santa Fe County. Only one well, MW-10, located in east parking lot of the West De Vargas Condominiums, could not be located. EA made numerous attempts to locate the well with a metal detector, but the attempts were unsuccessful. The latest groundwater monitoring report submitted by Souder, Miller & Associates (SMA) indicates that MW-10 was last gauged in February 2019. EA will contact SMA for specifics regarding the location of the well.

A summary of the well assessment findings and recommendations are provided below:

- The 24-inch square well vaults for SVE wells SVE-1, SVE-2, SVE-3, SVE-4, SVE-9, and SVE-11D are heavily rusted and have missing handles, broken hinges, and/or damaged or broken threaded bolt seats. The vault lids currently cannot be secured, which could result in unauthorized access to wells. The vault lids should be secured, if possible. If the vault lids cannot be secured, the well vaults should be replaced. Photos of SVE-1 and SVE-2 are included as examples in Attachment 1.
- The well vault lid for monitoring well MW-17 is cracked and there is a hole in the grout seal around the well casing. A photo showing the hole in the grout seal is included in Attachment 1. Since this well is located in the parking lot of the West De Vargas Condominiums, the well vault should be replaced and the grout seal around the casing repaired to prevent unauthorized access to the well and to prevent the potential migration of surface water, including road salt in the winter, down the annulus of the well.
- The vault lid for monitoring well MW-18 (located in the west bound lane of Montezuma Avenue in front of the SFCJC) is broken and should be replaced. A photo showing the broken well vault lid is included in Attachment 1. If a new lid cannot be located for the vault, the entire well vault should be replaced.
- Wells SVE-3, SVE-4, SVE-7, SVE-9, SVE-11D, and CMW-1 currently have PVC slip caps, well MW-15 has a vented PVC slip cap, and well CMW-4 has a rubber slip cap. These caps should be replaced with j-plugs and locks installed. Well CMW-5 is missing a j-plug, and the j-plugs for wells MW-6 and SFCMW-12 are damaged. Each of these wells should have new j-plugs and locks installed.
- Twenty-three (23) monitoring wells are missing locks. New locks should be installed on each of these wells.
- Sixty-eight (68) bolts are missing in monitoring well vault lids at the site. New bolts should be installed.

EA intends to invoice the full approved amount of \$5,042.50 (including NMGR of 7.875%) for Deliverable ID 4073-1. If you have any questions regarding the information provided in this letter report, please don't hesitate to call me at (505) 36-3149.

