



October 6, 2022

**TO:** LOCSD Board of Directors

**FROM:** Ron Munds, General Manager

**SUBJECT: Agenda Item 7G – 10/06/2022 Board Meeting**  
Approve the Use and Modification of an Inactive District Well for Groundwater Monitoring Purposes.

**DESCRIPTION**

The Basin Management Committee (BMC) is proposing to expand the groundwater monitoring program by using existing inactive wells. One of the identified wells is District owned LA 13 which located between Ferrell Avenue and 7<sup>th</sup> Street. Staff is seeking approval from the Board to approve the use of the LA 13 well for monitoring purposes and approve the District being lead agency for the modification work needed to make it a viable monitoring well.

**STAFF RECOMMENDATION**

This item will be approved along with the Consent Calendar unless it is pulled by a Director for separate consideration. If so, Staff recommends that the Board adopt the following motion:

***Motion:***

***I move that the Board:***

- 1. Approve the use of LA 13 for groundwater monitoring purposes;***
- 2. Approve District acting as lead agency for the well modification work;***
- 3. Authorize the General Manager to enter into an agreement with the BMC recommended drilling contractor for an amount not to exceed \$30,000.***

**DISCUSSION**

**Background**

The BMC is actively looking to expand the groundwater monitoring program in order to improve their data collection capabilities in the lower parts of the groundwater basin. Cleath-Harris Geologists (CHG) has identified three inactive existing wells that could potentially be modified to provide Zone E water quality monitoring locations in the western portion of the Los Osos Groundwater Basin (Basin).

LA 13, which is District owned, has been selected to be first well for modification work. The BMC is requesting that the District, 1) approve the use of LA 13 as a monitoring well, 2) act as lead agency for the well modification effort including permitting and any other regulatory requirements and, 3) enter into an agreement with BMC recommended drilling contractor, Filipponi & Thompson Drilling Inc., to do the work. A Technical Memorandum is attached

**President**  
Matthew D. Fourcroy

**Vice President**  
Charles L. Cesena

**Directors**  
Troy C. Gatchell  
Marshall E. Ochylski  
Christine M. Womack

**General Manager**  
Ron Munds

**District Accountant**  
Robert Stilts, CPA

**Unit Chief**  
Eddy Moore

**Battalion Chief**  
Paul Provence

**Mailing Address:**  
P.O. Box 6064  
Los Osos, CA 93412

**Offices:**  
2122 9<sup>th</sup> Street, Suite 110  
Los Osos, CA 93402

**Phone:** 805/528-9370  
**FAX:** 805/528-9377

[www.losososcsd.org](http://www.losososcsd.org)

to this report that discusses the entire project including the modifications to LA 13.

**FINANCIAL IMPACT**

Staff will work with BMC staff and CHG to move the project forward. Invoices for the modification work will initially be paid for by the District with proportional reimbursement to the District by the other BMC entities at the backend of the project.

**Attachment**

CHG Well Monitoring Technical Memorandum

Cleath-Harris Geologists, Inc.  
75 Zaca Lane, Suite 110  
San Luis Obispo, CA 93401  
(805) 543-1413



## Technical Memorandum

**Date:** July 22, 2022

**From:** Spencer Harris, HG 633

**To:** Dan Heimel, PE, Executive Director  
Los Osos Basin Management Committee

**SUBJECT: Recommendations for Well Modifications and New Monitoring Well Locations for the Los Osos BMC Groundwater Monitoring Program.**

This memorandum presents recommendations for modifying three existing monitoring wells and for adding monitoring well locations to the Los Osos Basin Plan (LOBP) monitoring network. The purpose of the modifications and new wells is to fill data gaps with respect to seawater intrusion monitoring in the Basin. These recommendations were developed as part of the adaptive management process.

### Background

Seawater intrusion is a significant threat to the community water supply for Los Osos. Lower Aquifer Zone E is the deepest aquifer in the Basin and is the most susceptible to intrusion. The existing LOBP monitoring program includes 93 wells, however, only a few of these wells (such as LA12, LA18, and LA40) are dedicated Lower Aquifer Zone E monitoring wells that provide water quality information for tracking seawater intrusion<sup>1</sup>. Additional monitoring locations in Zone E are needed.

Four existing monitoring network wells (LA13, LA14, LA16, and LA17) were previously identified as wells that could potentially be modified to provide Zone E water quality monitoring locations in the western portion of the Basin<sup>2</sup>. These four wells were inspected in November 2021 and are the subject of this memorandum. In addition, new locations for Lower Aquifer Zone D and Zone E nested monitoring wells are recommended herein.

### Existing Well Modifications

The locations of the wells evaluated for modification are shown in Figure 1 (attached). Currently, these wells have relatively large diameter casings (6-inch to 12-inch) which require large purge volumes to obtain representative samples. They are also mixed zone completions (D and E screened together) which preclude screening exclusively for Zone E, and the wells may also be

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<sup>1</sup> Aquifer zone and Basin area designations for monitoring network wells may be found in Appendix B of the 2021 Annual Report.

<sup>2</sup> Figure D6 of Appendix D in the 2019 Annual Report.



affected by borehole leakage. The proposed modifications consist of setting casing liners, along with deep seals, that are intended to isolate specific permeable sediment intervals within Zone E while also mitigating borehole leakage and reducing the required purge volumes prior to sampling by an order of magnitude. Table 1 summarizes the individual modifications.

**Table 1. Proposed Well Modifications**

Well ID	Location	Elevation	Current screen depth	Current depth of fill	Modified screen depth
		(feet)			
LA13	Ferrell Avenue	104	425-620	537	510-530
LA14	Palisades	80	355-375, 430-480, 550-600	554*	550-590
LA16	Los Osos Valley Rd.	109	330-355, 395-415, 465-505, 530-575	511	470-500
LA17	Broderson	210	collapsed during construction	331	not feasible

\*requires clean-out prior to modification

Well LA13 is owned by the Los Osos CSD, while the remaining wells are owned by San Luis Obispo County. Conceptually, the modifications consist of placing a small diameter (2.5-inch Schedule 80 PVC) casing liner into the existing wells that would be screened opposite permeable sediments in Zone E. A high solids bentonite slurry would be used to seal the new liner, and would extend across shallower screened intervals in the existing casing that could provide some penetration into the original annular space and potentially mitigate any existing borehole leakage. The modified wells would target specific depth intervals in Zone E and would greatly reduce the purge volumes required to collect representative samples (from a few thousand gallons to a few hundred).

Well LA17, which had collapsed during construction in 1985, was determined to be filled in at least 100 feet above the reported collapse depth, and no modification is considered feasible. Details of the recommended modifications for LA13, LA14, and LA16 are included in Appendix A. Geologic cross-sections showing the locations and depths of the modifications with respect to the inferred location of seawater intrusion, are shown in the attached Figures 2 through 6. Estimated Contractor costs for each of the modifications are included in Appendix B.

The recommended priority for well modification work would be to perform modifications at LA16 first, followed by LA14, and lastly LA13 (proceeding from west to east). LA16, which is also a Water Level metric well, is the farthest west and the modification would help characterize the lateral (southerly) extent of Zone E intrusion that reached LA15 in 2013 (Figure 2). LA16 was sampled in 2005 but borehole leakage (Upper Aquifer influence) currently prevents obtaining a representative sample.



**New Monitoring Well Locations**

Up to four locations for new monitoring wells are proposed in the Basin. The wells would be nested designs, similar to the LA40/41 well pair, with one casing in Zone E and one in Zone D. Two of the wells are located on County land (Site A and Site B), one well (Site C) is tentatively located on private property (subject to property owner consent), and the fourth well (Site D) is tentatively on San Luis Coastal Unified School District property (subject to school district consent). Table 2 presents the depth and proposed screened intervals of the new monitoring wells.

