MARINA COAST WATER DISTRICT

11 RESERVATION ROAD, MARINA, CA 93933-2099
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Agenda
Regular Board Meeting, Board of Directors
Marina Coast Water District
and
Regular Board Meeting, Board of Directors
Marina Coast Water District Groundwater Sustainability Agency
Marina Council Chambers
211 Hillcrest Avenue, Marina, California
Tuesday, February 25, 2020, 6:30 p.m. PST

This meeting has been noticed according to the Brown Act rules. The Board of Directors meet regularly on the third Monday of each month with workshops scheduled for the first Monday of some months. The meetings normally begin at 6:30 p.m. and are held at the City of Marina Council Chambers at 211 Hillcrest Avenue, Marina, California.

Our Mission: *We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

1. Call to Order

2. Roll Call

3. Public Comment on Closed Session Items *Anyone wishing to address the Board on matters appearing on Closed Session may do so at this time. Please limit your comment to four minutes. The public may comment on any other items listed on the agenda at the time they are considered by the Board.*

4. Closed Session

A. Pursuant to Government Code 54956.9
Conference with Legal Counsel – Existing Litigation

1) Marina Coast Water District vs California-American Water Company, Monterey County Water Resources Agency; and, California-American Water Company, Monterey County Water Resources Agency vs Marina Coast Water District, San Francisco Superior Court Case Nos. CGC-15-547125, CGC-15-546632 (Complaint for Damages, Breach of Warranties, etc.)

This agenda is subject to revision and may be amended prior to the scheduled meeting. Pursuant to Government Code section 54954.2(a)(1), the agenda for each meeting of the Board shall be posted at the City of Marina Council Chambers. The agenda shall also be posted at the following locations but those locations are not official agenda posting locations for purposes of section 54954.2(a)(1): District offices at 11 Reservation Road, Seaside City Hall, the City of Marina Library, and the City of Seaside Library. A complete Board packet containing all enclosures and staff materials will be available for public review on Wednesday, February 19, 2020. Copies will also be available at the Board meeting. Information about items on this agenda or persons requesting disability related modifications and/or accommodations should contact the Board Clerk 48 hours prior to the meeting at: 831-883-5910.

2) Bay View Community DE, LLC; Bryan Taylor; Greg Carter; and Brooke Bilyeu vs Marina Coast Water District; Board of Directors of Marina Coast Water District; County of Monterey and Does 1-25, inclusive, Monterey County Superior Court Case No. 18CV000765 (Petition for Writ of Mandate or Administrative Mandate, and Complaint for Declaratory and Injunctive Relief and Breach of Contract)

3) Marina Coast Water District, and Does 1-100 v, County of Monterey, County of Monterey Health Department Environmental Health Bureau, and Does 101-110, Monterey County Superior Court Case No. 18CV000816 (Petition for Writ of Mandate and Complaint for Injunctive Relief)

4) Marina Coast Water District, and Does 1-100 v, County of Monterey, Monterey County Board of Supervisors, and Does 101-110 (California-American Water Company, Real Party in Interest), Monterey County Superior Court Case No. 19CV003305 (Petition for Writ of Mandate and Complaint for Injunctive Relief)

B. Pursuant to Government Code 54956.9(d)(4)
Conference with Legal Counsel – Anticipated Litigation
Initiation of Litigation – Two Potential Cases

7:00 p.m. Reconvene Open Session

5. Reportable Actions Taken During Closed Session *The Board will announce any reportable action taken during closed session and the vote or abstention on that action of every director present, and may take additional action in open session as appropriate. Any closed session items not completed may be continued to after the end of all open session items.*

6. Pledge of Allegiance

7. Oral Communications *Anyone wishing to address the Board on matters not appearing on the Agenda may do so at this time. Please limit your comment to four minutes. The public may comment on any other items listed on the agenda at the time they are considered by the Board.*

8. Consent Calendar

A. Receive and File the Check Register for the Month of January 2020

B. Receive the Quarterly Financial Statements for October 1, 2019 to December 31, 2019

C. Consider Adoption of Resolution No. 2020-06 to Approve Updates to the Employee Handbook

D. Approve the Draft Minutes of the Special Joint Board/GSA Meeting of January 23, 2020

E. Approve the Draft Minutes of the Regular Joint Board/GSA Meeting of January 29, 2020

9. Action Items *The Board will review and discuss agenda items and take action or direct staff to return to the Board for action at a following meeting. The public may address the Board on these Items as each item is reviewed by the Board. Please limit your comment to four minutes.*

A. Receive the Final Report from Aqua Geo Frameworks on the 2019 Airborne Electromagnetic Survey

Action: The Board of Directors will receive the final report from Aqua Geo Frameworks on the 2019 Airborne Electromagnetic Survey.

B. Discuss, Consider, and Determine Action on Director Peter Le's Complaint against the District for Negligence, Discrimination, and Retaliation

Action: The Board of Directors will discuss Director Peter Le's complaint against the District and determine what action should be taken.

C. Discuss and Consider Adoption of Resolution No. 2020-07 Ratifying Comments Submitted to Monterey One Water on the Draft Supplemental Environmental Impact Report for the Proposed Pure Water Monterey Expansion Project, Providing Policy Direction to District Staff Regarding the Pure Water Monterey Project and Pure Water Monterey Expansion Project, and Appointing a Real Property Negotiator

Action: The Board of Directors will consider ratifying comments submitted to Monterey One Water on the Draft Supplemental Environmental Impact Report for the proposed Pure Water Monterey Expansion Project, providing policy direction to District staff regarding the Pure Water Monterey Project and Pure Water Monterey Expansion Project, and appointing a Real Property Negotiator.

D. Consider Providing Direction Regarding the Nomination to the Coastal Network, Seat B, of the California Special Districts Association Board

Action: The Board of Directors will consider providing direction on the election of one member to the Coastal Network, Seat B, of the California Special Districts Association.

E. Consider Providing Direction Regarding the Nomination to the Coastal Network, Seat C, of the California Special Districts Association Board

Action: The Board of Directors will consider providing direction on the election of one member to the Coastal Network, Seat C, of the California Special Districts Association.

F. Receive the Marina Coast Water District FY 2019-2020 Mid-Year Report *Action:*

The Board of Directors will consider receiving the Marina Coast Water District FY 2019-2020 Mid-Year Report.

G. Consider Approving the 2019 Year in Review Report

Action: The Board of Directors will consider approving the 2019 Year in Review Report.

10. Staff Reports

A. Receive a Capacity/Capital Surcharge Reserve Fund Activity Report

11. Workshop

A. Strategic Plan and Goal Setting Workshop

12. Informational Items *Informational items are normally provided in the form of a written report or verbal update and may not require Board action. The public may address the Board on Informational Items as they are considered by the Board. Please limit your comments to four minutes.*

A. General Manager's Report

B. Counsel's Report

C. Committee and Board Liaison Reports

1. Water Conservation Commission
2. Joint City-District Committee
3. Executive Committee
4. Community Outreach Committee
5. Budget and Personnel Committee
6. M1W Board Member Liaison
7. LAFCO Liaison
8. FORA
9. WWOC Report
10. JPIA Liaison
11. Special Districts Association
12. SVBGSA Liaison (Steering Committee)

13. Board Member Requests for Future Agenda Items

14. Director's Comments *Director reports on meetings with other agencies, organizations and individuals on behalf of the District and on official District matters.*

15. Adjournment *Set or Announce Next Meeting(s), date(s), time(s), and location(s):*

Regular Meeting: *Monday, March 16, 2020, 6:30 p.m.,*
Marina Council Chambers, 211 Hillcrest Avenue, Marina

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 8 | Meeting Date: February 25, 2020

Prepared By: Paula Riso | Approved By: Keith Van Der Maaten

Agenda Title: Consent Calendar

Staff Recommendation: The Board of Directors approve the Consent Calendar as presented.

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Consent calendar consisting of:

A) Receive and File the Check Register for the Month of January 2020
B) Receive the Quarterly Financial Statements for October 1, 2019 to December 31, 2019
C) Consider Adoption of Resolution No. 2020-06 to Approve Updates to the Employee Handbook
D) Approve the Draft Minutes of the Special Joint Board/GSA Meeting of January 23, 2020
E) Approve the Draft Minutes of the Regular Joint Board/GSA Meeting of January 29, 2020

Discussion/Analysis: See individual transmittals.

Environmental Review Compliance: None required.

Other Considerations: The Board of Directors can approve these items together or they can pull them separately for discussion.

Material Included for Information/Consideration: Check Register for January 2020; quarterly financial statements for October 1, 2019 to December 31, 2019; Employee Handbook revisions; draft minutes of January 23, 2020; and, draft minutes of January 29, 2020.

Action Required: ______Resolution ___X___Motion ______Review
(Roll call vote is required.)

Board Action

Motion By______________ Seconded By________________ No Action Taken______________

Ayes__________________________ Abstained______________________________

Noes__________________________ Absent________________________________

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 8-A

Meeting Date: February 25, 2020

Prepared By: Kelly Cadiente

Approved By: Keith Van Der Maaten

Agenda Title: Receive and File the Check Register for the Month of January 2020

Staff Recommendation: The Board of Directors receive and file the January 2020 expenditures totaling $1,597,345.97.

Background: *Strategic Plan, Objective No. 3 – Our objective is to manage public funds to assure financial stability, prudent rate management and demonstrate responsible stewardship. Our fiscal strategy is to forecast, control and optimize income and expenditures in an open and transparent manner. We will efficiently use our financial resources to assure availability to fund current and future demands.*

Discussion/Analysis: These expenditures were paid in January 2020 and the Board is requested to receive and file the check register.

Environmental Review Compliance: None required.

Financial Impact: _____Yes __X__No Funding Source/Recap: Expenditures are allocated across the six cost centers; 01-Marina Water, 02-Marina Sewer, 03- Ord Water, 04- Ord Sewer, 05-Recycled Water, 06-Regional Water.

Other Consideration: None.

Material Included for Information/Consideration: January 2020 Summary Check Register.

Action Required: ______Resolution __X__Motion ______Review
(Roll call vote is required.)

Board Action

Motion By______________ Seconded By________________ No Action Taken______________

Ayes__________________________ Abstained____________________________

Noes__________________________ Absent______________________________

JANUARY 2020 SUMMARY CHECK REGISTER

DATE	CHECK #	CHECK DESCRIPTION	AMOUNT
01/09/2020	68661 - 68726	Check Register	452,570.38
01/17/2020	68727 - 68736	Check Register	7,376.26
01/21/2020	Wire	Santa Cruz County Bank	118,694.06
01/23/2020	68737 - 68774	Check Register	488,307.22
01/07/2020	500622 - 500637	Check Register	27,327.75
01/10/2020	ACH	MassMutual Retirement Services, LLC	20,869.33
01/10/2020	ACH	Internal Revenue Service	45,426.97
01/10/2020	ACH	CalPERS	25,131.35
01/10/2020	ACH	State of California - EDD	13,668.44
01/10/2020	500638 - 500642	Payroll Checks and Direct Deposit	106,389.16
01/17/2020	500643 - 500644	Check Register	1,472.27
01/17/2020	500645 - 500647	Check Register	76,957.57
01/24/2020	ACH	CalPERS	25,480.53
01/24/2020	ACH	MassMutual Retirement Services, LLC	20,161.79
01/24/2020	ACH	Internal Revenue Service	46,130.72
01/24/2020	ACH	State of California - EDD	12,210.56
01/24/2020	500648 - 500652	Payroll Checks and Direct Deposit	108,565.34
01/24/2020	500653	Check Register	606.27
		TOTAL DISBURSEMENTS	**1,597,345.97**

Check No	Invoice Date	Check Date	Vendor Name	Description	Amount
68661	12/23/2019	01/09/2020	Quinn Company	Troubleshoot/ Repair Generator - LS 5398, Replacement Muffler - Ord Village L/S	2,839.03
68662	12/09/2019	01/09/2020	Monterey Peninsula Unified School District	Water Conservation Education 11/2019	2,263.85
68663	12/26/2019	01/09/2020	Insight Planners	Web Development/ Maintenance, Hosting 12/2019	1,460.00
68664	12/10/2019	01/09/2020	Fisher Scientific	Laboratory Supplies	111.96
68665	12/11/2019	01/09/2020	PG&E	Gas and Electric Service 11/2019	68,596.66
68666	12/18/2019	01/09/2020	Area Communications	Answering Service 11/20 - 12/17	139.00
68667	11/30/2019	01/09/2020	Schaaf & Wheeler	Design Phase - A1/A2 Tanks B/C BPS	18,412.82
68668	12/20/2019	01/09/2020	Idexx Distribution Corporation	Laboratory Supplies	560.64
68669	12/11/2019	01/09/2020	Valley Saw and Garden Equipment	Stihl Walk Behind Saw, General Supplies	2,468.46
68670	01/02/2020	01/09/2020	DLT Solutions, LLC	Autodesk AutoCAD 2D 2020 Government Renewal	4,722.16
68671	12/18/2019	01/09/2020	Verizon Wireless	Cell Phone Service 12/2019	1,560.13
68672	01/03/2020	01/09/2020	Orkin Franchise 925	BLM Pest Control 01/2020	191.00
68673	12/18/2019	01/09/2020	Cypress Coast Ford	Replace Brakes, Turn Rotors, Oil Change - Vehicle #1301	1,049.48
68674	12/23/2019	01/09/2020	HD Supply Facilities Maintenance LTD	General Supplies	551.55
68675	12/16/2019	01/09/2020	Sparling Instruments, LLC	Meter Tests - Wells/ Interties	2,968.00
68676	01/03/2020	01/09/2020	Conservation Rebate Program	388 Ocean View Ct - Washer Rebate	50.00
68677	12/17/2019	01/09/2020	Core & Main LP	(250) 3/4" 3G-DS Registers	41,079.69
68678	01/02/2020	01/09/2020	Conservation Rebate Program	SunBay Resort - (10) Toilet Rebates	1,250.00
68679	12/20/2019	01/09/2020	NEC Financial Services, Inc.	Phone Equipment Lease 12/2019	335.76
68680	12/28/2019	01/09/2020	O'Reilly Automotive Stores, Inc.	Auto/ General Supplies	384.21
68681	01/01/2020	01/09/2020	Mobile Modular	Modular Office - Water Resources 01/2020	743.69
68682	12/13/2019	01/09/2020	Whitson Engineers	Preliminary Engineering/ Land Surveying - S Boundary Rd Pipeline	880.00
68683	01/02/2020	01/09/2020	Integrity Print & Design LLC	(1,000) Letterhead	201.02
68684	12/20/2019	01/09/2020	Don Chapin Co., Inc	Generator Project - Construction Pmt #2	169,201.49
68685	11/29/2019	01/09/2020	Calcon Systems, Inc.	Update SCADA/ PLC Settings	1,885.00
68686	01/02/2020	01/09/2020	Conservation Rebate Program	347 Carmel Ave #13 - Washer Rebate	100.00
68687	01/02/2020	01/09/2020	Conservation Rebate Program	21874 Ord Ave - Washer Rebate	150.00
68688	01/02/2020	01/09/2020	Conservation Rebate Program	669 Wahl Ct - Washer Rebate	150.00
68689	01/02/2020	01/09/2020	Conservation Rebate Program	2719 3rd Ave - Washer Rebate	100.00
68690	01/02/2020	01/09/2020	Conservation Rebate Program	3140 Lynscott Dr - Toilet Rebate	125.00
68691	01/02/2020	01/09/2020	Conservation Rebate Program	3028 Kennedy Ct - (2) Toilet Rebates	232.10
68692	01/02/2020	01/09/2020	Conservation Rebate Program	3183 Ninole Dr - (2) Toilet Rebates	250.00
68693	12/18/2019	01/09/2020	MUFG Union Bank, N.A.	2010 Bond Administration Fee 12/2019 - 11/2020	1,727.00
68694	12/18/2019	01/09/2020	Green Rubber-Kennedy AG, LP	General Supplies	60.91

Check No	Invoice Date	Check Date	Vendor Name	Description	Amount
68695	12/14/2019	01/09/2020	Graniterock Company	2.24 Tons Cold Mix	440.50
68696	12/11/2019	01/09/2020	Friedman & Springwater LLP	Legal Services - MCWD v CPUC, RPD Superior Court Damages Cases 11/2019	68,479.00
68697	12/19/2019	01/09/2020	Edges Electrical Group, LLC	Molded Case Circuit - Ord Village LS	383.37
68698	12/30/2019	01/09/2020	Monterey Bay Technologies, Inc.	IT Support Services 01/2020	3,450.00
68699	12/27/2019	01/09/2020	ICONIX Waterworks (US), Inc.	Romac SS1 Repair Clamp, 10" 584 Flex Check Valve, General Supplies and Tools	4,260.42
68700	12/31/2019	01/09/2020	Eurofins Eaton Analytical, Inc.	Lab Water - Total Organic Carbon and Nitrogen, Laboratory Contract Testing	3,600.00
68701	12/09/2019	01/09/2020	Griffith, Masuda & Hobbs	Legal Services - Bay View Mobile Home Park, Campus Town, City of Marina vs. CEMEX, Groundwater, Local Coastal Development, CSUMB, FORA, RUWAP, Infrastructure Agreement, RAMCO Lawsuit, Shea Homes, General Matters 11/2019	32,133.85
68702	12/19/2019	01/09/2020	NASSCO, Inc.	2020 Membership Dues	295.00
68703	12/31/2019	01/09/2020	Peninsula Messenger LLC	Courier Service 01/2020	165.00
68704	12/23/2019	01/09/2020	Dataflow Business Systems, Inc.	Ord Copier Maintenance (5551ci) 11/23 - 12/22	525.45
68705	12/31/2019	01/09/2020	Iron Mountain, Inc.	Shredding Service 12/2019	163.18
68706	12/28/2019	01/09/2020	AT&T	Phone/ Alarm Line Services 12/2019	120.90
68707	12/20/2019	01/09/2020	PR Diamond Products, Inc.	16" Diamond Chain	1,610.00
68708	01/01/2020	01/09/2020	Pure Janitorial, LLC	BLM Janitorial Services 12/2019	2,097.52
68709	12/27/2019	01/09/2020	Johnson Electronics	Alarm System Service	165.00
68710	01/02/2020	01/09/2020	Conservation Rebate Program	292 Quebrada Del Mar Rd - Hot Water Recirculation Pump Rebate	250.00
68711	12/19/2019	01/09/2020	Ferguson Enterprises, Inc #686	General Supplies and Tools	1,674.05
68712	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 13201 Thomas Ln	267.42
68713	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - Hydrant Meter	748.14
68714	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 2703 3rd Ave	35.00
68715	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - Hydrant Meter	1,311.84
68716	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 4510 Peninsula Point Dr	12.55
68717	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 2705 3rd Ave	12.22
68718	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 478 Ferris Ave	35.00
68719	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 185 Noumea Rd	35.00
68720	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - Hydrant Meter	1,711.51
68721	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 72 Wisteria Way	4.51
68722	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - Hydrant Meter	1,689.97

Check No	Invoice Date	Check Date	Vendor Name	Description	Amount
68723	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 300 Metz Rd	35.00
68724	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 502 Ridgeview Ave	13.26
68725	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 3184 Vista del Camino	35.00
68726	12/31/2019	01/09/2020	Customer Service Refund	Refund Check - 174 Okinawa Rd	10.11
68727	12/31/2019	01/17/2020	Ace Hardware	General Supplies	616.02
68728	12/20/2019	01/17/2020	Quinn Company	Annual Load Bank Generator Testing - Landrum LS, Reservation LS, Schoonover LS	2,652.50
68729	01/05/2020	01/17/2020	Staples Credit Plan	Office Supplies	646.00
68730	12/12/2019	01/17/2020	American Supply Company	Janitorial Supplies	394.25
68731	01/09/2020	01/17/2020	Val's Plumbing & Heating, Inc.	Boiler Maintenance - BLM	466.37
68732	01/06/2020	01/17/2020	Sturdy Oil Company	(250) gals Clear Diesel - Convault Tank/ O&M Yard	161.47
68733	01/07/2020	01/17/2020	Eurofins Eaton Analytical, Inc.	Laboratory Contract Testing	935.00
68734	01/06/2020	01/17/2020	TIAA Commercial Finance, Inc.	(3) Office Copiers (C754E, 454E, 5551ci), eCopy ScanStation Leases 01/2020	1,109.54
68735	12/31/2019	01/17/2020	Marina Coast Water District (BLM)	BLM Water, Sewer, Fire Service 12/2019	346.02
68736	01/02/2020	01/17/2020	Ferguson Enterprises, Inc #686	General Supplies	49.09
Wire	01/10/2020	01/21/2020	Santa Cruz County Bank	BLM Construction Loan Interest (Pmt #6) 01/2020	118,694.06
68737	01/10/2020	01/23/2020	Quinn Company	ATS - Well 34 Genset	20,517.83
68738	12/31/2019	01/23/2020	City of Marina	Franchise Tax Fee 10/2019 - 12/2019	38,933.75
68739	12/31/2019	01/23/2020	Fort Ord Reuse Authority	Franchise Tax Fee 10/2019 - 12/2019	143,293.43
68740	01/08/2020	01/23/2020	Fisher Scientific	Laboratory Supplies	563.32
68741	01/10/2020	01/23/2020	Pitney Bowes (Lease)	Postage Machine Lease 11/09 - 02/08	649.44
68742	01/10/2020	01/23/2020	PG&E	Gas and Electric Service 12/2019	52,621.14
68743	12/27/2019	01/23/2020	Home Depot Credit Services	General Supplies and Tools	1,129.96
68744	12/31/2019	01/23/2020	Peninsula Welding & Medical Supply, Inc.	Gas Cylinder Tank Rental Fee - Welding Supplies	111.90
68745	12/31/2019	01/23/2020	The Monterey County Herald	Notice of Public Hearing - GSP	275.56
68746	01/08/2020	01/23/2020	Johnson Controls Security Solutions LLC	Alarm Service Call/ Replace Battery - IOP	1,110.71
68747	12/09/2019	01/23/2020	Cypress Coast Ford	Blower Motor Repair - Vehicle #1703	628.78
68748	01/01/2020	01/23/2020	Maynard Group	NEC Phone Equipment Maintenance, AT&T Wireless Backup, eMVS Cloud, VoIP Services 01/2020	3,174.68
68749	01/02/2020	01/23/2020	HD Supply Facilities Maintenance LTD	General Supplies	546.19
68750	12/31/2019	01/23/2020	DataProse, LLC	Customer Billing Statements 12/2019	5,742.90
68751	01/02/2020	01/23/2020	ARC Document Solutions, LLC	As-Builts for Engineering/ O&M - RUWAP Transmission Mains	531.53
68752	01/06/2020	01/23/2020	Geiger	Disconnect and Connect Orders	1,025.15

Check No	Invoice Date	Check Date	Vendor Name	Description	Amount
68753	12/27/2019	01/23/2020	Calcon Systems, Inc.	PLC Program Update - Watkins Gate Well; Radio Communications - B/C Booster, Sand Tank Pt 1/ Pt 2	2,010.00
68754	12/31/2019	01/23/2020	Univar USA, Inc.	(1,215) gals Chlorine - Well 10, Well 11, Intermediate Reservoir	2,441.27
68755	01/13/2020	01/23/2020	Daiohs USA	Coffee Supplies	236.28
68756	01/23/2020	01/23/2020	Central Coast Sign & Design	(32) MCWD Metal Site Signs	2,262.52
68757	01/07/2020	01/23/2020	Conservation Rebate Program	3128 Crescent Ave #76 - Toilet Rebate	114.00
68758	01/17/2020	01/23/2020	Conservation Rebate Program	419 Reindollar Ave - (4) Toilet Rebates	300.00
68759	12/24/2019	01/23/2020	Voyager Fleet Systems, Inc.	Fleet Gasoline	3,036.69
68760	01/13/2020	01/23/2020	Green Rubber-Kennedy AG, LP	General Supplies	886.91
68761	01/06/2020	01/23/2020	U.S. Bank Corporate Payment Systems	2020 California Irrigation Institute Conference, Hotel for CityWorks Conference, Janitorial Supplies, Cloud Hosted Server for CityWorks/ ESRI (MicroSoft), Premiere Global Services, General Supplies	3,390.85
68762	01/06/2020	01/23/2020	Friedman & Springwater LLP	Legal Services - MCWD v CPUC, RPD Superior Court Damages Cases 12/2019	46,825.00
68763	01/10/2020	01/23/2020	Richards, Watson & Gershon	Legal Services - Regional Project Litigation 12/2019	12,193.83
68764	01/10/2020	01/23/2020	Remy Moose Manley, LLP	Legal Services - Annexation, Desalination Plan/ MPWSP, RAMCO Well, CPUC 12/2019	81,401.68
68765	01/15/2020	01/23/2020	Eurofins Eaton Analytical, Inc.	Laboratory Contract Testing	7,735.00
68766	01/07/2020	01/23/2020	Griffith, Masuda & Hobbs	Legal Services - Bay View Mobile Home Park, Campus Town, Capacity Charges, CSUMB, FORA Transition, Groundwater, Local Coastal Development Permit, PWM Expansion, RUWAP, Infrastructure Agreement, Shea Homes, General Matters 12/2019	31,548.26
68767	12/31/2019	01/23/2020	Western Exterminator Company	Pest Control - Beach Office 12/2019	91.50
68768	01/02/2020	01/23/2020	Simpler Systems, Inc.	Datapp for UB - Maintenance 01/2020	500.00
68769	01/13/2020	01/23/2020	Conservation Rebate Program	3070 Sunset Ave #9 - Toilet Rebate	125.00
68770	01/08/2020	01/23/2020	Subsite, LLC	(2) CCTV Camera Connection Cables	256.72
68771	01/01/2020	01/23/2020	Verizon Connect NWF, Inc.	GPS Service - (2) Meter Reader Trucks 12/2019	38.00
68772	01/17/2020	01/23/2020	Conservation Rebate Program	320 Sirena Del Mar Rd - Washer Rebate	150.00
68773	01/09/2020	01/23/2020	Interstate Battery of San Jose	(2) Batteries - Well 31	427.97
68774	12/31/2019	01/23/2020	City of Seaside	City Utility Tax 10/2019 - 12/2019	21,479.47
500622	01/03/2020	01/07/2020	ACWA Joint Power Ins Authority	Workers Compensation Insurance 10/2019 - 12/2019	21,943.53
500623	12/05/2019	01/07/2020	CWEA - Monterey Bay Section	Membership Renewal	192.00
500624	12/25/2019	01/07/2020	AFLAC	Employee Paid Benefits 12/2019	2,454.94

Check No	Invoice Date	Check Date	Vendor Name	Description	Amount
500625	12/19/2019	01/07/2020	Thomas P. Moore	Board Compensation 12/2019	50.00
500626	12/31/2019	01/07/2020	Special District Association	Quarterly Meeting - Moore, Shriner, Le	120.00
500627	01/05/2020	01/07/2020	LegalShield	Employee Paid Benefits 01/2020	25.90
500628	12/19/2019	01/07/2020	Matthew Ryan Zefferman	Board Compensation 12/2019	50.00
500629	12/09/2019	01/07/2020	Teodulfo Espero	2019 CityWorks Annual Conference Transportation	91.34
500630	12/02/2019	01/07/2020	Antonio Munoz	Grade II Water Treatment Exam Fee	45.00
500631	12/17/2019	01/07/2020	Principal Life	Employee Paid Benefits 01/2020	493.02
500632	12/16/2019	01/07/2020	WageWorks, Inc.	FSA Admin Fees 11/2019	128.00
500633	12/19/2019	01/07/2020	Peter Le	Board Compensation 12/2019	50.00
500634	12/19/2019	01/07/2020	Herbert Cortez	Board Compensation 12/2019	50.00
500635	12/17/2019	01/07/2020	Transamerica Life Insurance Company	Employee Paid Benefits 12/2019	1,047.64
500636	12/31/2019	01/07/2020	Cintas Corporation No. 630	Uniforms, Towels, Rugs 12/2019	536.38
500637	12/19/2019	01/07/2020	Jan Shriner	Board Compensation 12/2019	50.00
ACH	01/10/2020	01/10/2020	MassMutual Retirement Services, LLC	Payroll Ending 01/03/20	20,869.33
ACH	01/10/2020	01/10/2020	Internal Revenue Service	Payroll Ending 01/03/20	45,426.97
ACH	01/10/2020	01/10/2020	CalPERS	Payroll Ending 01/03/20	25,131.35
ACH	01/10/2020	01/10/2020	State of California - EDD	Payroll Ending 01/03/20	13,668.44
500638 - 500642	01/10/2020	01/10/2020	Payroll Checks and Direct Deposit	Payroll Ending 01/03/20	106,389.16
500643	01/10/2020	01/10/2020	General Teamsters Union	Payroll Ending 01/03/20	866.00
500644	01/10/2020	01/10/2020	WageWorks, Inc.	Payroll Ending 01/03/20	606.27
500645	01/03/2020	01/17/2020	ACWA/ JPIA	Medical, Dental, Vision 02/2020	76,768.07
500646	01/02/2020	01/17/2020	Jonathan P Lord	CA Irrigation Institute Conference Per Diem Meals	49.50
500647	01/15/2020	01/17/2020	WageWorks, Inc.	FSA Admin Fees 12/2019	140.00
ACH	01/24/2020	01/24/2020	CalPERS	Payroll Ending 01/17/20	25,480.53
ACH	01/24/2020	01/24/2020	MassMutual Retirement Services, LLC	Payroll Ending 01/17/20	20,161.79
ACH	01/24/2020	01/24/2020	Internal Revenue Service	Payroll Ending 01/17/20	46,130.72
ACH	01/24/2020	01/24/2020	State of California - EDD	Payroll Ending 01/17/20	12,210.56
500648 - 500652	01/24/2020	01/24/2020	Payroll Checks and Direct Deposit	Payroll Ending 01/17/20	108,565.34
500653	01/24/2020	01/24/2020	WageWorks, Inc.	Payroll Ending 01/17/20	606.27
				Total Disbursements for January 2020	**1,597,345.97**

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Marina Coast Water District
Agenda Transmittal

Agenda Item: 8-B

Meeting Date: February 25, 2020

Prepared By: Kelly Cadiente

Approved By: Keith Van Der Maaten

Agenda Title: Receive the Quarterly Financial Statements for October 1, 2019 to December 31, 2019

Staff Recommendation: The Board receives the Quarterly Financial Statements for October 1, 2019 to December 31, 2019.

Background: *Strategic Plan, Strategic Element No. 3.2 – Regular Financial Updates to Policymakers and Managers.*

Discussion/Analysis: All figures reported for the quarter are based on accrual basis accounting. The District's consolidated financial statement for the quarter includes operating revenues of $4.275 million and expenses of $4.026 million, resulting in a net gain from operations of $0.249 million. The District budget projected net gain from operations of $0.504 million for the same period.

The difference between the actual net gain from operations for the quarter from the budget gain expectation is $0.255 million due to the timing of when revenues are earned and expenses are accrued producing different results than those in which the annual budget amounts are divided evenly by quarter.

Summary of Cost Centers:

Description	Actual Qtr	Budget Qtr	Actual FYTD	Budget FYTD
Marina Water				
Revenue	1,011,796	1,076,064	2,078,741	2,152,128
Expenses	856,215	921,569	1,560,511	1,843,136
Net Gain/(Loss)	155,581	154,495	518,230	308,992
Marina Sewer				
Revenue	353,564	367,757	706,505	735,514
Expenses	214,185	208,721	379,755	417,442
Net Gain/(Loss)	139,379	159,036	326,750	318,072

Ord Community Water				
Revenue	2,144,160	2,183,863	4,507,235	4,367,725
Expenses	2,219,137	2,149,876	3,998,494	4,299,754
Net Gain/(Loss)	(74,977)	33,987	508,741	67,971
Ord Community Sewer				
Revenue	765,946	750,490	1,535,276	1,500,980
Expenses	579,522	488,400	927,677	976,799
Net Gain/(Loss)	186,424	262,090	607,599	524,181
Recycled Water Project				
Revenue	105	50	105	100
Expenses	157,099	105,252	197,339	210,505
Net Gain/(Loss)	(156,994)	(105,202)	(197,234)	(210,405)
Regional Project				
Revenue	-	-	-	-
Expenses	-	-	-	-
Net Gain/(Loss)	-	-	-	-
Consolidated Cost Centers				
Revenue	**4,275,571**	**4,378,224**	**8,827,862**	**8,756,447**
Expenses	**4,026,158**	**3,873,818**	**7,063,776**	**7,747,636**
Net Gain/(Loss)	**249,413**	**504,406**	**1,764,086**	**1,008,811**

As of December 31, 2019, the District had $24.987 million in liquid investments. The District also had $0.852 million of 2010 refunding bond proceeds for debt reserve purposes in the bank and $19.500 million of 2019 Revenue Certificates of Participation Project Funds.

The District owed $17.725 million for the new 2019 Revenue Certificates of Participation which closed December 19, 2019, $27.045 million for the 2015 Senior Revenue Refunding Bonds Series A as well as $1.735 million for the 2010 Subordinate Revenue Refunding Bonds, $2.597 million to Holman Capital Corporation for the conversion of the Rabobank N.A. construction loan for the BLM building, and $5.423 million to BVAA Compass Bank Line of Credit for the Regional Urban Water Augmentation Project as of December 31, 2019.

Environmental Review Compliance: None required.

Financial Impact: ______Yes ___X___No Funding Source/Recap: None

Other Considerations: None

Material Included for Information/Consideration: Quarterly Financial Statements, Investments and Debt Summary Statements.

Action Required: ______Resolution _______Motion ___X___Review

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Board Action

Motion By________________ Seconded By______________No Action Taken__________

Ayes__________________________ Abstained_____________________________

Noes__________________________ Absent_______________________________

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

CONSOLIDATED

	CURRENT QUARTER				YEAR-TO-DATE			
	2019/2020	2018/2019	$ VARIANCE	% VARIANCE	2019/2020	2018/2019	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	2,900,429	2,648,923	251,506	9.49%	6,085,122	5,652,643	432,479	7.65%
SEWER SALES	1,098,783	1,020,253	78,530	7.70%	2,190,770	2,034,183	156,587	7.70%
INTEREST INCOME	78,506	54,330	24,176	44.50%	162,100	102,710	59,390	57.82%
OTHER REVENUE	197,853	179,785	18,068	10.05%	389,870	426,032	(36,162)	(8.49%)
TOTAL REVENUES	4,275,571	3,903,291	372,280	9.54%	8,827,862	8,215,568	612,294	7.45%
EXPENSES								
ADMINISTRATIVE	1,636,757	1,258,245	378,512	30.08%	2,979,020	2,258,713	720,307	31.89%
OPERATING & MAINTENANCE	951,117	880,062	71,055	8.07%	1,823,794	1,812,116	11,678	0.64%
LABORATORY	88,978	73,470	15,508	21.11%	164,729	135,078	29,651	21.95%
CONSERVATION	104,561	68,856	35,705	51.85%	184,059	146,920	37,139	25.28%
ENGINEERING	262,734	167,224	95,510	57.12%	538,641	457,189	81,452	17.82%
WATER RESOURCES	204,166	-	204,166	100.00%	365,548	-	365,548	100.00%
INTEREST EXPENSE	595,618	195,598	400,020	204.51%	643,463	241,984	401,479	165.91%
FRANCHISE FEE	182,227	613,909	(431,682)	(70.32%)	364,522	660,712	(296,190)	(44.83%)
TOTAL EXPENSES	4,026,158	3,257,364	768,794	23.60%	7,063,776	5,712,712	1,351,064	23.65%
NET GAIN (LOSS) FROM OPERATIONS	249,413	645,927	(396,514)	(61.39%)	1,764,086	2,502,856	(738,770)	(29.52%)
CAPACITY FEE/ CAPITAL SURCHARGE	1,066,299	982,173	84,126	8.57%	1,841,249	2,149,720	(308,471)	(14.35%)
CONTRIBUTIONS/ GRANT REVENUE	879,173	-	879,173	100.00%	879,173	-	879,173	100.00%
NON-OPERATING REVENUE	151,302	125,374	25,928	20.68%	249,078	248,788	290	0.12%
CAPITAL IMPROVEMENT PROJECT	1,152,330	2,642,242	(1,489,912)	(56.39%)	2,131,597	6,837,146	(4,705,549)	(68.82%)
DEVELOPER REVENUE	95,462	114,518	(19,056)	(16.64%)	183,114	221,882	(38,768)	(17.47%)
DEVELOPER EXPENSES	97,770	124,351	(26,581)	(21.38%)	177,272	240,174	(62,902)	(26.19%)

MARINA COAST WATER DISTRICT
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

CONSOLIDATED

	MW FUND		MS FUND		OW FUND		OS FUND		RW FUND		RP FUND		CONSOLIDATED		CONSOLIDATED (YTD)	
	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET
REVENUES																
WATER SALES	977,014	1,048,647	-	-	1,923,415	1,975,184	-	-	-	-	-	-	2,900,429	3,023,831	6,085,122	6,047,662
SEWER SALES	-	-	343,009	360,447	-	-	755,774	740,769	-	-	-	-	1,098,783	1,101,216	2,190,770	2,202,431
INTEREST INCOME	16,534	15,142	9,573	6,635	44,952	21,125	7,342	6,271	105	50	-	-	78,506	49,223	162,100	98,446
OTHER REVENUE	18,248	12,275	982	675	175,793	187,554	2,830	3,450	-	-	-	-	197,853	203,954	389,870	407,908
TOTAL REVENUES	1,011,796	1,076,064	353,564	367,757	2,144,160	2,183,863	765,946	750,490	105	50	-	-	4,275,571	4,378,224	8,827,862	8,756,447
EXPENSES																
ADMINISTRATIVE	395,258	286,250	75,624	57,773	956,184	748,555	209,691	146,827	-	300	-	-	1,636,757	1,239,705	2,979,020	2,479,410
OPERATING & MAINTENANCE	218,911	288,257	93,933	107,811	439,717	533,753	198,556	181,511	-	-	-	-	951,117	1,111,332	1,823,794	2,222,664
LABORATORY	25,388	25,389	-	-	63,590	66,785	-	-	-	-	-	-	88,978	92,174	164,729	184,348
CONSERVATION	23,508	37,544	-	-	81,053	74,246	-	-	-	-	-	-	104,561	111,790	184,059	223,580
ENGINEERING	59,830	73,692	15,608	20,822	150,504	181,682	36,792	58,834	-	-	-	-	262,734	335,030	538,641	670,059
WATER RESOURCES	81,394	165,356	-	-	122,772	248,033	-	-	-	-	-	-	204,166	413,389	365,548	826,777
INTEREST EXPENSE	51,926	45,081	29,020	22,315	268,903	197,706	88,670	64,256	157,099	104,952	-	-	595,618	434,310	643,463	868,622
FRANCHISE FEE	-	-	-	-	136,414	99,116	45,813	36,972	-	-	-	-	182,227	136,088	364,522	272,176
TOTAL EXPENSES	856,215	921,569	214,185	208,721	2,219,137	2,149,876	579,522	488,400	157,099	105,252	-	-	4,026,158	3,873,818	7,063,776	7,747,636
NET GAIN (LOSS) FROM OPERATIONS	155,581	154,495	139,379	159,036	(74,977)	33,987	186,424	262,090	(156,994)	(105,202)	-	-	249,413	504,406	1,764,086	1,008,811
CAPACITY FEE/ CAPITAL SURCHARGE	132,567	104,188	115,833	71,226	566,168	499,823	251,731	179,397	-	-	-	-	1,066,299	854,634	1,841,249	1,709,267
CONTRIBUTIONS/ GRANT REVENUE	-	38,283	-	-	-	75,940	-	-	879,173	250,000	-	-	879,173	364,223	879,173	728,445
NON-OPERATING REVENUE	42,365	36,895	12,104	10,542	75,651	65,884	21,182	18,448	-	-	-	-	151,302	131,769	249,078	263,538
CAPITAL IMPROVEMENT PROJECT	107,039	-	92,039	-	227,976	-	188,907	-	426,219	-	110,150	-	1,152,330	-	2,131,597	-
DEVELOPER REVENUE	15,917	-	3,200	-	43,847	100,000	32,498	26,250	-	-	-	-	95,462	126,250	183,114	252,500
DEVELOPER EXPENSES	12,323	5,375	994	550	56,362	90,000	28,091	26,250	-	-	-	-	97,770	122,175	177,272	244,350