Sincerely,

EA Engineering, Science, and Technology, Inc. PBC

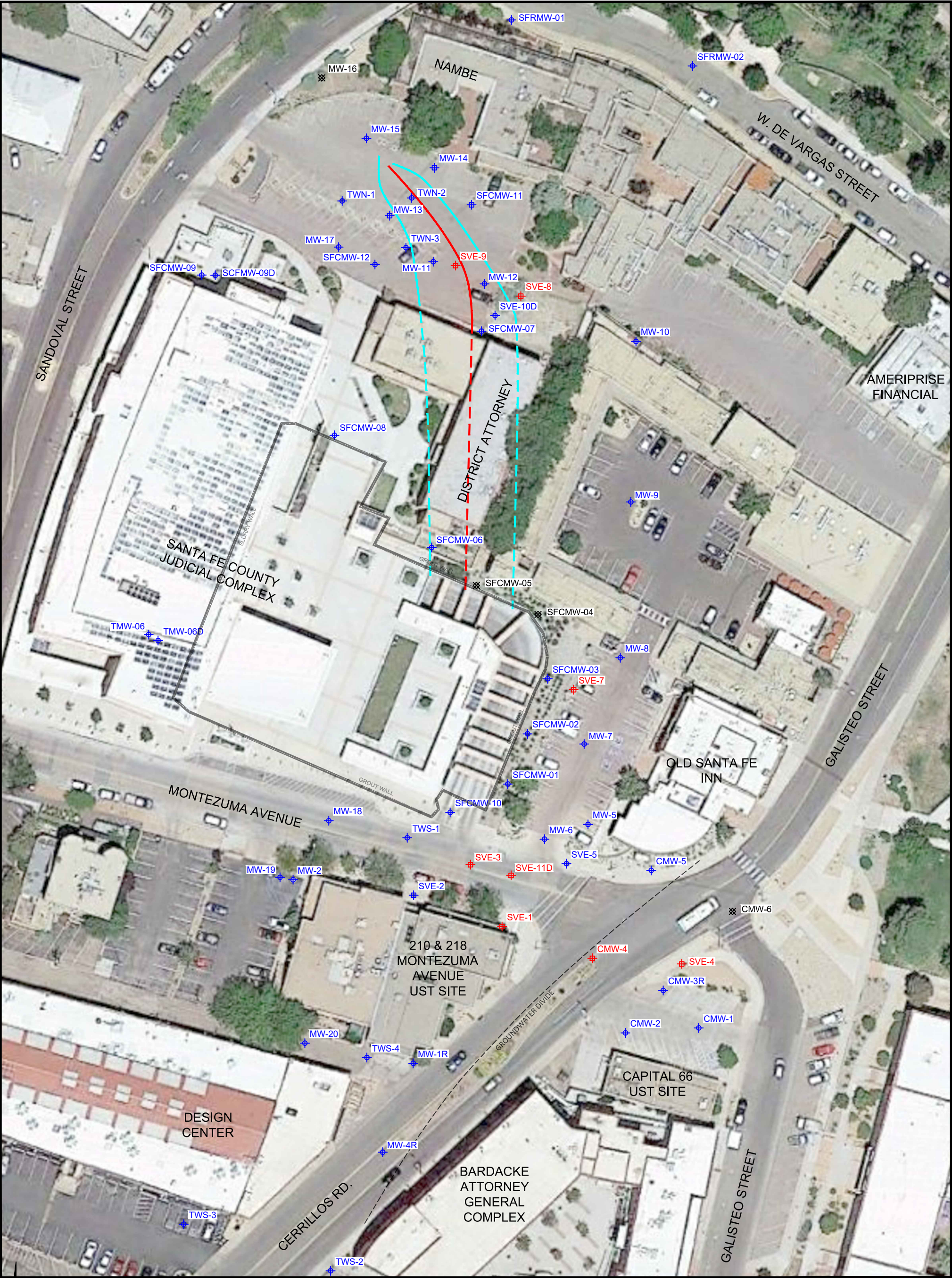


Michael D. McVey, P. G.
Senior Hydrogeologist

Enclosure

Cc: File

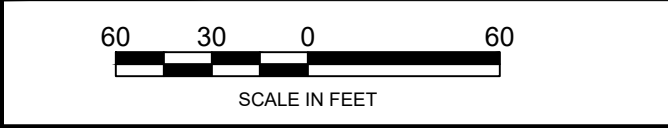
FIGURE



LEGEND:

- MONITORING WELL
- DESTROYED MONITORING WELL
- SOIL VAPOR EXTRACTION WELL
- HORIZONTAL SVE WELL
- HORIZONTAL HOT AIR INJECTION WELL

SOURCE: SOUDER, MILLER & ASSOCIATES. 2018 AUGUST.



SANTA FE COUNTY JUDICIAL COMPLEX
SANTA FE, NEW MEXICO

FIGURE 1
SITE LAYOUT

PROJECT #:	WORK PLAN	PROJECT PHASE:	PROJECT MANAGER:
			MM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. PBC

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TABLE

**TABLE 1. MONITORING WELL ASSESSMENT
SANTA FE COUNTY JUDICIAL COMPLEX, SANTA FE, NEW MEXICO**

Well ID	Vault Lid	Bolts	Threaded Bolt Seat	J-Plug	Lock	Comments
MW-1R	8" Round	0/2	2/2	Y	N	Vault flooded
MW-2	8" Round	0/2	2/2	Y	Y	One broken bolt hole on lid; pad cracked
MW-4R	8" Round	2/3	3/3	Y	N	Vault flooded
MW-5	8" Round	1/3	3/3	Y	N	3" of water in vault
MW-6	8" Round	0/3	3/3	Damaged	N	J-plug damaged; two bolts present, but one is too short and the other is stripped
MW-7	8" Round	1/3	3/3	Y	N	Vault flooded
MW-8	8" Round	1/3	3/3	Y	Y	2 of 3 threaded bolt seats stripped
MW-9	8" Round	3/3	3/3	Y	N	
MW-10	--	--	--	--	--	Could not locate well
MW-11	8" Round	2/3	3/3	Y	N	2 of 3 threaded bolt seats stripped
MW-12	8" Round	0/3	3/3	Y	N	Pad cracked
MW-13	24" Square	1/2	2/2	Y	N	
MW-14	24" Square	2/2	2/2	Y	N	
MW-15	8" Round	1/3	1/3	Vented PVC Cap	N/A	Bolt is damaged
MW-17	8" Round	0/3	2/3	Y	Y	Vault lid cracked; three bolts present, but bent; compromised grout seal around well casing
MW-18	8" Round	2/3	2/3	Y	Y	Vault lid is broken
MW-19	8" Round	3/3	3/3	Y	Y	
MW-20	8" Round	1/3	2/3	Y	Y	1 of 2 threaded bolt seats has a bolt broken off in threaded hole; vault flooded
TWS-1	8" Round	2/3	3/3	Y	N	2 of 3 threaded bolt seats stripped; vault flooded
TWS-2	8" Round	3/3	3/3	Y	N	
TWS-3	8" Round	3/3	3/3	Y	N	1/2-inch of water in vault
TWS-4	8" Round	3/3	3/3	Y	N	Vault flooded
TWN-1	8" Round	0/3	3/3	Y	Y	Water in vault
TWN-2	12" Round	0/3	3/3	Y	Y	
TWN-3	8" Round	1/3	2/3	Y	N	
SVE-1	24" Square	2/2	2/2	Y	Y	Lid handle rusted out; vault rusting; lid bolts don't engage in threaded bolt seats
SVE-2	24" Square	0/4	0/4	Y	Y	Vault very rusted and deteriorating; threaded bolt seats rusted and plugged
SVE-3	24" Square	0/4	4/4	PVC Cap	N	All four threaded bolt seats are plugged with debris
SVE-4	24" Square	0/2	2/2	PVC Cap	N	Pad cracked; threaded bolt seats rusted and plugged
SVE-5	24" Square	0/2	2/2	Y	Y	Equipment in well; threaded bolt seats rusted and plugged
SVE-7	24" Square	2/2	2/2	PVC Cap	N	
SVE-8	24" Square	0/4	4/4	Y	Y	Threaded bolt seats rusted and plugged
SVE-9	24" Square	0/4	4/4	PVC Cap	Y	Equipment in well; threaded bolt seats rusted and plugged
SVE-10D	12" Round	2/3	1/3	Y	N	2 of 3 threaded bolt seats stripped