**Table 2. Proposed New Monitoring Wells**

Site ID	Location	Elevation	Borehole Depth	Zone D Screen	Zone E Screen
		(feet)			
Site A	Skyline	50	500	300-340	440-490
Site B	Broderson	220	800	370-410	700-780
Site C	Ramona	50	500	330-370	450-490
Site D	Sunnyside	150	800	390-440	700-780

The locations of the proposed new monitoring wells are shown in Figure 1, and the depths and monitored intervals within Zones D and E are shown with respect to the inferred seawater intrusion front in Figures 2 through 6. A brief summary of each well is provided below in the recommended order of construction (from highest to lowest priority):

Site A – Skyline

Site A is located in County right-of-way of Skyline Avenue (paved) at Broderson Avenue (unimproved). This well is recommended to replace key Chloride Metric well LA10, which is affected by borehole leakage and Upper Aquifer influence.

Site B - Broderson

Site B is located on County property at the Broderson recycled water disposal site, and will replace LA17, which was damaged during construction in 1985. A Lower Aquifer monitoring well at the Broderson site is recommended to evaluate the transmission of pressure from the Upper Aquifer groundwater mound into the Lower Aquifer.



## Site C – Ramona Avenue

The Ramona Avenue site provides a second Lower Aquifer monitoring control point in the Baywood Park area (supplementing LA11). Site C would track potential Zone E intrusion moving inland of LA40, and help monitor conditions surrounding supply well LA12.

## Site D – Sunnyside

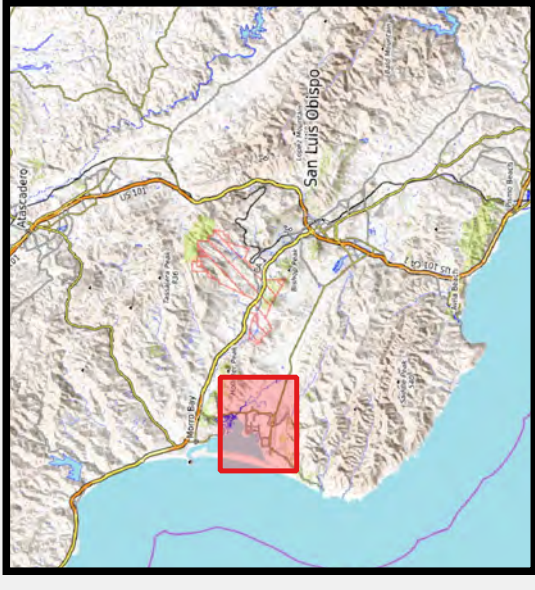
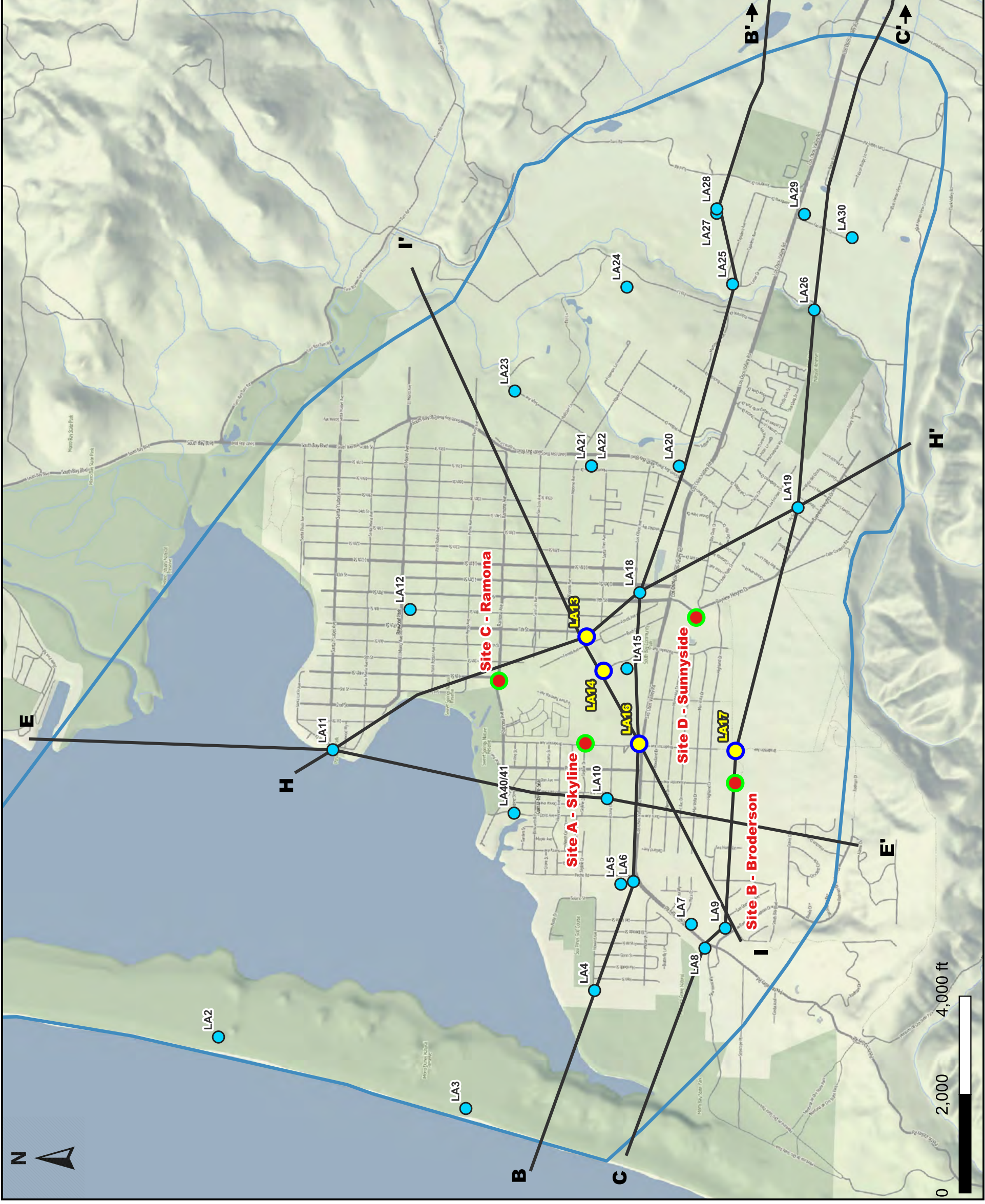
The Sunnyside well is tentatively located at Sunnyside School and, along with Site B, would monitor some of the deepest portions of Zone E. Site D would fill a gap in monitoring the Lower Aquifer southwest of downtown Los Osos.

Site A is assigned the highest priority, being the replacement for Chloride Metric well LA10. A nested monitoring well at Site A would differentiate Zone D intrusion from Zone E intrusion, which LA10 is not able to do (Figure 4). The anticipated design would be similar to the Lupine Street monitoring well (LA40/41), which was constructed in 2019 at a contractor cost of \$90,000, with bids ranging from \$90,000 to \$126,500. Current estimated costs for a well at Site A would be between \$140,000 and \$160,000.