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

MARINA WATER FUND

	CURRENT QUARTER				YEAR-TO-DATE			
	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	977,014	1,048,647	(71,633)	(6.83%)	2,012,388	2,097,295	(84,907)	(4.05%)
SEWER SALES	-	-	-	-	-	-	-	-
INTEREST INCOME	16,534	15,142	1,392	9.19%	34,247	30,283	3,964	13.09%
OTHER REVENUE	18,248	12,275	5,973	48.66%	32,106	24,550	7,556	30.78%
TOTAL REVENUES	1,011,796	1,076,064	(64,268)	(5.97%)	2,078,741	2,152,128	(73,387)	(3.41%)
EXPENSES								
ADMINISTRATIVE	395,258	286,250	109,008	38.08%	726,864	572,500	154,364	26.96%
OPERATING & MAINTENANCE	218,911	288,257	(69,346)	(24.06%)	418,119	576,514	(158,395)	(27.47%)
LABORATORY	25,388	25,389	(1)	(0.00%)	46,910	50,778	(3,868)	(7.62%)
CONSERVATION	23,508	37,544	(14,036)	(37.39%)	47,064	75,088	(28,024)	(37.32%)
ENGINEERING	59,830	73,692	(13,862)	(18.81%)	121,797	147,384	(25,587)	(17.36%)
WATER RESOURCES	81,394	165,356	(83,962)	(50.78%)	145,675	330,711	(185,036)	(55.95%)
INTEREST EXPENSE	51,926	45,081	6,845	15.18%	54,082	90,161	(36,079)	(40.02%)
FRANCHISE/MEMBERSHIP FEES	-	-	-	-	-	-	-	-
TOTAL EXPENSES	856,215	921,569	(65,354)	(7.09%)	1,560,511	1,843,136	(282,625)	(15.33%)
NET GAIN (LOSS) FROM OPERATIONS	155,581	154,495	1,086	0.70%	518,230	308,992	209,238	67.72%
CAPACITY FEE/ CAPITAL SURCHARGE	132,567	104,188	28,379	27.24%	132,567	208,375	(75,808)	(36.38%)
CONTRIBUTIONS/ GRANT REVENUE	-	38,283	(38,283)	(100.00%)	-	76,566	(76,566)	(100.00%)
NON-OPERATING REVENUE	42,365	36,895	5,470	14.83%	69,742	73,791	(4,049)	(5.49%)
CAPITAL IMPROVEMENT PROJECT	107,039	-	107,039	100.00%	192,227	-	192,227	100.00%
DEVELOPER REVENUE	15,917	-	15,917	100.00%	26,499	-	26,499	100.00%
DEVELOPER EXPENSES	12,323	5,375	6,948	129.27%	21,918	10,750	11,168	103.89%

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

MARINA SEWER FUND

	CURRENT QUARTER				YEAR-TO-DATE			
	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	-	-	-	-	-	-	-	-
SEWER SALES	343,009	360,447	(17,438)	(4.84%)	684,521	720,894	(36,373)	(5.05%)
INTEREST INCOME	9,573	6,635	2,938	44.28%	19,793	13,270	6,523	49.16%
OTHER REVENUE	982	675	307	45.48%	2,191	1,350	841	62.30%
TOTAL REVENUES	353,564	367,757	(14,193)	(3.86%)	706,505	735,514	(29,009)	(3.94%)
EXPENSES								
ADMINISTRATIVE	75,624	57,773	17,851	30.90%	127,500	115,545	11,955	10.35%
OPERATING & MAINTENANCE	93,933	107,811	(13,878)	(12.87%)	190,846	215,622	(24,776)	(11.49%)
LABORATORY	-	-	-	-	-	-	-	-
CONSERVATION	-	-	-	-	-	-	-	-
ENGINEERING	15,608	20,822	(5,214)	(25.04%)	31,773	41,644	(9,871)	(23.70%)
WATER RESOURCES	-	-	-	-	-	-	-	-
INTEREST EXPENSE	29,020	22,315	6,705	30.05%	29,636	44,631	(14,995)	(33.60%)
FRANCHISE/MEMBERSHIP FEES	-	-	-	-	-	-	-	-
TOTAL EXPENSES	214,185	208,721	5,464	2.62%	379,755	417,442	(37,687)	(9.03%)
NET GAIN (LOSS) FROM OPERATIONS	139,379	159,036	(19,657)	(12.36%)	326,750	318,072	8,678	2.73%
CAPACITY FEE/ CAPITAL SURCHARGE	115,833	71,226	44,607	62.63%	115,833	142,453	(26,620)	(18.69%)
CONTRIBUTIONS/ GRANT REVENUE	-	-	-	-	-	-	-	-
NON-OPERATING REVENUE	12,104	10,542	1,562	14.82%	19,926	21,083	(1,157)	(5.49%)
CAPITAL IMPROVEMENT PROJECT	92,039	-	92,039	100.00%	105,801	-	105,801	100.00%
DEVELOPER REVENUE	3,200	-	3,200	100.00%	4,160	-	4,160	100.00%
DEVELOPER EXPENSES	994	550	444	80.73%	1,250	1,100	150	13.64%

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

ORD COMMUNITY WATER FUND

	CURRENT QUARTER				YEAR-TO-DATE			
	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	1,923,415	1,975,184	(51,769)	(2.62%)	4,072,734	3,950,367	122,367	3.10%
SEWER SALES	-	-	-	-	-	-	-	-
INTEREST INCOME	44,952	21,125	23,827	112.79%	92,830	42,250	50,580	119.72%
OTHER REVENUE	175,793	187,554	(11,761)	(6.27%)	341,671	375,108	(33,437)	(8.91%)
TOTAL REVENUES	2,144,160	2,183,863	(39,703)	(1.82%)	4,507,235	4,367,725	139,510	3.19%
EXPENSES								
ADMINISTRATIVE	956,184	748,555	207,629	27.74%	1,791,011	1,497,111	293,900	19.63%
OPERATING & MAINTENANCE	439,717	533,753	(94,036)	(17.62%)	880,978	1,067,507	(186,529)	(17.47%)
LABORATORY	63,590	66,785	(3,195)	(4.78%)	117,819	133,570	(15,751)	(11.79%)
CONSERVATION	81,053	74,246	6,807	9.17%	136,995	148,492	(11,497)	(7.74%)
ENGINEERING	150,504	181,682	(31,178)	(17.16%)	308,858	363,363	(54,505)	(15.00%)
WATER RESOURCES	122,772	248,033	(125,261)	(50.50%)	219,873	496,066	(276,193)	(55.68%)
INTEREST EXPENSE	268,903	197,706	71,197	36.01%	272,754	395,413	(122,659)	(31.02%)
FRANCHISE/MEMBERSHIP FEES	136,414	99,116	37,298	37.63%	270,206	198,232	71,974	36.31%
TOTAL EXPENSES	2,219,137	2,149,876	69,261	3.22%	3,998,494	4,299,754	(301,260)	(7.01%)
NET GAIN (LOSS) FROM OPERATIONS	(74,977)	33,987	(108,964)	(320.60%)	508,741	67,971	440,770	648.47%
CAPACITY FEE/ CAPITAL SURCHARGE	566,168	499,823	66,345	13.27%	1,090,413	999,645	90,768	9.08%
CONTRIBUTIONS/ GRANT REVENUE	-	75,940	(75,940)	(100.00%)	-	151,879	(151,879)	(100.00%)
NON-OPERATING REVENUE	75,651	65,884	9,767	14.82%	124,539	131,769	(7,230)	(5.49%)
CAPITAL IMPROVEMENT PROJECT	227,976	-	227,976	100.00%	404,939	-	404,939	100.00%
DEVELOPER REVENUE	43,847	100,000	(56,153)	(56.15%)	89,870	200,000	(110,130)	(55.07%)
DEVELOPER EXPENSES	56,362	90,000	(33,638)	(37.38%)	106,538	180,000	(73,462)	(40.81%)

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

ORD COMMUNITY SEWER FUND

	CURRENT QUARTER				YEAR-TO-DATE			
	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	-	-	-	-	-	-	-	-
SEWER SALES	755,774	740,769	15,005	2.03%	1,506,249	1,481,537	24,712	1.67%
INTEREST INCOME	7,342	6,271	1,071	17.08%	15,125	12,543	2,582	20.59%
OTHER REVENUE	2,830	3,450	(620)	(17.97%)	13,902	6,900	7,002	101.48%
TOTAL REVENUES	765,946	750,490	15,456	2.06%	1,535,276	1,500,980	34,296	2.28%
EXPENSES								
ADMINISTRATIVE	209,691	146,827	62,864	42.82%	333,548	293,654	39,894	13.59%
OPERATING & MAINTENANCE	198,556	181,511	17,045	9.39%	333,851	363,021	(29,170)	(8.04%)
LABORATORY	-	-	-	-	-	-	-	-
CONSERVATION	-	-	-	-	-	-	-	-
ENGINEERING	36,792	58,834	(22,042)	(37.46%)	76,213	117,668	(41,455)	(35.23%)
WATER RESOURCES	-	-	-	-	-	-	-	-
INTEREST EXPENSE	88,670	64,256	24,414	37.99%	89,749	128,512	(38,763)	(30.16%)
FRANCHISE/MEMBERSHIP FEES	45,813	36,972	8,841	23.91%	94,316	73,944	20,372	27.55%
TOTAL EXPENSES	579,522	488,400	91,122	18.66%	927,677	976,799	(49,122)	(5.03%)
NET GAIN (LOSS) FROM OPERATIONS	186,424	262,090	(75,666)	(28.87%)	607,599	524,181	83,418	15.91%
CAPACITY FEE/ CAPITAL SURCHARGE	251,731	179,397	72,334	40.32%	502,436	358,794	143,642	40.03%
CONTRIBUTIONS/ GRANT REVENUE	-	-	-	-	-	-	-	-
NON-OPERATING REVENUE	21,182	18,448	2,734	14.82%	34,871	36,895	(2,024)	(5.49%)
CAPITAL IMPROVEMENT PROJECT	188,907	-	188,907	100.00%	363,490	-	363,490	100.00%
DEVELOPER REVENUE	32,498	26,250	6,248	23.80%	62,585	52,500	10,085	19.21%
DEVELOPER EXPENSES	28,091	26,250	1,841	7.01%	47,566	52,500	(4,934)	(9.40%)

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

RECYCLED WATER FUND

	CURRENT QUARTER				YEAR-TO-DATE			
	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	-	-	-	-	-	-	-	-
SEWER SALES	-	-	-	-	-	-	-	-
INTEREST INCOME	105	50	55	110.00%	105	100	5	5.00%
OTHER REVENUE	-	-	-	-	-	-	-	-
TOTAL REVENUES	105	50	55	110.00%	105	100	5	5.00%
EXPENSES								
ADMINISTRATIVE	-	300	(300)	(100.00%)	97	600	(503)	(83.83%)
OPERATING & MAINTENANCE	-	-	-	-	-	-	-	-
LABORATORY	-	-	-	-	-	-	-	-
CONSERVATION	-	-	-	-	-	-	-	-
ENGINEERING	-	-	-	-	-	-	-	-
WATER RESOURCES	-	-	-	-	-	-	-	-
INTEREST EXPENSE	157,099	104,952	52,147	49.69%	197,242	209,905	(12,663)	(6.03%)
FRANCHISE FEE	-	-	-	-	-	-	-	-
TOTAL EXPENSES	157,099	105,252	51,847	49.26%	197,339	210,505	(13,166)	(6.25%)
NET GAIN (LOSS) FROM OPERATIONS	(156,994)	(105,202)	(51,792)	49.23%	(197,234)	(210,405)	13,171	(6.26%)
CAPACITY FEE/ CAPITAL SURCHARGE	-	-	-	-	-	-	-	-
CONTRIBUTIONS/ GRANT REVENUE	879,173	250,000	629,173	251.67%	879,173	500,000	379,173	75.83%
NON-OPERATING REVENUE	-	-	-	-	-	-	-	-
CAPITAL IMPROVEMENT PROJECT	426,219	-	426,219	100.00%	802,023	-	802,023	100.00%
DEVELOPER REVENUE	-	-	-	-	-	-	-	-
DEVELOPER EXPENSES	-	-	-	-	-	-	-	-

MARINA COAST WATER DISTRICT
INCOME STATEMENT
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

REGIONAL PROJECT FUND

	CURRENT QUARTER				YEAR-TO-DATE			
	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE	ACTUAL	BUDGET	$ VARIANCE	% VARIANCE
REVENUES								
WATER SALES	-	-	-	-	-	-	-	-
SEWER SALES	-	-	-	-	-	-	-	-
INTEREST INCOME	-	-	-	-	-	-	-	-
OTHER REVENUE	-	-	-	-	-	-	-	-
TOTAL REVENUES	-	-	-	-	-	-	-	-
EXPENSES								
ADMINISTRATIVE	-	-	-	-	-	-	-	-
OPERATING & MAINTENANCE	-	-	-	-	-	-	-	-
LABORATORY	-	-	-	-	-	-	-	-
CONSERVATION	-	-	-	-	-	-	-	-
ENGINEERING	-	-	-	-	-	-	-	-
WATER RESOURCES	-	-	-	-	-	-	-	-
INTEREST EXPENSE	-	-	-	-	-	-	-	-
FRANCHISE FEE	-	-	-	-	-	-	-	-
TOTAL EXPENSES	-	-	-	-	-	-	-	-
NET GAIN (LOSS) FROM OPERATIONS	-	-	-	-	-	-	-	-
CAPACITY FEE/ CAPITAL SURCHARGE	-	-	-	-	-	-	-	-
CONTRIBUTIONS/ GRANT REVENUE	-	-	-	-	-	-	-	-
NON-OPERATING REVENUE	-	-	-	-	-	-	-	-
CAPITAL IMPROVEMENT PROJECT	110,150	-	110,150	100.00%	263,117	-	263,117	100.00%
DEVELOPER REVENUE	-	-	-	-	-	-	-	-
DEVELOPER EXPENSES	-	-	-	-	-	-	-	-

MARINA COAST WATER DISTRICT
SCHEDULE OF INVESTMENTS SUMMARY
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

ACCOUNT	ACCT TYPE	YIELD APR	9/30/2019 BALANCE	QUARTERLY ACTIVITIES TRANSACTION TYPE	AMOUNT	12/31/2019 BALANCE
LAIF ACCOUNT		2.29%	12,436,099	INTEREST 10/15/2019	76,628	12,512,727
				TRANSFERS	-	12,512,727
SAVINGS ACCOUNT	MM	0.20%	274,450	INTEREST 10/01/19 - 12/31/19	139	274,589
				TRANSFERS	-	274,589
CPFCA DEPOSIT ACCOUNT	MM	0.05%	100,507	INTEREST 10/01/19 - 12/31/19	12	100,519
RESTRICTED FUNDS	MM	0.16%	5,216,585	INTEREST 10/01/19 - 12/31/19	2,104	5,218,689
				TRANSFERS	-	5,218,689
RUWAP LOC PROCEEDS	CK		4,810	DEPOSITS	-	4,810
				WITHDRAWALS	-	4,810
CHECKING ACCOUNT	CK		6,166,508	QUARTERLY DEPOSITS & CREDITS	6,324,131	12,490,639
				QUARTERLY CHECKS & DEBITS	(5,614,844)	6,875,795
				TRANSFERS	-	6,875,795

SUMMARY	As of December 31 2018	2019
LAIF ACCOUNT	7,689,190	12,512,727
SAVINGS ACCOUNT	973,358	274,589
CPFCA DEPOSIT ACCOUNT	100,469	100,519
RESTRICTED FUNDS	6,330,052	5,218,689
RUWAP LOC PROCEEDS	4,825	4,810
CHECKING ACCOUNT	5,468,058	6,875,795
TOTAL INVESTMENT	**20,565,952**	**24,987,129**

RESERVES DETAIL (LAIF ACCOUNT)	As of December 31 2018	2019
MW GEN OP RESERVE	513,868	961,740
MW CAPACITY REVENUE FUND	571,185	616,389
MW CAP REPL RESERVE FUND	1,288,044	1,056,442
MS GEN OP RESERVE	1,349,561	1,394,497
MS CAPACITY REVENUE FUND	113,216	108,044
MS CAP REPL RESERVE FUND	1,965	100,000
OW GEN OP RESERVE	82,664	65,493
OW CAPITAL/CAPACITY REVENUE FUND	2,784,292	6,971,993
OW CAP REPL RESERVE FUND	70,092	200,000
OS GEN OP RESERVE	17,648	47,813
OS CAPITAL/CAPACITY REVENUE FUND	894,967	890,317
OS CAP REPL RESERVE FUND	1,689	100,000
TOTAL	**7,689,191**	**12,512,727**

MARINA COAST WATER DISTRICT
SCHEDULE OF INVESTMENTS SUMMARY - BOND PROCEEDS
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

ACCOUNT	ACCT TYPE	YIELD APR	9/30/2019 BALANCE	QUARTERLY ACTIVITIES TRANSACTION TYPE	AMOUNT	12/31/2019 BALANCE
RESERVE FUND	TFUND	1.60%	857,456	INTEREST 10/01/19 - 12/31/19	3,781	861,237
2010 REFUNDING BOND				FUNDS TRANFER	(9,361)	851,876
PROJECT FUND	MM	1.64%	-	FUNDS TRANFER	19,500,000	19,500,000
2019 SERIES BOND						

MARINA COAST WATER DISTRICT
SCHEDULE OF DEBT SUMMARY
OCTOBER 1, 2019 TO DECEMBER 31, 2019
(UNAUDITED)

PRINCIPAL AMOUNT	FIRST PAYMENT	FINAL PAYMENT	RATE	9/30/2019 BALANCE	QUARTERLY ACTIVITIES TRANSACTION TYPE	AMOUNT	12/31/2019 BALANCE
HCC - BLM INSTALLMENT LOAN							
2,799,880	07/20/2017	01/20/2037	5.750%	2,597,591	PAYMENT - PRINCIPAL	-	2,597,591
					INTEREST PAYMENT	-	
2010 REFUNDING BOND - CLOSING DATE 12/23/2010							
8,495,000	06/01/2011	06/01/2020	4.340%	1,735,000	PAYMENT - PRINCIPAL	-	1,735,000
					INTEREST PAYMENT	(43,375)	
2015 SERIES A REFUNDING BOND - CLOSING DATE 07/15/2015							
29,840,000	12/01/2015	06/01/2037	3.712%	27,045,000	PAYMENT - PRINCIPAL	-	27,045,000
					INTEREST PAYMENT	(627,075)	
2019 SERIES REVENUE BOND - CLOSING DATE 12/19/2019							
17,725,000	06/01/2020	06/01/2049	2.990%	-	PAYMENT - PRINCIPAL	-	17,725,000
					INTEREST PAYMENT	-	17,725,000
BVAA COMPASS RUWAP LOC							
		08/01/2020	2.599% *	5,423,325	ADVANCES	-	5,423,325
					PAYMENT - PRINCIPAL	-	5,423,325
					INTEREST PAYMENT	(36,909)	

*Line of Credit interest calculated on a variable basis (65.01% of the 30-Day Monthly LIBOR plus 1.50%). Amount represents interest rate at 12/02/2019.

SUMMARY

HCC - BLM INSTALLMENT LOAN	2,597,591
2010 REFUNDING BOND	1,735,000
2015 REFUNDING BOND SERIES A	27,045,000
2019 SERIES REVENUE BOND	17,725,000
BVAA COMPASS RUWAP LOC	5,423,325
TOTAL DEBT	**54,525,916**

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 8-C | Meeting Date: February 25, 2020

Prepared By: Rose Gill | Approved By: Keith Van Der Maaten

Agenda Title: Consider Adoption of Resolution No. 2020-06 to Approve Updates to the Employee Handbook

Staff Recommendation: The Board is requested to adopt Resolution No. 2020-06 to update the Districts Employee Handbook for clearer interpretation.

Background: *Strategic Plan, Strategic Element No. 5 Organizational Health/Personnel – Our objective is to recruit and retain a highly qualified, diverse and inspired workforce that delivers the essential services of our mission statement to the public while providing outstanding customer service. Our strategy is to utilize sound policies and personnel practices, offer competitive compensation and benefits, and provide opportunities for training, development, and professional growth while ensuring a safe and secure workplace*.

The last revision to the Employee Handbook was on April 15, 2019. The Board approved Memorandums of Understanding for both the MCWDEA and Teamsters in June 2019 and the Handbook needs to be updated to capture the new information. In addition, it is a best practice to periodically review employment and personnel policies for practicality and legal compliance. After staff reviewed the latest revision of the Employee Handbook, there were recommendations for additional changes that need to be made to clarify interpretation.

Staff recommends the following revisions/updates:

- Section 7.1 MOU Update
- Section 8.2 MOU Update
- Section 8.5 Remove the Certification Listing because there were positions listed the District doesn't have.
- Section 9.0 Absences. Changed verbiage to clarify absences.
- Section 10.1 MOU Update
- Section 10.13 MOU Update
- Section 10.14 MOU Update

A complete list of changes is listed in the Handbook Revision Chronology page of the Employee Handbook.

Environmental Review Compliance: None required.

Financial Impact: _____Yes ___X___No Funding Source/Recap: None

Other Considerations: The Board can suggest additional changes.

Material Included for Information/Consideration: Redlined Sections of the Employee Handbook.

Action Required: ___X___Resolution _______Motion _______Review
(Roll call vote is required.)

Board Action

Motion By_______________ Seconded By_________________ No Action Taken_______________

Ayes____________________________ Abstained______________________________

Noes____________________________ Absent________________________________

February 25, 2020

Resolution No. 2020-06
Resolution of the Board of Directors
Marina Coast Water District
Approving Updates to the Employee Handbook

RESOLVED by the Board of Directors ("Directors") of the Marina Coast Water District ("District"), at a regular meeting duly called and held on February 25, 2020, at 211 Hillcrest Avenue, Marina, California as follows:

WHEREAS, the District's Employee Handbook was last revised on April 15, 2019; and,

WHEREAS, following approval of Employee Memorandums of Understanding in June 2019 and upon further review by staff, there are a few more recommendations to clarify interpretation of the Employee Handbook Sections 7.1, 8.2, 8.5, 9.0, 10.1, 10.13, and 10.14.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Marina Coast Water District does hereby adopt Resolution No. 2020-06 to approve the proposed District Employee Handbook changes.

PASSED AND ADOPTED on February 25, 2020, by the Board of Directors of the Marina Coast Water District by the following roll call vote:

Ayes: Directors____

Noes: Directors____

Absent: Directors____

Abstained: Directors____

____
Thomas P. Moore, President

ATTEST:

____
Keith Van Der Maaten, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2020-06 adopted February 25, 2020.

____
Keith Van Der Maaten, Secretary

4/15/19

Section 8. This section was deleted because it does not apply to public agencies.

Section 9. Removed verbiage: Excessive tardy is when an employee is late more than ten minutes. Added to verbiage:_Excessive absenteeism occurs when the number of accumulated absences exceeds twelve (12) days **of unexcused absences** in any twelve (12) month period and/or three (3) separate days **of unexcused absences** in a one (1) month period prior to the most recent absence.

Section 13. Corrected "no later than 15th day after receipt of said noticed of disciplinary action" to 5 days per MOU.

Section 14 Took out last sentence to remove, "and recognition item". Also added 50.00 to years of service, in lieu of plaque.

Renumbered Sections: In light of the revisions noted above, several sections were renumbered. The section numbers referenced below are those that appear in our revised version (except for sections that were removed, which are referenced by their original number).

2/~~18~~25/20

Section 7.1 (MOU Update) Compensatory time may be accrued up to a maximum of one hundred and sixty (160) hours. Compensatory time earned in excess of 160 hours shall be paid during the next following pay period. Employees prior to July 1, 2019 that have a balance above 160 hours shall be allowed to reduce their balance gradually and are not eligible to accrue any more compensatory time until their balance is below 160 hours.

Section 8.2 (MOU Update) Compensation for Scada call outs will be at 15 minutes minimum intervals for any calls between 5am and 9pm, and 1 hour minimum call out for calls between 9pm and 5am. Includes alarm check and remote fixes on Scada.

Section 8.5 Removed Certification Listings.

Section 9.0 Changed verbiage to clarify absences.
Excessive absenteeism occurs when the number of accumulated occurrences/ absences exceeds twelve (12) days of unplanned absences in any twelve (12) month period and/or three (3) separate occurrences of unplanned absences in a one (1) month period prior to the most recent absence.

Occurrences, i.e., out with the flu for three days is one occurrence (it is the same sickness for multiple days).

Notification should be a minimum of a week notice so the supervisor/manager has a chance to reassign scheduled duties otherwise it is considered an unplanned absences, i.e., absences without proper notification.

Any time used under FMLA, will NOT be used in calculating occurrences.

Section 10.1 (MOU Update) A. The employee shall be at least sixty-three (63) years of age and have a total of twenty (20) years of service with MCWD.

B. MCWD will pay seventy-five percent (75%) of the medical insurance cost for the employee at retirement who meets the requirements stated in item A above.

C. All employees who exercise this option and who retire with twenty (20) years of service are required to pay twenty-five (25%) of the cost of medical insurance and shall make his/her payments on the first of each month after retirement. Any retired employee who fails to make the required payment to MCWD shall have all benefits cancelled if not paid within thirty (30) days of the due date.

D. Retirees shall be notified in writing of the amounts owed to MCWD at the time of retirement. The amount paid shall be calculated based on twenty-five (25%) of the rates charged by MCWD's insurance carrier at the time of retirement. The employee shall be notified in writing of any changes in the amount owed each year.

Section 10.13 (MOU Update). Prior to approving a request for vacation, it is the responsibility of the manager/supervisor or designee to confirm that the employee has, or will have, the requested time available. Any unposted leave accruals are not eligible for use at the time the scheduled vacation starts.

Section 10.14. (MOU Update): Any management leave not used by the end of the first quarter of the following fiscal year will be paid out to the employee during the next payroll period.

hour laws and MOU's govern overtime rates and conditions. Non-exempt employees may be paid either on a salaried or an hourly basis.

Any questions regarding exemption status should be directed to HR.

All non-exempt employees who are eligible for overtime shall be paid in accordance with applicable federal regulations and as provided in this policy. Overtime shall be defined as time actually worked in excess of forty (40) hours in a workweek or over eight (8) or nine (9) hours in a workday, depending upon the employee's regularly scheduled shift. All overtime work shall be authorized by the appropriate representatives of management and be paid at time and a half (1.5) for all hours worked in excess of his/her regularly scheduled daily hours or may be credited with the equivalent compensatory time off at the option of the affected employee. Time worked in excess of twelve (12) hours in one (1) work day shall be paid at double (2) time.

For the purpose of this section, paid holiday, vacation, and compensatory time off hours shall be considered as hours worked for the purpose of determining overtime. This does not apply to sick leave.

Employees who are statutorily non-exempt from state and federal overtime requirements and who may be required to work on a holiday will be permitted to choose compensatory time off at double time and one half (2.5) the regular salary rate for the holiday worked, or monetary payment for the day. If the monetary payment is selected, it will result in the employee being paid for the holiday at the regular salary rate. If the monetary payment is selected by the employee and the total credited hours for that week exceed forty (40), the employee will be paid for the hours in excess of forty (40) as overtime at a salary rate of double the regular salary rate.

7.1 Compensatory Time

Non-exempt employees working overtime shall elect whether to receive overtime pay at one and one-half hours (1.5) for each hour of overtime worked or double time pay at two hours (2) for each hours of double time worked, or compensatory time hours at the same conversion rate. ~~Compensatory time is capped at 240 hours~~ Compensatory time may be accrued up to a maximum of one hundred and sixty (160) hours. Compensatory time earned in excess of 160 hours shall be paid during the next following pay period. Employees prior to July 1, 2019 that have a balance above 160 hours shall be allowed to reduce their balance gradually and are not eligible to accrue any more compensatory time until their balance is below 160 hours.

Payment for compensatory time at termination shall be for all available compensatory time at the employee's prevailing hourly rate of pay.

7.2 Overtime Exemption Status

Since call-out time is paid at the normal overtime rate, such hours will not be included as hours worked for purposes of determining overtime pay eligibility over forty (40) hours in the work week. This is referred to as a "no pyramiding" rule in calculating overtime under the federal forty (40) hours worked standard.

8.2 On-Call/Standby Pay

Due to certain classification responsibilities, MCWD may require employees to be assigned to on-call or standby duty. On-call or standby duty refers to a situation where a non-exempt, off duty employee, holds him/herself available to immediate response as directed by management. Assigned standby shall be on an as-needed basis and compensated at the rate of pay in the applicable MOU. Additionally, the call-out payment as described in Section 8.1 above will apply. Compensation for Scada call outs will be at 15 minutes minimum intervals for any calls between 5am and 9pm, and 1 hour minimum call out for calls between 9pm and 5am. Includes alarm check and remote fixes on Scada.

On-call or standby duty shall be defined as that circumstance that requires an employee to:

1. Be ready to respond within thirty (30) minutes to a call for service;
2. Be readily available at all hours by telephone or other agreed-upon communication equipment; and
3. Not engage in activities that might impair assigned duties upon call. Use of alcohol, illegal drugs, and/or any substance that would affect duty performance is prohibited while on standby duty.

On-call/standby pay is compensation given to an employee for hours in which he/she agrees to respond should there be a requirement to report for work. If an on-call/standby employee is called to respond to a telephone advisory situation, no additional pay is warranted, whereas if the on-call/standby employee is required to respond to an on-site operational need, then the employee will be paid under the Call-Out provisions in Section 8.1. In that instance, the employee will resume his/her on-call/standby pay rate upon completion of the call-back work.

8.3 Seminar Attendance and Education Reimbursement

It may be necessary for employees to attend training programs, seminars, conferences, lectures, meetings or other outside activities for the benefit of MCWD or the individual employee. Attendance at such activities may be required by MCWD *or requested by individual employees.* However, attendance *will not* be considered an officially authorized activity, subject to the policies on reimbursement and compensation, unless prior written approval has been given by the General Manager or designee.

To obtain approval, employees wishing to attend an activity must submit a completed Request for Training/Travel Form to his/her immediate supervisor, department manager, and, if approved, to the General Manager or designee detailing all relevant information,

~~System Operator II~~ ~~Collection Operator II~~ ~~Laboratory Analyst II~~ ~~Water Quality Analyst II~~	~~Obtains Grade III certification from CWEA, CDPH, SWRCB, AWWA CA-NV~~	~~Receives 5% ongoing increase (as long as certification is maintained)~~
~~System Operator III~~ ~~Collection Operator III~~ ~~Laboratory Analyst III~~ ~~Water Quality Analyst III~~	~~Obtains Grade IV certification from CWEA, CDPH, SWRCB, AWWA CA-NV~~	~~Receives a 5% ongoing increase (as long as certification is maintained and not a requirement of the position)~~
~~System Operator IV~~ ~~Collection Operator IV~~ ~~Laboratory Analyst IV~~ ~~Water Quality Analyst IV~~	~~Obtains Grade V certification from CWEA, CDPH, SWRCB, AWWA CA-NV~~	~~Receives 5% ongoing increase (as long as certification is maintained and not a requirement of the position)~~

The maximum amount allowable is five percent (5%) and certifications cannot be "stacked".

Certification for positions not listed above will also be considered. The level of bonus will be set after evaluation of the program and with respect to the above specified bonuses. Management employees are not eligible for this certification pay incentive.

Section 9. Absenteeism

9.0 Attendance

Employees of MCWD are expected to be punctual and maintain regular attendance. Tardiness and absenteeism place an additional burden on fellow employees and cause the rescheduling of work assignments. Good attendance is an essential element in determining satisfactory job performance. An unsatisfactory attendance record can result in corrective action, up to and including termination.

Occasionally, it may be necessary for an employee to be absent from work as a result of illness, injury, or other personal reasons. In such cases, employees are expected to give his/her supervisor as much advance notice as possible before the beginning of his/her scheduled starting time. Failure to provide this notification within one (1) hour before start time may result in the unreported period of absence being considered as leave without pay.

Reporting an Absence/Tardiness

For any absence or tardiness, an employee shall speak or leave a message with his/her immediate supervisor or department head. Speaking or leaving a message with anyone else *does not meet* MCWD's reporting requirements. Emails are not acceptable for this purpose. If an employee expects to be late or is unable to show up for work, the employee shall call his/her immediate supervisor, when possible, at least one (1) hour in advance.

Tardiness occurs when an employee arrives late at the required workstation and/or is not dressed and ready to work at their scheduled start time. Excessive tardiness occurs when an employee is late for their scheduled start time, on more than three (3) occasions within any thirty (30) day period. The immediate supervisor will advise the employee when excessive tardiness has occurred.

Excessive absenteeism occurs when the number of accumulated occurrences/ absences exceeds twelve (12) days of ~~unexcused~~ unplanned occurrence/absences in any twelve (12) month period and/or three (3) separate occurrences ~~days~~ of unplanned ~~unexcused~~ absences in a one (1) month period prior to the most recent absence.

Occurrences, i.e., out with the flu for three days is one occurrence (it is the same sickness for multiple days).

Notification should be a minimum of a week notice so the supervisor/manager has a chance to reassign scheduled duties otherwise it is considered an unplanned absence, i.e., absences without proper notification.

Any time used under FMLA, will NOT be used in calculating occurrences.

In order to protect the health of other employees, MCWD may also require a health care provider's verification that an employee who has been absent for health-related reasons is capable of resuming his/her job responsibilities before being permitted to return to work.

Any falsification, misrepresentation, or other violation of this attendance policy can result in disciplinary action, up to and including termination.

Approved Time Off

Employees who know in advance they will be absent or late must make the necessary arrangements with their immediate supervisor or department manager. If time off from work is needed, please schedule and obtain prior approval for any intended absence by submitting a written request for time off in accordance with the applicable procedures in this Handbook.

Planned time off includes any situation that prevents an employee from reporting to work on time for any scheduled workday or time off that needs to be scheduled (e.g., vacations, doctor's appointments, personal obligations, leaves of absence, etc.). If prior arrangements have not been made, employees must discuss an absence or inability to be at work on time directly with his/her immediate supervisor.

If an employee enrolls during the thirty-one (31) days after employment begins, the effective date of coverage is the first of the month following date of hire.

10.1 Retiree Health Benefits

At the option of the employee, MCWD will provide continued medical benefits for retired MCWD employees provided the minimum requirements established by MCWD are met. The requirements shall be as follows:

A. The employee shall be at least ~~fifty-five~~sixty-three (63~~55~~) years of age and have a total of twenty (20) years of service with MCWD.
B. MCWD will pay ~~fifty~~ seventy-five percent (75~~50~~%) of the medical insurance cost for the employee at retirement who meets the requirements stated in item A above.
C. All employees who exercise this option and who retire with twenty (20) years of service are required to pay ~~fifty percent~~twenty-five (25~~50~~%) of the cost of medical insurance and shall make his/her payments on the first of each month after retirement. Any retired employee who fails to make the required payment to MCWD shall have all benefits cancelled if not paid within thirty (30) days of the due date.
D. Retirees shall be notified in writing of the amounts owed to MCWD at the time of retirement. The amount paid shall be calculated based on ~~fifty percent~~twenty-five (25~~50~~%) of the rates charged by MCWD's insurance carrier at the time of retirement. The employee shall be notified in writing of any changes in the amount owed each year.

In the event costs are increased by a carrier, the MCWD will notify the bargaining units and will meet and confer on the proposed change.

(The above applies only to those that retire after July 1, 2019. Above does not apply to existing retirees)

10.2 Dental

All eligible employees are enrolled in MCWD's dental plan. Dependent coverage is optional. This dental program covers several categories of benefits, when the services are provided by a licensed dentist and when they are necessary and customary under the generally accepted standards of dental practice.

10.3 Vision

All eligible employees are enrolled in MCWD's vision plan. Dependent coverage is optional. Benefits for examination, lenses, frames or contact lenses are provided based upon the restrictions of the plan.

10.4 Term Life Insurance and Accidental Death and Dismemberment (AD&D)

service required to meet MCWD's goals and objectives. Under extraordinary circumstances, MCWD reserves the right to cancel previously approved vacations, unless doing so would prove to be an extreme financial hardship to the employee. In such cases, MCWD will reimburse the employee for any committed and non-refundable expenses incurred by the employee.

Employees planning vacations exceeding three (3) weeks should give their immediate supervisor as much advance notice as possible. Under emergency situations exceptions may be made with the written endorsement of the appropriate supervisor. All vacation leave must be approved by the immediate supervisor prior to use.

Vacation time may be coordinated with other approved absences such as disability, family leave, or in observance of a religious holiday. Vacation pay will be based on the employee's base pay rate in effect at the time such vacation is taken. It does not include overtime or any special forms of compensation such as shift differential, standby or other forms of pay otherwise available during normal work schedules. Payment for vacation time will be made on an employee's regularly scheduled payday.

MCWD reserves the right, if necessary, to designate vacation periods during which employees are expected to schedule his/her vacations in order to accommodate overall work schedules and/or to ensure employees actually use his/her accrued vacation benefits. MCWD may also direct an employee to take mandatory time off for a specified period if conditions warrant.

Prior to approving a request for vacation, it is the responsibility of the manager/supervisor or designee to confirm that the employee has, or will have, the requested time available. Any unposted leave accruals are not eligible for use at the time the scheduled vacation starts.

10.14 Management Leave

Represented employees who are exempt from state and federal overtime requirements shall be permitted to take management leave in recognition of the special requirements of their jobs. Effective July 15, 2009, management leave shall be accrued on a bi-weekly basis at the rate of 3.077 hours per pay period. The maximum accrual allowance for management leave will be eighty (80) hours per fiscal year. Management leave earned by the end of each fiscal year shall be taken within the first quarter of the following fiscal year. Any management leave not used by the end of the first quarter of the following fiscal year will be paid out to the employee during the next payroll period~~Management leave earned by the end of each fiscal year shall be taken within the first quarter of the following fiscal year or the leave will be forfeited.~~

Section 11. Leaves of Absence

11.0 General Information

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 8-D Meeting Date: February 25, 2020

Prepared By: Paula Riso Approved By: Keith Van Der Maaten

Agenda Title: Approve the Draft Minutes of the Special Joint Board/GSA Meeting of January 23, 2020

Staff Recommendation: The Board of Directors approve the draft minutes of the January 23, 2020 special joint Board meeting.

Background: *Strategic Plan, Mission Statement – We Provide high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Discussion/Analysis: The draft minutes of January 23, 2020 are provided for the Board to consider approval.

Environmental Review Compliance: None required.

Financial Impact: _____Yes __X__No Funding Source/Recap: None

Other Considerations: The Board can suggest changes/corrections to the minutes.

Material Included for Information/Consideration: Draft minutes of January 23, 2020.

Action Required: ______Resolution __X__Motion ______Review

Board Action

Motion By______________ Seconded By________________ No Action Taken______________

Ayes__________________________ Abstained____________________________

Noes__________________________ Absent______________________________

Marina Coast Water District

Special Board Meeting/Groundwater Sustainability Agency Board Meeting
11 Reservation Road, Marina
January 23, 2020

Draft Minutes

1. Call to Order:

President Moore called the meeting to order at 7:45 p.m. on January 23, 2020 at the District office, 11 Reservation Road, Marina, California.

2. Roll Call:

Board Members Present:

Thomas P. Moore – President
Jan Shriner – Vice President
Herbert Cortez
Peter Le
Matt Zefferman

Board Members Absent:

None

Staff Members Present:

Keith Van Der Maaten, General Manager
Roger Masuda, District Counsel – via telephone
Ruth Stoner-Muzzin, Special Counsel
Gregory Kunert, Special Counsel
Paula Riso, Executive Assistant/Clerk to the Board

Audience Members:

None.

3. Pledge of Allegiance:

Ms. Ruth Stoner-Muzzin led everyone present in the pledge of allegiance.

4. Public Comment on Closed Session Items:

There were no public comments.