**TABLE 1. MONITORING WELL ASSESSMENT
SANTA FE COUNTY JUDICIAL COMPLEX, SANTA FE, NEW MEXICO**

Well ID	Vault Lid	Bolts	Threaded Bolt Seat	J-Plug	Lock	Comments
SVE-11D	24" Square	2/2	2/2	PVC Cap	Y	Equipment in well; lid handle and hinges are broken; bolts don't tighten in threaded bolt seats
CMW-1	6" Round	0/2	2/2	PVC Cap	N	1 of 2 vault lid holes is broken
CMW-2	6" Round	0/2	2/2	Y	Y	Bolts present, but threads are completely rusted off
CMW-3R	8" Round	1/3	3/3	Y	N	1 of 3 threaded bolt seats is stripped
CMW-4	24" Square	2/2	2/2	Rubber Cap	N	Neither of the two bolts engage in the threaded bolt seats
CMW-5	8" Round	3/3	2/3	N	N	J-plug missing
CMW-6	Destroyed					
SFCMW-01	11 x 15" Green Plastic	1/1	1/1	Y	Y	6" well inside a green irrigation control box
SFCMW-02	11 x 15" Green Plastic	0/0	0/0	Y	Y	6" well inside a green irrigation control box
SFCMW-03	11 x 15" Green Plastic	0/0	0/0	Y	Y	6" well inside a green irrigation control box
SFCMW-06	13"x23" Concrete Lid	2/2	2/2	Y	Y	6" well located on north side of bike rack with 9" round fiberglass lid
SFCMW-07	8" Round	1/2	2/2	Y	Y	6" well
SFCMW-08	9" Round Stone Lid	1/2	2/2	Y	Y	2" well
SFCMW-09D	8" Round	2/2	2/2	Y	Y	2" well; 1 of 2 vault lid holes damaged, but functional
SFCMW-10	12" Round	2/3	3/3	Y	Y	1 of 3 threaded bolt seats is stripped
SFCMW-11	24" Square	1/2	2/2	Y	Y	
SFCMW-12	8" Round	0/2	0/2	Damaged	Y	J-plug damaged
SFRMW-01	8" Round	2/2	2/2	Y	Y	
SFRMW-01D	8" Round	2/2	2/2	Y	Y	
SFRMW-02	8" Round	2/2	2/2	Y	Y	Vault completely flooded
Notes: SFCMW and SFRMW = Monitoring wells installed by Santa Fe County						

ATTACHMENT 1
PHOTOGRAPHIC DOCUMENTATION



Site: SFCJC Site

Description: MW-14 well vault repair completed.

Date: July 25, 2019

Direction: N



Site: SFCJC Site

Description: SVE-1 well vault showing rusted out handle.

Date: August 10, 2019

Direction: S



Site: SFCJC Site

Description: SVE-1 well vault showing extensive rust.

Date: August 10, 2019

Direction: S



Site: SFCJC Site

Description: SVE-2 well vault showing extensive rust.

Date: August 10, 2019

Direction: W



Site: SFCJC Site

Description: Well MW-17 showing hole in grout seal.

Date: August 10, 2019

Direction: N/A



Site: SFCJC Site

Description: Well MW-18 showing broken well vault lid.

Date: August 29, 2019

Direction: N/A