DRAFT



**FIGURES**



**Explanation**

- ▭ Basin Boundary
- Cross-section line
- Existing Lower Aquifer Well
- Existing Lower Aquifer Well Evaluated for Modification
- New Proposed Monitoring Well

**Figure 1**  
Well Locations

Well Modification TM  
Los Osos BMC

Cleath-Harris Geologists





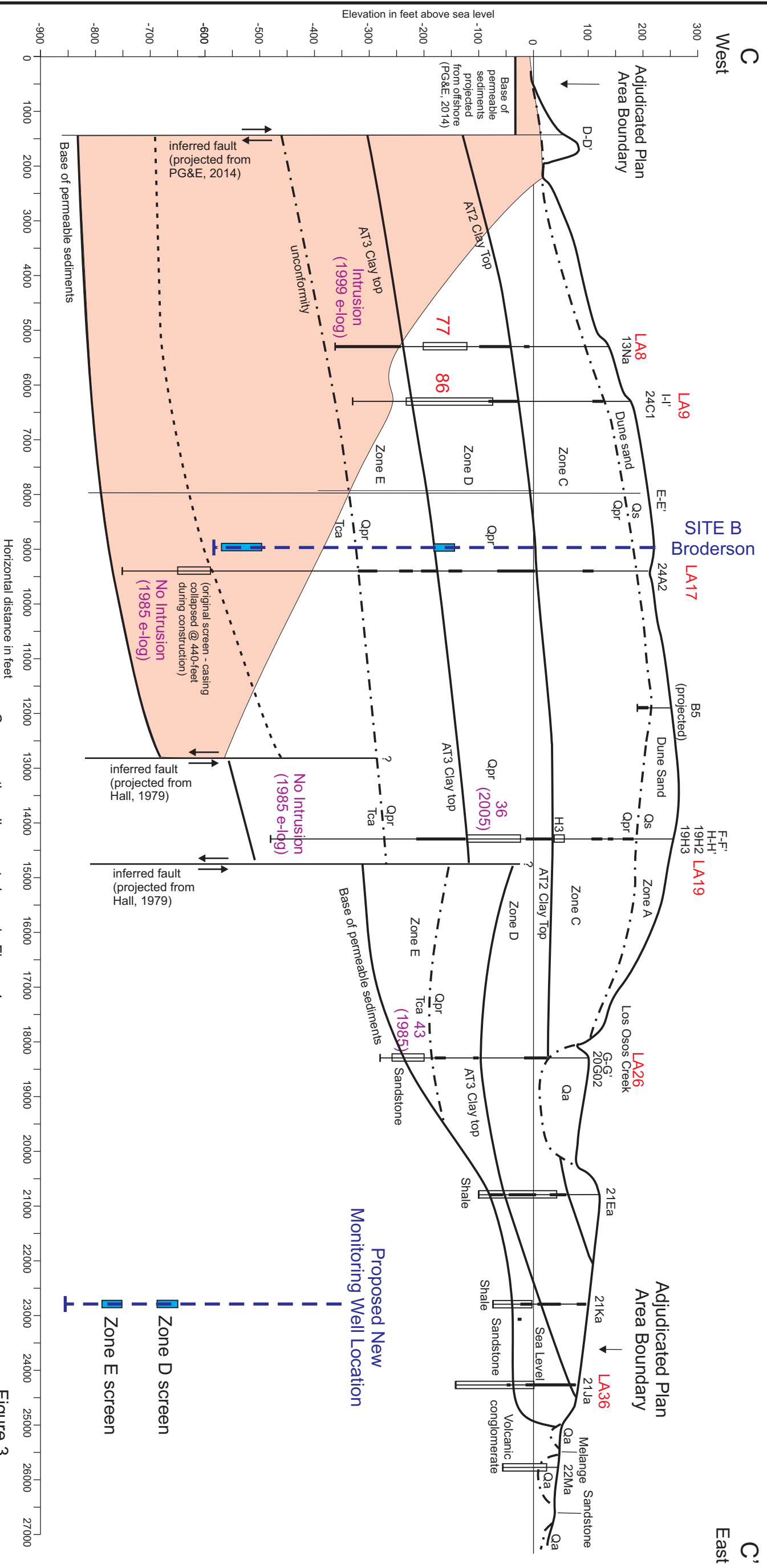
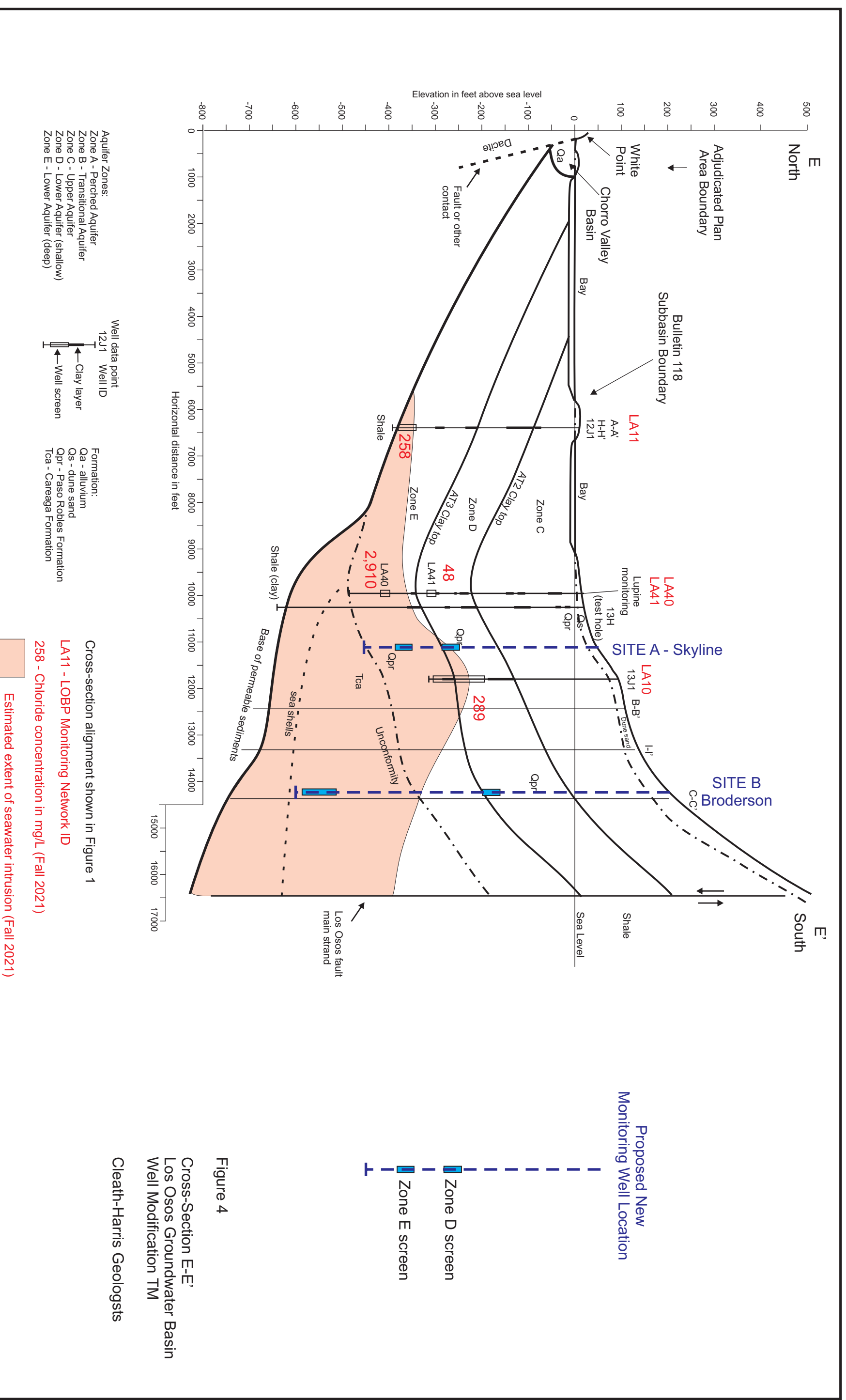