The Board entered into closed session at 7:46 p.m. to discuss the following items:

5. Closed Session:

   A. Pursuant to Government Code 54956.9
      Conference with Legal Counsel – Existing Litigation

      1) Marina Coast Water District vs California-American Water Company, Monterey County Water Resources Agency; and, California-American Water Company, Monterey County Water Resources Agency vs Marina Coast Water District, San Francisco Superior Court Case Nos. CGC-15-547125, CGC-15-546632 (Complaint for Damages, Breach of Warranties, etc.)

President Moore reconvened the meeting to open session at 9:41 p.m.

6. Reportable Actions Taken during Closed Session:

President Moore stated that there were no reportable actions taken during Closed Session.

7. Director's Comments:

Director Zefferman commented that he appreciated that the General Manager was trying new things with his facial hair. Director Cortez thanked staff for the snacks provided at the meeting.

8. Adjournment:

The meeting was adjourned at 9:42 p.m.

APPROVED:

____
Thomas P. Moore, President

ATTEST:

____
Paula Riso, Deputy Secretary

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 8-E Meeting Date: February 25, 2020

Prepared By: Paula Riso Approved By: Keith Van Der Maaten

Agenda Title: Approve the Draft Minutes of the Regular Joint Board/GSA Meeting of January 29, 2020

Staff Recommendation: The Board of Directors approve the draft minutes of the January 29, 2020 regular joint Board meeting.

Background: *Strategic Plan, Mission Statement – We Provide high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Discussion/Analysis: The draft minutes of January 29, 2020 are provided for the Board to consider approval.

Environmental Review Compliance: None required.

Financial Impact: _____Yes ___X___No Funding Source/Recap: None

Other Considerations: The Board can suggest changes/corrections to the minutes.

Material Included for Information/Consideration: Draft minutes of January 29, 2020.

Action Required: ______Resolution ___X___Motion ______Review

Board Action

Motion By______________ Seconded By________________ No Action Taken______________

Ayes__________________________ Abstained____________________________

Noes__________________________ Absent______________________________

Marina Coast Water District

Regular Board Meeting/Groundwater Sustainability Agency Board Meeting
211 Hillcrest Avenue, Marina
January 29, 2020

Draft Minutes

1. Call to Order:

President Moore called the meeting to order at 6:30 p.m. on January 29, 2020 at the Marina Council Chambers, 211 Hillcrest Avenue, Marina, California.

2. Roll Call:

Board Members Present:

Thomas P. Moore – President
Jan Shriner – Vice President
Herbert Cortez
Peter Le
Matt Zefferman

Board Members Absent:

None

Staff Members Present:

Keith Van Der Maaten, General Manager
Roger Masuda, District Counsel
Kelly Cadiente, Director of Administrative Services
Derek Cray, Operations and Maintenance Manager
Michael Wegley, District Engineer
Don Wilcox, Senior Engineer
Rose Gill, HR/Risk Administrator
Patrick Breen, Water Resources Manager
Paula Riso, Executive Assistant/Clerk to the Board

Audience Members:

Paul Lord, MCWD
Andrew Sterbenz, Schaaf & Wheeler
Philip Clark, Seaside Resident, WCC Member
Gary Petersen, SVBGSA
Laura Carpenter, Fieldman, Rolapp & Associates
Dan Kurz, Morgan Stanley
Doug Yount, Shea Homes
Vera Nelson, EKI Environment & Water
Donna Dulo, Seaside Resident
Dennis Robinson, Marina Resident

3. Public Comment on Closed Session Items:

There were no comments.

The Board entered into closed session at 6:32 p.m. to discuss the following items:

4. Closed Session:

   A. Pursuant to Government Code 54956.9
   Conference with Legal Counsel – Existing Litigation

      1) Marina Coast Water District vs California-American Water Company, Monterey County Water Resources Agency; and, California-American Water Company, Monterey County Water Resources Agency vs Marina Coast Water District, San Francisco Superior Court Case Nos. CGC-15-547125, CGC-15-546632 (Complaint for Damages, Breach of Warranties, etc.)

      2) Marina Coast Water District v, California Coastal Commission (California-American Water Company, Real Party in Interest), Santa Cruz County Superior Court Case No. 15CV00267, Sixth Appellate District Court of Appeals Case No. H045468

      3) Bay View Community DE, LLC; Bryan Taylor; Greg Carter; and Brooke Bilyeu vs Marina Coast Water District; Board of Directors of Marina Coast Water District; County of Monterey and Does 1-25, inclusive, Monterey County Superior Court Case No. 18CV000765 (Petition for Writ of Mandate or Administrative Mandate, and Complaint for Declaratory and Injunctive Relief and Breach of Contract)

      4) Marina Coast Water District, and Does 1-100 v, County of Monterey, County of Monterey Health Department Environmental Health Bureau, and Does 101-110, Monterey County Superior Court Case No. 18CV000816 (Petition for Writ of Mandate and Complaint for Injunctive Relief)

      5) Marina Coast Water District, and Does 1-100 v, County of Monterey, Monterey County Board of Supervisors, and Does 101-110 (California-American Water Company, Real Property in Interest), Monterey County Superior Court Case No. 19CV003305 (Petition for Writ of Mandate and Complaint for Injunctive Relief)

   B. Pursuant to Government Code 54956.9(d)(4)
   Conference with Legal Counsel – Anticipated Litigation
   Initiation of Litigation – Two Potential Cases

The Board ended closed session at 7:04 p.m.

President Moore reconvened the meeting to open session at 7:06 p.m.

5. Reportable Actions Taken during Closed Session:

Mr. Roger Masuda, District Counsel, stated that there were no reportable actions taken during Closed Session.

6. Pledge of Allegiance:

Mr. Masuda led everyone present in the pledge of allegiance.

7. Oral Communications:

There were no comments.

8. Presentations:

A. Consider Adoption of Resolution No. 2020-01 in Recognition of Paul Lord, Water Conservation Specialist III, for 15 Years of Service to the Marina Coast Water District:

President Moore made a motion to adopt Resolution No. 2020-01 in recognition of Paul Lord, Water Conservation Specialist III, for 15 years of service to the Marina Coast Water District. Vice President Shriner seconded the motion. The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Cortez	-	Yes	President Moore	-	Yes
Director Le	-	Yes			

President Moore read the narration and presented Mr. Lord with a gift certificate.

B. Receive a Presentation on the District's $17,725,000 Enterprise Revenue Certificates of Participation, Series 2019:

Ms. Kelly Cadiente, Director of Administrative Services, introduced this item. Ms. Laura Carpenter, Fieldman Rolapp & Associates, and Mr. Dan Kurz, Morgan Stanley, explained the process of marketing the 2019 Enterprise Revenue Certificates of Participation to potential investors. They stated the response from investors was excellent with many more investors wanting to purchase bonds than were available resulting in the final an-in borrowing cost of 2.99% over a thirty-year period. The Board asked clarifying questions.

9. Marina Coast Water District Groundwater Sustainability Agency Matters:

A. Groundwater Sustainability Plan Workshop – Public Hearing:

1. Close the Public Hearing and Consider Adoption of Resolution No. 2020-GSA01 to Approve the 180/400 Foot Aquifer Groundwater Sustainability Plan for the Marina Coast Water District Groundwater Sustainability Agency:

Agenda Item 9-A1 (continued):

Mr. Patrick Breen, Water Resources Manager, introduced this item and asked if there were any questions. Director Zefferman asked if the Board would receive a presentation on the USGS Hydrologic Model. Mr. Breen answered that it could be arranged once they have a final product. Director Zefferman asked who would be the lead on the Prop. 68 Grant funds. Mr. Breen answered that it would most likely be MCWDGSA.

Director Le asked if the plan was entirely compliant with the Groundwater Sustainability Act with regards to a sustainable yield. He also voiced his concern with the list of Priority Projects, particularly the pumping barrier, and asked how the District could fight so hard against Cal Am's desalination project saying it would have an adverse environmental impact, then propose to do the same type of project and say there is no impact to the environment. Mr. Masuda answered that by approving the Groundwater Sustainability Plan (GSP), the Board was not approving the proposed projects. He said the potential projects listed are to help meet the sustainability goals in twenty years and each project would have to go through environmental review first and would be subject to CEQA challenges.

Vice President Shriner made a motion to adopt Resolution No. 2020-GSA01 to approve the 180/400 Foot Aquifer Groundwater Sustainability Plan for the Marina Coast Water District Groundwater Sustainability Agency. President Moore seconded the motion.

Vice President Shriner commented that the SVBGSA has adopted their plan excluding the CEMEX site because of the overlap with the City of Marina. She stated she is saddened that Monterey County has declared the CEMEX area unmanaged and has sought to become the sole GSA for that area.

Director Cortez asked if all MCWD's comments were included in the document. Mr. Breen answered that after several meetings between staff and consultants, most comments were included. Director Cortez asked if it was necessary for the Resolution to include all the comments about CEMEX. Mr. Breen answered that he added the extra language to err on the side of caution and have more information rather than too little. Director Cortez asked Mr. Masuda if it was necessary to include the language. Mr. Masuda stated that he didn't like to many findings in a Resolution, only what was being approved. Mr. Keith Van Der Maaten, General Manager, noted that he felt it was important to include the language in the Resolution because it explained why the entire subbasin was not covered by this GSP. President Moore asked if the GSP would need to be updated later to include the CEMEX property. Mr. Gary Petersen, SVBGSA General Manager, answered that the SVBGSA approved the GSP and it did not cover the CEMEX property. He said that Monterey County approached him and asked that the SVBGSA include the property in their GSP. Mr. Petersen stated that there was a special meeting tomorrow to include the CEMEX property in the GSP so it would not be declared unmanaged. President Moore asked if it would be prudent to drop the CEMEX language from the Resolution and ask staff to work with the SVBGSA to include it in the GSP. Mr. Masuda answered that the SVBGSA hasn't taken action yet and advised to adopt the Resolution the way it was written.

Agenda Item 9-A1 (continued):

Mr. Masuda clarified that the Department of Water Resources (DWR) has two years to review the Plan and the Plan is not cast in stone. He added that the MCWDGSA will continue working with the SVBGSA over the next two years and if DWR comes back with suggestions following their review, the GSA's can let them know they have already addressed any issues.

Director Le commented that the Board didn't follow the order of business. He said they were supposed to ask questions of staff first, then open to the public, then bring back to the Board for making Resolutions. Director Le said he would like the Board to follow the order of business the Board approved.

Director Le stated that tomorrow, the SVBGSA has a closed session item regarding the lawsuit between the City of Marina and the Monterey County. He also said that the GSP Priority Projects lacked common sense. Director Le said that some of the Alternative Projects were less expensive and it was common sense to do those projects first. He said he looked at other GSP's and no one else is listing desal projects as a priority. Director Le said he looked at Santa Cruz's GSP and they have seawater intrusion like us, but their priority is injection because it is less expensive.

Mr. Breen answered that the cost of water per acre foot was not the primary factor to order the priority. He said that the invasive species eradication was considered low hanging fruit and they did not feel there was the availability of enough injectable water to hold off seawater intrusion to make that a Priority Project. Mr. Petersen stated that basins shouldn't be compared to one another as they are all unique hydrologically and how much water they have. He added that larger cities like Los Angeles and Orange County have hundreds of millions of gallons of treated water to inject into their wells. Mr. Petersen said that they are looking at injecting into the wells but do not feel there is enough fresh water available to inject to be effective. He added that each area would have unique solutions to help them deal with their GSP. Mr. Petersen stated that this was just to get the Plan completed and there was still so much more work to be done evaluating the different solutions and figuring out the responsibilities. He said it would probably take the full 20 years to become sustainable and each project would need to be treated differently but they were all out there for them to look at and decide which way to go. President Moore asked how set in stone the projects were. Mr. Petersen answered that they weren't set in stone. They would probably change over, and over as new information comes in and is evaluated. Director Le asked if Mr. Petersen knows of anyone else in California using desal pumping for seawater intrusion. Mr. Petersen answered that he didn't know of any on the coast, but there were some inland that were pumping brackish water and some other countries that did.

Director Zefferman made a substitute motion to adopt the Resolution adding language stating that the Board is adopting the GSP with the acknowledgement that the Priority List are preliminary, and all require extensive review to assess their viability. Director Le seconded the substitute motion.

Director Cortez asked if the District has their own list of priorities in case DWR asks. Mr. Breen answered that the District did have their own priorities and was looking into projects such as injection of recycled water into the aquifer.

Agenda Item 9-A1 (continued):

Mr. Masuda commented that as part of the District's comments on the GSP, the District presented groups of ideas for projects. He added that the GSP will look at what projects are best for the basin and not necessarily any particular entity.

Mr. Van Der Maaten commented that this GSP is principally for the 180/400' subbasin. He stated that MCWDGSA's primary focus is for the Monterey subbasin and these projects are for users that pump out of the 180/400' subbasin, which is not Marina Coast. Mr. Van Der Maaten stated that the District needs to be involved in these projects because the success of the adjacent basin helps with MCWDGSA's success. He said what is more important is when MCWDGSA begins looking into the Monterey subbasin, and starts to really look into these projects. Mr. Van Der Maaten said the MCWDGSA just received a grant from DWR to study injection and the District is moving forward with the Regional Urban Water Augmentation Project to augment groundwater pumping.

There were no public comments.

President Moore closed the Public Hearing at 8:02 p.m.

Director Le commented that the GSP lists Priority and Alternative projects and he would like to see them as Potential Projects so there is no priority. He asked if Director Zefferman would make a change to his substitute motion to delete all references to CEMEX. Director Zefferman said he wasn't planning on deleting the reference because it does not commit the Board to the CEMEX site and doesn't side with either the Monterey County or City of Marina.

Director Le made a substitute motion to adopt the Resolution with the language included by Director Zefferman and to delete all references to the CEMEX site. The motion failed for lack of a second.

Director Zefferman's substitute motion was voted on and failed with the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	No
Director Cortez	-	No	President Moore	-	Yes
Director Le	-	No			

President Moore returned to the main motion. Director Cortez commented that after listening to the General Manager's comments, he feels it is important to support our neighbors and also trust in staff's comments on how we are working together. He noted that it will take DWR two years to review the Plan and then the District can get another look at it.

Director Le commented that as far as he knows, there is potential litigation on this Plan and he agrees with some of the reasons and he hopes they go ahead and challenge this plan so it can be argued in court.

Agenda Item 9-A1 (continued):

Vice President Shriner's main motion to adopt Resolution No. 2020-GSA01 to approve the 180/400 Foot Aquifer Groundwater Sustainability Plan for the Marina Coast Water District Groundwater Sustainability Agency, which was seconded by President Moore was voted on and passed with the following vote:

Director Zefferman	-	Abstained	Vice President Shriner	-	Yes
Director Cortez	-	Yes	President Moore	-	Yes
Director Le	-	No			

10. Return to Marina Coast Water District Matters:

11. Consent Calendar:

Director Le requested to pull items A and B from the Consent Calendar.

A. Receive and File the Check Register for the Month of December 2019:

Director Le questioned the check paid to Aqua Geo Frameworks, LLC. and asked what it was for. Mr. Van Der Maaten answered that it was for the Airborne Electromagnetic Survey that was recently performed. Director Le suggested changing the description in the check register to better describe what the payment was for.

Vice President Shriner made a motion to receive the check register for the month of December 2019. Director Zefferman seconded the motion. The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Cortez	-	Yes	President Moore	-	Yes
Director Le	-	Yes			

B. Approve the Draft Minutes of the Regular Joint Board/GSA Meeting of December 16, 2019:

Director Le commented that Item 13-E on page 8 of the minutes should state that District counsel mentioned there were six languages that were required for the new Collection Policy. He also said that Item 16, page 13 of the minutes, should be corrected to read he attended a conference in November, not December, and that he did not ask that it be included in the next Board packet. He just mentioned that it was not included in the December packet.

Director Zefferman made a motion to direct staff to review the tape to clarify what was said under items 13-E and 16 of the December 16th meeting, and make any necessary changes to the draft minutes of the regular joint Board/GSA meeting of December 16, 2019. Vice President Shriner seconded the motion. The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Le	-	Yes	President Moore	-	Yes
Director Cortez	-	Yes			

12. Action Items:

A. Consider Appointments of Two Public Members to Fill the Vacant Positions on the Water Conservation Commission:

Mr. Breen introduced this item. Vice President Shriner asked about the terms for the two positions. Mr. Breen answered that one position was completing a 2-year term and the other was completing a 3-year term. Director Cortez commented that he was very impressed with the applications that were received. President Moore also commented on the impressive applications.

Ms. Donna Dulo, Seaside resident and Water Conservation Commission (WCC) applicant, spoke about how much she would like to serve on the WCC and is very interested in water issues.

Mr. Dennis Robinson, Marina resident and WCC applicant, gave his background on water issues while working and living in Dayton, OH. He mentioned that he recently received a call regarding a job opportunity, and it could interfere with his service on the WCC, but he was still in negotiations and would let staff know the outcome as soon as he could.

Vice President Shriner made a motion to appoint both public members to the vacant positions on the WCC. President Moore seconded the motion. Director Le asked if both applicants lived in the District's service area. Mr. Breen answered that they did. The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Le	-	Yes	President Moore	-	Yes
Director Cortez	-	Yes			

B. Consider Adoption of Resolution No. 2020-02 to Approve Amendment No. 5 to the Professional Services Agreement with Akel Engineering Group, Inc. for Master Plans and Capacity Fees Study for Sewer, Water and Recycled Water:

Mr. Michael Wegley, District Engineer, introduced this item explaining that there were four substantial projects coming online soon and it would be in the best interest to include them in the Master Plans. Director Le asked if the Amendment was approved tonight and the new projects made changes, would there need to be more changes to the Master Plans. Mr. Wegley said the projects were far enough along that any changes they made wouldn't impact the Master Plans because they have a cap on their allocated water. Director Le asked where the Main Gate project would get their additional water from. Mr. Wegley answered that Seaside was looking to use recycled water on the golf course to free up potable water for Main Gate and Campus Town. The Board asked clarifying questions.

Mr. Van Der Maaten noted that the District received a letter from Building Industry Association (BIA) recommending approval of the Amendment No. 5 and a copy was provided on the dais. Director Le commented that he just received the letter and it was impossible to read at this last minute. He asked that in the future, staff provide additional information with the packet and not on the dais as he will disregard any material provided at the dais.

Agenda Item 12-B (continued):

Vice President Shriner commented that she would like to see BIA members at Board meetings so they could participate in the public process. Mr. Wegley answered that they have been present at working staff meetings with FORA and WWOC, just not Board meetings.

Director Le asked if anyone has looked at the new Accessory Dwelling Unit laws where a unit of less than 750 square feet cannot be charged fees. Mr. Wegley answered that there were a few nuances to that but it was covered in the Master Plans.

Vice President Shriner made a motion to adopt Resolution No. 2020-02 approving Amendment No. 5 to the Professional Services Agreement with Akel Engineering Group, Inc. for Master Plans and Capacity Fees Study for Sewer, Water and Recycled Water. Director Cortez seconded the motion. The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Le	-	Yes	President Moore	-	Yes
Director Cortez	-	Yes			

C. Consider Adoption of Resolution No. 2020-03 to Reject All Bids on the Regional Urban Water Augmentation Project – Recycled Water Distribution Pipelines Phase and Direct Staff to Rebid the Project:

Mr. Don Wilcox, Senior Engineer, introduced this item explaining that a bid protest was received after the bids were opened.

Vice President Shriner made a motion to adopt Resolution No. 2020-03 to Reject All Bids on the Regional Urban Water Augmentation Project – Recycled Water Distribution Pipelines Phase and Direct Staff to Rebid the Project. Director Cortez seconded the motion.

Director Cortez asked if there was anything in place to correct the process in the future. Mr. Wilcox answered that staff was working on going through the standard bid information to make sure everything as been updated. He said that the requirement of the Contractor's license number was updated two years ago by the Public Contract Code and it just slipped through the cracks and wasn't updated on the District's bid solicitation document. Director Cortez asked if there was any recourse with the consultant who put the bid documents together. Mr. Van Der Maaten answered that if there was proof that there was a problem with the consultant doing the job they were hired to do, there was always recourse.

The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Le	-	Yes	President Moore	-	Yes
Director Cortez	-	Yes			

D. Consider Adoption of Resolution No. 2020-04 to Approve Amendment No. 7 to the Professional Services Agreement with Carollo Engineers for Design of the Regional Urban Water Augmentation Project Distribution Mains Project:

Mr. Wilcox introduced this item explaining that there will need to be another meeting to go over all the details to make sure everything is correct. Director Zefferman asked whose job it was to make sure the documents comply with the Code. Mr. Wilcox answered it was everyone from District staff and consultants, to legal counsel. He said things like this were usually looked at every few years but maybe it needs to be done more often. Director Cortez asked how long Carollo has been doing this work for the District and that during that time, while the District was paying premium rates for their expertise, they haven't caught the mistake. Mr. Wilcox answered that during the next request for proposals, staff could tighten that up by making sure everyone's scope-of-work includes a more thorough review of the Public Contract Code. Vice President Shriner asked if there was a way to have the protester pay for the re-bid. Mr. Masuda answered that his staff was already looking into a bid protest procedure to require the bid protester to pay up front for the cost of the bid protest.

Vice President Shriner made a motion to adopt Resolution No. 2020-04 to Approve Amendment No. 7 to the Professional Services Agreement with Carollo Engineers for Design of the Regional Urban Water Augmentation Project Distribution Mains Project. President Moore seconded the motion. Director Cortez commented that a question came up asking if the District had systems in place so this doesn't happen again and the fact that they were looking to approve this without a system in place says that status quo was not great but let's move forward. He said that instead it should say that status quo wasn't good, and our qualified staff said it should be tightened up here and let's follow that and vote on it again when it comes back to the Board.

Director Le asked if Director Cortez wanted to make a substitute motion to adopt the Resolution but also ask staff to tighten up the procedure so they don't have to pay additional costs in the future. President Moore asked if that motion could be made under this item. Mr. Masuda answered that it shouldn't be made under this item and that direction should go to the General Manager. President Moore asked if Vice President Shriner would amend her motion to direct that staff seek some kind of monetary accommodation from Carollo. Vice President Shriner agreed to amend her motion to include seeking monetary accommodation from Carollo. Director Le urged the Board to look at the bigger picture. He said right now the District is entitled to 600 acre feet of advanced water that they can't use because the distribution pipe isn't completed. Director Le added that the District has to pay a couple of million for this year, so in the scheme of things he urges the Board to approve the original Resolution. He said that one month will cost the District a couple hundred thousand dollars. Director Cortez commented he appreciates what Director Le said, but he said his vote would still be no because he thinks it is important for the Board to show that there has to be accountability from the vendors. He added that the District pays and doesn't get anything for free and it has to be documented somewhere besides just the minutes.

Director Le made a substitute motion that the Board approve 2020-04 to Approve Amendment No. 7 to the Professional Services Agreement with Carollo Engineers for Design of the Regional Urban Water Augmentation Project Distribution Mains Project. President Moore said it was basically the same as the other motion on the floor, except the other motion asks staff to see monetary accommodation from Carollo.

Agenda Item 12-D (continued):

The motion to adopt Resolution No. 2020-04 to Approve Amendment No. 7 to the Professional Services Agreement with Carollo Engineers for Design of the Regional Urban Water Augmentation Project Distribution Mains Project and direct staff to see monetary accommodation from Carollo, was passed by the following vote:

Director Zefferman	-	No	Vice President Shriner	-	Yes
Director Cortez	-	No	President Moore	-	Yes
Director Le	-	Yes			

E. Consider Approving the 2019 Year in Review Report:

Mr. Van Der Maaten introduced this item explaining that this report was a draft and this is the third year the District has generated a Year in Review. He briefly reviewed what was accomplished over the last year. President Moore asked if anyone had more than three edits to the document. Director Zefferman suggested sending any non-substantive changes to the General Manager and once they are incorporated, the report be brought back to the Board.

Director Le said he had three suggestions: 1) correct the date on page 3 of the report that the RUWAP distribution mains was completed and advertised for bid with construction taking place in 2020; 2) correct the misspelling of “it’s” to “its” on Page 2 of the report; and, 3) add the District website to the report.

Vice President Shriner said she had a few typo’s that she would send as Director Zefferman suggested, but also would like to see mentioned that the contract negotiations went well with staff, and, the District’s customer base grew a lot last year.

Director Cortez suggested highlighting the employees and showing how many were long-term to emphasize what a great District this was to work for.

President Moore suggested adding that employee information to the Leadership page and adding Board member’s email addresses.

Director Zefferman made a motion to direct staff to incorporate the proposed changes; incorporate any emailed non-substantive changes received from Board members; and, bring a revised report back to the Board at the next meeting. Vice President Shriner seconded the motion.

Mr. Phil Clark, Seaside resident/WCC member, commented that the photo images were not clear and not relative to Marina.

Director Zefferman revised his motion to direct staff to incorporate the proposed changes; incorporate any emailed non-substantive changes received from Board members; review the graphics and replace with ones of the District; and, bring a revised report back to the Board at the next meeting. Vice President Shriner seconded the revised motion.

Agenda Item 12-E (continued):

The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Le	-	Yes	President Moore	-	Yes
Director Cortez	-	Yes			

F. Consider Adoption of Resolution No. 2020-05 to Approve Updates to the 5-Year Strategic Plan:

Mr. Van Der Maaten introduced this item and gave a brief background stating that this would wrap this Strategic Plan up and get ready for the next workshop coming soon.

Director Zefferman commented that the word "now" should be removed from the seventh bullet point under Vision Statements. He also said that he would like to see the eighth bullet say, "Our District explicitly incorporates consideration of carbon emissions in all aspects of planning, design and operation."

Director Le commented that the Mission Statement is quite old, as is the Vision Statement, and he would like staff to add something about recycled water to both. He also had these suggested changes to the Strategic Plan:

Page 4 - add water storage to Section 1.0;
Page 5 - add recycled water to Section 2.0;
Page 5 - add a new Section <u>2.7 Explore use of new technology</u>; add new Section <u>3.7 Implement new technology</u> to improve efficiency;
Page 6 - add to Section 4.0 to read, "Our objective is to build our relationship with the public and local agencies, <u>regional, state, federal, and non-profit organizations</u>. Our strategy in the areas of strategic partners and public affairs is to communicate in a positive way, including active listening, encouraging open discussions, <u>and schedule regular meetings</u>.;
Page 6 – add Section 4.5 Annual in Review;
Page 6 – add to Section 6.0 to read, "Our objective is to create, maintain, <u>update</u>, and implement policies…" "We will also maintain, use, and <u>implement</u> appropriate technology…"
Page 6 – delete 6.1 since Annexation is complete.

President Moore suggested changing 6.1 to Future annexations once all the work is done in the Ord Community. Director Le suggested changing 6.1 to Additional annexations.

Mr. Van Der Maaten pointed out that this SP was from last year and it hasn't been updated for the new year. He reminded the Board that they would be holding a SP Workshop in the near future to develop new plans.

Director Cortez thanked staff for their work on the Core Values. He asked if all the Vision Statements were all in the Action Plan by Objective, and noted that Vision Statements were overreaching and should not be repeated in the Action Plan spreadsheet.

Agenda Item 12-F (continued):

Director Zefferman said that the General Manager commented that this was last year's SP and asked if they even needed to approve it. Mr. Van Der Maaten commented that he was looking to finish the SP with the changes to the Core Values and to use it to start the discussion on the next SP. Vice President Shriner said that she was curious if working with the SVBGSA should be added to the SP, perhaps under Section 4.0. Mr. Van Der Maaten said it could be added along with other specific agencies. Vice President Shriner suggested adding to the acronyms to make sure all are captured.

President Moore suggested that since the Core Values were the significant change brought forward, the Board vote on approving the Core Values and then make all the other changes in the upcoming SP Workshop.

Director Le made a motion to approve all the comments made by the Directors. Director Cortez seconded the motion. The motion was passed by the following vote:

Director Zefferman	-	Yes	Vice President Shriner	-	Yes
Director Le	-	Yes	President Moore	-	Yes
Director Cortez	-	Yes			

Director Zefferman left the meeting at 9:31 p.m.

G. Discuss Increasing Compensation to Directors for Attending Board Meetings:

Mr. Van Der Maaten introduced this item.

Director Cortez made a motion to move this item to the Budget and Personnel Committee and have the Committee look into what stipends other agencies are providing, then bring it back to the Board. President Moore seconded the motion.

Mr. Masuda commented that the County Water District Statute code 30507 limits the amount of compensation for Directors to $600 per month.

Director Le made a substitute motion to approve compensation of $100 per Board meeting. The motion died for lack of a second. Director Le said he checked, and Monterey One Water and the Monterey Peninsula Water Management District gets $100 per meeting, while Marina City Counsel gets $250 a month. He said that they could do a study that costs tons of money and staff time or just approve $100 and move on. Director Cortez said that he may agree with Director Le, but he feels that for the public's benefit and because it is District ratepayer's money, he thinks it would be more appropriate to go though the process. He added that he was considering that the increase begins after the next election for the next term. Mr. Masuda cautioned that they look at other county water districts because their limitations are different from city and irrigation districts.

Agenda Item 12-F (continued):

The main motion was passed by the following vote:

Director Zefferman	-	Absent	Vice President Shriner	-	Yes
Director Le	-	No	President Moore	-	Yes
Director Cortez	-	Yes			

13. Staff Reports:

A. Receive and Update on the Ord Office Plan:

Mr. Van Der Maaten noted that FORA's lease on the Districts Imjin office expires on June 30, 2020 and staff is planning on moving Ord staff over as soon after as possible. He said the office is not large enough to house all the employees at this time, but proposed office improvements will be brought to the Board during the budget process. Mr. Van Der Maaten also said that the District's Ord office will house the Operations and Maintenance staff. Director Le asked for a project schedule/timeline and he said he didn't think staff could just move into the Imjin office without tenant permits and that it was unreasonable to think it could happen so quickly. Mr. Van Der Maaten stated that the first phase of the move doesn't require any tenant improvements because the offices are already set up. He said the construction and tenant improvement work to the undeveloped side of the office will happen in phase two. Director Le suggested the General Manager ask the Board to amend the budget to help pay for any improvements needed so they could start moving forward now. Vice President Shriner commented that the staff should be able to schedule the move as needed and the Board shouldn't need to see any kind of schedule, they just need to be updated on the progress.

B. Receive a Report on Current Capital Improvement Projects:

Mr. Michael Wegley gave a brief report on the Capital Improvement Projects.

C. Receive the 4th Quarter 2019 MCWD Water Consumption Report:

Ms. Cadiente gave a brief report on the water consumption for 2019.

D. Receive the 2019 Sewer Flow Report through December 31, 2019:

Ms. Cadiente gave a brief report on the sewer flows for 2019.

14. Informational Items:

A. General Manager's Report:

No report was given.

B. Counsel's Report:

No report was given.

C. Director's Report:

1. Receive a Report from Director Le Regarding his Attendance at the California Water Association Conference in Monterey:

There were no questions or comments.

D. Committee and Board Liaison Reports:

1. Water Conservation Commission:

Mr. Breen stated they met on January 9th and the next meeting would be February 6, 2020.

2. Joint City District Committee:

President Moore stated the next meeting would be February 26, 2020.

3. Executive Committee:

President Moore noted the next meeting is scheduled for February 11, 2020.

4. Community Outreach Committee:

Director Cortez gave a brief update stating they discussed the Board Procedures Manual.

5. Budget and Personnel Committee:

Vice President Shriner gave a brief update noting that Mr. Joe Correa was retiring after 28 years.

6. M1W Board Member:

President Moore gave a brief update and noted the next meeting is scheduled for February 24th.

7. LAFCO Liaison:

Director Cortez noted the next meeting is scheduled for February 24th.

8. FORA:

Vice President Shriner gave a brief update and noted the next meeting is scheduled for February 13th.

9. WWOC:

Mr. Van Der Maaten noted the next meeting was to-be-determined.

10. JPIA Liaison:

No report was given.

11. Special Districts Association Liaison:

President Moore gave a brief update and noted the next meeting was scheduled for April 21st. Vice President Shriner said that there was a presentation from Streamline and suggested that perhaps the District could do a quick review to make sure the website is ADA compliant.

12. SVGSA Liaison:

No report was given.

15. Board member Requests for Future Agenda Items:

President Moore noted that the Board members can email in their requests. Director Le stated that he wanted an item on the RUWAP discussion; decide whether to delete the hot water recirculation from District standards; to see the results from the AEM 2.0; and to discuss a franchise agreement with other agencies; and get a copy of the results from the last meter that was tested.

16. Director's Comments:

Director Cortez, Vice President Shriner, and President Moore made comments.

17. Adjournment:

The meeting was adjourned at 9:59 p.m.

APPROVED:

____
Thomas P. Moore, President

ATTEST:

____
Paula Riso, Deputy Secretary

Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-A Meeting Date: February 25, 2020

Prepared By: Keith Van Der Maaten Approved By: Keith Van Der Maaten

Agenda Title: Receive the Final Report from Aqua Geo Frameworks on the 2019 Airborne Electromagnetic Survey

Staff Recommendation: The Board of Directors receive the Final Report from Aqua Geo Frameworks (AGF) on the 2019 Airborne Electromagnetic Survey

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner*.

In May 2017, the District partnered with Stanford University and AGF to perform an airborne electromagnetic (AEM) survey to map out the distribution of salt and freshwater in the northern Salinas Valley. The May 2017 AEM survey was completed at the tail end of a historic drought, and yet, even following this dry period, the survey confirmed the existence of vast quantities of fresh groundwater that exist in the Salinas Valley Groundwater Basin. The freshwater that was mapped in the 2017 survey is groundwater that MCWD depends on for serving drinking water to its customers. This same groundwater is at risk of being degraded with seawater intrusion caused by Cal Am's proposed slant well pumping which would pump water out of the Salinas Valley Basin for its Monterey Peninsula Water Supply Project (MPWSP).

Discussion/Analysis: The District hired AGF to do a follow-up AEM survey in May 2019 to further understand how precipitation, following two-years of normal rainfall, impacts the large volumes of freshwater in the area that were identified in the May 2017 AEM survey and to further understand how the basin looks under more normal conditions. The May 2019 AEM investigation utilized the SkyTEM312 system to fly the same flight lines as were flown in 2017 (with the hope to image deeper where possible) plus an extension of the flight area to the south onto the former Fort Ord to characterize the influx of groundwater from the highlands of former Fort Ord into the Salinas River Valley. Approximately 543.9 line-miles (881.1 line-kilometers) of AEM data were acquired over the MCWD AEM survey area.

The MCWD 2019 AEM investigation successfully and accurately, per borehole correlations, mapped the subsurface resistivity distribution and provided an estimation of the chloride concentration within the AEM survey boundary. Besides mapping the known locations of fresher water, additional fresher water is indicated under the hills south of the Salinas River on Fort Ord that is likely flowing downhill towards the Salinas Valley. Below this zone of fresher water on Fort Ord is a clear very conductive zone that is likely more saline water.

A comparison between the MCWD AEM investigations from May 2017 and April 2019 has been conducted in the Final Report. The main differences between the two survey periods is that the 2019 electrical resistivity at a depth near the coast, and continuing inland, that is likely the 400-Foot Aquifer, does not indicate the very low resistivities observed in the 2017 AEM investigation that are interpreted to be saline water, likely sea water.

While there are some local variations, the resistivity mapping of the 180-Foot Aquifer generally does not show much difference between 2017 and 2019. A further comparison of the volume estimations of Potential Sources of drinking water (TDS values less than 3,000 mg/L) is provided in the Final Report and shown in the tables below. In total, there was 438,000 acre-feet (AF) of Potential Sources of Drinking Water identified in the 2017 AEM survey area and 598,000 AF of Potential Sources of Drinking Water in the 2019 AEM survey.

Stanford Rept Table 5, p.62, Revised 12/23/2019		2019: 2017 Area - Total Volume "Limited Beneficial Use" ($m^3 x10^8$)	2019: 2017 Total Volume "Limited Beneficial Use" (acre-ft $x10^3$)	2019: 2017 Total Volume Potential source of drinking water ($m^3 x10^8$)	2019: 2017 Total Volume Potential source of drinking water (acre-ft $x10^3$)	2019: 2017 Net Volume potential source of drinking water, 20% porosity ($m^3 x10^8$)	2019: 2017 Net Volume potential source of drinking water, 20% porosity (acre-ft $x10^3$)
By Aquifer							
	Perched A/Shallow Aquifer	0.02	1	0.04	3	0.01	1
	Dune Sand Aquifer	1.16	94	13.57	1100	2.71	220
	Salinas Valley Aquitard	0.45	37	1.44	117	0.29	23
	Upper 180-Foot Aquifer	1.68	136	8.07	654	1.61	131
	Intermediate 180 Aquitard	0.14	12	0.82	66	0.16	13
	Lower 180-Foot Aquifer	1.28	104	2.38	193	0.48	39
	180-400 Ft Aquitard	0.36	30	0.24	19	0.05	4
	400-Foot Aquifer	0.42	34	0.44	36	0.09	7
	400-Foot Aquitard	0.00	0	0.04	3	0.01	1
	Total	5.52	447	27.05	2191	5.41	438
2017 Vol.		2019 Data, 2017 Bounds					
By Region	Monterey Subbasin	2.90	235	11.41	924	2.28	185
	180/400 Aquifer Subbasin	12.06	977	13.39	1084	2.68	217
	West of HW 1	9.92	803	0.64	52	0.13	10
	Total	24.88	2015	25.43	2060	5.09	412

		2019 Area - Total Volume "Limited Beneficial Use" ($m^3 x10^8$)	2019 Total Volume "Limited Beneficial Use" (acre-ft $x10^3$)	2019 Total Volume Potential source of drinking water ($m^3 x10^8$)	2019 Total Volume Potential source of drinking water (acre-ft $x10^3$)	2019 Net Volume potential source of drinking water, 20% porosity ($m^3 x10^8$)	2019 Net Volume potential source of drinking water, 20% porosity (acre-ft $x10^3$)
By Aquifer							
	Perched A/Shallow Aquifer	0.02	1	0.04	3	0.01	1
	Dune Sand Aquifer	1.19	97	20.19	1636	4.04	327
	Salinas Valley Aquitard	0.45	37	2.09	170	0.42	34
	Upper 180-Foot Aquifer	1.69	137	9.39	761	1.88	152
	Intermediate 180 Aquitard	0.15	12	0.96	78	0.19	16
	Lower 180-Foot Aquifer	1.29	104	2.52	204	0.50	41
	180-400 Ft Aquitard	0.37	30	0.59	47	0.12	9
	400-Foot Aquifer	0.44	36	1.06	86	0.21	17
	400-Foot Aquitard	0.11	9	0.06	5	0.01	1
	Total	5.71	463	36.89	2989	7.38	598
2019 Vol.	Monterey Subb	3.18	258	24.08	1951	4.82	390
By Region	180-400 Ft Aq Subb	12.10	980	16.28	1319	3.26	264
	Hwy 1	9.93	804	0.64	52	0.13	10
	Seaside	6.88	557	20.67	1675	4.13	335
	Langley	0	0	0.26	21	0.05	4
	East Side	0	0	0.10	8	0.02	2
	Total	32.09	2599	62.02	5024	12.40	1005

Environmental Review Compliance: None required.

Financial Impact: _____Yes __X___ No Funding Source/Recap: None

Other Considerations: None

Material Included for Information/Consideration: Final Report on the 2019 AEM survey.

Action Required: ________Resolution ___X______Motion _________Review
(Roll call vote is required.)

Board Action

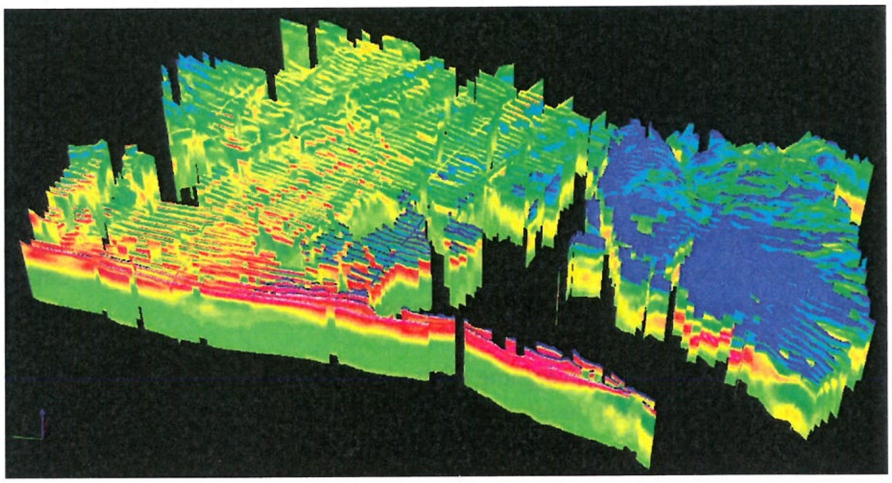
Motion By________________ Seconded By__________________ No Action Taken________________

Ayes______________________________ Abstained________________________________

Noes______________________________ Absent___________________________________

AGF
Aqua Geo Frameworks

Final Report on the 2019 Airborne Electromagnetic Survey of Selected Areas Within the Marina Coast Water District



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PROFESSIONAL GEOPHYSICIST
THEODORE HERZL ASCH
No. 1038
STATE OF CALIFORNIA

Theodore H. Asch
02/18/2020

Disclaimer:
AGF conducted this project using the current standards of the geophysical industry and used in-house quality control standards to produce this geophysical survey and products. The geophysical methods and procedures described in this report are applicable to the particular project objectives, and these methods have been successfully applied by AGF to investigations and projects of similar size and nature. However, field or subsurface conditions may differ from those anticipated, and the resultant data may not achieve the project objectives. AGF's services were performed consistent with the professional skill and care ordinarily provided by professional geophysicists under the same or similar circumstances. No other warranty or representation, either expressed or implied, is made by AGF in connection with its services unless in writing and signed by an authorized representative of AGF

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

Executive Summary

Aqua Geo Frameworks, LLC. (AGF) is pleased to submit this report titled *"Final Report on the 2019 Airborne Electromagnetic Survey of Selected Areas Within the Marina Coast Water District*. An understanding of the hydrogeological framework in the survey area is desired to assist in resource management. AGF entered into an agreement with the Marina Coast Water District (MCWD) to collect, process, and interpret airborne electromagnetic (AEM) data, in conjunction with other available background information (the 2017 AEM investigation), to develop a 3D hydrogeologic framework of the Marina Coast Water District project area, and to recommend future work to enhance groundwater management activities.

The scope of work for this project was as follows:

1. SCOPE OF WORK

1.1 An AEM survey utilizing the SkyTEM312 system was flown over the MCWD project area. These flights have been provided as preliminary AEM inversions and the final AEM data and inversions are included as a product attached to this data report.

1.2 AGF began project planning upon signing of the project between AGF and the MCWD. This work included flight plans, database development, and review of hydrogeologic and geologic work for the area.

1.3 Upon conclusion of the design process, the MCWD AEM investigation utilized the SkyTEM312 system to fly the same flight lines as were flown in 2017 (with the hope to image deeper where possible) plus an extension of the flight area to the south onto the former Fort Ord. The purpose of the extension was to characterize the influx of groundwater from the highlands of former Fort Ord into the Salinas River Valley. The MCWD SkyTEM312 flight lines had a maximum length of approximately 15 miles (24 km) in the primary north-south direction, separated by approximately 650 feet (about 180-220 m), and a maximum of about 7 miles (11 km) along the east-west tie-lines.

1.4 AGF acquired AEM data over the MCWD, commencing 24 April 2019 and finishing on 26 April 2019, to support development of the hydrogeological framework. Approximately 543.9 line-miles (881.1 line-kilometers) were acquired over the MCWD AEM survey area. Status reports of the flying were provided to the MCWD daily, including the areas flown, production rates, and flight plan for the following day.

1.5 AGF processed and conducted quality assurance and quality control (QA/QC) procedures on all data collected from the acquisition system. AGF delivered a letter report on the QA/QC performed on the acquired data plus the inversions as 2D profiles and 3D fence diagrams on May 10, 2019. The analysis continued with further processing, editing, and then Spatially-Constrained inversions. Approximately 455.3-line-miles (737.6-line kilometers) were retained for inversion amounting to a retention rate of 83.7%. This high rate is the result of careful flight line planning and design given the infrastructure that was encountered during the acquisition.

1.6 AGF inverted the AEM data. These final inverted georeferenced data are delivered to the LCNRD with this report. After inversion, AGF derived 2D sections, 3D electrical models, and interpreted geologic and hydrogeologic surfaces of the surveyed area.

1.7 AGF is providing a hydrogeologic framework report that includes maps of aquifer materials, estimated chloride concentrations, and a comparison between the 2017 and 2019 inverted AEM earth models. This report, as mentioned above, also includes all data (acquired, processed, developed) files. The report is delivered in PDF digital format and the data in ASCII and native formats.

2. KEY FINDINGS AND RECOMMENDATIONS

2.1 **2019 AEM Investigation** - The MCWD 2019 AEM investigation successfully, and accurately per borehole correlations, mapped the subsurface resistivity distribution and provided an estimation of the chloride concentration within the AEM survey boundary. Besides mapping the known locations of fresher water, additional fresher water is indicated under the hills south of the Salinas River on Fort Ord of which some is likely flowing downhill towards the Salinas Valley. Below this zone of fresher water on Fort Ord is a clear very conductive zone that is likely more saline water.

2.2 **Comparison of MCWD 2017 and 2019 AEM Investigations** - A comparison between the MCWD AEM investigations from May 2017 and April 2019 has been conducted via 2D profiles and 3D voxels. The main differences between the two survey periods is that the 2019 electrical resistivity at a depth near the coast, primarily north of the Salinas River, and continuing inland, that is likely the 400-Foot Aquifer, does not indicate the very low resistivities observed in the 2017 AEM investigation that are interpreted to be saline water, likely sea water. While there are some local variations, the resistivity mapping of the 180-Foot Aquifer generally does not show much difference between 2017 and 2019. If MCWD believes that there have been substantial changes in the subsurface over the 2019 investigation area due to variations in local environmental conditions, then it is recommended that MCWD consider an additional AEM mapping campaign or part or all of the 2019 AEM survey area.

2.3 **Need Additional Water Table and Water Quality Data Across the Salinas River Valley** - It was observed during analysis of the AEM inversion results when applying the available water table elevation and water quality data, that there isn't a lot of this information publicly available. The only available water quality information was from the MPWSP monitoring well reports and those were not consistent in their reporting or possibly accuracy and calibration. Additional compilation and integration of water level measurement locations and accurate water quality data would improve local water table and water quality maps and help in the analysis and interpretation of the previously acquired, and any future, AEM data.

3. DELIVERABLES

- Raw EM Mag data as ASCII *.xyz
- SCI inversion as ASCII *.xyz
- Utilized borehole databases as ASCII *.xyz
- Interpretations as ASCII *.xyz
- Raw Data Files - SkyTEM files *.gex, *skb, *.lin
- Resistivity and Estimated Chloride Concentration Voxel Grids as ASCII *.xyz
- 2D Profiles and 3D fence diagrams of the AEM survey lines
- Google Earth KMZs for AsFlown, Retained

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

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List of Abbreviations

1D	One-dimensional
2D	Two-dimensional
3D	Three-dimensional
$A*m^2$	Ampere meter squared
AEM	Airborne Electromagnetic
AGF	Aqua Geo Frameworks, LLC
ASCII	American Standard Code for Information Interchange
Bgl/Bgs	Below Ground Level/Below Ground Surface
CA-DWR	California Department of Water Resources
dB/dt	Change in amplitude of magnetic field with time
DEM	Digital Elevation Model
DOI	Depth of Investigation
DGPS	Differential global positioning system
em, EM	Electromagnetic
EPA	U.S. Environmental Protection Agency
ft	Feet
Fm, FM	Formation
GIS	Geographic Information System
gpm	Gallons per minute
gr	granitic rocks
Hz	Hertz (cycles per second)
IGRF	International Geomagnetic Reference Field
Km/km	Kilometers
KMZ/kmz	Keyhole Markup language Zipped file
m	Meters
MPWSP	Monterey Peninsula Water Supply Program
MAG	Magnetic (data); Magnetometer (instrument)
MCG	Minimum curvature gridding
md	Meters per day
mg/L	Milligrams per liter
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NWIS	National Water Information System
OM	Geosoft Oasis montaj
Ohm-m	Ohm per meter
PDF	Portable Document Format
PFC	Primary Field Compensation
PLNI	Power Line Noise Intensity
PLSS	Public Land Survey System
QA/QC	Quality Assurance and Quality Control
Rx	Receiver
SCI	Spatially-Constrained Inversion
STD	Standard Deviation
TEM	Transient Electromagnetic
TDEM	Time-Domain Electromagnetic
TDS	Total dissolved solids

Tx	Transmitter
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
V/m^2	Volts per meter squared

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

1 Introduction

The Marina Coast Water District (MCWD) required a detailed hydrogeological framework of the area around Marina, California in order to implement ground water management plans. MCWD contracted Aqua Geo Frameworks, LLC (AGF) who sub-contracted with SkyTEM Canada (SkyTEM) to implement an Airborne Electromagnetic (AEM) survey of selected areas within the MCWD that had been surveyed previously in May of 2017 (Gottschalk et al., 2018). Specifically, MCWD would like to gain knowledge of the distribution of aquifer materials and their relations to high Total Dissolved Solids (T.D.S.) waters present in the area and compare the 2019 AEM survey results to the 2017 AEM survey results. The 2019 AEM data acquisition plan is presented in Figure 1-1. The 2017 "as-flown" AEM flight lines overlie the 2019 planned AEM flight lines in Figure 1-2. The difference between the two sets of flight lines is that the 2019 AEM flight lines extend further south over the former Fort Ord, down towards California State Highway 218.

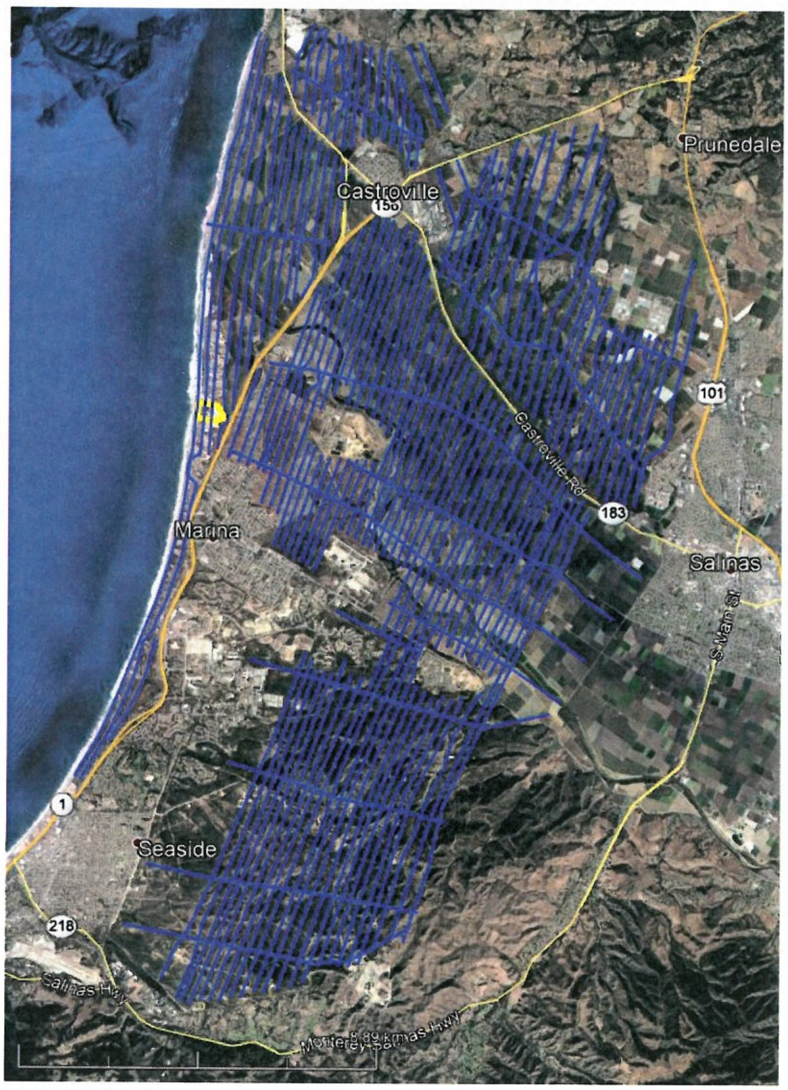


Figure 1-1. Planned 2019 AEM acquisition (blue lines) within the MCWD.

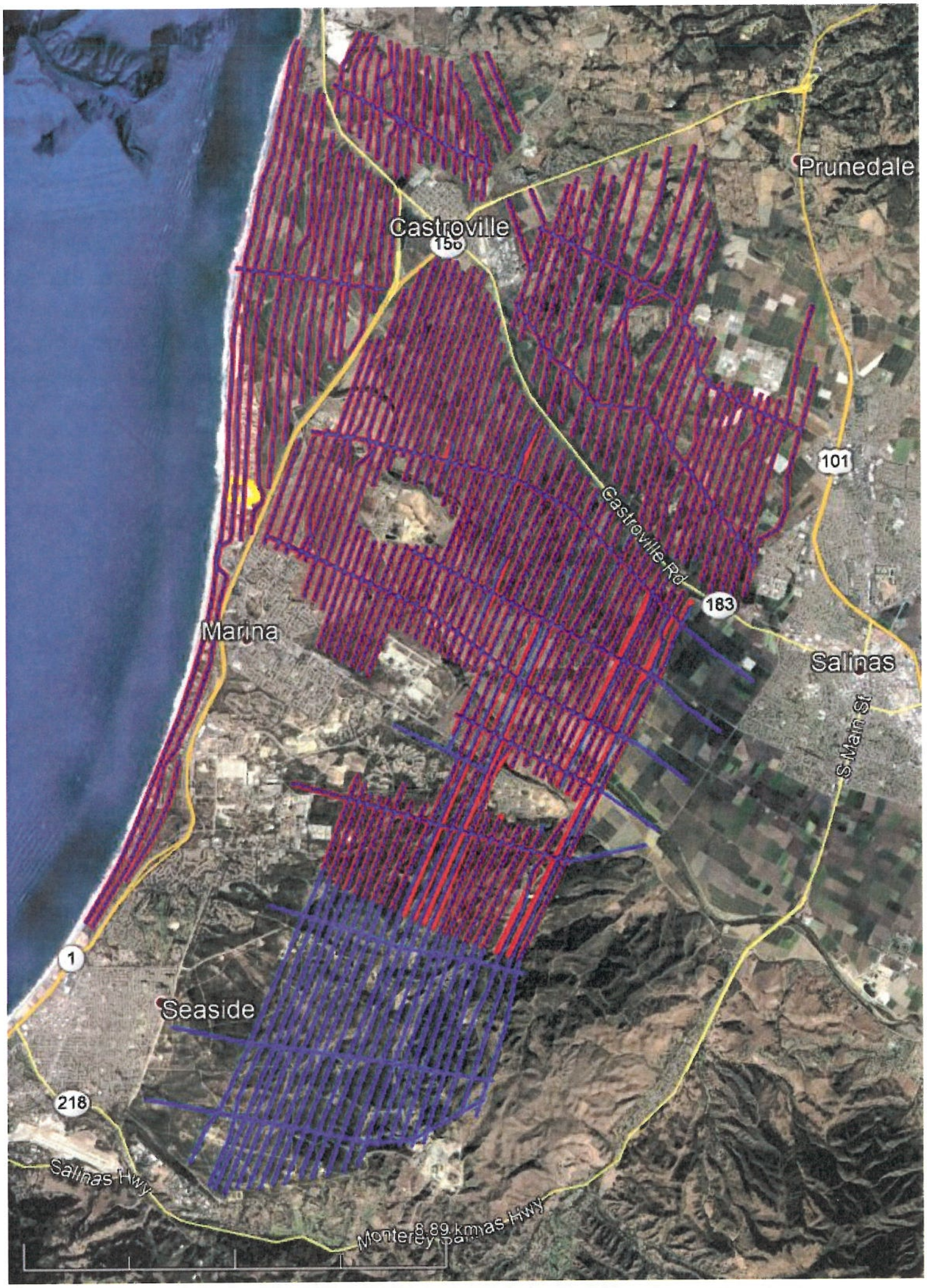


Figure 1-2. Planned 2019 AEM acquisition (blue lines) within the MCWD and the 2017 AEM flight lines (red lines).

2 Borehole Lithology and Geophysical Log Data

Borehole data for this project consisted of a combination of lithologic and downhole geophysical logs. Some of the borehole information utilized in Gottschalk et al. (2018) was also utilized in the current analysis including 186 lithology logs (red circles in Figure 2-1) and 36 geophysical logs (green circles in Figure 2-1) that were directly in the vicinity of the acquired AEM flight lines.

In addition, the U.S. Army Corps or Engineers at Fort Ord provided an additional 84 borehole logs in the vicinity of the AEM flight lines (USACE, 2019).

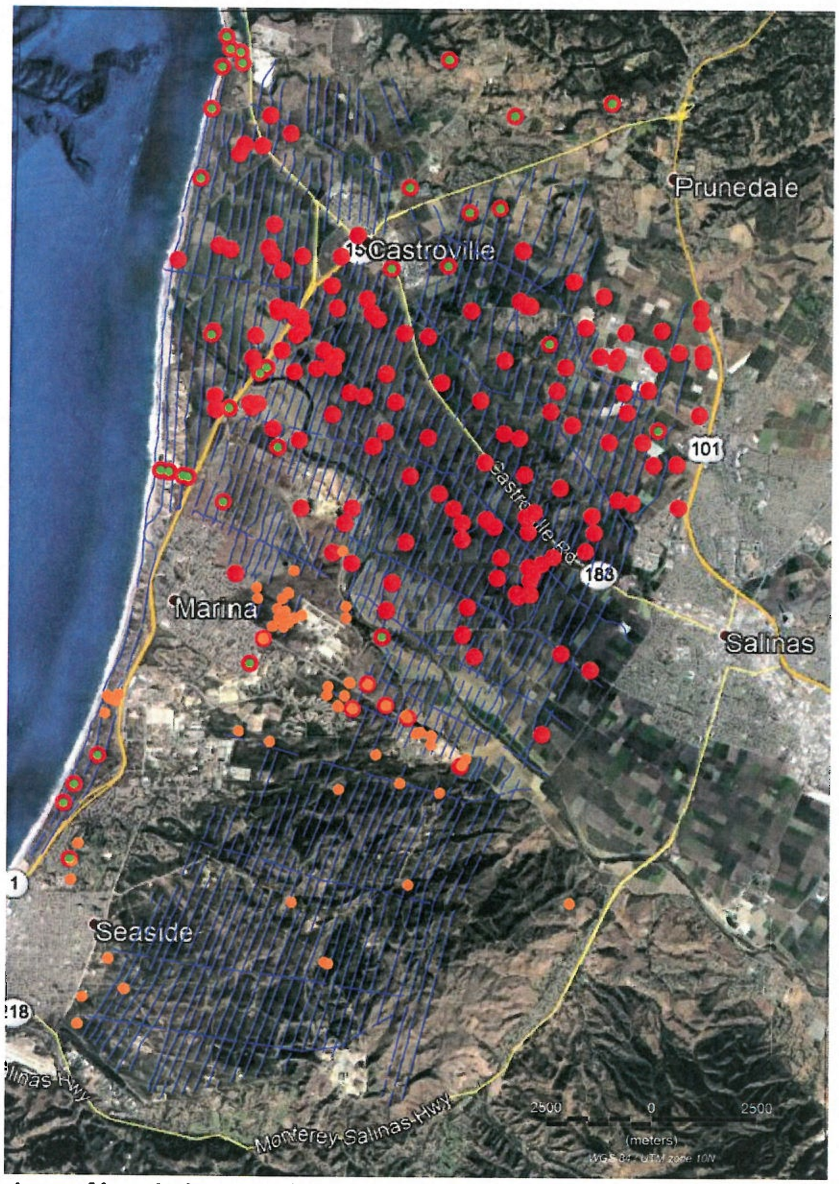


Figure 2-1. Locations of boreholes used for interpretation in the MCWD 2019 survey area. Lithology logs – red circles; Lithology logs received from Fort Ord – orange circles; Geophysical logs – green circles, sometimes overlaying red lithology circles.

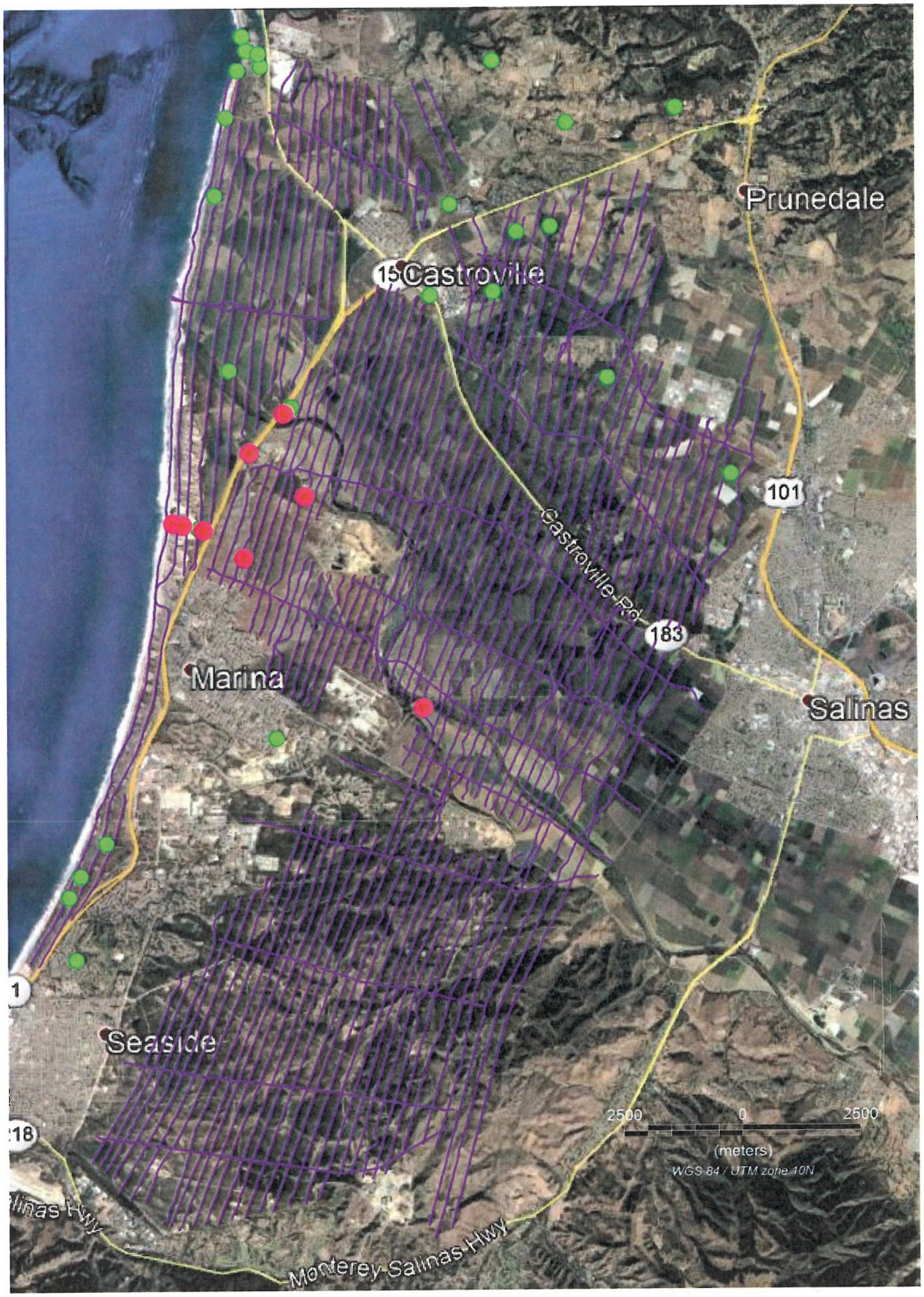


Figure 2-2. Geophysical logs used in MCWD 2019 AEM to E-Logs comparison. Green circles – 35 geophysical logs of which the MW wells (Red circles) are part.

3 Geophysical Methodology, Acquisition and Processing

3.1 Geophysical Methodology

Airborne Transient Electromagnetic (TEM) or airborne Time-Domain Electromagnetic (TDEM), or generally AEM, investigations provide characterization of electrical properties of earth materials from the land surface downward using electromagnetic induction. Figure 3-1 gives a conceptual illustration of the airborne TEM method.

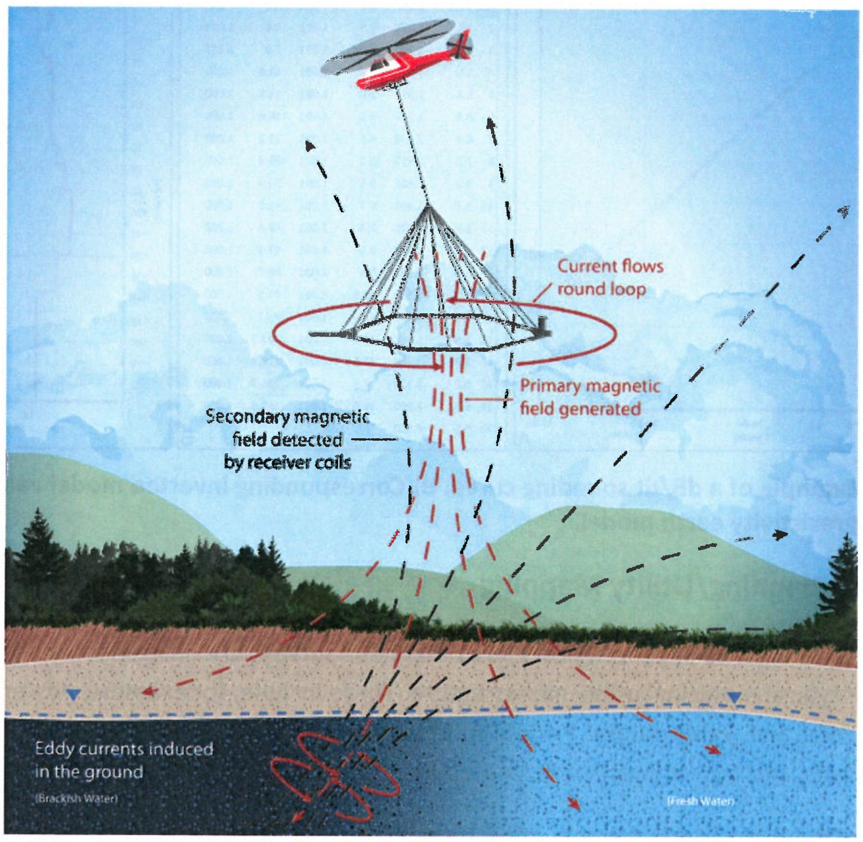
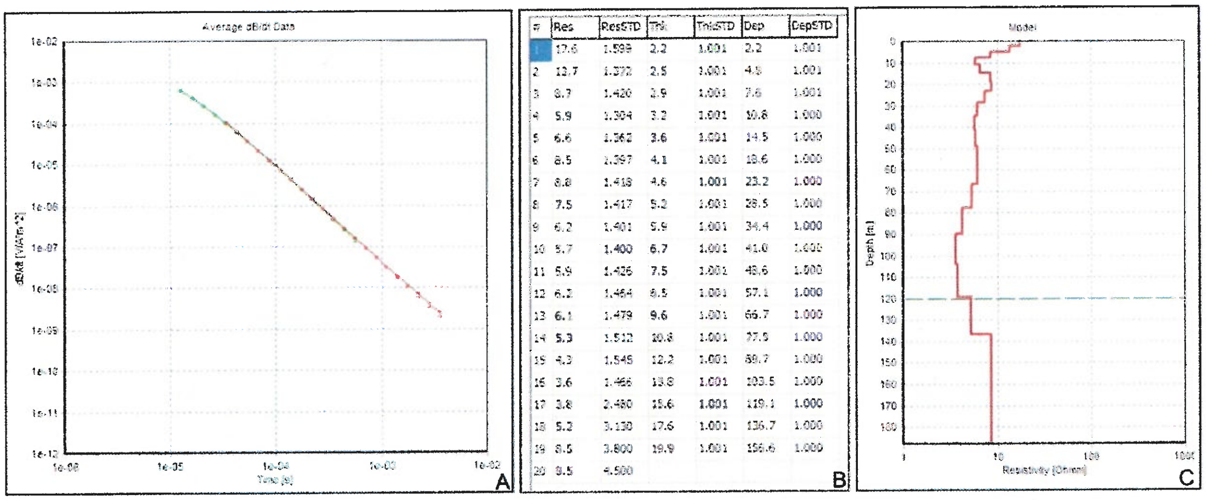


Figure 3-1: Schematic of an airborne electromagnetic survey, modified from Carney et al. (2015).

To collect TEM data, an electrical current is sent through a large loop of wire consisting of multiple turns which generates an electromagnetic (EM) field. This is called the transmitter (Tx) coil. After the EM field produced by the Tx coil is stable, it is switched off as abruptly as possible. The EM field dissipates and decays with time, traveling deeper and spreading wider into the subsurface. The rate of dissipation is dependent on the electrical properties of the subsurface (controlled by the material composition of the geology including the amount of mineralogical clay, the water content, the presence of dissolved solids, the metallic mineralization, and the percentage of void space). At the moment of turnoff, a secondary EM field, which also begins to decay, is generated within the subsurface. The decaying secondary EM field generates a current in a receiver (Rx) coil, per Ampere's Law. This current is measured at several different moments in time (each moment being within a time band called a "gate"). From the induced current, the time rate of decay of the magnetic field, B, is determined (dB/dt). When compiled in time, these measurements constitute a "sounding" at that location. Each TEM measurement produces an EM sounding at one point on the surface.

The sounding curves are numerically inverted to produce a model of subsurface resistivity as a function of depth. Inversion relates the measured geophysical data to probable physical earth properties. Figure 3-2 shows an example of a dual-moment TEM dB/dt sounding curve and the corresponding inverted electrical resistivity model.



#	Res	ResSTD	Thk	ThkSTD	Dep	DepSTD
1	17.6	1.599	2.2	1.001	2.2	1.001
2	12.7	1.372	2.5	1.001	4.8	1.001
3	8.7	1.420	2.9	1.001	7.6	1.001
4	5.9	1.304	3.2	1.001	10.8	1.000
5	6.6	1.362	3.6	1.001	14.5	1.000
6	8.5	1.397	4.1	1.001	18.6	1.000
7	8.8	1.418	4.6	1.001	23.2	1.000
8	7.5	1.417	5.2	1.001	28.5	1.000
9	6.2	1.401	5.9	1.001	34.4	1.000
10	5.7	1.400	6.7	1.001	41.0	1.000
11	5.9	1.426	7.5	1.001	48.6	1.000
12	6.2	1.464	8.5	1.001	57.1	1.000
13	6.1	1.479	9.6	1.001	66.7	1.000
14	5.3	1.512	10.8	1.001	77.5	1.000
15	4.3	1.545	12.2	1.001	89.7	1.000
16	3.6	1.466	13.8	1.001	103.5	1.000
17	3.8	2.480	15.6	1.001	119.1	1.000
18	5.2	3.130	17.6	1.001	136.7	1.000
19	8.5	3.800	19.9	1.001	156.6	1.000
20	8.5	4.500				

Figure 3-2: A) Example of a dB/dt sounding curve. B) Corresponding inverted model values. C) Corresponding resistivity earth model.

3.2 Flight Planning/Utility Mapping

The primary source of noise in geophysical electromagnetic surveys are other electromagnetic devices that are part of typical municipal utility infrastructure. These include, for example, power lines, railroads, pipelines, and water pumps. Prior to AEM data acquisition in the MCWD, utilities (roads, pipelines, railroads, and power lines) were located by inspection from Google Earth imagery.

The locations of the flight lines were converted from a regularly spaced grid to one with flight lines optimized to avoid electromagnetic coupling with the previously mentioned utilities. This was done by moving along each flight line in Google Earth to inspect the path for visible power lines, radio towers, railroads, highways and roads, confined feeding operations and buildings, and any other obstructions that needed to be avoided during flight.

Upon conclusion of the design process, the MCWD AEM investigation utilized the SkyTEM312 system to fly the same flight lines as were flown in 2017 (with the hope to image deeper where possible) plus an extension of the flight area to the south onto the former Fort Ord. The purpose of the extension was to characterize the influx of groundwater from the highlands of former Fort Ord into the Salinas River Valley. The MCWD SkyTEM312 flight lines had a maximum length of approximately 15 miles (24 km) in the primary north-south direction, separated by approximately 650 feet (about 180-220 m), and a maximum of about 7 miles (11 km) along the east-west tie-lines.

3.3 AEM Survey Instrumentation

AEM data were acquired using the SkyTEM312 (312) airborne electromagnetic system (SkyTEM Airborne Surveys Worldwide, 2019). This is a different system than was used for the 2017 MCWD AEM survey. The SkyTEM312 can image somewhat deeper than the SkyTEM304M, depending on the geology being imaged. The 312 is a rigid frame, dual-magnetic moment (Low and High) TEM system. The area of the 312 Tx coil is 342 m^2. A peak current of six (6) amps is passed through two (2) turns of wire in the Tx for Low Moment measurements and a peak current of 110 amps is passed through twelve (12) turns of wire for High Moment measurements. This results in peak Tx Low and High magnetic moments of ~4,100 Ampere-meter-squared ($A*m^2$) and ~450,000 $A*m^2$, respectively.

The SkyTEM 312 system utilizes an offset receiver (Rx) positioned slightly behind the Tx coil resulting in a 'null' position which is a location where the intensity of the primary field from the system transmitter is minimized. This is desirable as to minimize the amplitude of the primary field at the Rx to maximize the sensitivity of the Rx to the secondary fields. The 312 multi-turn Rx vertical (Z) coil has an effective area of 105 m^2. In addition to the Tx and Rx that constitute the TEM instrument, the 312 is also equipped with a Total Field magnetometer (MAG) and data acquisition systems for both instruments. The 312 also includes two each of laser altimeters, inclinometers/tilt meters, and differential global positioning system (DGPS) receivers. Positional data from the frame mounted DGPS receivers are recorded by the AEM data acquisition system. The magnetometer includes a third DGPS receiver whose positional data is recorded by the magnetometer data acquisition system. Figure 3-3 gives a simple illustration of the 312 frame and instrument locations. The image is viewed along the +z axis looking at the horizontal x-y plane. The axes for the image are labeled with distance in meters. The magnetometer is located on a boom off the front of the frame (right side of image). The Tx coil is located around the octagonal frame and the Rx Coil is located at the back of the frame (left side of image). Some images of the SkyTEM system in the air are presented in Figure 3-4.

The coordinate system used by the 312 defines the +x direction as the direction of flight, the +y direction is defined 90 degrees to the right and the +z direction is downward. The center of the transmitter loop, mounted to the octagonal SkyTEM frame is used as the origin in reference to instrumentation positions. Table 3-1 lists the positions of the instruments and Table 3-2 lists the corners of the transmitter loop.

The DGPS and magnetometer mounted on the frame of the 312 require the use of base stations, which are located on the ground and are positioned in an area with low cultural noise. In this case these instruments were located at the Marina Airport. Data from the magnetometer and DGPS base stations were downloaded each day after the end of the day's AEM flights. The DGPS and magnetometer base stations were placed at the Universal Transverse Mercator (UTM) coordinate system Zone 10 North (Table 3-3). The horizontal geodetic reference used is North American Datum of 1983 (NAD83 in meters). All elevations are from USGS's National Elevation Dataset, referenced to the North American Vertical Datum of 1988; with meters as the unit of measurement.

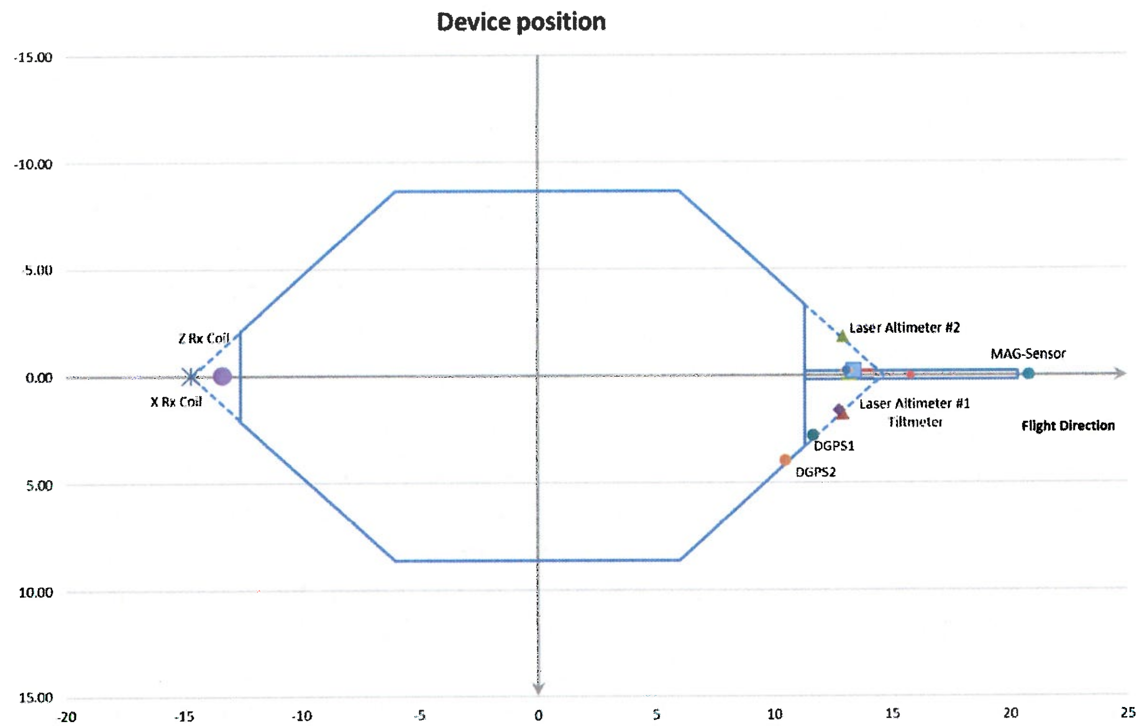


Figure 3-3: SkyTEM304M/312 frame, including instrumentation locations and X and Y axes. Distances are in meters. Instrumentation locations listed in Table 3-1.

Figure 3-4: Photos of the SkyTEM312 system in suspension beneath the helicopter.

Table 3-1: Positions of instruments on the SkyTEM312 frame, using the center of the frame as the origin, in feet.

	DGPS 1	DGPS 2	Inclinometer 1	Inclinometer 2	Altimeter 1	Altimeter 2	Magnetic Sensor	Rx Coil
X	38.31	34.47	41.95	41.95	42.44	42.44	67.24	-43.46
Y	9.15	12.96	5.38	-5.38	5.87	-5.87	0.00	0.00
Z	-0.52	-0.52	-0.39	-0.39	-0.39	-0.39	-1.71	-6.56

Table 3-2: Positions of corners of the SkyTEM312 transmitter coil, using the center of the frame as the origin, in feet.

Tx Corners	1	2	3	4	5	6	7	8
X	-41.16	-19.78	18.83	37.19	39.19	18.83	-19.78	-41.16
Y	-6.89	-27.98	-28.18	-10.85	10.85	28.18	27.98	6.89

Table 3-3: Location of DGPS and magnetic field base station instruments at the Marina Municipal Airport.

Instrument	Easting (m)	Northing (m)	UTM Zone
Magnetometer Base Station	611145	4059781	10 N
DGPS Base Station	611136	4059778	10 N

3.4 Data Acquisition

All SkyTEM systems are calibrated to a ground test site in Lyngby, Denmark prior to being used for production work (HydroGeophysics Group Aarhus University, 2010; HydroGeophysics Group Aarhus University, 2011; Foged et al., 2013). The calibration process involves acquiring data with the system hovering at different altitudes, from 5 m to 50 m (16 ft to 164 ft), over the Lyngby site. Acquired data are processed and a scale factor (time and amplitude) is applied so that the inversion process produces the model that approximates the known geology at Lyngby.