Figure 3



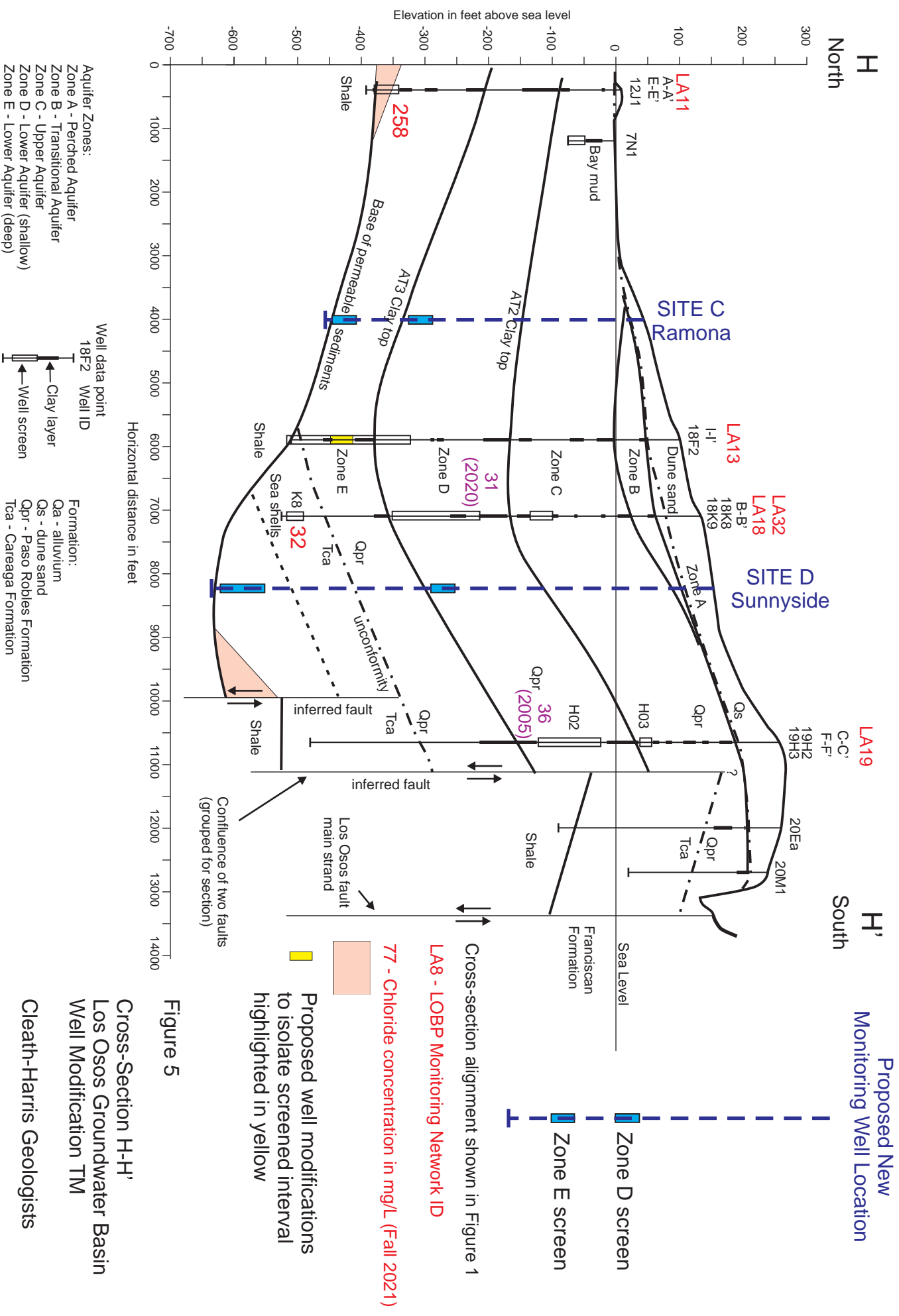


Figure 5

Cross-Section H-H'  
 Los Osos Groundwater Basin  
 Well Modification TM  
 Cleath-Harris Geologists





## **APPENDIX A**

### **Recommended Well Modification Details**

## **Preliminary Well Modification Design – LA13 (30S/11E-18F2)**

Site: Los Osos CSD Yard between Ferrell Avenue and 7<sup>th</sup> Street, Los Osos, California

GPS Coordinates: 35.3159, -120.8358

Well Owner: Los Osos Community Services District

Well Depth: 625 feet (currently sanded in at 536 feet)

Well Diameter: 12-inch steel with 8-inch steel liner beginning at 420 feet

### **SCOPE OF WORK**

- 1) Submit well modification permit
- 2) Run camera to inspect existing construction.
- 3) Perform planned well modification as described below.

### **PLANNED MODIFICATION:**

Liner Completion: 2.5-inch diameter, Sch 80 PVC casing (0.020-inch perforations 510-530 feet depth)

Annular Space inside existing well (from surface)

Seal #1: Cement top seal (0-3 feet depth)

Inert fill: Clean sand up to ¼ inch (3-400 feet depth)

Seal #2: High solids bentonite slurry (400-490 feet depth)

Seal #3: Bentonite chips 490-500 feet depth

Filter pack: 8 x 20 sand (500-532 feet depth)