The SkyTEM 312 system was assembled April 20-22, 2019 at the Sinton Helicopters office in Paso Robles, CA and ground tests and airborne tests were conducted. SkyTEM mobilized to Marina Municipal Airport on April 23, 2019, where additional refinements and high-altitude airborne tests were conducted. Production began on April 24 and continued through April 26, 2019. The system was then parked at the Marina Municipal Airport at the completion of data acquisition to await data approval.

Ground tests included checking for system operation including the following sub-systems: 1) transmitter (Tx) current amplitude and stability including waveform recording of both high moment (HM) and low moment (LM); 2) receiver (Rx) functionality for both Z and X-components, 3) laser altimeter operation; 4) GPS operation; 5) tilt meter/attitude sensor operation and calibration; 6) navigation and wireless communication; 7) airborne magnetometer operation; 8) base station magnetometer stability and field strength stability; and 9) DGPS base station operation.

Airborne tests are conducted to establish and confirm the minimum primary field signal level, otherwise known as the "null" position, of both the Z and X Receiver (Rx) components. This is done by mechanically moving the Rx's to locate the best null position by multiple flights. At the time of the establishment of the nulls the system is flown to a high level to eliminate the earth response. At that altitude, typically 1,000 meters above ground level (AGL), only the background noise of the system and the helicopter is received. That is checked against the designed system noise level and used as a calibration point. In addition to the calibrations and the nulls, the system is operated to ensure the mechanical stability of the system and that all acquisition systems are functional. Additional overflight passes are performed in order to adjust the length of the supporting tow ropes to control the angle of the system at acquisition production speeds.

All MCWD 2019 AEM airborne operations were based out of the Marina Municipal Airport and were carried out by Sinton Helicopters under contract to SkyTEM, Inc. The production flights took place from April 24-26, 2019. Two production flights were flown each day. Line-km (and miles) totals from each flight are provided in Table 3-4. Figure 3-5 is an "as-flown" map view of the timing and spatial orientation of the flight lines grouped by date. In some locations, the as-flown lines deviate from the planned lines due to infrastructure and safety as determined by the pilot.

Table 3-4. Flight line production by flight.

Date	Flight	Line-km Total	Line-miles Total
24-April-2019	1	152.9	94.4
	2	172.4	106.4
25-April-2019	1	154.8	95.6
	2	161.6	99.8
26-April-2019	1	166.2	102.6
	2	73.2	45.2
Total		881.1	544.0

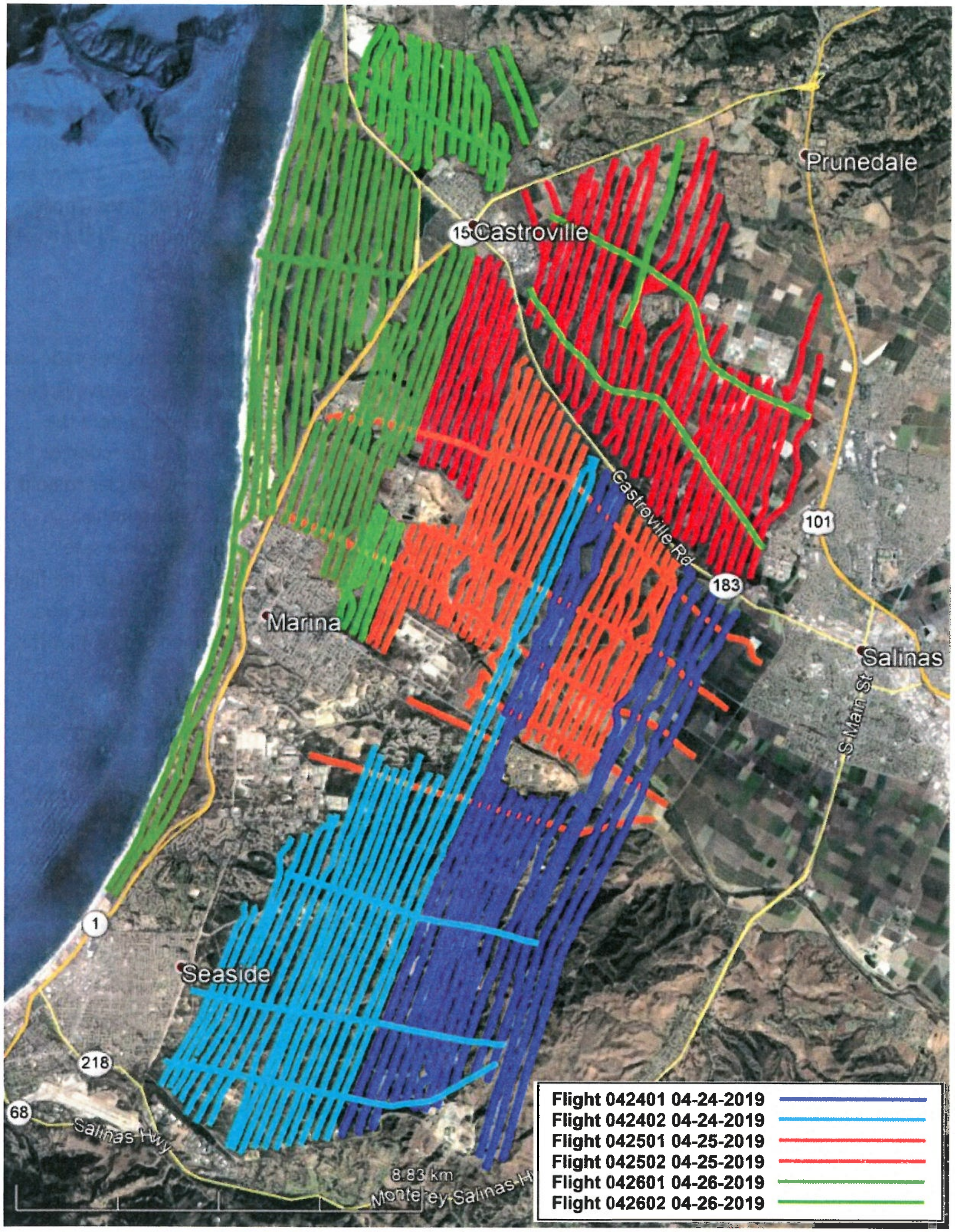


Figure 3-5: As-Flown map showing timing of the MCWD 2019 AEM survey data acquisition.

3.4.1 System Flight Parameters

3.4.1.1 Flight Height

The system height was specified at 30 meters; however, due to safety and other judgments by the pilot the flight heights will deviate. The goal is to maintain a height as low as possible in the window from 25 to 50 m AGL. In the MCWD 2019 data set the average height was 42.7 m with a minimum of 20.0 m and a maximum of 192.9 m. The maximum flight heights were encountered over large powerlines. Those data were removed from the dataset before inversion due to EM coupling and did not impact the final product. A map of the flight height throughout the survey area is presented in Figure 3-6.

3.4.1.2 Flight Speed

Speed determines the distance between ground samples. However, there is a tradeoff between the cost of the survey and the speed of the system related to the foot print of the system. In many surveys, the specified speed is 100 km/hr. The critical factor in the flight speed is to maintain a speed where the system is as level as possible. This may require that the pilot speed up in the downwind direction or slowdown in the up-wind direction. The pilot uses the readout display of the system tilt angles to help maintain this speed. For the MCWD 2019 survey the ropes suspending the system beneath the helicopter needed to be adjusted due to the slower speeds that were required to maintain a safe operation in the MCWD area allowing the pilot to avoid infrastructure and obstacles. A map of the flight speeds of the MCWD survey is presented in Figure 3-7. The average ground speed of the survey was 87.5 km/hr with a minimum ground speed of 0.6 km/hr and a maximum ground speed of 118.4 km/hr.

3.4.1.3 System Angles

System angles are critical to ensure that quality data are submitted to the inversion. The system's Tx initial current at time-off of 0.0 sec is the image of the size of the loop on the surface. If the system is tilted, that image will be less than the original size of the TX. Inversion algorithms can account for ±10 degrees of angle in calculating the effective Tx size. To this end, it is important to keep the Tx frame within ±10 degrees. The position of the Rx is also impacted by the angle of the system and any deviation from perpendicular has an impact by including off perpendicular components. As noted, algorithms can account for ±10 degrees in the Rx angle. Both the X-Angle (in the direction of flight) and the Y-Angle (perpendicular to the direction of flight) were checked for the MCWD 2019 survey. When the system is flown over obstacles or while turning around at the end of a line, the angles can be higher than the ±10 degrees. These flight line edges are typically cut out of the survey data set prior to inversion. Figure 3-8 and Figure 3-9 are plots of the X-angle and the Y-angle tils, respectively. During the MCWD survey, both angles were within acceptable ranges. The X-angle averaged approximately -1.10 degrees with a minimum of -18.50 degrees and a maximum of 26.29 degrees. The Y-angle tilt averaged about 2.80 degrees with a minimum of -21.97 degrees and a maximum of 30.11 degrees.

3.4.1.4 *Transmitter Current*

The SkyTEM 312 system utilizes a dual-moment system (High (HM) and Low (LM)) and two different Tx current and waveforms. These waveforms are recorded before and after the survey to ensure that that no changes have occurred during the survey. Figure 3-10 and Figure 3-11 are plots of the recorded low moment (LM) and the high moment (HM) Tx waveforms, respectively. The LM Tx source is used to highlight the very near surface geology and the HM current source is used to get more electromagnetic power at depth in order to characterize the deeper geologic units.

The current should be stable throughout the survey, but changes in the temperature can impact the resistance of the Tx wire and circuit by either increasing or lowering the peak current output. The peak current is recorded during acquisition of each sounding and is used to adjust the Tx waveform in the inversion. For the MCWD 2019 survey the LM current mean was 5.97 amp with a minimum current of 5.94 amp and a maximum current of 5.98 amp. For the HM, mean was 112.26 amp with a minimum current of 108.60 amp and a maximum current of 114.97 amp. Both of the moments show stability in the current and will provide no problems in the inversion.

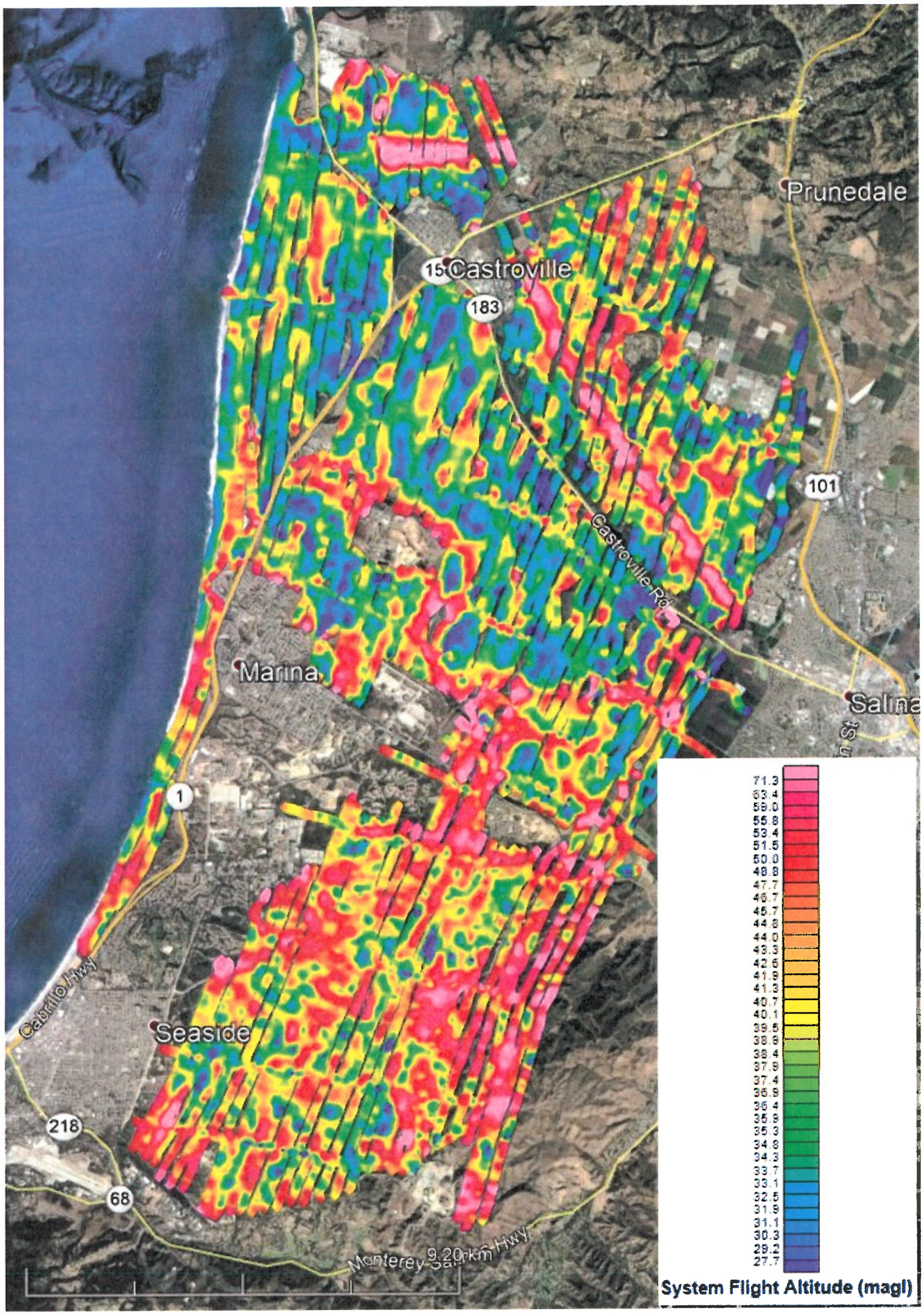


Figure 3-6. Map of the system height (in meters above ground level) recorded during the MCWD 2019 survey, as-flown flight lines are indicated as black lines.

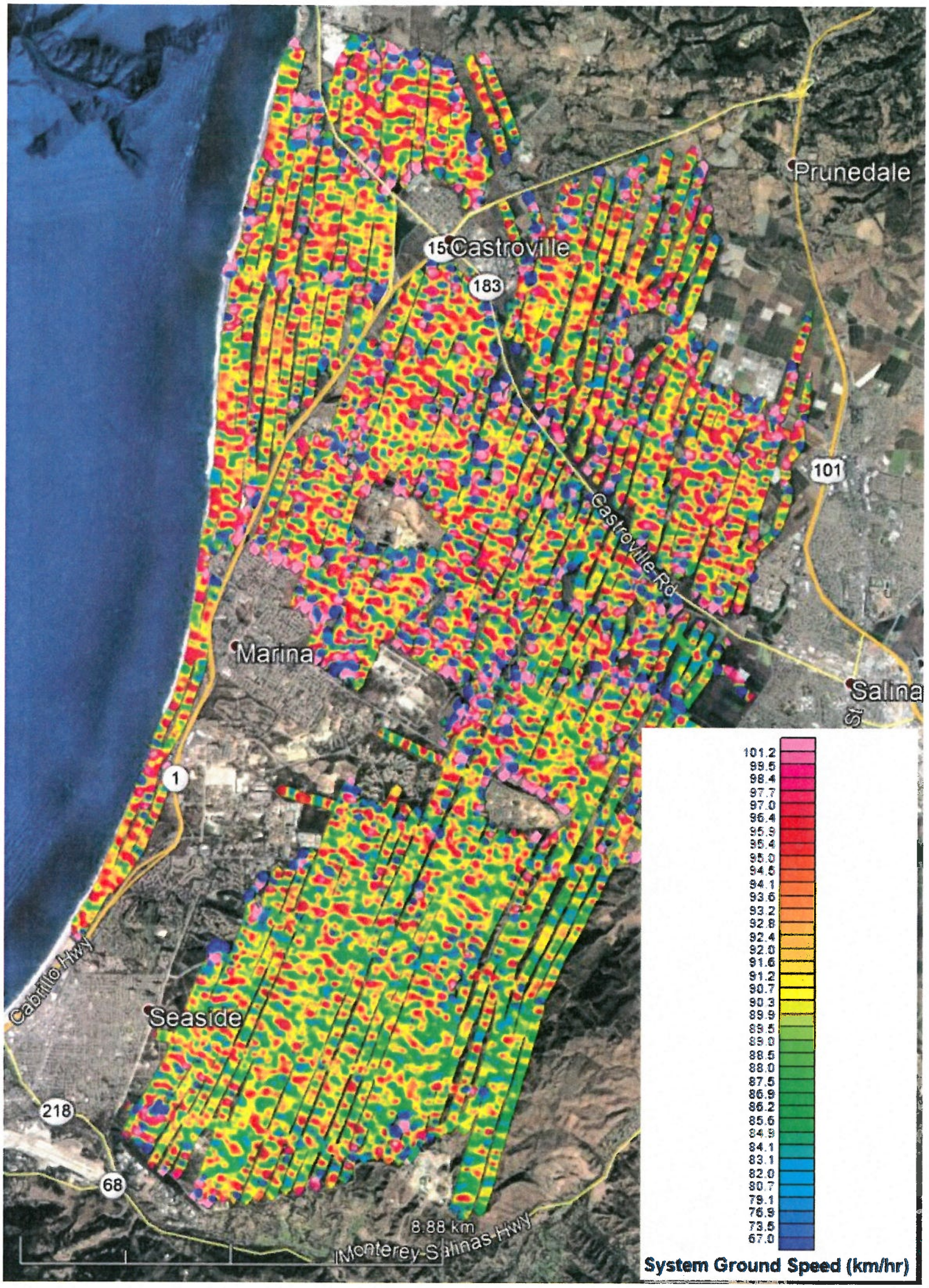


Figure 3-7. Map of the ground speed recorded during the MCWD 2019 survey, as-flown flight lines are indicated as black lines.

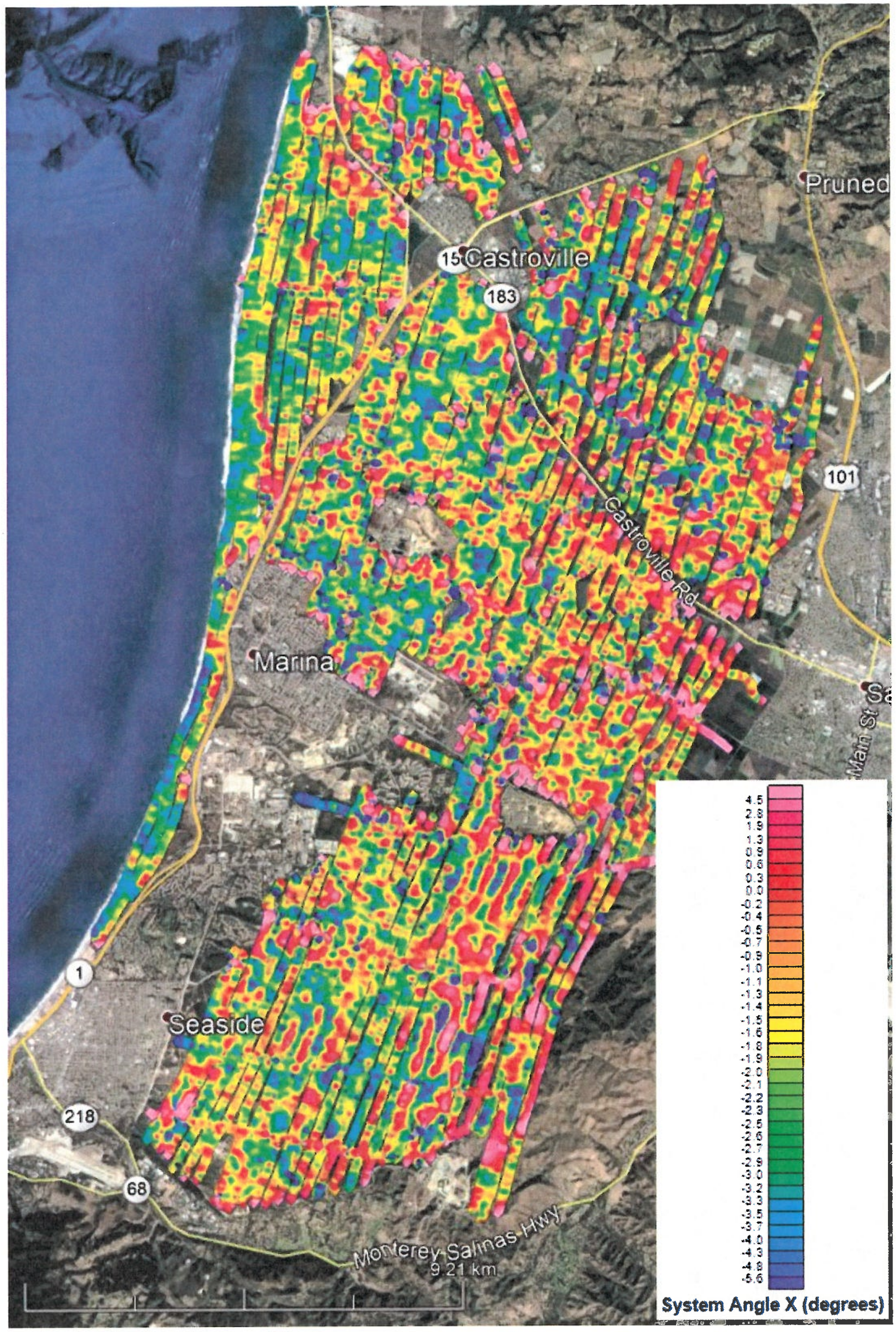


Figure 3-8. Map of the X-angle tilt recorded during the MCWD 2019 survey, as-flown flight lines are indicated as black lines.

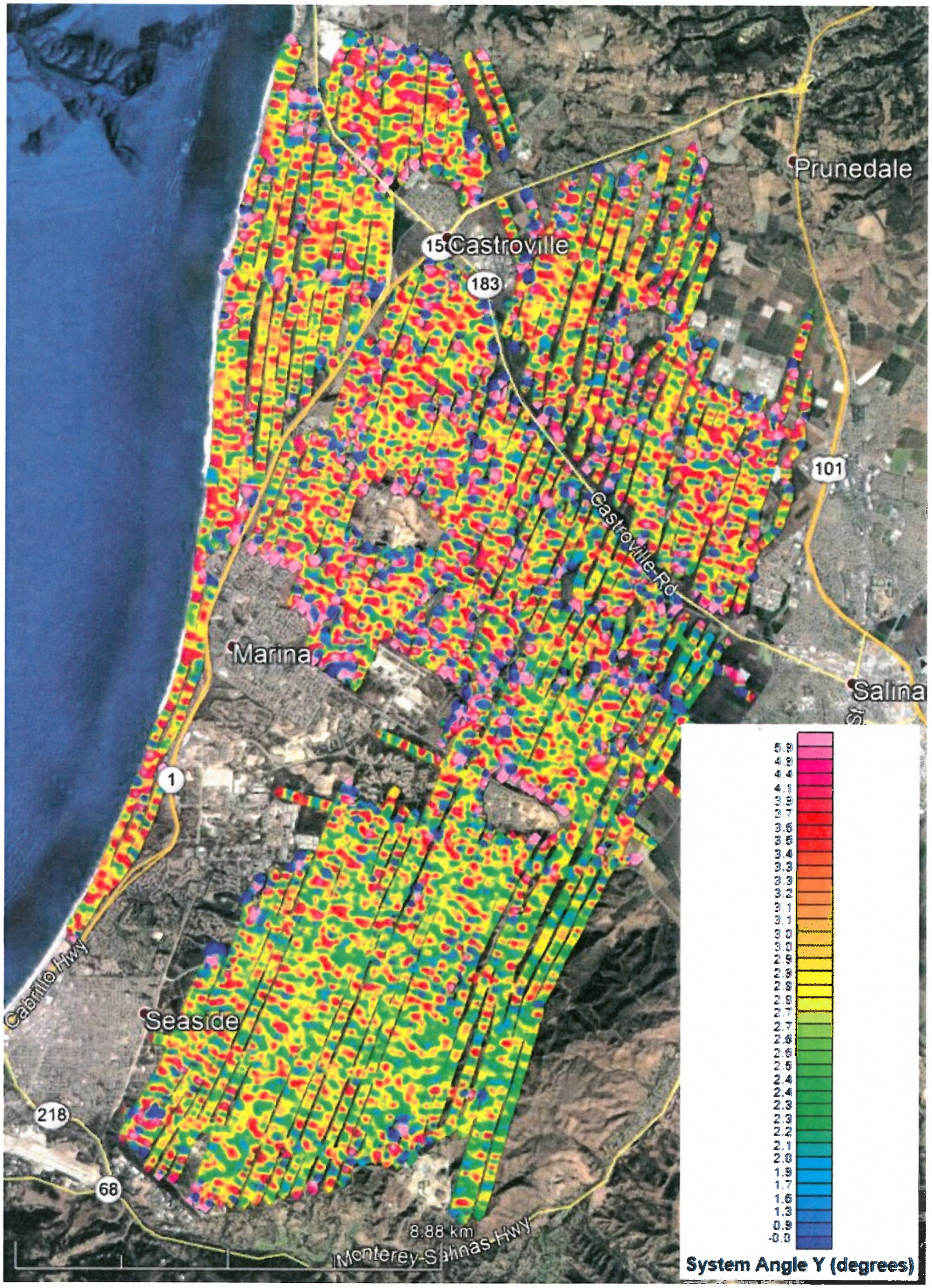


Figure 3-9. Map of the Y-angle tilt recorded during the MCWD 2019 survey, as-flown flight lines are indicated as black lines.

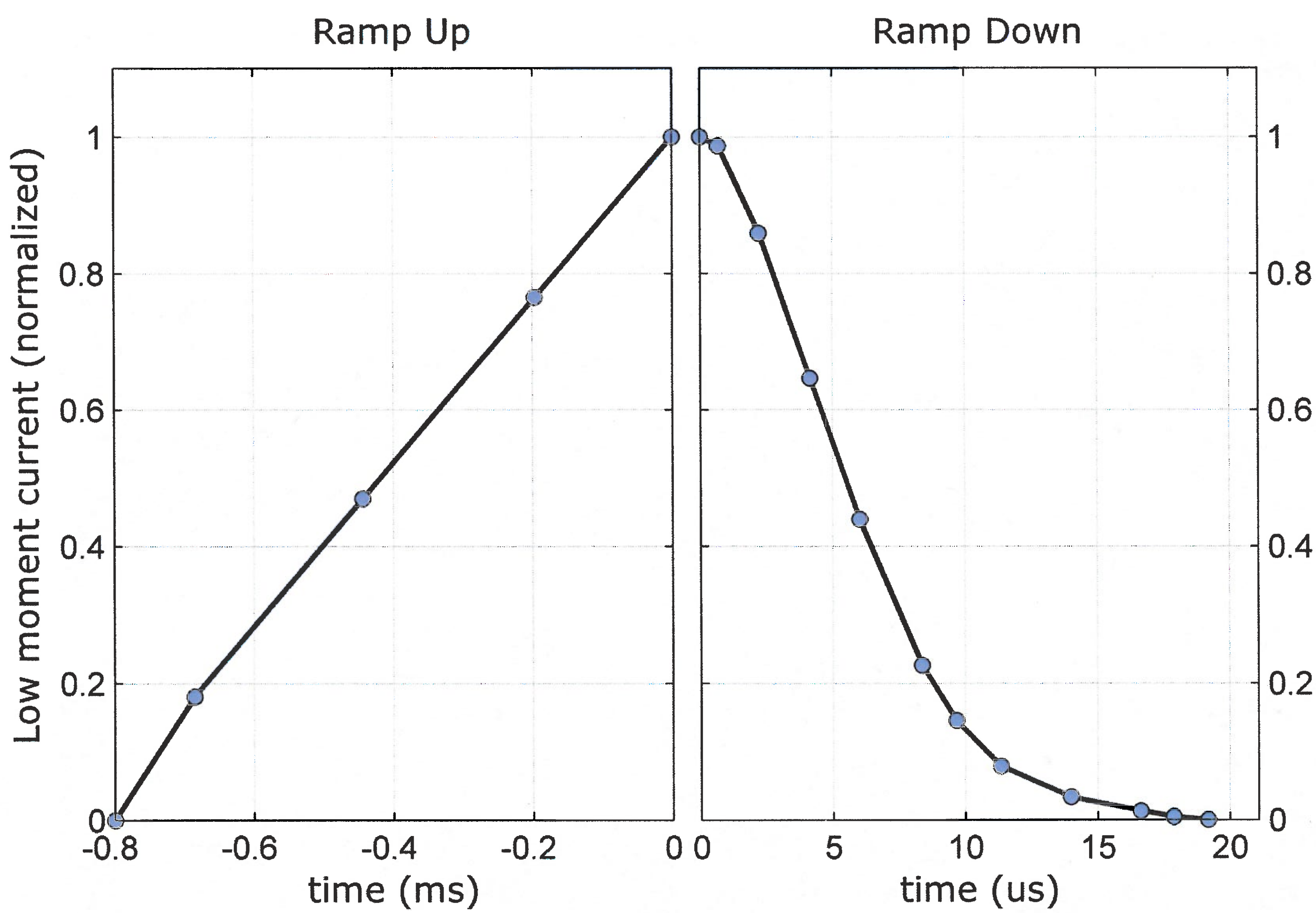


Figure 3-10. Plot of the 210 Hz LM waveform recorded during the MCWD 2019 survey. Current ramp up is on the left and the ramp down to turn off is on the right. Note the different x-axis scales between the left and right sides of the figure.

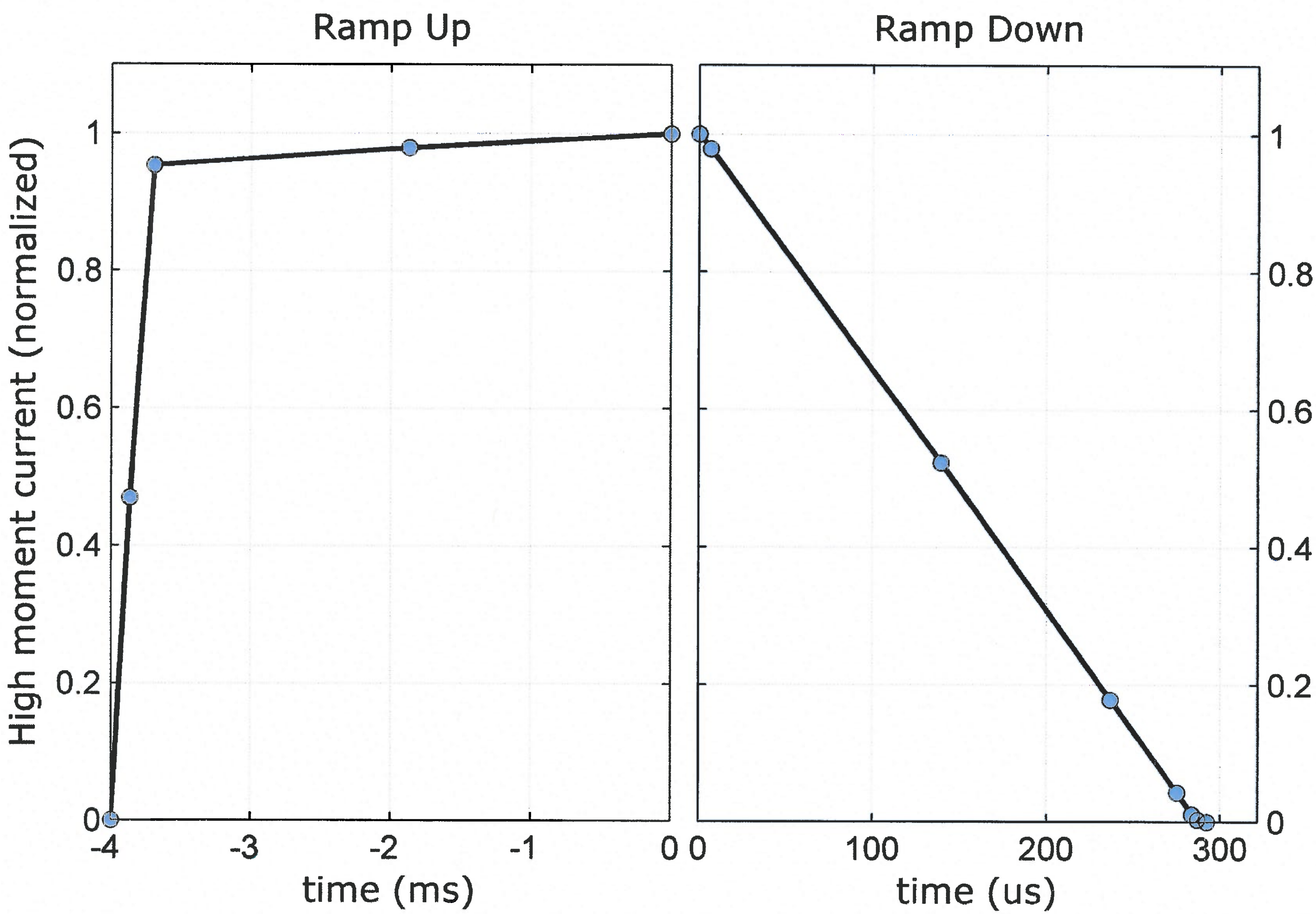


Figure 3-11. Plot of the 30 Hz HM waveform recorded during the MCWD 2019 survey. Ramp up is on the left and ramp down to turn off is on the right. Note the different x-axis scales between the left and right sides of the figure.

3.4.2 Primary Field Compensation

A standard SkyTEM data acquisition procedure involves review of acquired raw data by SkyTEM in Denmark for Primary Field Compensation (PFC) prior to continued data processing by AGF (Schamper et al., 2014). The primary field of the transmitter affects the recorded early time gates, which in the case of the Low Moment, are helpful in resolving the near surface resistivity structure of the ground. The Low Moment uses a saw tooth waveform which is calculated and then used in the PFC correction to correct the early time gates.

3.4.3 Power Line Noise Intensity (PLNI)

The SkyTEM 312 system is configured to provide an estimate of the amplitude of the powerline noise intensity (PLNI) of the 60 Hz signals. The PLNI is produced by performing a spectral frequency content analysis on the raw received Z-component SkyTEM data. For every HM data block, a Fourier Transform (FT) is performed on the latest usable time gate data. The FT is evaluated at the local power line transmission frequency (60 Hz) yielding the amplitude spectral density of the local power line noise. The PLNI map is useful when investigating the impacts of powerlines on the data quality. The 60 Hz powerline signals have little impact on the Rx signal due to time-gating and proper filtering. However, the conductive wires that are used to transmit the power do cause EM coupling impacts on the data and those data need to be removed prior to inversion. The PLNI for the MCWD survey is presented in Figure 3-12.

The MCWD 2019 AEM-flight lines with blue colors representing data retained for inversion and red lines representing 312 data removed due to infrastructure and late time noise are presented in Figure 3-13.

3.4.4 Magnetic Field Data

As part of the SkyTEM 312 system a Total Field magnetometer is included in the data acquisition package (Figure 3-3, Table 3-1). The magnetic field signal is useful for determining deep seated geological contacts and is also extremely valuable for locating intrusive bodies. Neither of those was the target of the survey within MCWD. However, the magnetic field is also sensitive to anthropogenic features that contain ferrous metal and is also used in the electromagnetic decoupling process. A plot of the Total Magnetic Field signal in the area of the MCWD is presented in Figure 3-14. Both geological structure and cultural features can be identified within the survey area.

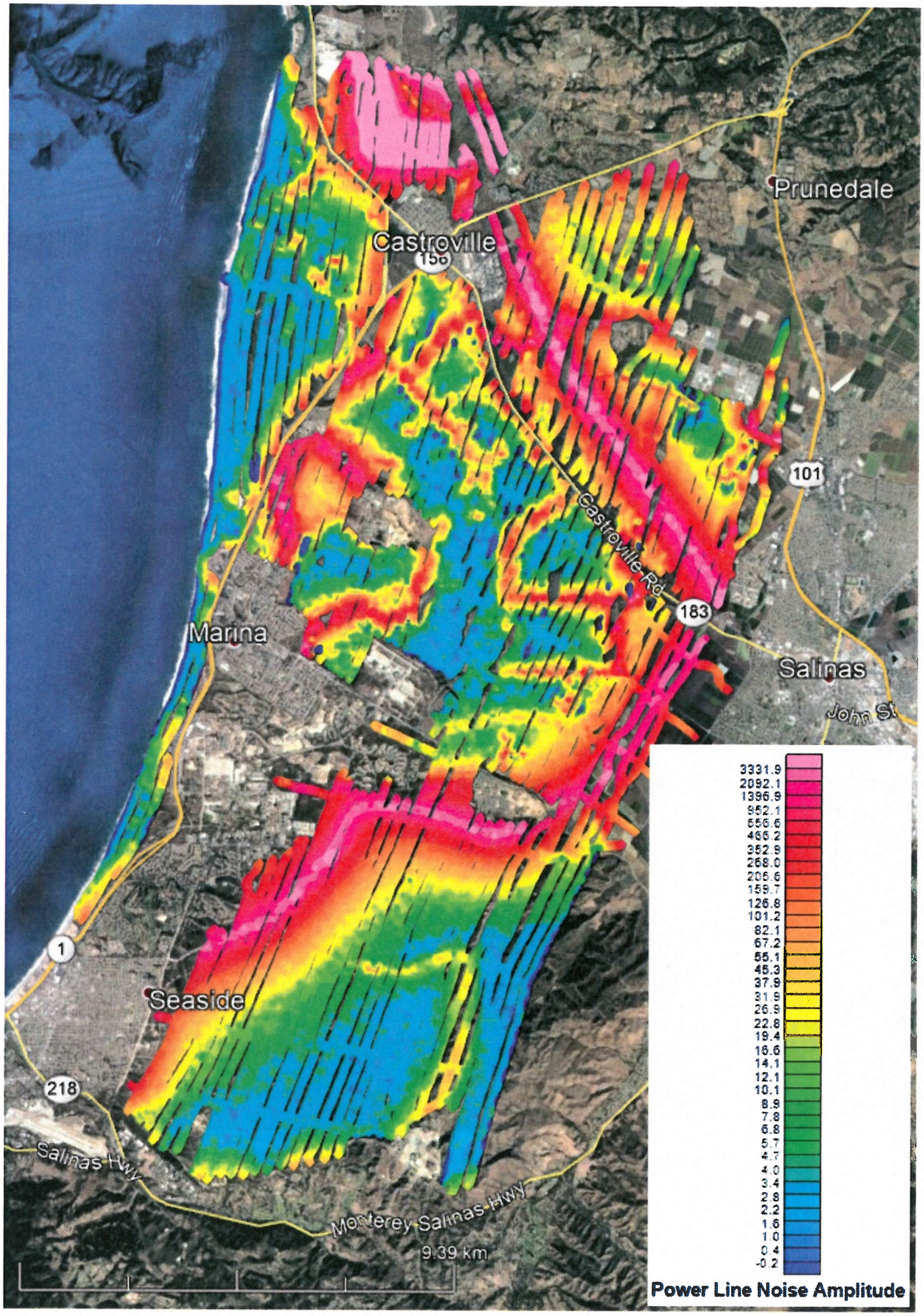


Figure 3-12. Power Line Noise Intensity (PLNI) for the MCWD 2019 AEM survey area.