Seal #4: Bentonite chips 532-537 feet depth





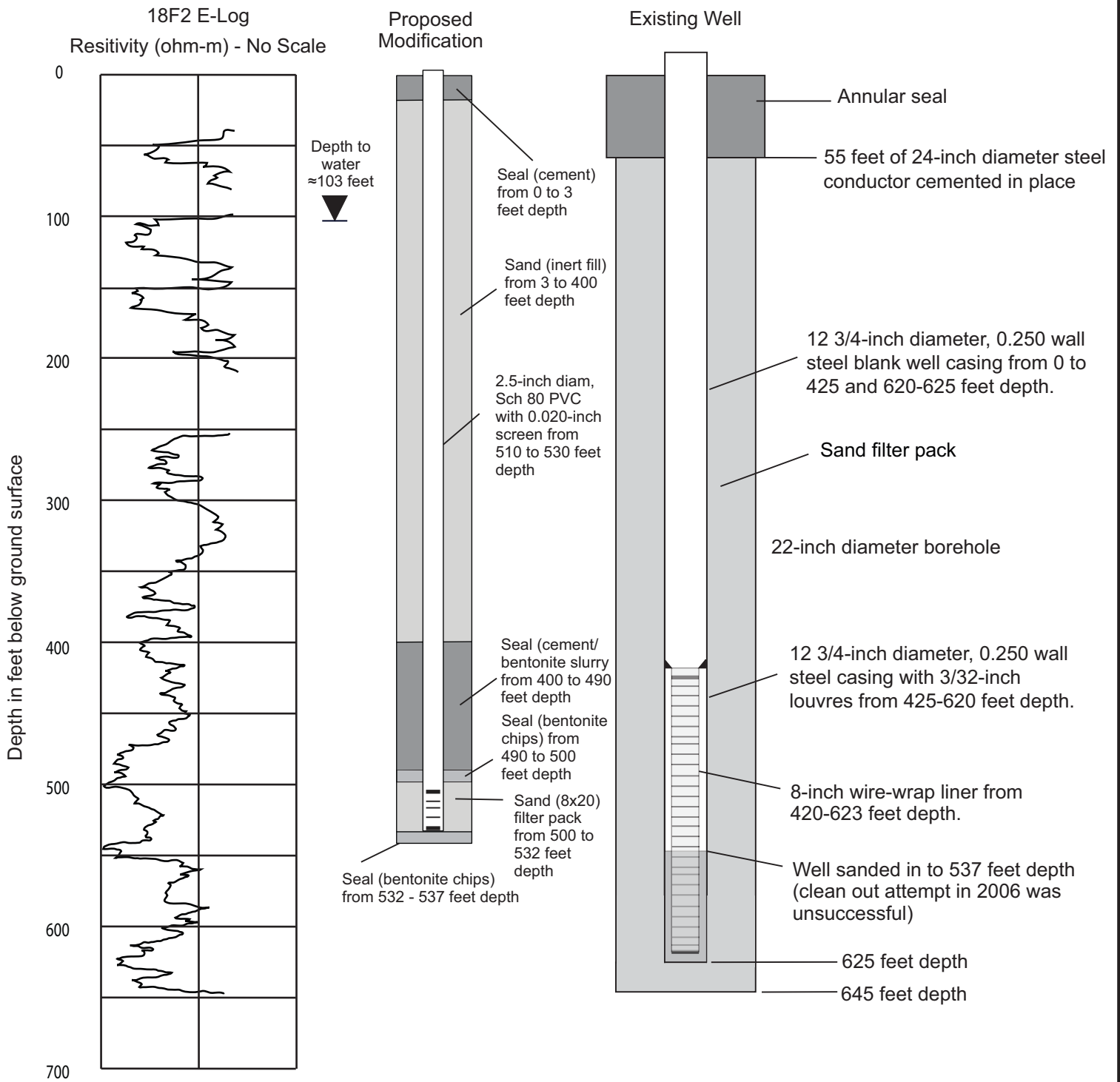


Figure 1  
Well 18F2 (LA13)  
Well Modification

305/11E-18F2

THE RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES  
WATER WELL DRILLERS REPORT

No. 77270  
State Well No. 305/11E-18F  
Other Well No. #2 Ferrel

DUPLICATE  
Retain this copy

(1) OWNER: Ferrel #2 well  
Name SIO County Service Area 9A, Baywood Park  
Address San Luis Obispo, Ca. 93401

(2) LOCATION OF WELL:  
County SIO Owner's number, if any  
Township, Range, and Section  
Distance from cities, roads, railroads, etc.

(3) TYPE OF WORK (check):  
New Well  Deepening  Reconditioning  Destroying   
If destruction, describe material and procedure in Item 11.

(4) PROPOSED USE (check):  
Domestic  Industrial  Municipal  Irrigation  Test Well  Other   
(5) EQUIPMENT:  
Rotary Mud  Cable  Other

(6) CASING INSTALLED:

STEEL <input checked="" type="checkbox"/> OTHER:				If gravel packed		
SINGLE <input checked="" type="checkbox"/> DOUBLE <input type="checkbox"/>		Gage or Wall	Diameter of Bore	From ft.	To ft.	
From ft.	To ft.	Diam.				
0	625	12 3/4"	22"	0	625	

Size of shoe or well casing welded bottom  
Describe joint welded  
Size of gravel according to specs.

(7) PERFORATIONS OR SCREEN:  
Type of perforation or name of screen LOWERS

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
0	425	blank		
425	620	10	120	3/32
620	625	blank		

(8) CONSTRUCTION:  
Was a surface sanitary seal provided? Yes  No  To what depth 55 ft.  
Were any strata sealed against pollution? Yes  No  If yes, note depth of strata

From ft. to ft.  
From ft. to ft.  
Method of sealing 2 1/2" x 1" well conductor cemented in a

(9) WATER LEVELS: 32" hole  
Depth at which water was first found, if known 420 ft.  
Standing level before perforating, if known 48 ft.  
Standing level after perforating and developing 60 ft.

(10) WELL TESTS:  
Was pump test made? Yes  No  If yes, by whom McGoy Pump Co.  
g.p.m. with ft. drawdown after hrs.  
Temperature of water Was a chemical analysis made? Yes  No   
Was electric log made of well? Yes  No  If yes, attach copy

(11) WELL LOG:

Total depth	ft.	Depth of completed well	ft.
645		625	
Formation: Describe by color, character, size of material, and structure			
	ft.		ft.
0	-	45	sand
45		65	brown clay
65		70	gravel & sand
70		80	brown clay
80		105	brown clay & gravel
105		117	blue clay
117		120	shale gravel
120		170	brown sandy clay
170		180	brown sand & gravel
180		245	brown clay
245		255	gravel & sand
255		270	brown clay
270		280	blue clay
280		285	sand, some gravel
285		300	blue clay
300		340	brown clay, some gravel & sand
340		420	brown sandy clay
420		455	lite brown sandy shale gravel
455		515	brown clay
515		537	lite clay
537		555	hard sandstone
555		600	sand & gravel (sandy)
600		610	gravel & sea shale (sandy)
610		645	brown shale

Work started 9/2/75 19 Completed 9/11/75  
WELL DRILLER'S STATEMENT:  
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.  
NAME Miller Drilling Co.  
Address Rt. 1, Box 22  
Paso Robles, Ca. 93446  
[SIGNED] R. H. Miller  
License No. 236900 Dated 9/22/75 19

SKETCH LOCATION OF WELL ON REVERSE SIDE

## **Preliminary Well Modification Design – LA14 (30S/11E-18L6)**

Site: County easement at north end of Palisades Ave, Los Osos, California

GPS Coordinates: 35.3149, -120.8381

Well Owner: San Luis Obispo County

Well Depth: 600 feet (currently sanded in at 554 feet).

Well Diameter: 6-inch PVC

### **SCOPE OF WORK**

- 1) Submit well modification permit
- 2) Submit County encroachment permit (if needed).
- 3) Temporarily remove portion of traffic barricade to access well (optional).
- 4) Clean out well from 544 to 600 feet.
- 5) Run camera to inspect existing construction.
- 6) Perform planned well modification as described below.
- 7) Re-install traffic barricade as needed.

### **PLANNED MODIFICATION:**

Liner Completion: 2.5-inch diameter, Sch 80 PVC casing (0.020-inch perforations 550-590 feet depth)

Annular Space inside existing well (from surface)

Seal #1: Cement top seal (0-3 feet depth)

Inert fill: Commercial sand up to ¼ inch (3-340 feet depth)

Seal #2: High solids bentonite slurry (340-500 feet depth)

Seal #3: Bentonite chips 500-510 feet depth

Filter pack: 8 x 20 sand (510-600 feet depth)



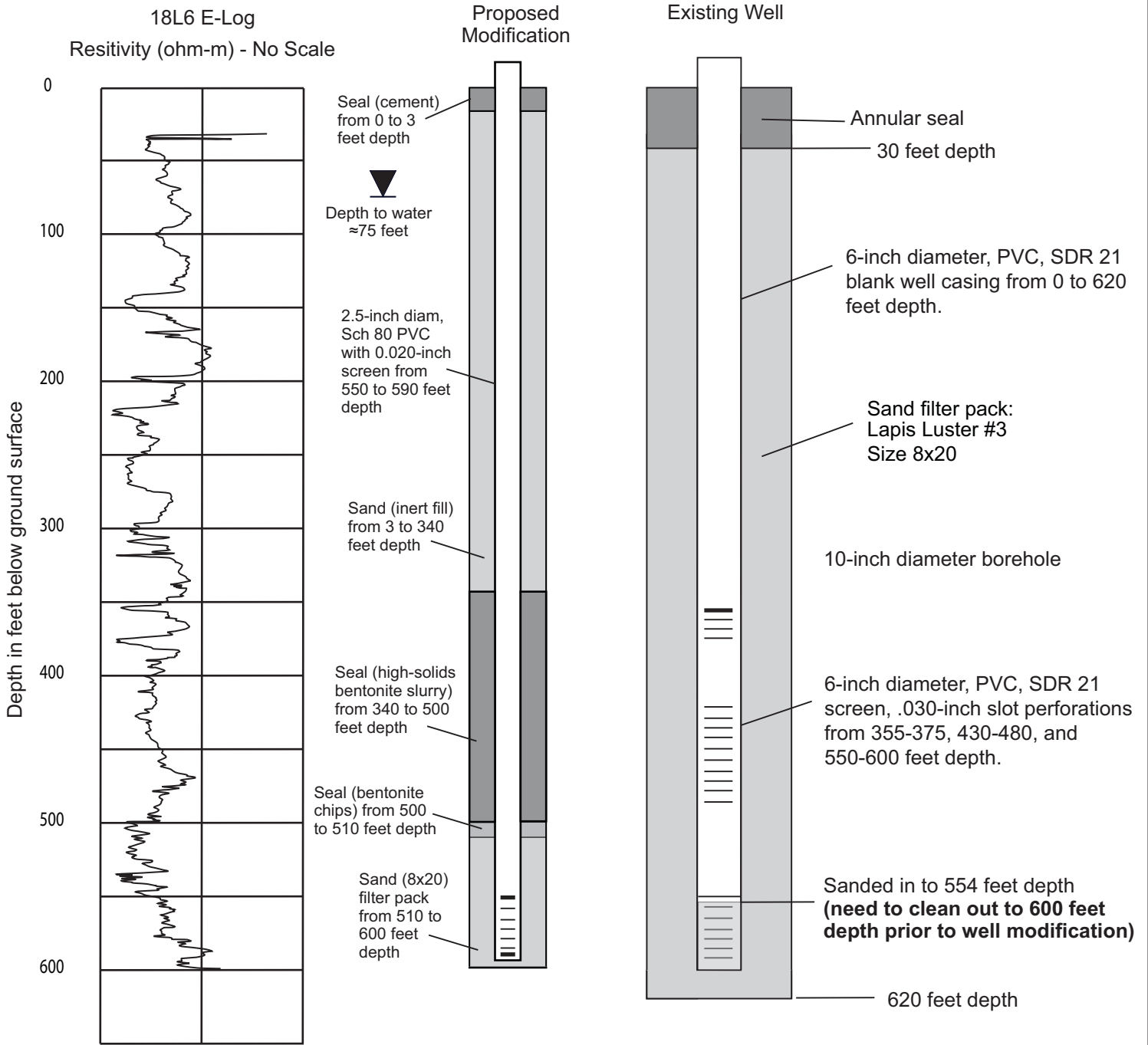


Figure 2  
Well 18L6 (LA14)  
Well Modification

ORIGINAL  
File with DWR

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES  
WATER WELL DRILLERS REPORT

Do not  
No. 17370

Notice of Intent No. \_\_\_\_\_  
Local Permit No. or Date \_\_\_\_\_

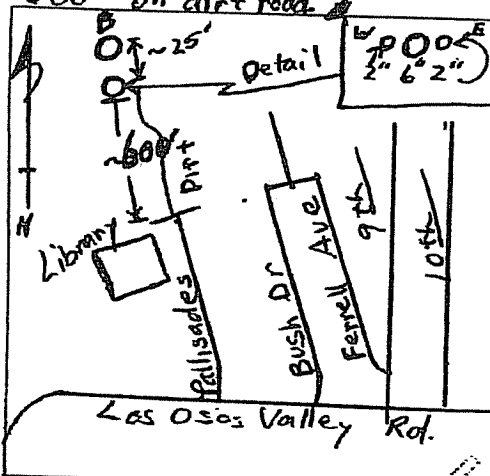
State Well No. 305/11E-1826  
Other Well No. Lib Palisades

(1) OWNER: Name U.S. Geological Survey-WRD  
Address 2800 Cottage Way  
City Sacramento Zip 95825

(12) WELL LOG: Total depth 620 ft. Depth of completed well 620  
from ft. to ft. Formation (Describe by color, character, size or material)

(2) LOCATION OF WELL (See instructions):  
County San Luis Obispo Owner's Well Number \_\_\_\_\_  
Well address if different from above Library Palisades  
Township \_\_\_\_\_ Range \_\_\_\_\_ Section \_\_\_\_\_  
Distance from cities, roads, railroads, fences, etc. From Los Osos Valley Road proceed North on Palisades past library to end of road, continue northerly another 600' on dirt road.

See attached sheet



(3) TYPE OF WORK:  
New Well  Deepening   
Reconstruction   
Reconditioning   
Horizontal Well   
Destruction  (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:  
Domestic   
Irrigation   
Industrial   
Test Well   
Stock   
Municipal   
Other

WELL LOCATION SKETCH

(5) EQUIPMENT:  
Rotary  Reverse   
Cable  Air   
Other  Bucket

(6) GRAVEL PACK: Leptis & Steel  
Yes  No  Size 20/30  
Diameter of bore 9 7/8 inches  
Packed from 620 to 30 ft.

(7) CASING INSTALLED:  
Steel  Plastic  Concrete

(8) PERFORATIONS:  
Type of perforation or size of screen

From ft.	To ft.	Dia. in.	Gage or Wall	From ft.	To ft.	Slot size
0	60.5	6	SDR21	355	375	.030
				430	480	"
				550	600	"

(9) WELL SEAL:  
Was surface sanitary seal provided? Yes  No  If yes, to depth 30 ft.  
Were strata sealed against pollution? Yes  No  Interval 260-265  
Method of sealing Cement/Bentonite 300-305

Work started \_\_\_\_\_ 19\_\_\_\_ Completed \_\_\_\_\_ 19\_\_\_\_

(10) WATER LEVELS:  
Depth of first water, if known \_\_\_\_\_ ft.  
Standing level after well completion 92 ft.

WELL DRILLER'S STATEMENT:  
This well was drilled under my jurisdiction and this report is true to the best of knowledge and belief.

(11) WELL TESTS:  
Was well test made? Yes  No  If yes, by whom? \_\_\_\_\_  
Type of test \_\_\_\_\_ Pump  Bailor  Air lift   
Depth to water at start of test 99 ft. At end of test 112 ft.  
Discharge 60 gal/min after 1 hours Water temperature 7.5°C  
Chemical analysis made? Yes  No  If yes, by whom? USGS  
Was electric log made? Yes  No  If yes, attach copy to this report

SIGNED \_\_\_\_\_  
(Well Driller)  
NAME USGS-WRD Western Region Drilling Co.  
(Person, firm, or corporation) (Typed or printed)  
Address 345 Middlefield Road  
City Menlo Park Zip 94025  
License No. \_\_\_\_\_ Date of this report 8-14-85

## Preliminary Well Modification Design – LA16 (30S/11E-18M1)

Site: County easement at northeast corner of the Los Osos Valley Road and Broderson Ave, Los Osos, California

GPS coordinates: 35.3128, -120.8430

Well Owner: San Luis Obispo County

Well Depth: 577 feet (currently sanded in at 511 feet)

Well Diameter: 10-inch steel

### SCOPE OF WORK

- 1) Submit well modification permit.
- 2) Submit County encroachment permit (if needed).
- 3) Expose and remove existing steel top plate to access well.
- 4) Run camera to inspect existing construction.
- 5) Perform planned well modification as described below.