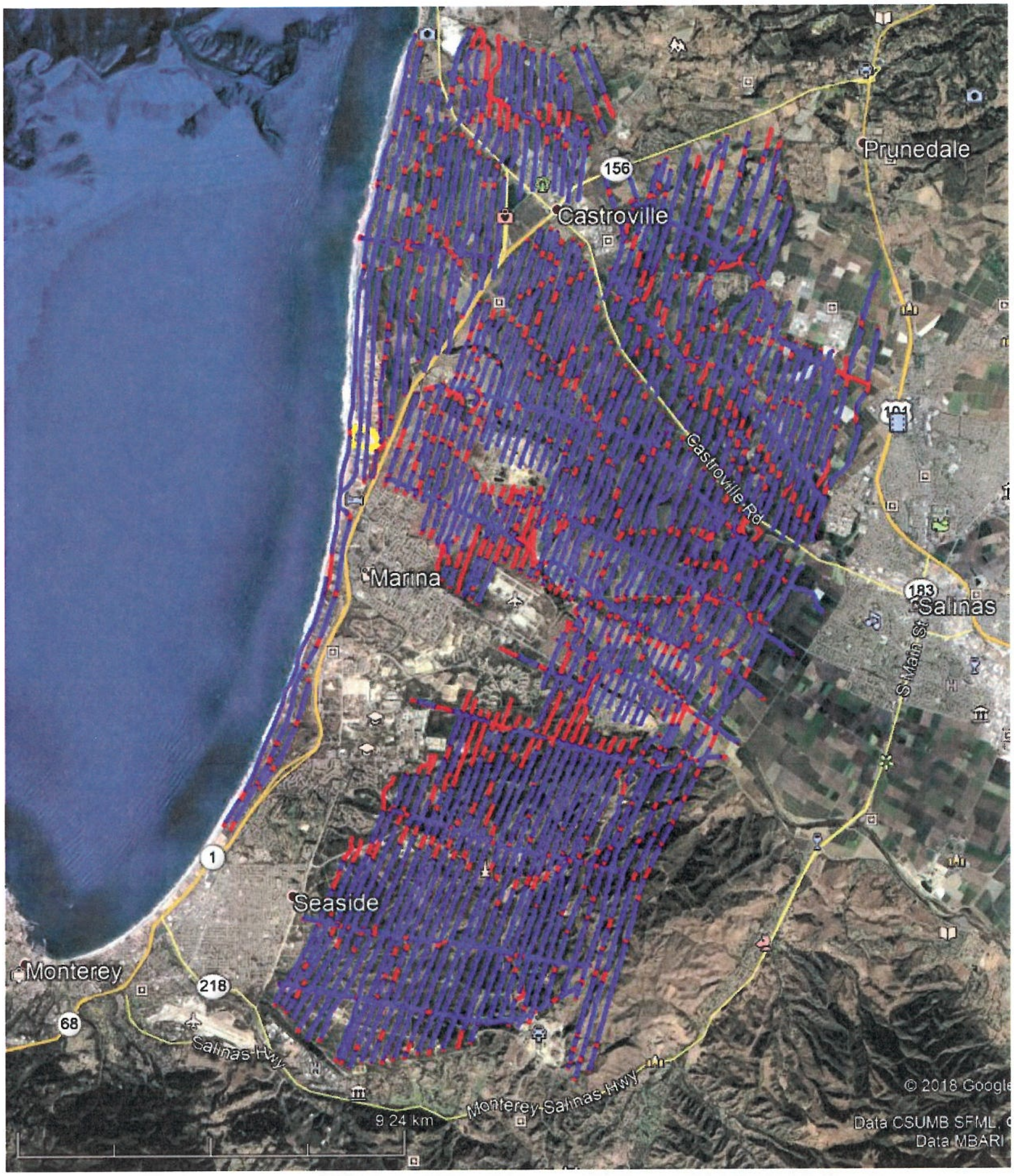


Figure 3-13. Locations of inverted data (blue lines) along the AEM flight lines (red lines) in the MCWD 2019 AEM survey area. Where blue lines are not present indicates decoupled (removed) data. Google Earth kmz's of the inverted data locations as well as the flight lines are included in Appendix 3\KMZ.

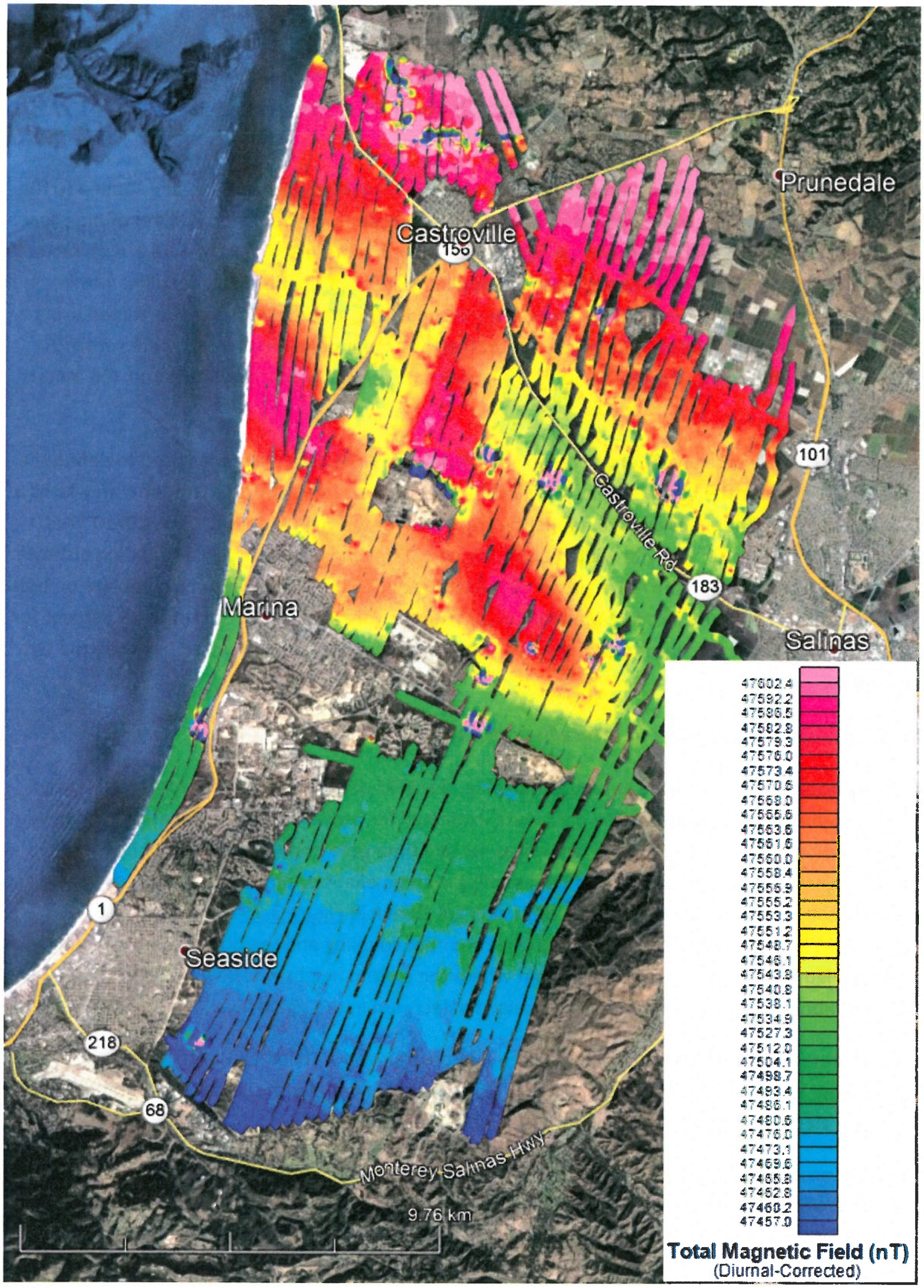


Figure 3-14. Total Magnetic Field (corrected for diurnal drift) for the MCWD 2019 survey area.

3.4.5 Automatic Processing

The AEM data collected by the 312 were processed using Aarhus Workbench version 5.8.3 (Aarhus Geosoftware (https://www.aarhusgeosoftware.dk/)) described in HydroGeophysics Group, Aarhus University (2011).

Automatic processing algorithms provided within the Workbench program are initially applied to the AEM data. DGPS locations were filtered using a stepwise, second-order polynomial filter of nine seconds with a beat time of 0.5 seconds, based on flight acquisition parameters. The AEM data are corrected for tilt deviations from level and so filters were also applied to both of the tilt meter readings with a median filter of three seconds and an average filter of two seconds. The altitude data were corrected using a series of two polynomial filters. The lengths of both eighth-order polynomial filters were set to 15 seconds with shift lengths of six (6) seconds. The lower and upper thresholds were 1 and 100 meters, respectively.

Trapezoidal spatial averaging filters were next applied to the AEM data. The times used to define the trapezoidal filters for the Low Moment were $1.0x10^{-5}$ sec, $1.0x10^{-4}$ sec, and $1.0x10^{-3}$ sec with widths of 4, 7, and 18 seconds. The times used to define the trapezoid for the High Moment were $1.0x10^{-4}$ sec, $1.0x10^{-3}$ sec, and $1.0x10^{-2}$ sec with widths of 10, 20, and 36 seconds. The trapezoid sounding distance was set to 1.0 seconds and the left/right setting, which requires the trapezoid to be complete on both sides, was turned on. The spike factor and minimum number of gates were both set to 25 percent for both soundings. Lastly, the locations of the averaged soundings were synchronized between the two moments.

3.4.6 Manual Processing and Laterally-Constrained Inversions

After the implementation of the automatic filtering, the AEM data were manually examined using a sliding two-minute time window. The data were examined for possible electromagnetic coupling with surface and buried utilities and metal, as well as for late time-gate noise. Data affected by these were removed. Examples of locating areas of EM coupling with pipelines or power lines and recognizing and removing coupled AEM data in Aarhus Workbench are shown in Figure 3-15 and Figure 3-16, respectively. Examples of two inversions, one without EM coupling and the other with EM coupling, are shown in Figure 3-17. Areas were also cut out where the system height was flown greater than 60 m (200 feet) above the ground surface which caused a decrease in the signal level.

The AEM data were then inverted using a Laterally-Constrained Inversion (LCI) algorithm (HydroGeophysics Group Aarhus University, 2011). The profile and depth slices were examined, and any remaining electromagnetic couplings were masked out of the data set.

After final processing, 737.6 line-km (455.3 line-miles) of 312 data were retained for the final inversions for the MCWD 2019 AEM survey area. This amounts to a data retention of 83.7% for the SkyTEM 312 data set. These high rates are the result of careful flight line planning and design.

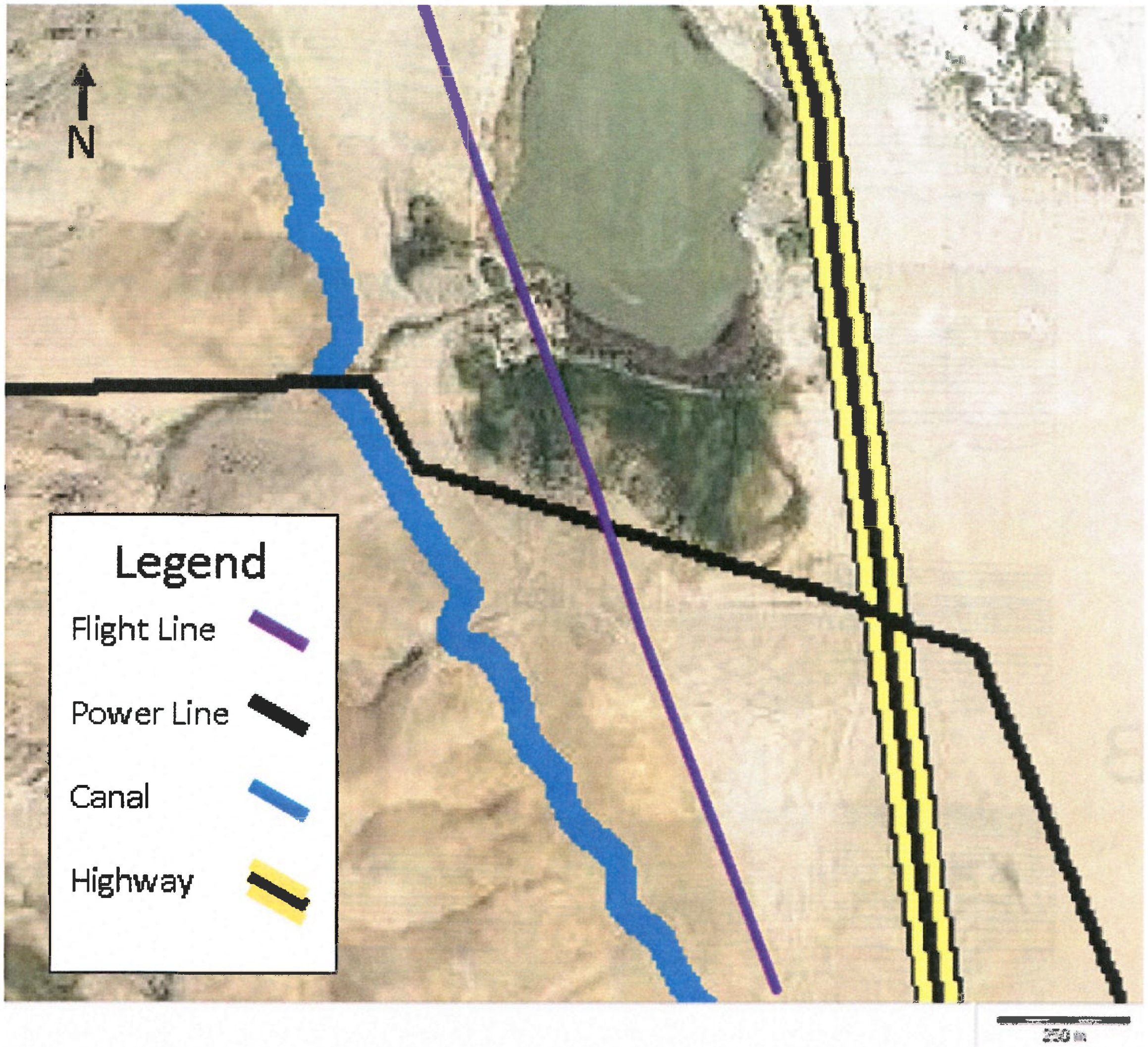


Figure 3-15. Example locations of electromagnetic coupling with pipelines or power lines.

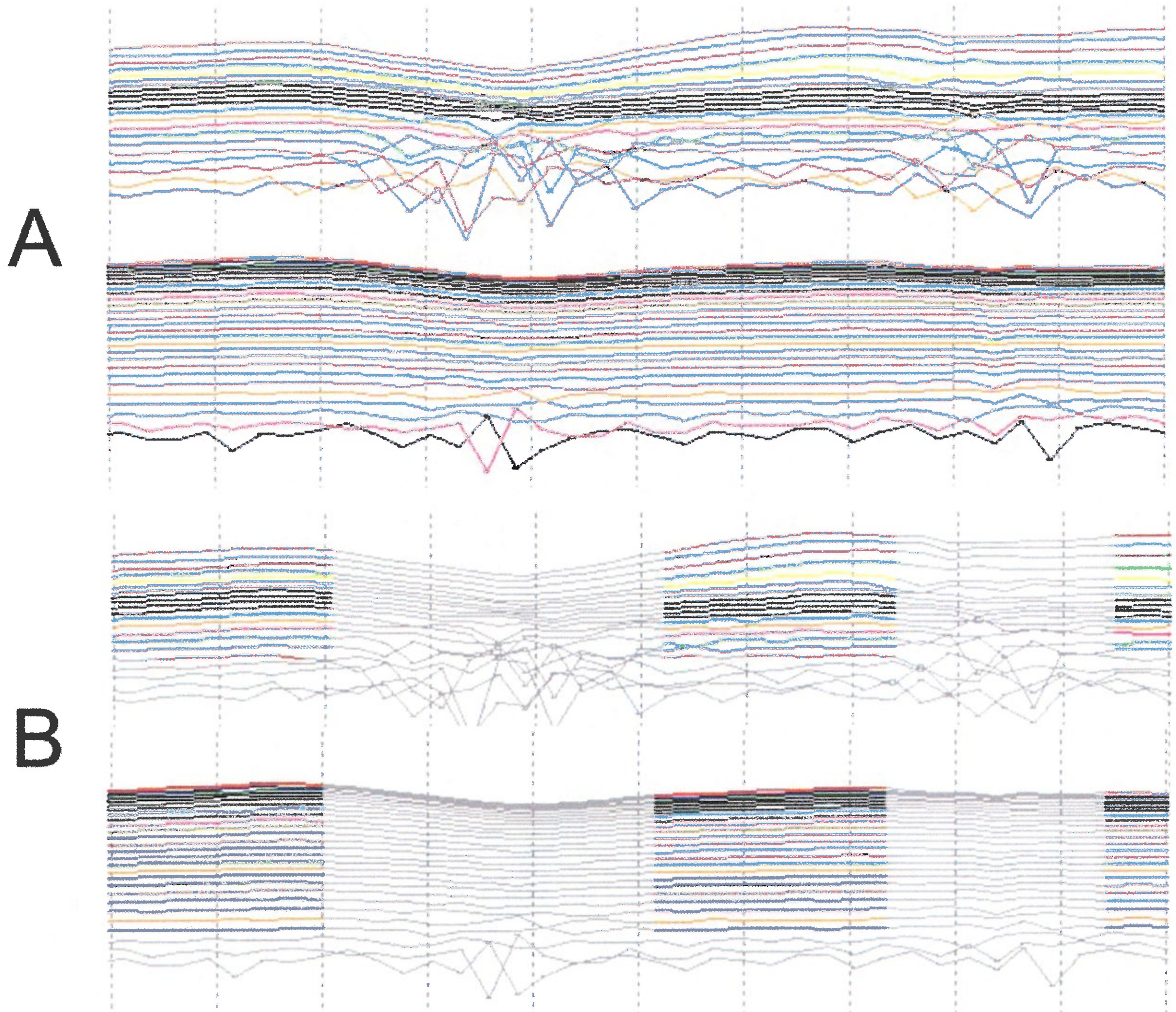


Figure 3-16. A) Example of AEM data affected by electromagnetic coupling in the Aarhus Workbench editor. The top group of lines is the unedited data with the Low Moment on top and the High Moment on the bottom. The bottom group shows the same data after editing.

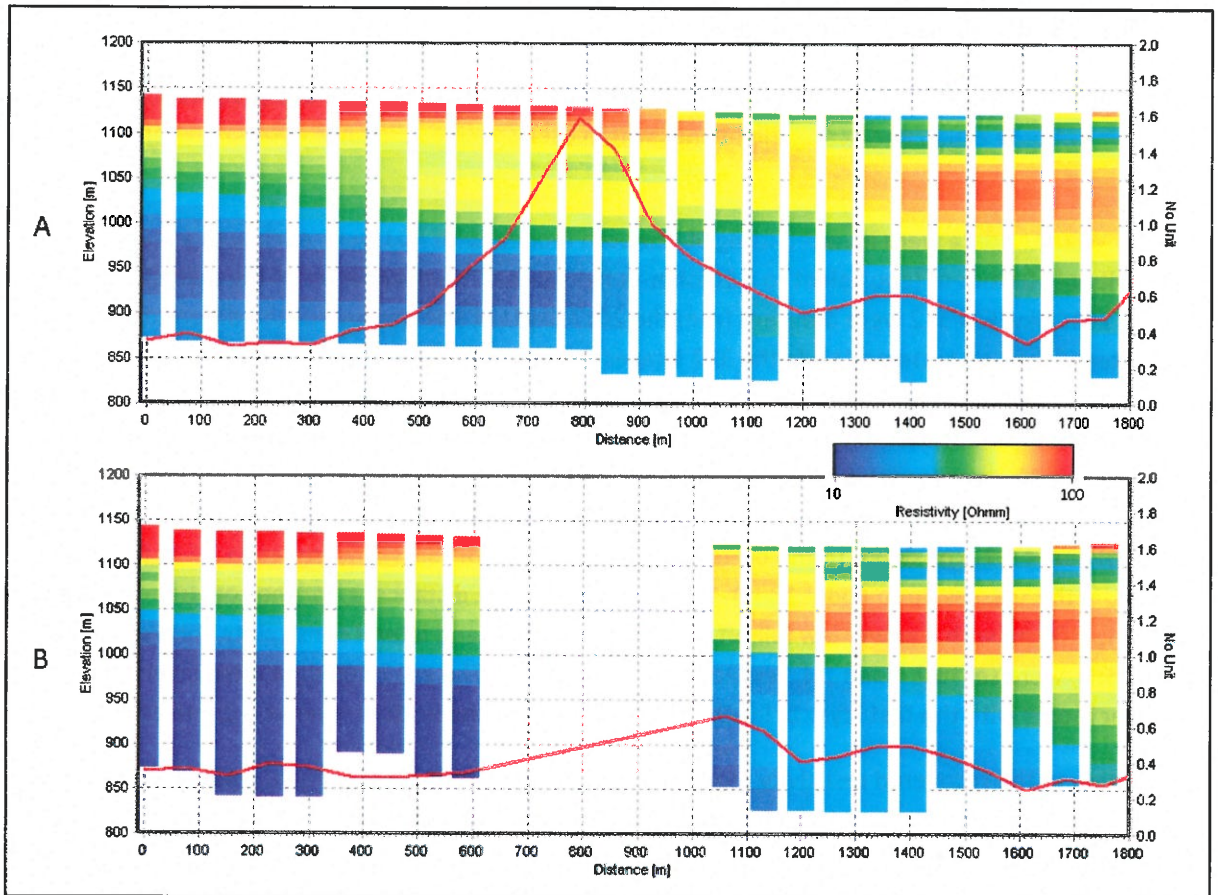


Figure 3-17. A) Example of Laterally-Constrained inversion results where AEM data affected by coupling with pipelines and power lines were not removed. B) Inversion results where AEM data affected by coupling were removed.

3.5 Spatially-Constrained Inversion

Following the initial decoupling and LCI analysis, Spatially-Constrained Inversions (SCI) were performed. SCI's use EM data along, and across, flight lines within user-specified distance criteria (Viezzoli et al., 2008).

The MCWD AEM data were inverted using SCI smooth models with 40 layers, each with a starting resistivity of 10 Ohm-m (equivalent to a 10 ohm-m halfspace). The thicknesses of the inversion models for the 2019 SkyTEM 312 were different from the 2017 SkyTEM 304 because of the different sensing character of the two systems. While the 312 images deeper than the 304 (and needs deeper and thicker layers), the 304M is more sensitive to the near-surface (and so needs finer layering at the surface). Also, the thicknesses of the layers increase with depth as the resolution of the technique decreases (an example of a 30-layer model is presented in Figure 3-18). The thicknesses of the first layer of the 312 models were about 6.6 ft (2 m) (Table 3-5) with the thicknesses of the consecutive layers increasing by a factor of about 1.1. The depth to the bottom of the 39th layer for the 312 were set to 1,639 ft, with maximum thicknesses up to about 130 ft. The spatial reference distance, ***s***, for the constraints were set to 328 ft (100 m) with a power law fall-off of 0.75. The vertical and lateral constraints, ***ResVerSTD*** and ***ResLatStD***, were set to 2.4 and 1.4, respectively, for all layers. The 2017 304 data were inverted with a 30-layer model with the first layer being 9.8 ft (3 m) thick and the bottom layer at a depth of 1023 ft.

In addition to the recovered resistivity models, the SCI's also produce data-model residual error values (single sounding error residuals) and Depth of Investigation (DOI) estimates. The data residuals compare the measured data with the response of the individual inverted models (Christensen et al., 2009). The DOI provides a general estimate of the depth to which the AEM data are sensitive to changes in the resistivity distribution at depth (Christiansen and Auken, 2012). Two DOI's are calculated: an "Upper" DOI at a cumulative sensitivity of 1.2 and a "Lower" DOI set at a cumulative sensitivity of 0.6. Examination of the SCI results will indicate that a much lower cumulative sensitivity, maybe 0.1 to 0.2, would still be sufficient to delineate the MCWD 2019 AEM DOI in various locations throughout the survey area. A more detailed discussion on the DOI can be found in Asch et al. (2015).

Figure 3-19 presents a histogram of the MCWD 2019 SkyTEM 312 SCI inversion data/model residuals. A map of data to model error residuals for the MCWD 2019 AEM study area is presented for the SkyTEM 312 inversion results in Figure 3-20.

Table 3-5: Thickness and depth to bottom for each layer in the 40-layer Spatially Constrained Inversion (SCI) AEM earth models for the MCWD 2019 SkyTEM 312 data. The thickness of the model layers increase with depth as the resolution of the AEM technique decreases.

Layer	Depth to Bottom (ft)	Thickness (ft)	Depth to Bottom (m)	Thickness (m)	Layer	Depth to Bottom (ft)	Thickness (ft)	Depth to Bottom (m)	Thickness (m)
1	6.6	6.6	2.0	2.0	21	337.6	31.5	102.90	9.6
2	13.8	7.2	4.2	2.2	22	371.7	34.1	113.30	10.4
3	21.3	7.5	6.5	2.3	23	408.8	37.1	124.60	11.3
4	29.5	8.2	9.0	2.5	24	448.8	40.0	136.80	12.2
5	38.4	8.9	11.7	2.7	25	492.2	43.3	150.00	13.2
6	48.2	9.8	14.7	3.0	26	539.1	46.9	164.30	14.3
7	58.7	10.5	17.9	3.2	27	589.6	50.5	179.70	15.4
8	70.2	11.5	21.4	3.5	28	644.4	54.8	196.40	16.7
9	82.7	12.5	25.2	3.8	29	703.8	59.4	214.50	18.1
10	96.1	13.5	29.3	4.1	30	767.8	64.0	234.00	19.5
11	110.6	14.4	33.7	4.4	31	837.0	69.2	255.10	21.1
12	126.0	15.4	38.4	4.7	32	912.1	75.1	278.00	22.9
13	142.7	16.7	43.5	5.1	33	993.2	81.0	302.70	24.7
14	161.1	18.4	49.1	5.6	34	1081.1	87.9	329.50	26.8
15	180.8	19.7	55.1	6.0	35	1175.9	94.8	358.40	28.9
16	202.1	21.3	61.6	6.5	36	1278.6	102.7	389.70	31.3
17	225.1	23.0	68.6	7.0	37	1389.8	111.2	423.60	33.9
18	250.0	24.9	76.2	7.6	38	1509.9	120.1	460.20	36.6
19	276.9	26.9	84.4	8.2	39	1639.8	129.9	499.80	39.6
20	306.1	29.2	93.3	8.9					

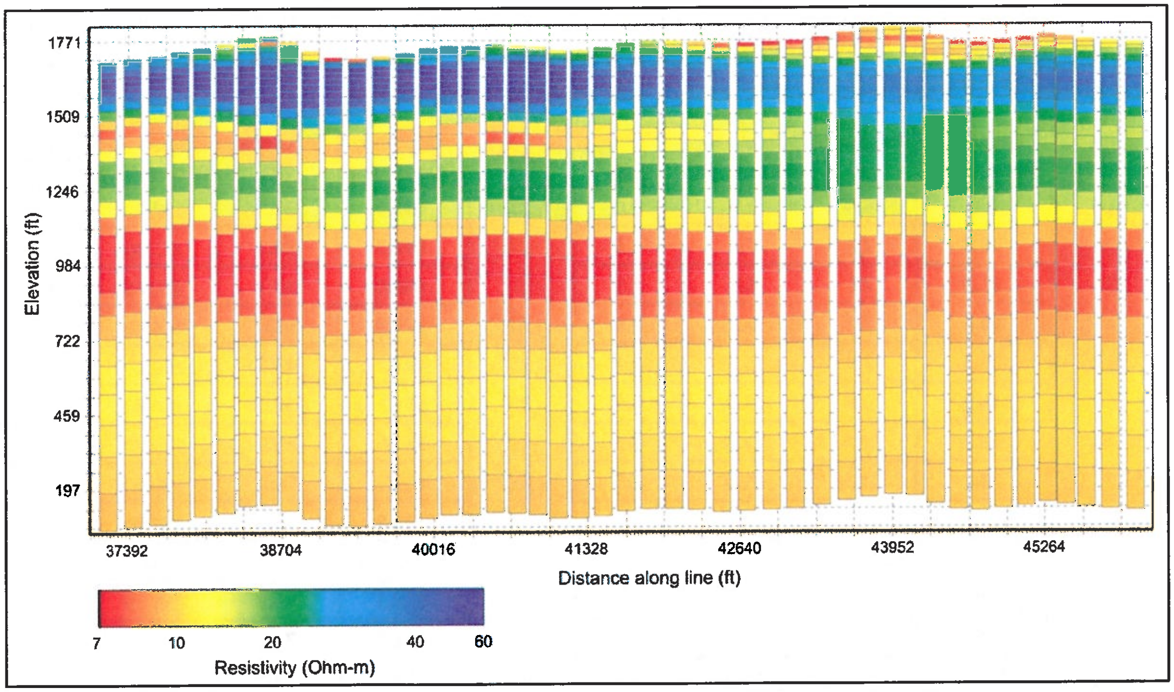


Figure 3-18. An example of an AEM profile illustrating increasing model layer thicknesses with depth. This is a 30-layer model.

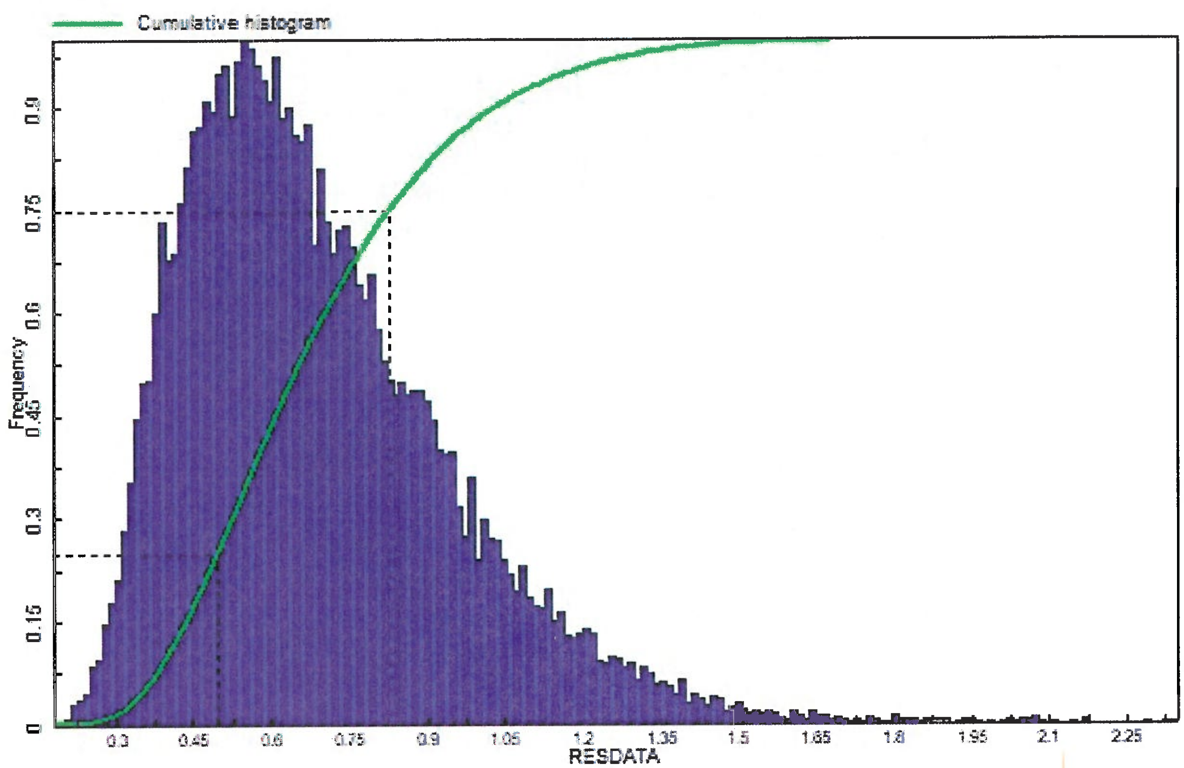


Figure 3-19. Data/model residual histogram for the 2019 MCWD SkyTEM312 SCI inversion results.

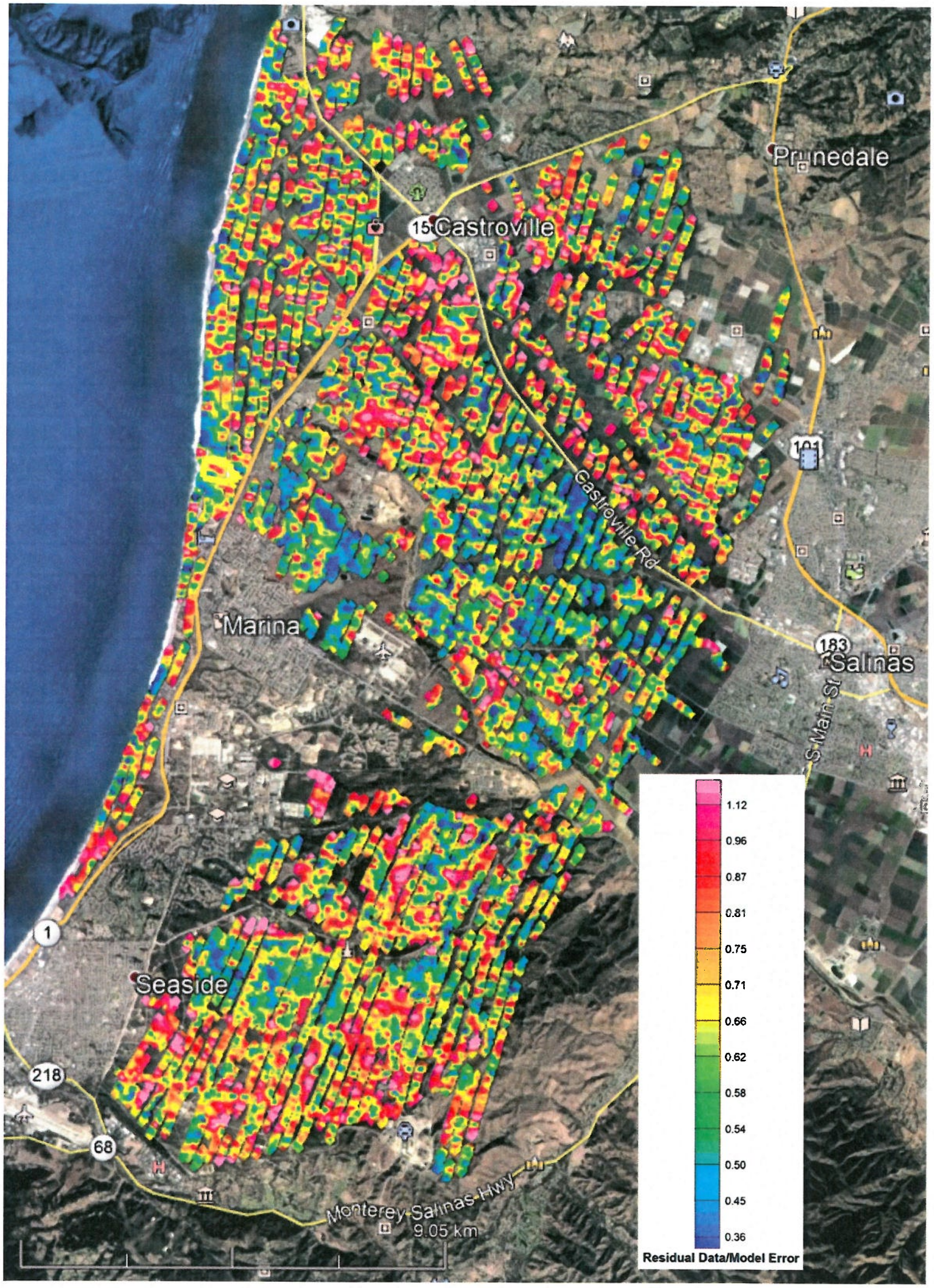


Figure 3-20. Map of data-inversion model residuals for the 2019 MCWD SkyTEM 312 SCI inversion results.

3.6 Merge AEM Flight Lines and Databases from Different Flights

After the inversion process several short lines and databases from different flights were combined to form continuous lines within the survey area. These continuous lines allow for improved viewing and interpretation of the AEM inversions results. Table 3-6 lists the original flown lines and the new combined lines for the MCWD 2019 SkyTEM 312 survey. A map of the merged flight lines is presented in Figure 3-21.

Table 3-6. Combination of SkyTEM 312 flight lines within the MCWD 2019 AEM survey area.

	Original Lines	New Line		Original Lines	New Line
1	200701, 200801	200700	25	207101, 207301	207100
2	200901, 201001	200900	26	207601, 207701, 207702	207600
3	201101, 201201, 201301	201100	27	207901, 208001, 208002	207900
4	201401, 201501, 201601	201400	28	208201, 208202, 208301, 208401	208200
5	201701, 201801, 201901	201700	29	208501, 208502	208500
6	202001, 202101	202000	30	208601, 208701, 208702, 208703	208600
7	202201, 202301, 202401	202200	31	208801, 208901, 208902, 208903	208800
8	202501, 202601, 202701	202500	32	209001, 209101, 209201	209000
9	202801, 202901	202800	33	209201, 209301	209200
10	203001, 203101	203000	34	209401, 209501, 209601	209400
11	203201, 203301	203200	35	209701, 209801, 209802, 209901	209700
12	203401, 203501, 203601	203400	36	210001, 210101, 210201	210000
13	203701, 203801, 203901	203700	37	210501, 210301, 210302,210401	210300
14	204001, 204101, 204201	204000	38	210601, 210602, 210701	210600
15	204301, 204401, 204501	204300	39	210801, 210901, 210902, 211201	210800
16	204701, 204801	204700	40	211001, 211101, 211102	211000
17	205001, 205101	205000	41	211301, 211401, 211501	211300
18	205201, 205301	205200	42	211601, 211701, 211702	211600
19	205501, 205601	205500	43	211801, 211901, 211902	211800
20	205701, 205702, 205801, 205901	205700	44	212001, 300701	212000
21	100603, 206001, 206101	206000	45	212201, 212202, 300801	212200
22	206201, 206301	206200	46	212301, 300901	212300
23	206501, 206601	206500	47	100601, 100602	100600
24	206801, 206901	206800	48	300301, 300302	300300

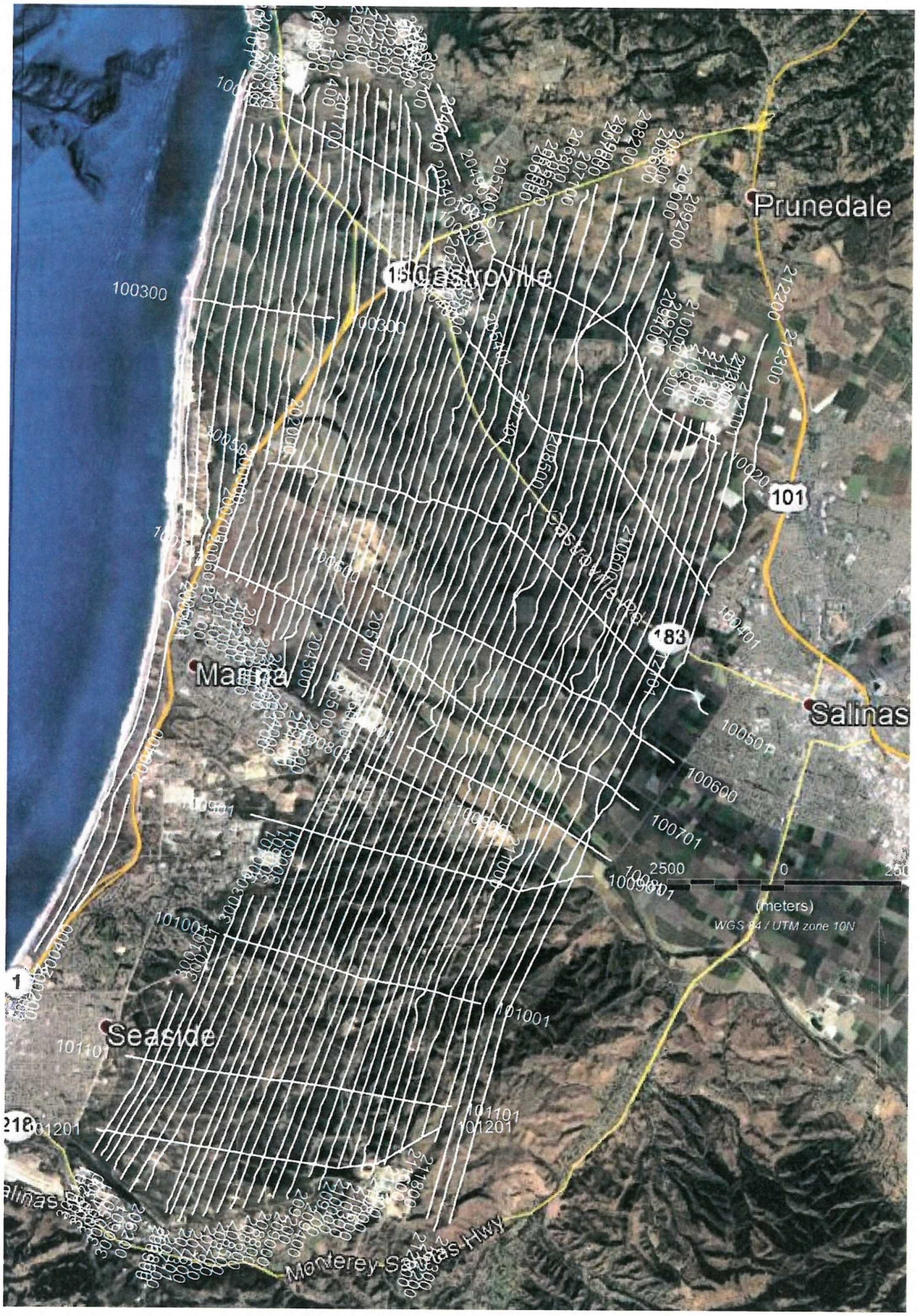


Figure 3-21. Labeled MCWD 2019 AEM flight line map of merged flight lines.