### PLANNED MODIFICATION:

Liner Completion: 2.5-inch diameter, Sch 80 PVC casing (0.020-inch perforations 470-500 feet depth)

Annular Space inside existing well (from surface)

Seal #1: Cement top seal (0-3 feet depth)

Inert fill: Commercial sand up to ¼ inch diameter (3-320 feet depth)

Seal #2: High solids bentonite slurry (320-440 feet depth)

Seal #3: Bentonite chips 440-450 feet depth

Filter pack: 8 x 20 sand (450 to 505 feet depth)

Seal #4: Bentonite chips 505-511 feet depth

Wellhead: Install traffic-rated well box with cement pad (ground surface is above existing wellhead)





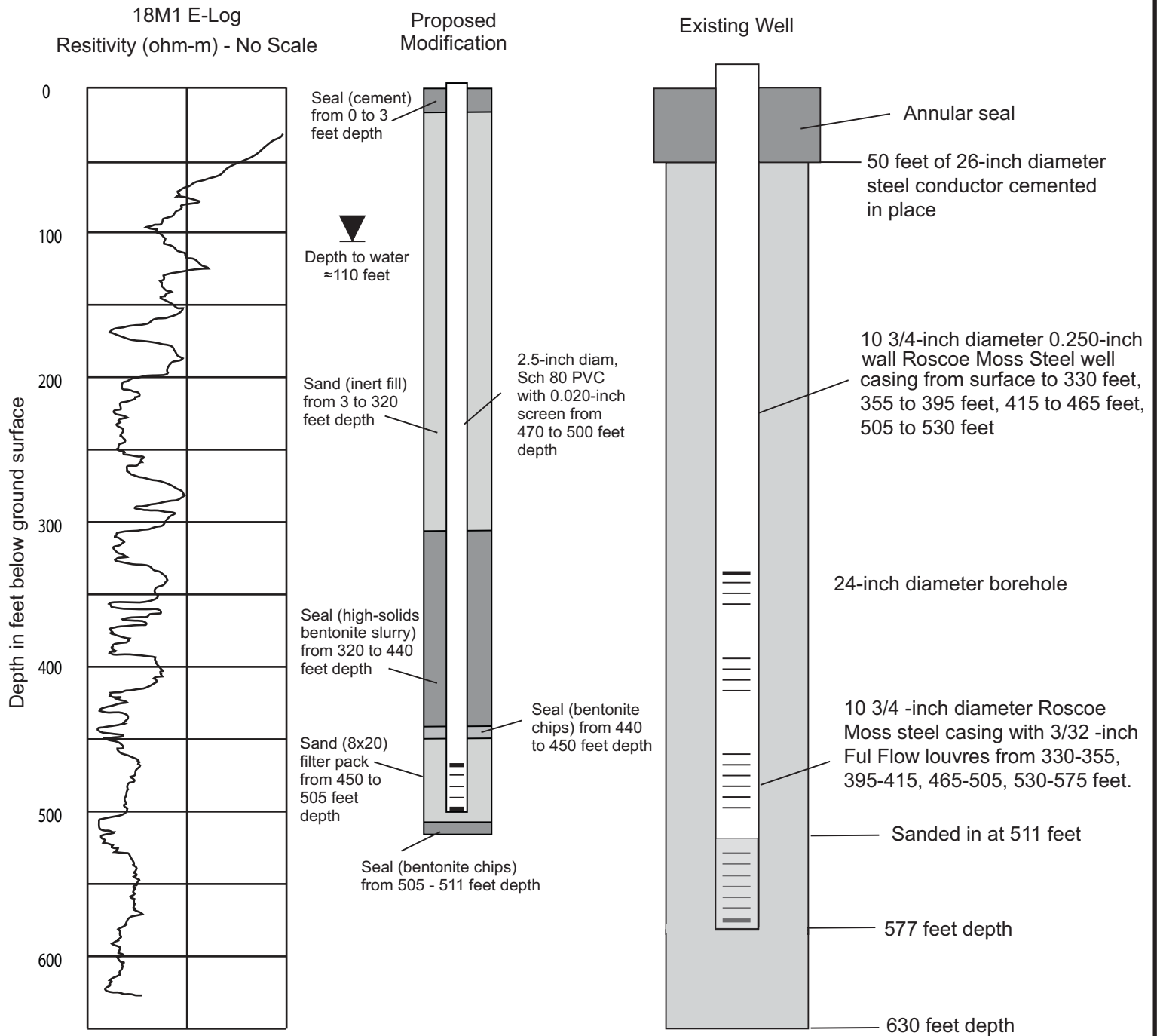


Figure 3  
Well 18M1 (LA16)  
Well Modification

*(given to County)*  
**FLOYD V. WELLS, INC.**

*given to county* Licensed  
Broderson/LWR Contractors

1337 West Betteravia Road Phone WAInut 5-8626  
SANTA MARIA, CALIFORNIA 93454

Mailing Address:  
Post Office Box 1007  
Santa Maria, California

Goleta Office:  
5798 Dawson Ave:  
Phone 967-4124  
Santa Maria  
Phone Zenith 2-7726

*See Plan #5*

Log of well drilled for : California Cities Water Co., Baywood Park  
Location : 85 ft. north of center line Los Osos Valley Rd.,  
40 ft. east of center line Broderson Ave.  
Surface seal : 50 ft. of 26" x .250 wall pipe cemented in place  
Well bore : 24"  
Casing : 577 ft. of 10 3/4" x .250 wall Roscoe Moss Full Flow  
Perforations : 575 ft. to 530 ft., 505 ft. to 465 ft.,  
415 ft. to 395 ft., 355 ft. to 330 ft.,  
3/32" Full Flow louvres  
Well completed : 10 July 1973

Formation

From	0	to	70	feet	
"	70	"	110	"	Fine brown sand
"	110	"	160	"	Reddish brown sand and sandy clay
"	160	"	165	"	Brown sand and sandy clay
"	165	"	245	"	Brown sand
"	245	"	265	"	Brown sandy clay with strips of fine sand
"	265	"	275	"	Brown clay with sand and gravel
"	275	"	295	"	Brown sandy clay with small amount of gravel
"	295	"	328	"	Fine sand and sandy clay
"	328	"	338	"	Sandy brown clay with sand strips
"	338	"	350	"	Brown sandy clay with sand and gravel
"	350	"	372	"	Brown sandy clay with sand strips
"	372	"	392	"	Sand and gravel with clay
"	392	"	402	"	Brown sandy clay with sand and small amount gravel
"	402	"	420	"	Fine sand and sandy clay
"	420	"	436	"	Sandy brown clay with sand strips
"	436	"	460	"	Blue and brown sandy clay
"	460	"	477	"	Brown sandy clay with sand strips
"	477	"	490	"	Brown sandy clay with sand and gravel
"	490	"	495	"	Brown sandy clay with sand and small amount gravel
"		"		"	Brown sandy clay

- continued -

Log of well drilled for : California Cities Water Co., Baywood Park

Formation

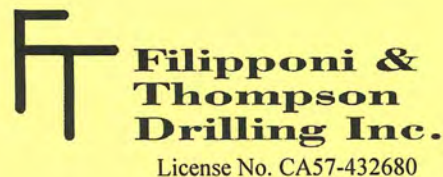
From	495	to	525	feet	Black clay and blue clay with fine sand
"	525	"	536	"	Brown sandy clay and fine sand
"	536	"	562	"	Sand and gravel with small amount of clay
"	562	"	570	"	Blue and brown sandy clay and gravel
"	570	"	630	"	Brown sandy clay and gravel



## **APPENDIX B**

Estimated Well Modification Contractor Costs  
Filipponi & Thompson Drilling, Inc.

Filipponi & Thompson Drilling, Inc.  
 PO Box 845  
 Atascadero, CA 93423



TEL: (805)466-1271 FAX: (805)466-2388

## Estimate

NAME / ADDRESS
LOS OSOS C.S.D. 2122 9TH STREET, STE. 110 LOS OSOS, CA 93402

DATE	ESTIMATE #
6/2/2022	1276

E-mail
RMUNDS@losososcscd.org

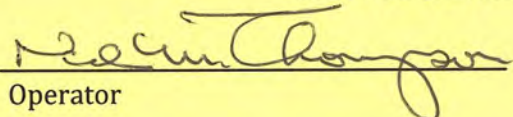
Project
LA13 (30S/11E-18F2)

DESCRIPTION	QTY	COST	TOTAL
LOS OSOS CSD C/O SPENCER HARRIS WELL LA13 (30S/11E-18F2)			
ESTIMATE FOR WELL MODIFICATIONS. 12" STEEL WELL WITH 8" STEEL LINER AT 420 FT.			
WELL MODIFICATION PERMIT	1	1,200.00	1,200.00
VIDEO WELL	1	2,250.00	2,250.00
PERFORM WELL MODIFICATION	1	6,000.00	6,000.00
510' - 2 1/2" FLUSH WALL PVC SCH. 80	1	13,700.00	13,700.00T
20' - 2 1/2" FLUSH WALL PVC SCH. 80 0.020" PERFORATIONS	1	540.00	540.00T
2 1/2" FLUSH WALL CAPS	1	150.00	150.00T
5' (532' - 537') BENTONITE CHIPS	1	150.00	150.00T
32' (500' - 532') 8 X 20 SAND	1	200.00	200.00T
10' (490' - 500') BENTONITE CHIPS	1	200.00	200.00T
90' (400' - 490') HIGH SOLIDS BENTONITE SLURRY	1	300.00	300.00T
397' (3'-400') COMMERCIAL SAND	1	1,400.00	1,400.00T
3' (0-3') CEMENT TOP	1	100.00	100.00T
*** ESTIMATE INCLUDES LABOR COST ***		0.00	0.00
Sales Tax		7.25%	1,213.65

TO ACCEPT THIS OFFER, PLEASE SIGN BELOW AND RETURN THIS CONTRACT TO OUR OFFICE.

**TOTAL \$27,403.65**

THIS OFFER WILL EXPIRE AFTER 30 DAYS UNLESS ACCEPTED.

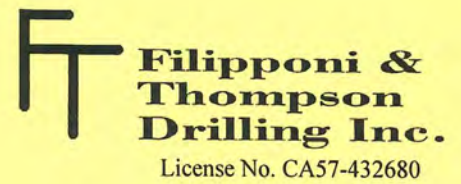
  
 Operator

Signature

Date

I ACCEPT THE ABOVE OFFER

Filipponi & Thompson Drilling, Inc.  
 PO Box 845  
 Atascadero, CA 93423



TEL: (805)466-1271 FAX: (805)466-2388

# Estimate

NAME / ADDRESS
LOS OSOS C.S.D. 2122 9TH STREET, STE. 110 LOS OSOS, CA 93402

DATE	ESTIMATE #
6/2/2022	1278

E-mail
RMUNDS@losososcscsd.org

Project
LA14 (30S/11E-18L6)

DESCRIPTION	QTY	COST	TOTAL
LOS OSOS CSD C/O SPENCER HARRIS WELL LA14 (30S/11E-18L6)			
ESTIMATE FOR WELL MODIFICATION. 6" PVC WELL			
WELL MODIFICATION PERMIT	1	1,200.00	1,200.00
REMOVE & INSTALL TRAFFIC BARRICADE (IF NEEDED)	1	2,000.00	2,000.00
CLEAN OUT WELL FROM 544' - 600'	1	4,800.00	4,800.00
VIDEO WELL	1	2,000.00	2,000.00
PERFORM WELL MODIFICATION	1	6,000.00	6,000.00
560' - 2 1/2" FLUSH WALL PVC SCH. 80	1	15,120.00	15,120.00T
40' - 2 1/2" FLUSH WALL PVC 0.020" PERFORATIONS	1	1,080.00	1,080.00T
2 1/2' FLUSH WALL CAPS	1	150.00	150.00T
90' (510' - 600') 8 X 20 SAND	1	300.00	300.00T
10' (500' - 510') BENTONITE CHIPS	1	100.00	100.00T
160' (340' - 500') HIGH SOLIDS BENTONITE SLURRY	1	300.00	300.00T
337' (3' - 340') COMMERCIAL SAND	1	500.00	500.00T
3' (0 - 3') CEMENT TOP	1	50.00	50.00T
TOOL FABRICATION	1	2,000.00	2,000.00
AIR COMPRESSOR	1	2,000.00	2,000.00
ESTIMATE INCLUDES LABOR COST	1	0.00	0.00
**COUNTY ENCROACHMENT PERMIT TO BE OBTAINED BY OTHERS**			
Sales Tax		7.25%	1,276.00

TO ACCEPT THIS OFFER, PLEASE SIGN BELOW AND RETURN THIS CONTRACT TO OUR OFFICE.

**TOTAL \$38,876.00**

THIS OFFER WILL EXPIRE AFTER 30 DAYS UNLESS ACCEPTED.

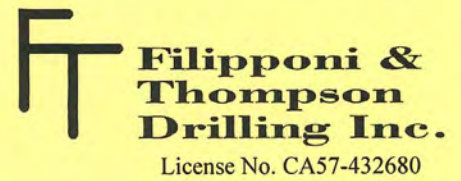
Operator \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

I ACCEPT THE ABOVE OFFER

Filipponi & Thompson Drilling, Inc.  
 PO Box 845  
 Atascadero, CA 93423



TEL: (805)466-1271 FAX: (805)466-2388

## Estimate

NAME / ADDRESS
LOS OSOS C.S.D. 2122 9TH STREET, STE. 110 LOS OSOS, CA 93402

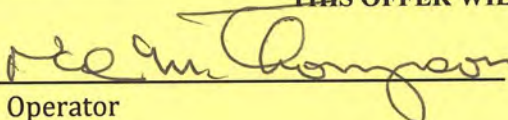
DATE	ESTIMATE #
6/2/2022	1277

E-mail
RMUNDS@losososcscd.org

Project
LA16 (30S/11E-18MI)

DESCRIPTION	QTY	COST	TOTAL
LOS OSOS CSD C/O SPENCER HARRIS WELL LA16 (30S/11E-18M1)			
ESTIMATE FOR WELL MODIFICATION. 10" STEEL WELL			
WELL MODIFICATION PERMIT	1	1,200.00	1,200.00
EXPOSE AND REMOVE STEEL PLATE TO ACCESS WELL	1	2,400.00	2,400.00
VIDEO WELL	1	2,000.00	2,000.00
PERFORM WELL MODIFICATION	1	6,000.00	6,000.00
470' - 2 1/2" FLUSH WALL PVC SCH. 80	1	12,690.00	12,690.00T
30' - 2 1/2" FLUSH WALL PVC SCH. 80 0.020" PERFORATIONS	1	810.00	810.00T
2 1/2' FLUSH WALL CAPS	1	150.00	150.00T
6' (505' - 511') BENTONITE CHIPS	1	150.00	150.00T
55' (450' - 505') 8 X 20 SAND	1	300.00	300.00T
10' (440' - 450') BENTONITE CHIPS	1	150.00	150.00T
120' (320' - 440') HIGH SOLIDS BENTONITE SLURRY	1	500.00	500.00T
317' (3' - 320') COMMERCIAL SAND	1	1,400.00	1,400.00T
3' (0 - 3') CEMENT TOP	1	100.00	100.00T
ESTIMATE INCLUDES LABOR COST	1	0.00	0.00
**COUNTY ENCROACHMENT PERMIT TO BE OBTAINED BY OTHERS**			
Sales Tax		7.25%	1,178.13
<b>TO ACCEPT THIS OFFER, PLEASE SIGN BELOW AND RETURN THIS CONTRACT TO OUR OFFICE.</b>		<b>TOTAL</b>	<b>\$29,028.13</b>

THIS OFFER WILL EXPIRE AFTER 30 DAYS UNLESS ACCEPTED.

  
 Operator

Signature

Date

I ACCEPT THE ABOVE OFFER