4 AEM Results and Interpretation

This section provides the details on the process involved in the interpretation of the MCWD 2019 AEM data and inversion results and comparison with the 2017 MCWD AEM investigation.

4.1 Begin Interpretive Process – Develop the Project Digital Elevation Model

To ensure that the elevation used in the project is constant for all the data sources (i.e. AEM and boreholes) a Digital Elevation Model (DEM) was constructed for the MCWD 2019 AEM survey area. The data was downloaded from the U.S. Geological Survey National Elevation Dataset (NED) located on the National Map Website (USGS, 2019) at a spatial resolution of approximately 30 meters. The geographic coordinates are North American Datum of 1983 (NAD 83) and the elevation values are referenced to the North American Vertical Datum of 1988 (NAVD 88) meters. Figure 4-1 is a map of the DEM for the MCWD 2019 AEM survey area having a vertical relief within the flight line coverage of 427 m with a minimum elevation of -0.1 m and a maximum elevation of 281 m. This DEM was used to reference all elevations within the AEM and borehole datasets.

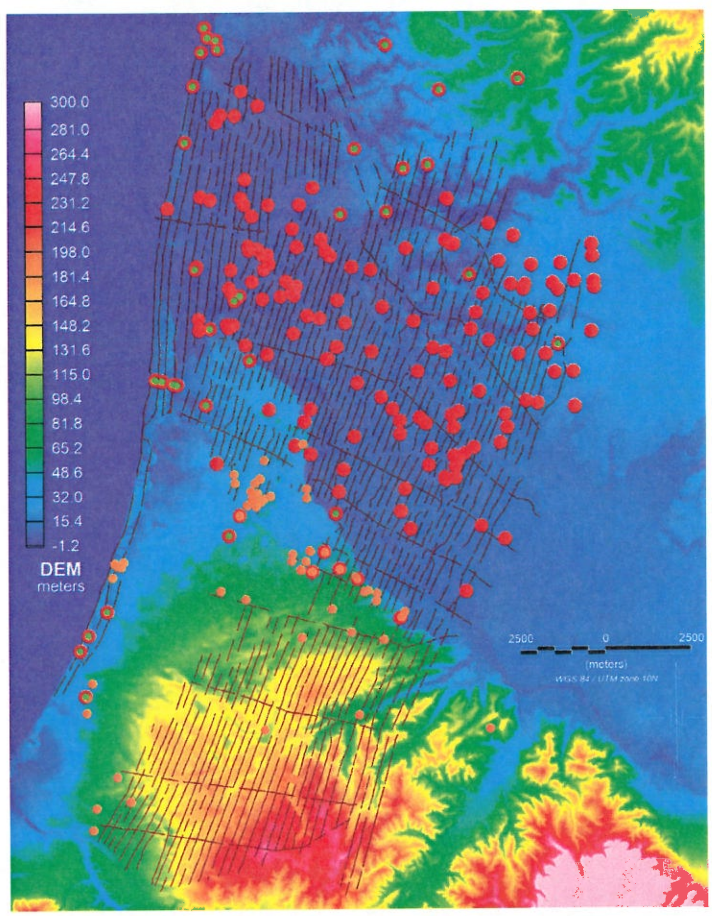


Figure 4-1. Map of the Digital Elevation Model for the MCWD 2019 AEM survey area with boreholes. Data source is the one (1) arc-second National Elevation Dataset (USGS, 2019). Projection is NAD 83, meters, and the elevation values are referenced to NAVD 88, meters.

4.2 Comparison of 2019 Inverted AEM Data with Geophysical Logs

The first step in the analysis was to check how the 2019 AEM compared to the 2017 AEM at the locations of the MPWSP borehole logs. Borehole MW-1 is presented in Figure 4-2, MW-4 in Figure 4-3, MW-5 in Figure 4-4, MW-6 in Figure 4-5, MW-7 in Figure 4-6, MW-8 in Figure 4-7, and MW-9 in Figure 4-8.

Then, after final combination of the AEM data, characterization of the subsurface was performed in cross-section format using Datamine Discover Profile Analyst (DatamineDiscover, 2019). Several examples of the AEM inverted resistivity results are presented below, working from the Monterey Bay inland, along with 16-inch Short Normal (SN) geophysical logs that are within 250 meters of the flight lines. The geophysical logs (the locations indicated by the green dots on the flight maps on each figure) are very useful in validating the AEM survey results.

The first example of the AEM resistivity inversion results for the MCWD 2019 AEM survey is presented in Figure 4-9. This is AEM flight line L200101, a 19 km long profile located along the beach on the Monterey Bay (the red line in the flight map at the top part of the figure). The profile shows an electrically very conductive zone, on the order of 1-2 ohm-m, overlying more resistive material (around 10-15 ohm-m). There are several SN logs along this line that show a good match with the AEM results. The SN logs on the southern end of the profile (left side in the box) show that the AEM inversion results match the delineation between the very conductive material and the more resistive material.

Similar comparison are made along flight lines L200200 (Figure 4-10), L200400 (Figure 4-11), and L201700 (Figure 4-12). The inversion results along L201700, which is located away from the coast, also illustrate the sensitivity of the AEM to the near-surface geology with the delineation of the thin resistive zone (green) above the more conductive (red) zone. Flight line L202500 (Figure 4-13), still further inland from the coast than the flight lines in the previous figures, also shows delineation of both thin resistive and conductive zones.

Flight lines L206800 (Figure 4-14) and L212200 (Figure 4-15) present flight lines, with boreholes for comparison, that extend south of the Salinas River onto Fort Ord. The borehole on the north end of L206800 (Figure 4-14) shows a good match with the resistive material near the surface and conductive material at depth (about 200m-250m, 650 ft – 820 ft). On the southern ends of these two profiles (in the red boxes), in the hills of Fort Ord, present thick beds of both resistive (blue) and conductive (red) material indicating likely zones of fresher water and intruded saline water at depth. All the 2D resistivity profiles of the 2019 MCWD AEM survey are presented in Appendix 1-2D Profiles.

3D fence diagrams of the 2019 inverted AEM survey data are presented in Figure 4-16 (looking east), Figure 4-17 (looking northeast), Figure 4-18 (looking north), and Figure 4-19 (looking west). In the blue boxes in these figures is an area showing likely fresher water (blue colored) overlying much more saline water (red color). The red boxes in these figures show the area of the survey conducted over Fort Ord that delineate the thick interbeds of resistive fresh water overlying the more conductive zones of saline water at depth. Additional 3D fence diagrams can be found in Appendix 2.

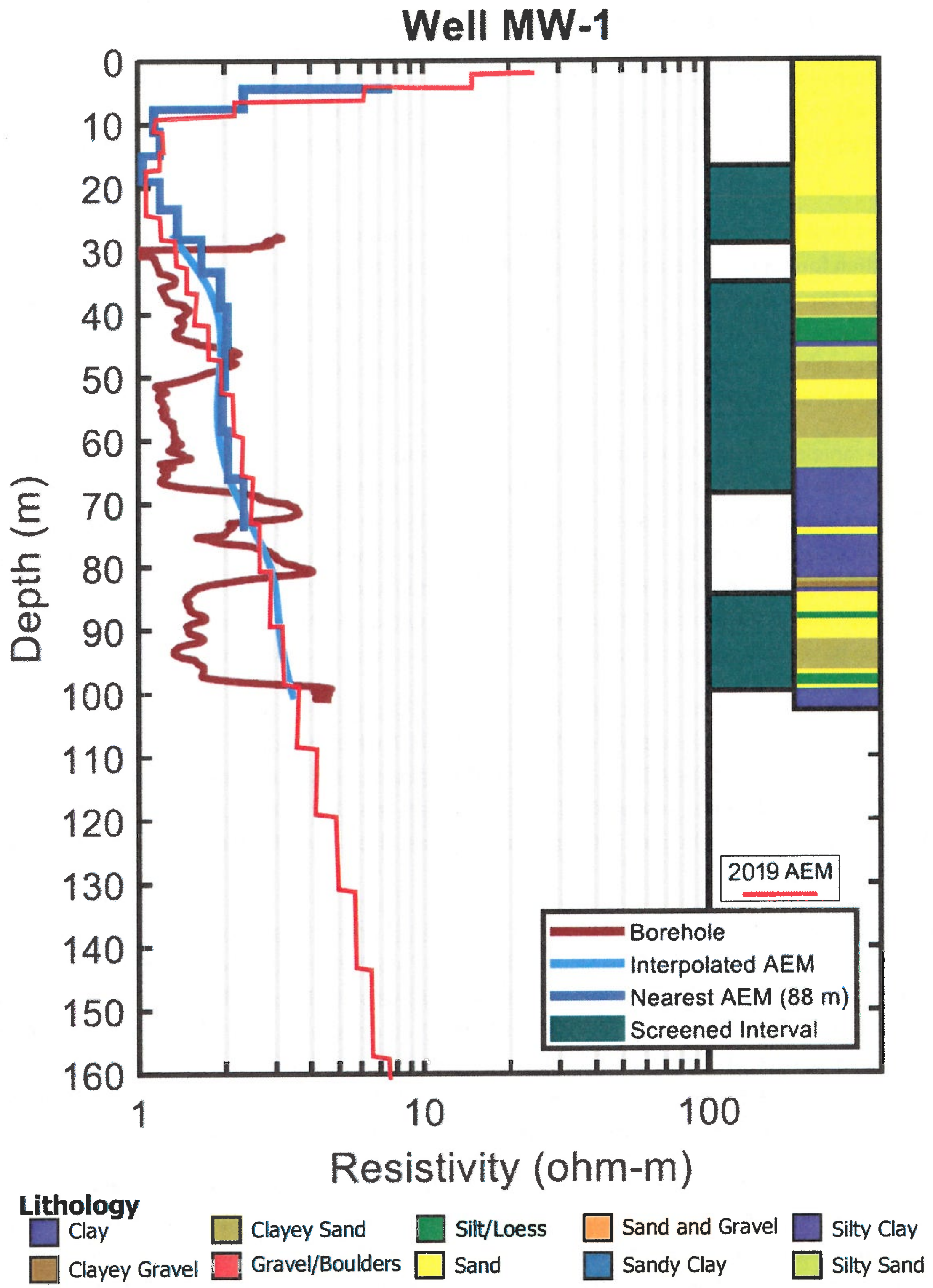


Figure 4-2. Comparison at MW-1 between lithologic and geophysical resistivity data including 2017 (blue lines) and 2019 AEM inversion results (red line) closest to the borehole and the MW-1 geophysical log (modified from Figure 4 from Gottschalk et al., 2018).

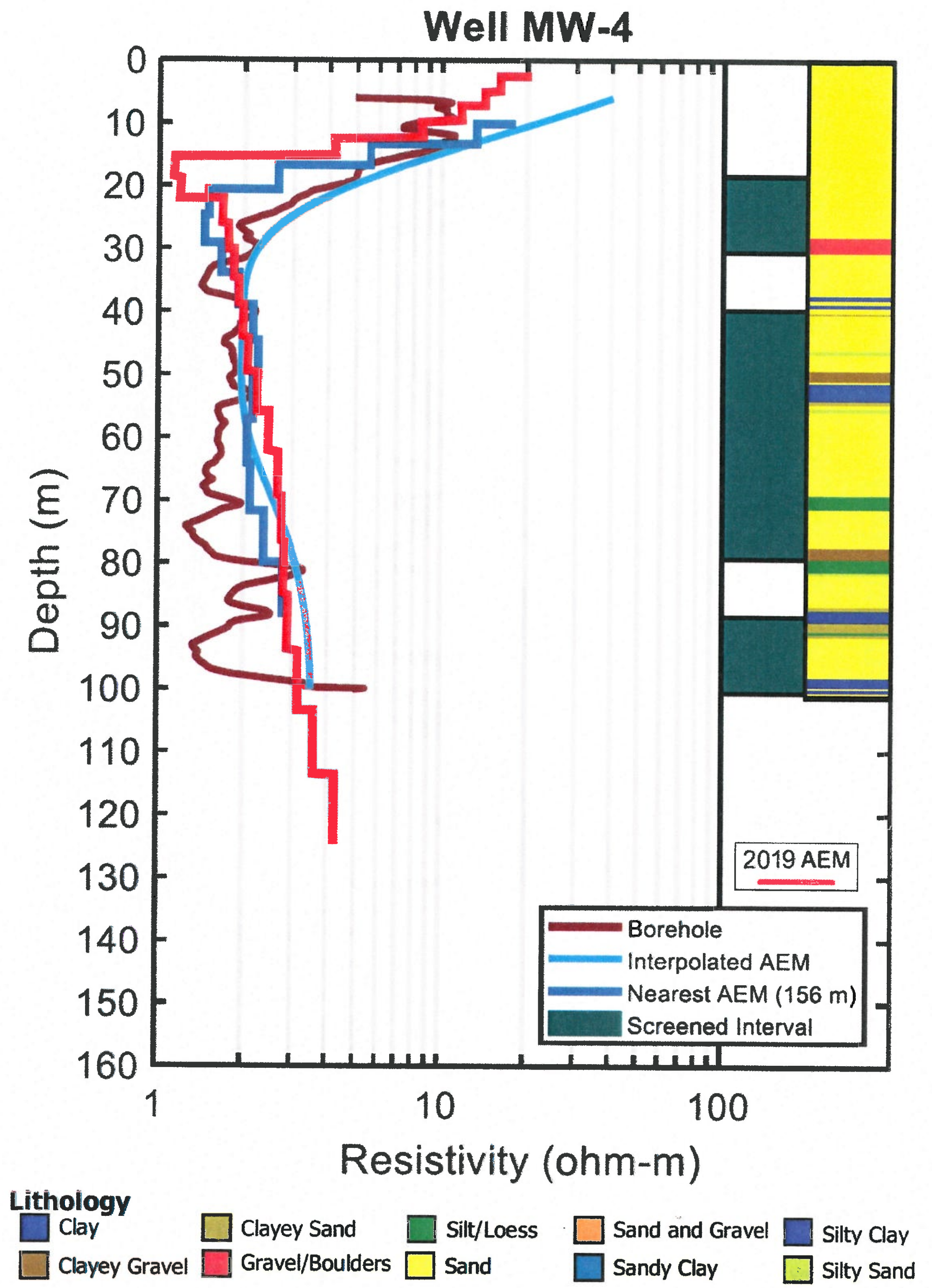


Figure 4-3. Comparison at MW-4 between lithologic and geophysical resistivity data including 2017 (blue lines) and 2019 AEM inversion results (red line) closest to the borehole and the MW-4 geophysical log (modified from Figure 5 from [Gottschalk et al., 2018](#)).

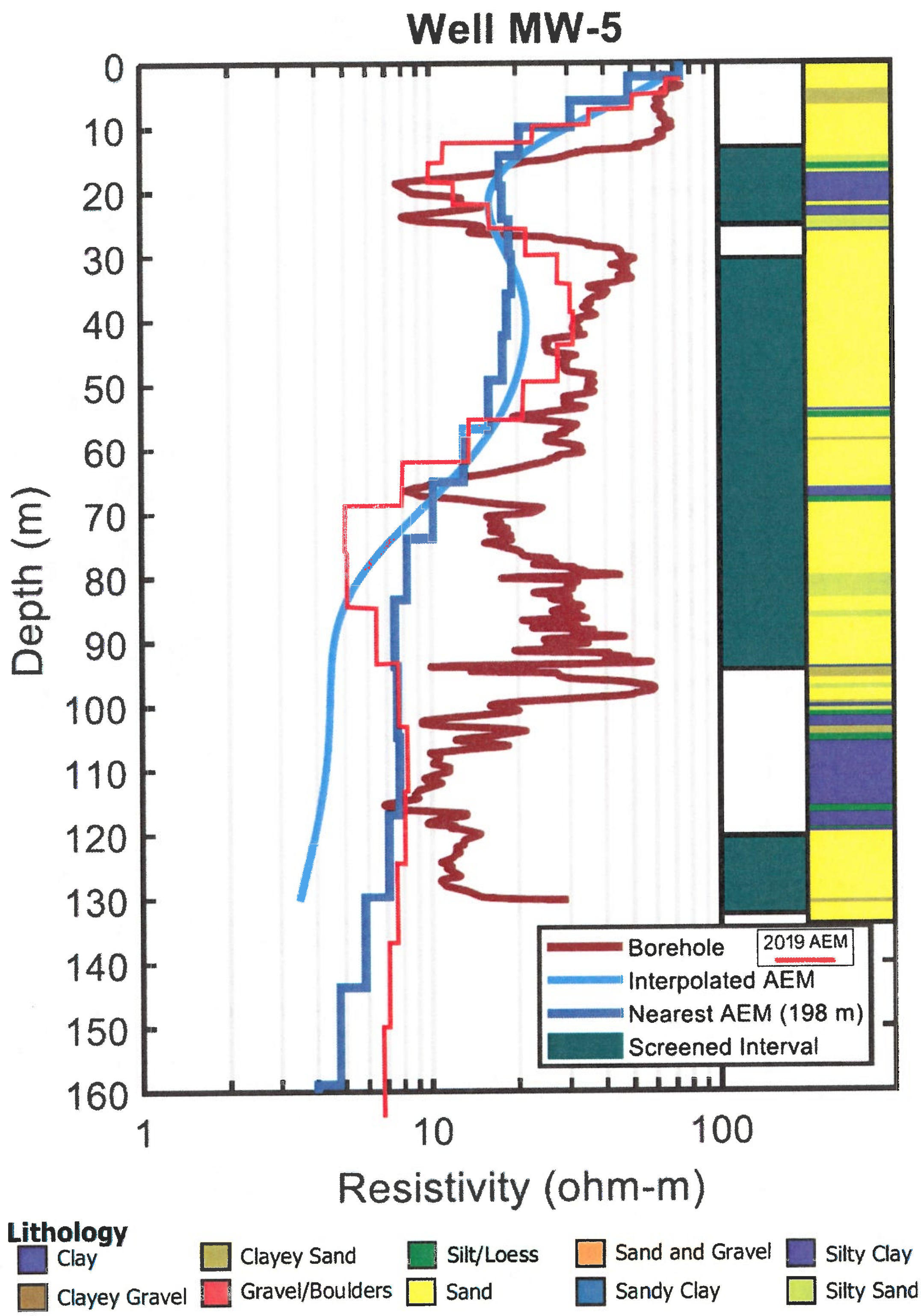


Figure 4-4. Comparison at MW-5 between lithologic and geophysical resistivity data including 2017 (blue lines) and 2019 AEM inversion results (red line) closest to the borehole and the MW-5 geophysical log (modified from Figure 6 from Gottschalk et al., 2018).

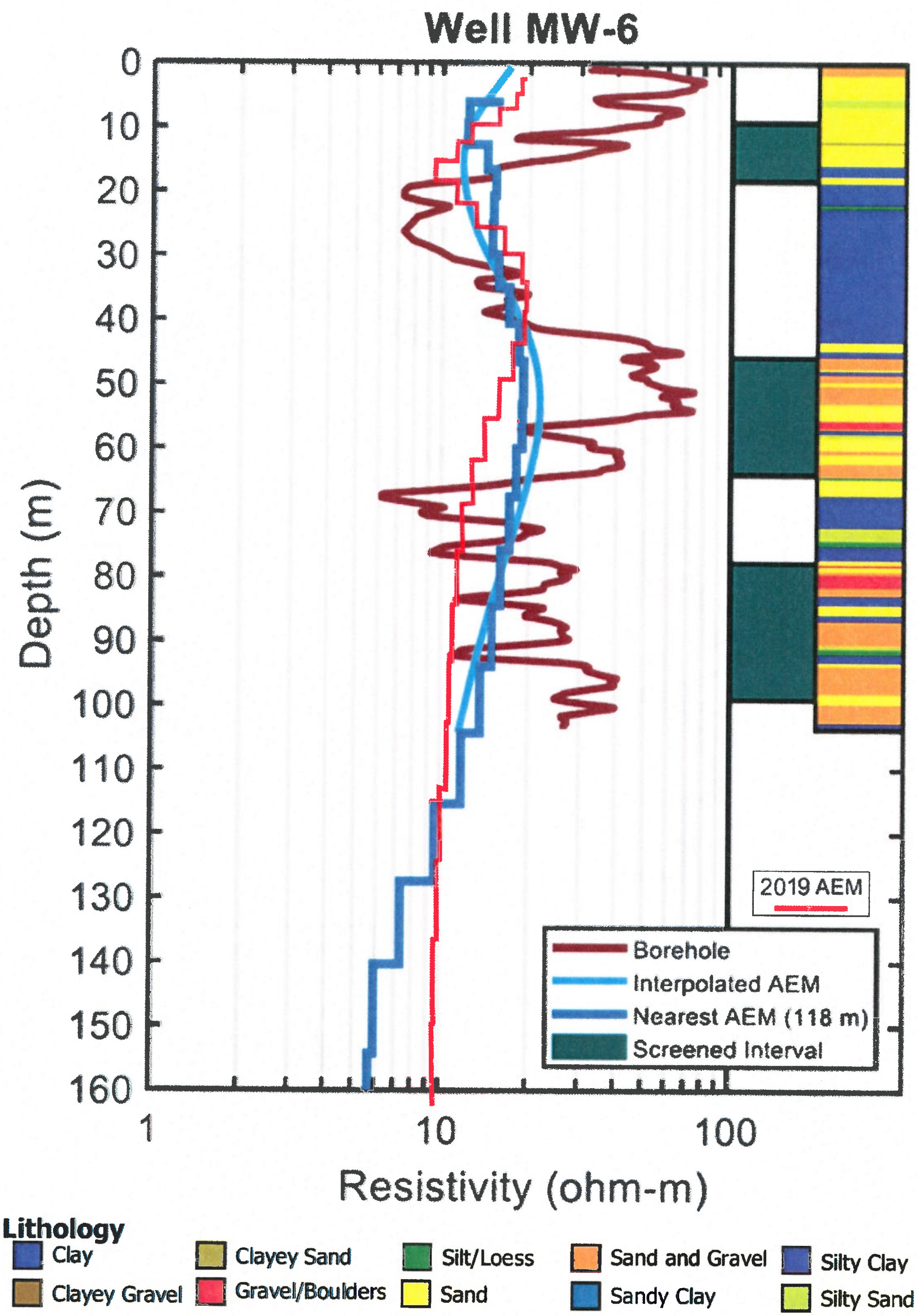


Figure 4-5. Comparison at MW-6 between lithologic and geophysical resistivity data including 2017 (blue lines) and 2019 AEM inversion results (red line) closest to the borehole and the MW-6 geophysical log (modified from Figure 7 from Gottschalk et al., 2018).

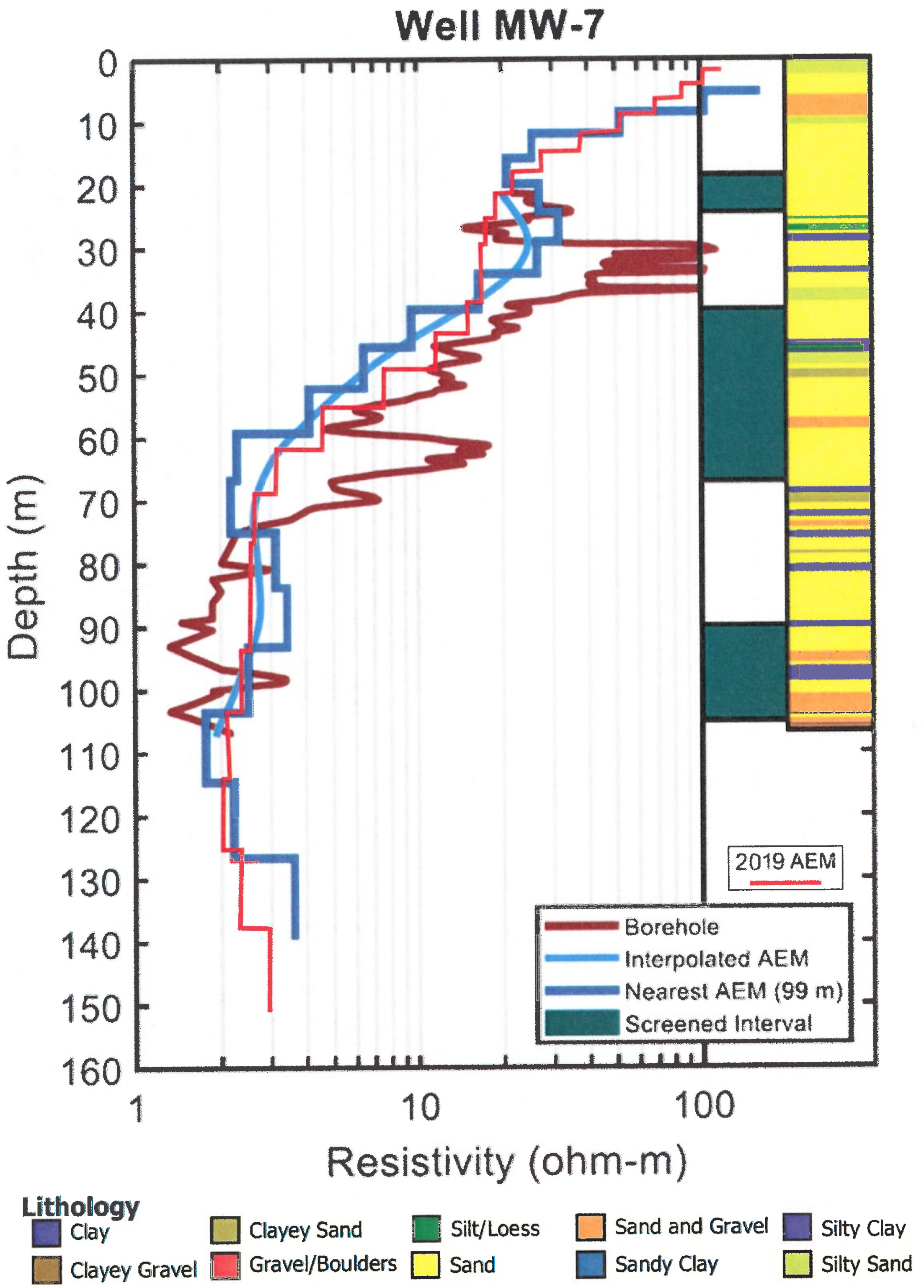


Figure 4-6. Comparison at MW-7 between lithologic and geophysical resistivity data including 2017 and 2019 AEM inversion results closest to the borehole and the MW-7 geophysical log (modified from Figure 8 from Gottschalk et al., 2018).

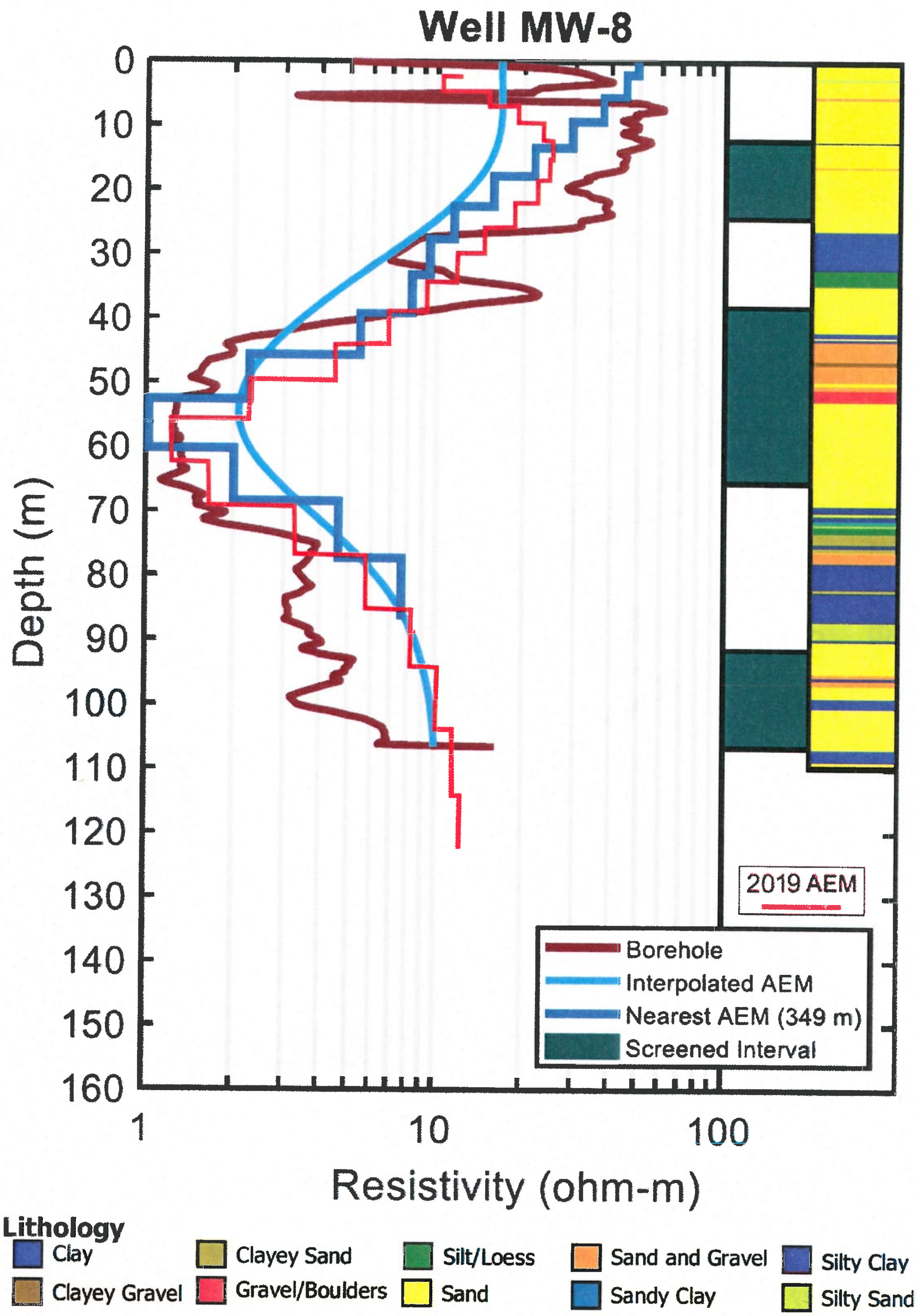


Figure 4-7. Comparison at MW-8 between lithologic and geophysical resistivity data including 2017 (blue lines) and 2019 AEM inversion results (red line) closest to the borehole and the MW-8 geophysical log (modified from Figure 9 from Gottschalk et al., 2018).

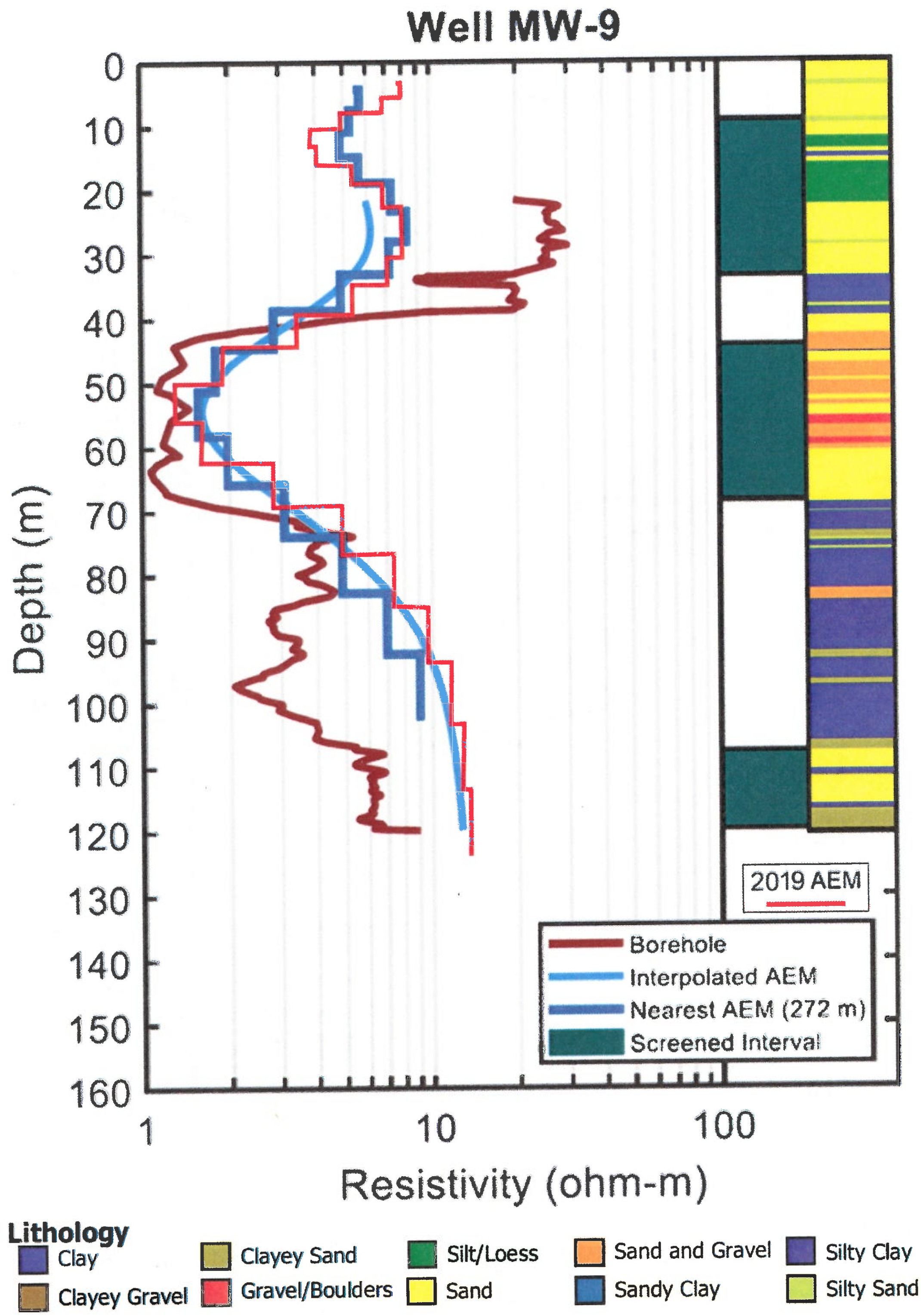


Figure 4-8. Comparison at MW-9 between lithologic and geophysical resistivity data including 2017 (blue lines) and 2019 AEM inversion results (red line) closest to the borehole and the MW-9 geophysical log (modified from Figure 10 from Gottschalk et al., 2018).

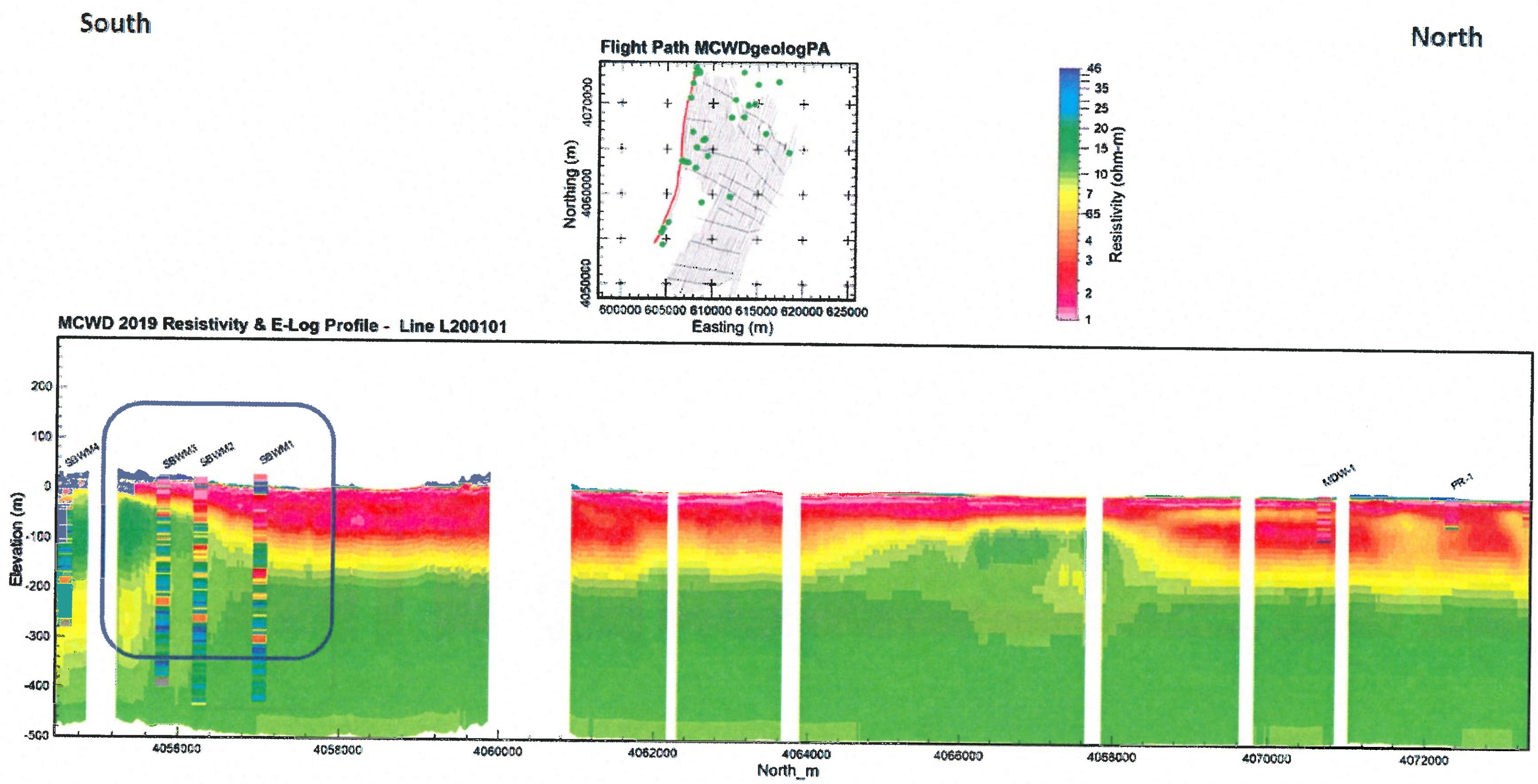


Figure 4-9. Inverted AEM resistivity profile of MCWD 2019 AEM survey line L200101, a north-south flight line near the beach approximately 19 km long, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

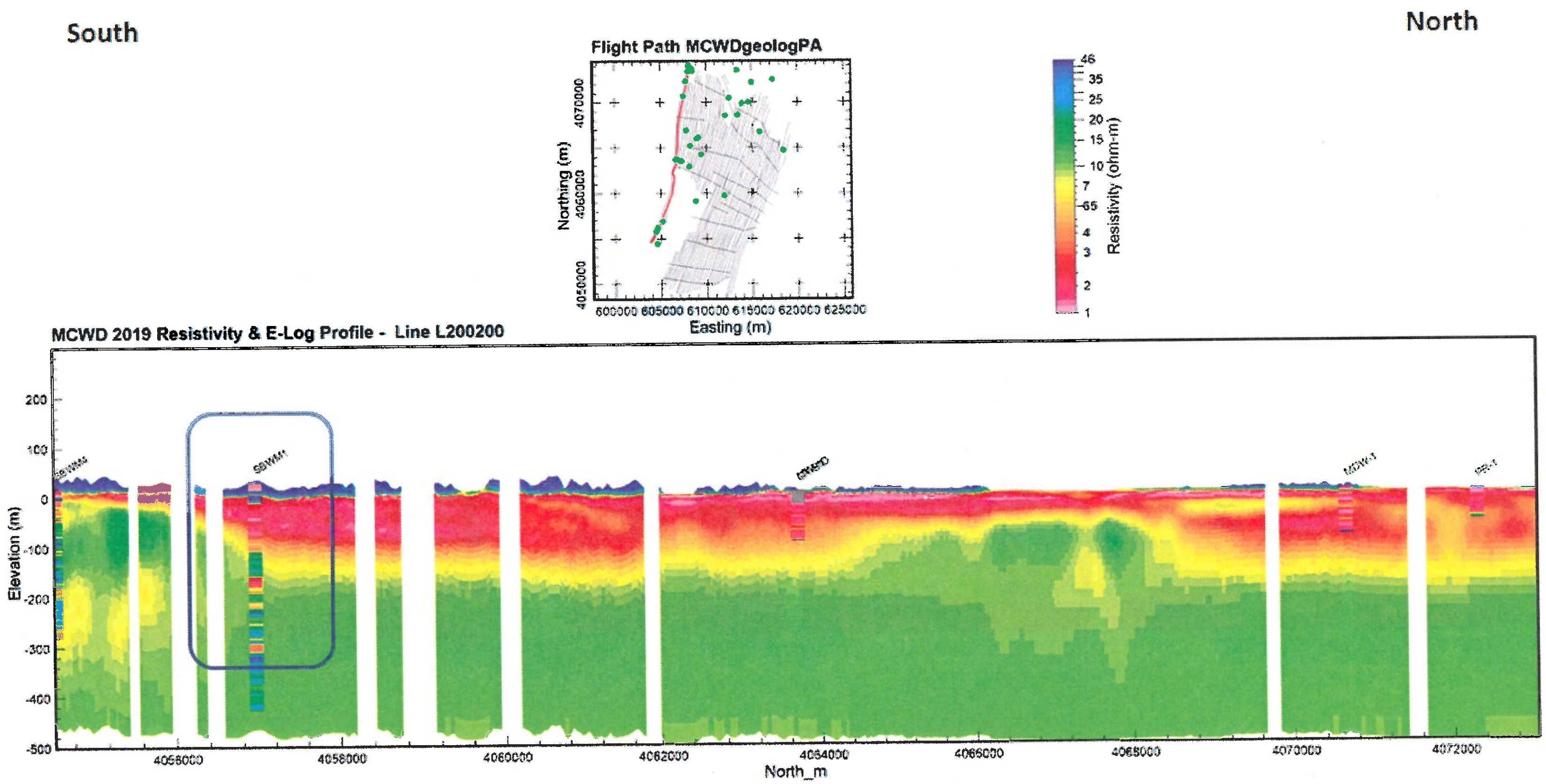


Figure 4-10. Inverted AEM resistivity profile of MCWD 2019 AEM survey line L200200, a north-south flight line near the beach approximately 19 km long, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

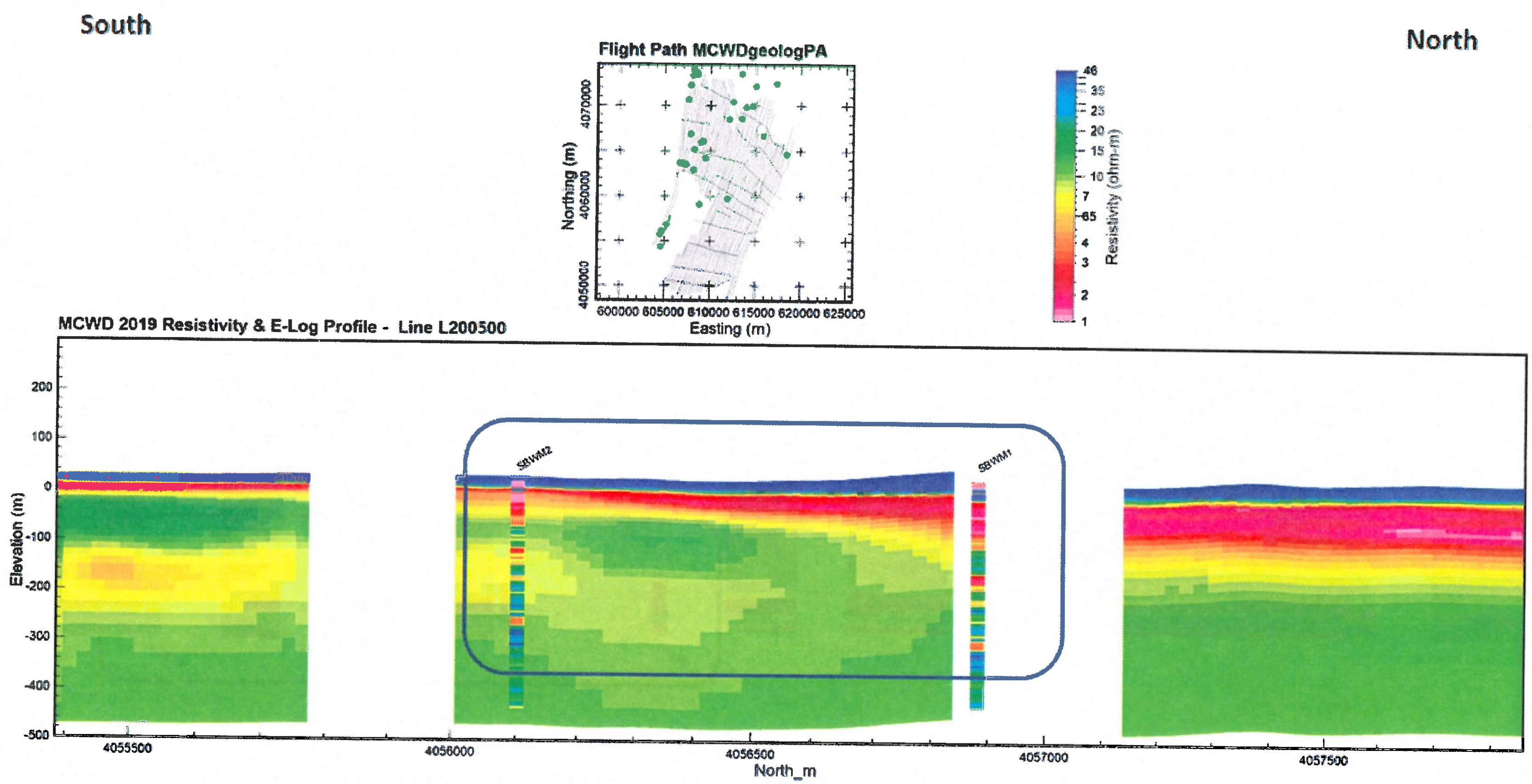


Figure 4-11. **Inverted AEM resistivity profile of MCWD 2019 AEM survey line L200500, a north-south flight line near the beach at the southern end of the survey area approximately 2.5 km long, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.**

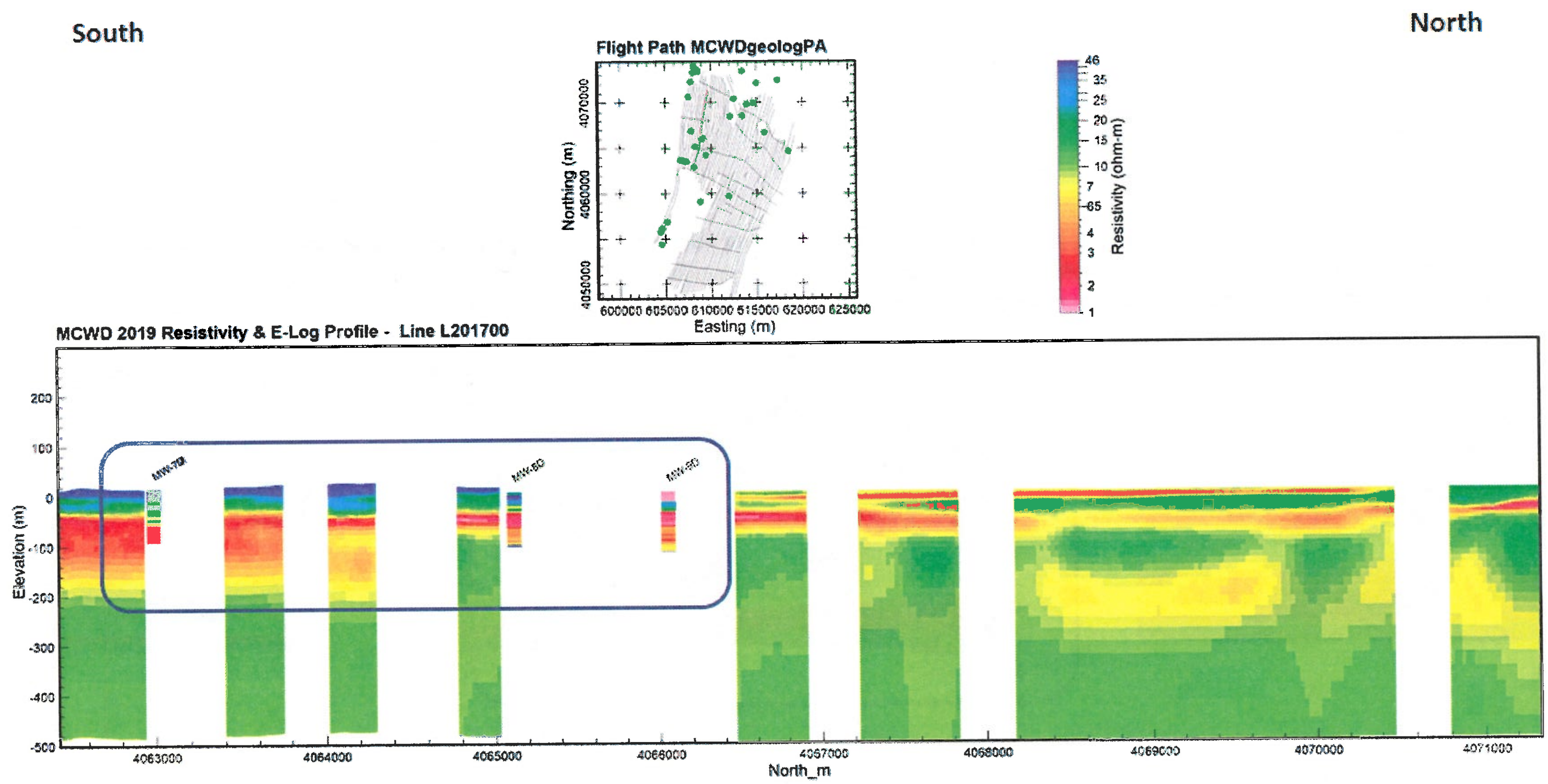


Figure 4-12. Inverted AEM resistivity profile of MCWD 2019 AEM survey line L201700, a north-south flight line inland from the coast approximately 9 km long, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

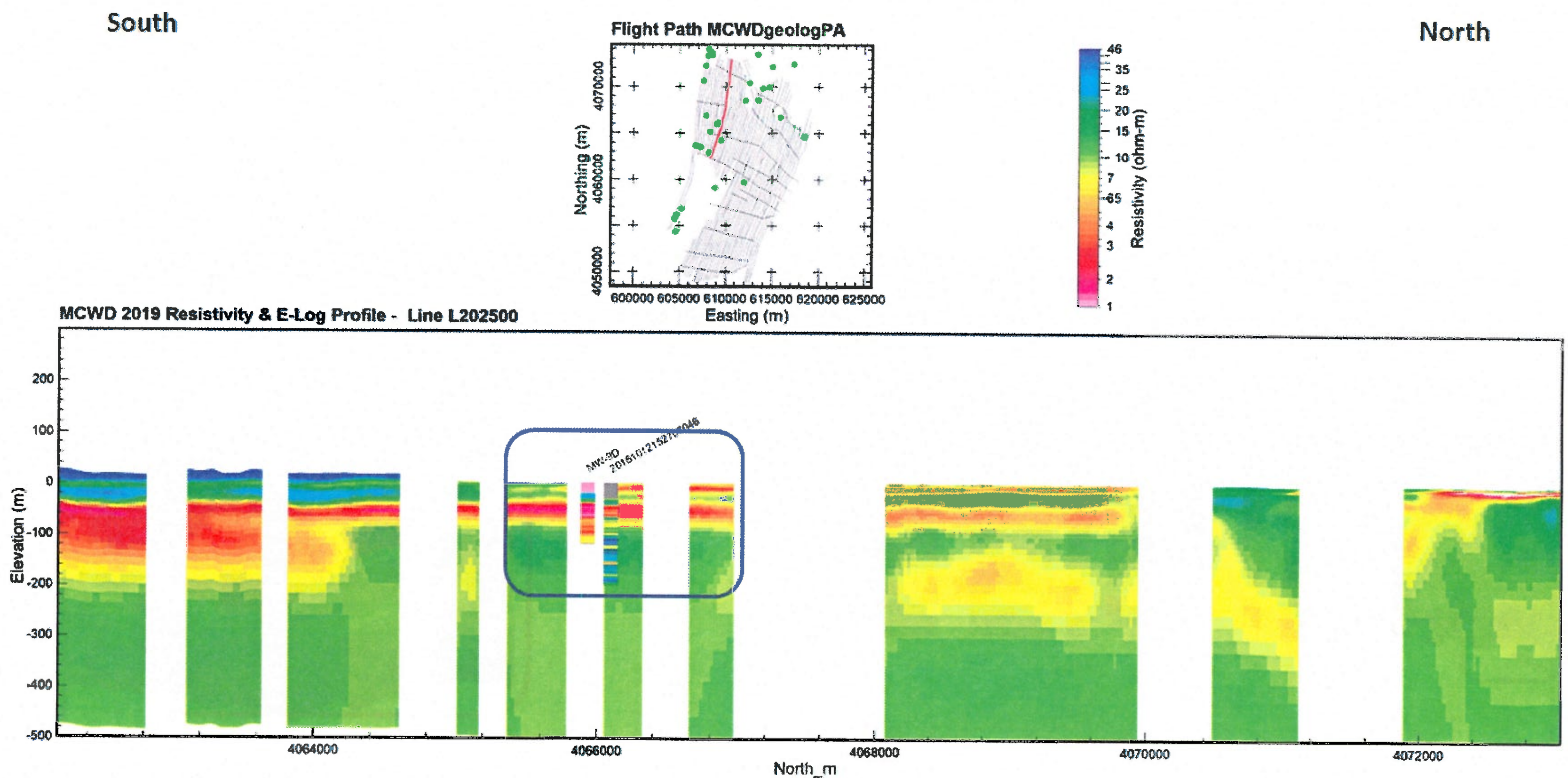


Figure 4-13. Inverted AEM resistivity profile of MCWD 2019 AEM survey line L202500, a north-south flight line further inland approximately 10 km long, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

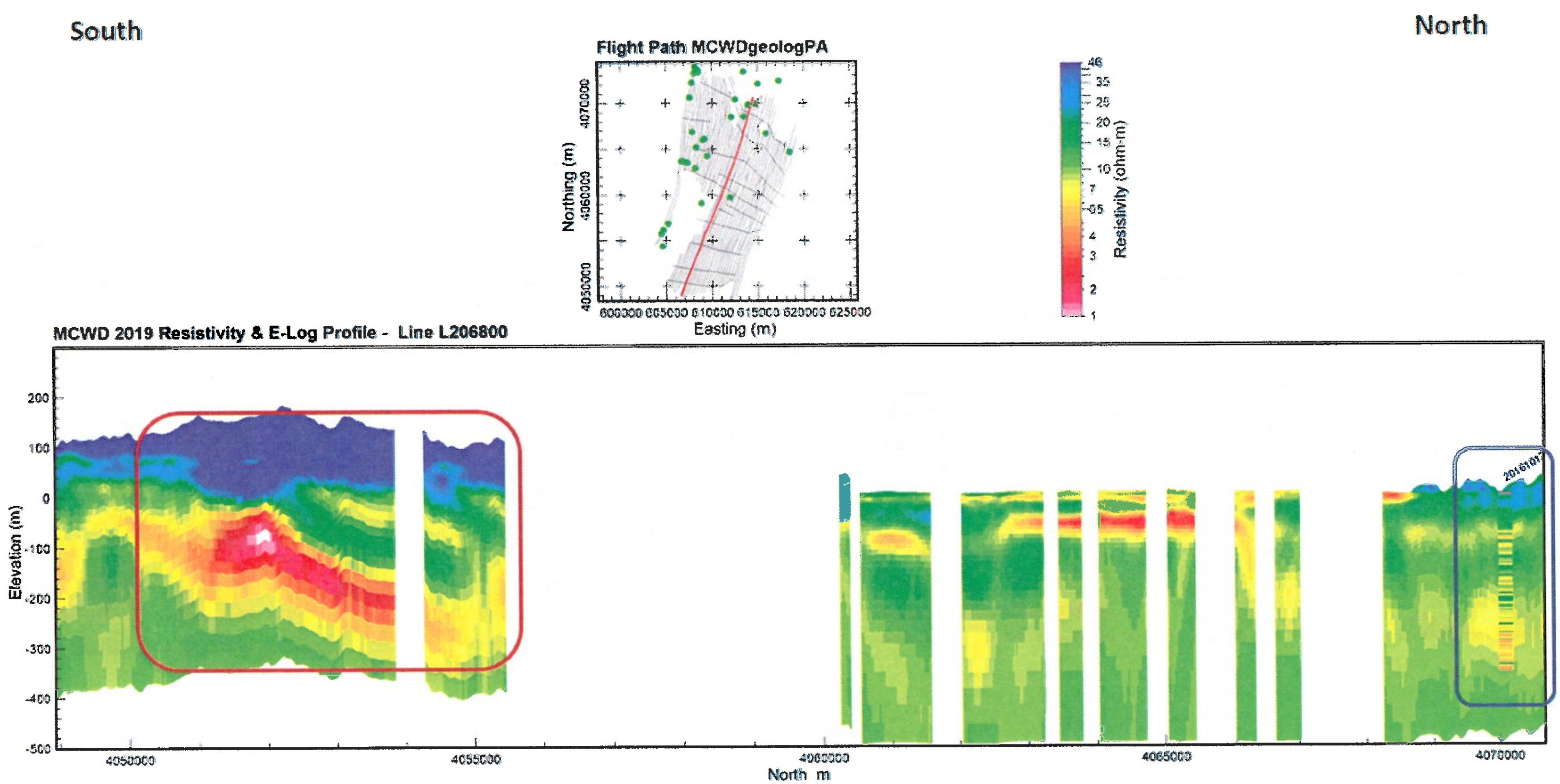


Figure 4-14. Inverted AEM resistivity profile of MCWD 2019 AEM survey line L206800, a north-south flight line, approximately 22 km long, further inland that extended the survey south onto Fort Ord, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

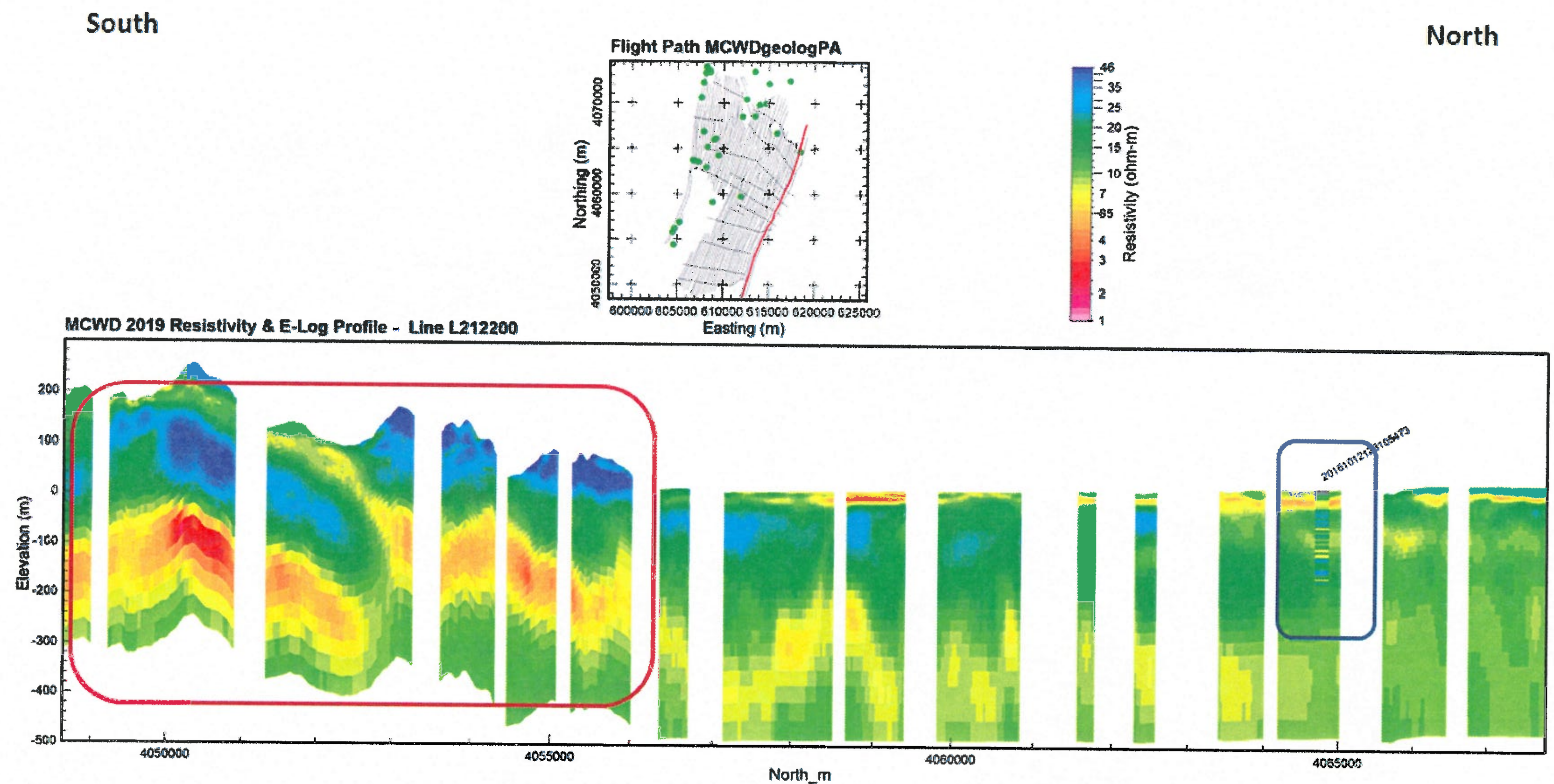


Figure 4-15. Inverted AEM resistivity profile of MCWD 2019 AEM survey line L212200, a north-south flight line near the beach approximately 19 km long, with geophysical 16-inch Short Normal electrical logs (green dots on map) for comparison at the same scale. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

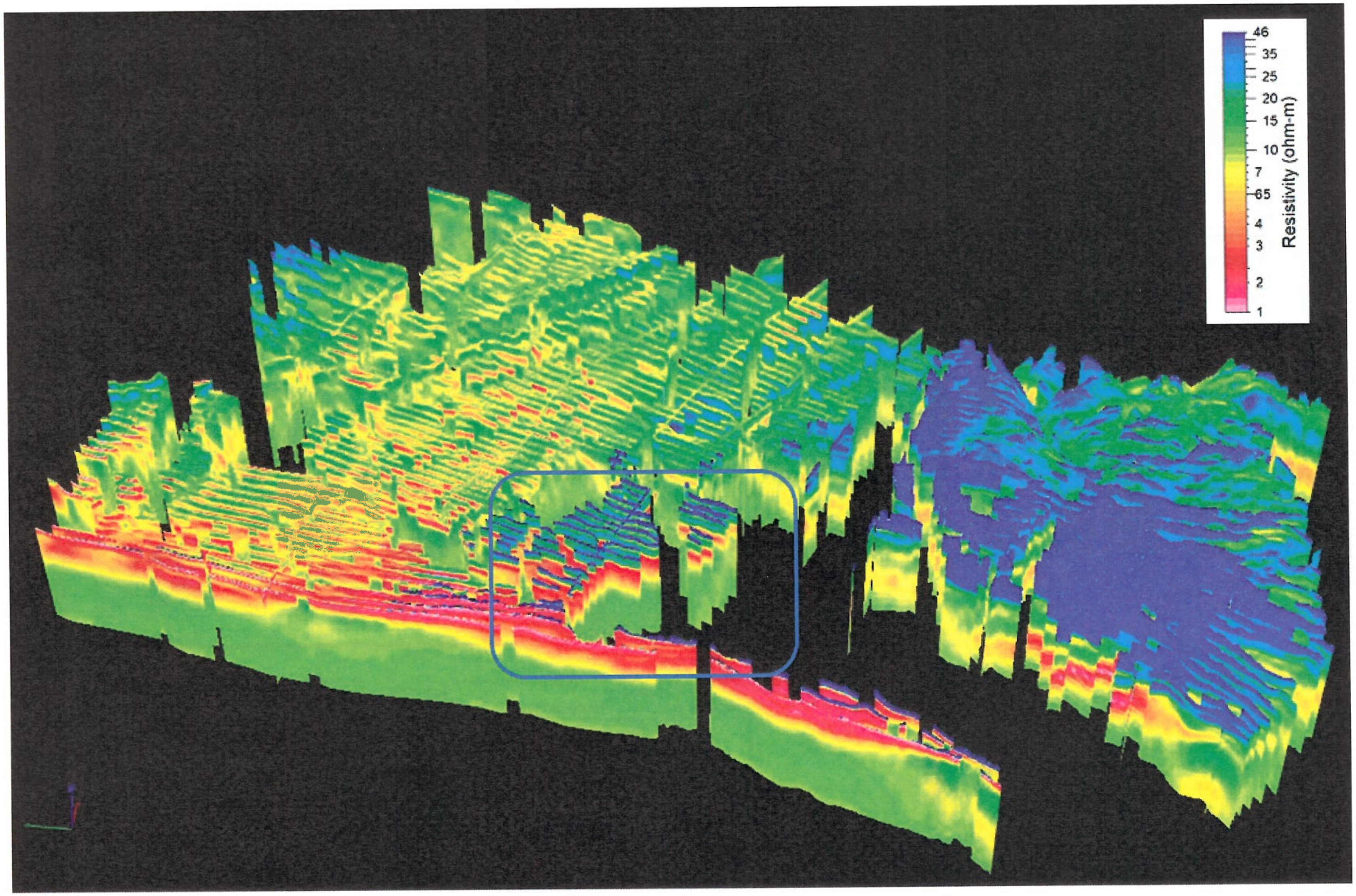


Figure 4-16. 3D fence diagram of the inverted resistivities of the MCWD 2019 AEM survey data, looking to the east. V.E.=10x.

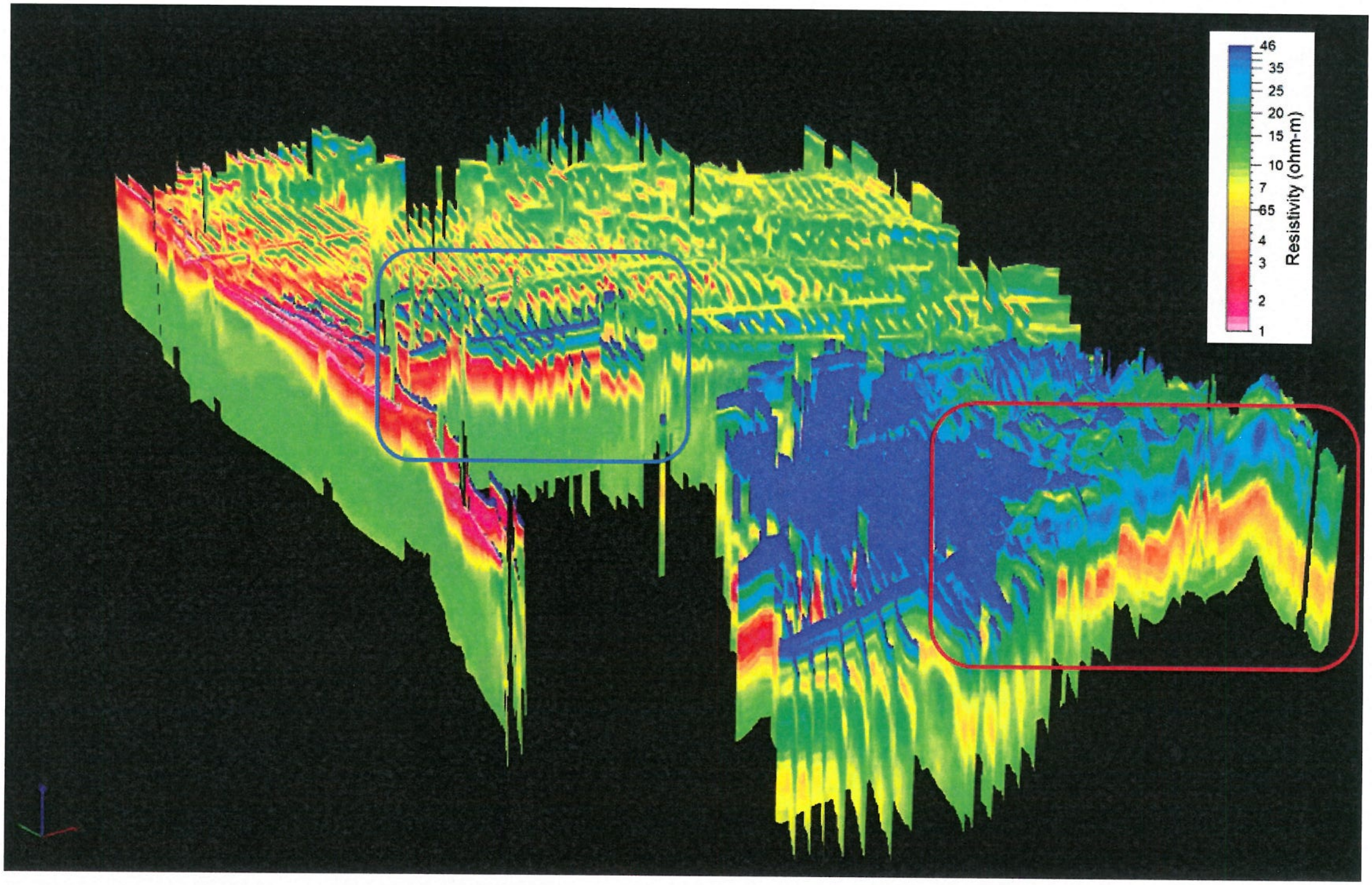


Figure 4-17. 3D fence diagram of the inverted resistivities of the MCWD 2019 AEM survey data, looking to the northeast. V.E.=10x.

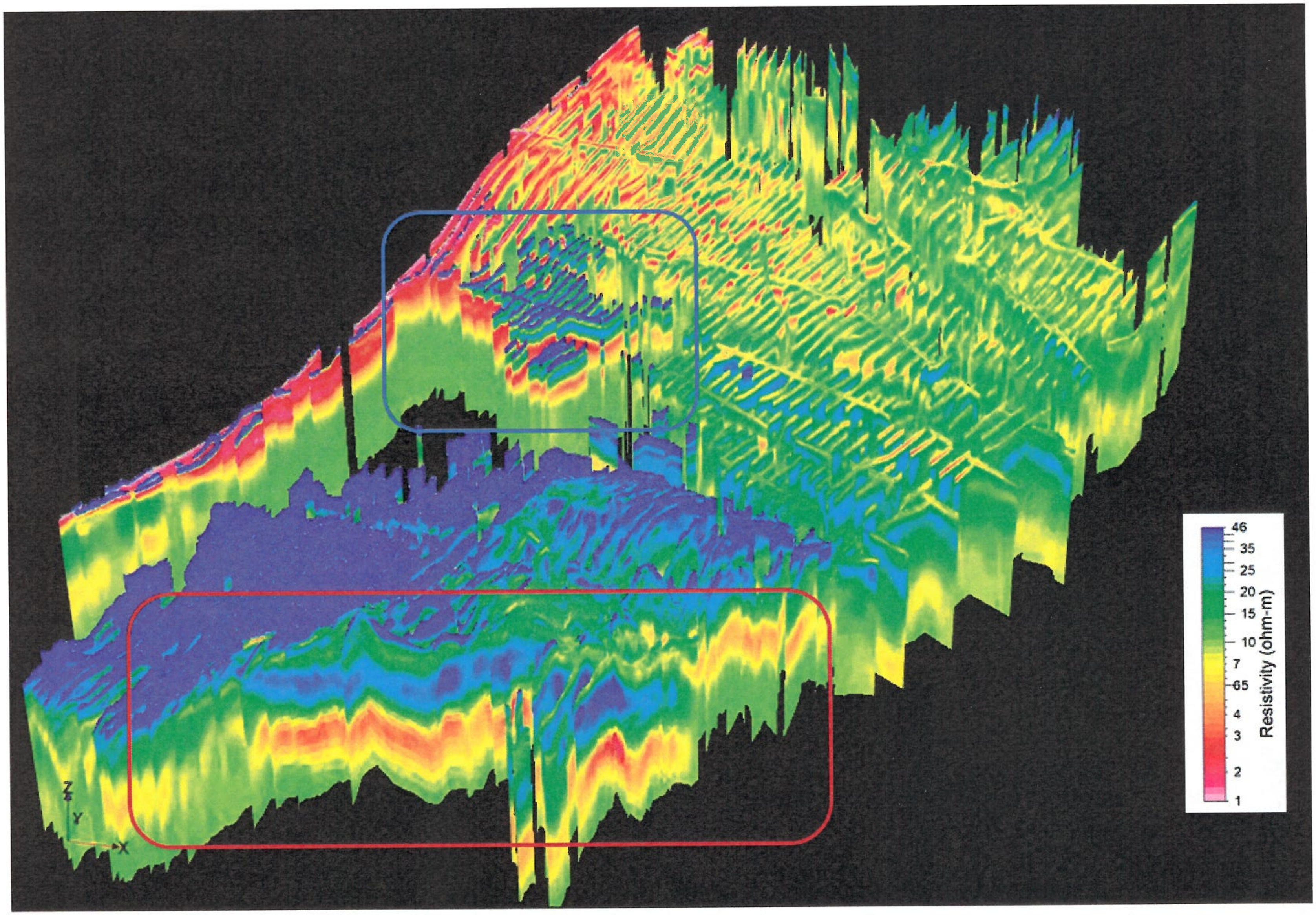


Figure 4-18. 3D fence diagram of the inverted resistivities of the MCWD 2019 AEM survey data, looking to the north. V.E.=10x.

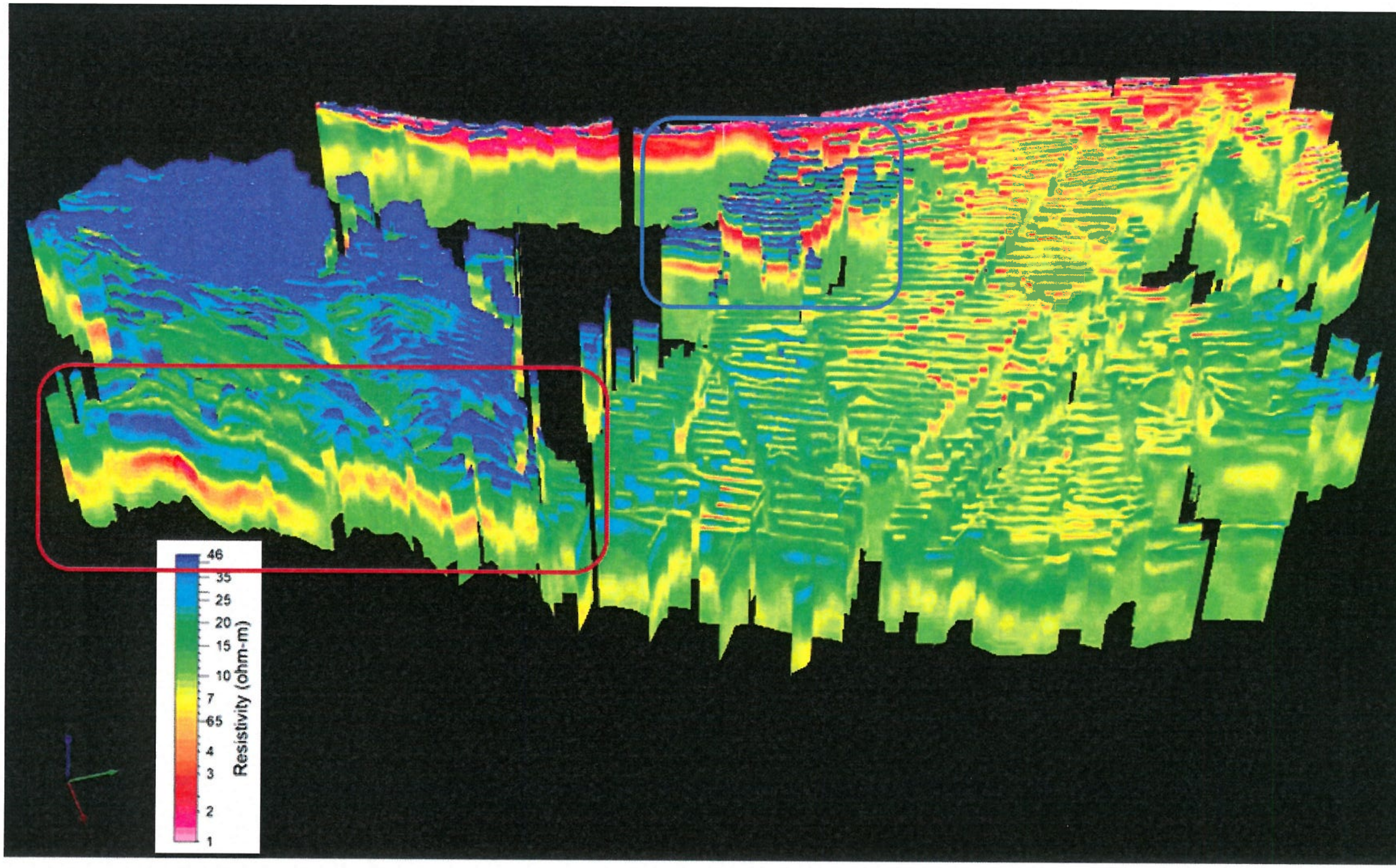


Figure 4-19. 3D fence diagram of the inverted resistivities of the MCWD 2019 AEM survey data, looking to the west. V.E.=10x.

4.3 Comparison of 2017 and 2019 AEM Resistivity Inversion Results

This section presents comparisons of the AEM inverted resistivity results for the 2017 SkyTEM 304M and the 2019 SkyTEM 312 surveys. Note that the SkyTEM 312 is a more powerful system (as a result of its higher electromagnetic moment) than the SkyTEM 304M system, providing deeper resolution. The locations of the flight lines presented, again working from the coast inland, are indicated by the red lines on the flight path maps at the top of the figures. The AEM inversion results from 2017 are depicted in the top 2D profile and those from 2019 are shown in the bottom profile. Borehole lithological logs, from wells within 250 m of a flight line, are projected onto the 2D profiles. The color-depicted lithological units in the boreholes are defined by the lithology legend included on each figure. The resistivity color scale in the presented figures ranges, as before, from 1 ohm-m to 50 ohm-m.

Flight lines L200101 (Figure 4-20) and L200202 (2017)/200200 (2019) (Figure 4-21), which are closest to the coast, both show similar results for both 2017 and 2019– a very electrically conductive zone (red) overlying more resistive material (green to blue). These results indicate that it is likely that the 180-Foot Aquifer is mostly saturated with saline water.

The comparison of the 2017 AEM and 2019 AEM along flight line L200301 (Figure 4-22), still near the coast, shows that they are quite similar except for a slight difference at a northing of 4067500 N (blue box). Flight line L200501 (top-2017)/L200500 (bottom-2019) (Figure 4-23), about 400 m inland from L200301, shows a greater difference between the 2017 results and the 2019 results between a northing of 4067800 and 4068600. Otherwise the results along L200501 are quite similar for the two surveys. The difference is still greater along flight line L201201/L201100 in this area (Figure 4-24).

Flight lines L204001 (top-2017) and L204000 (bottom-2019) are much further inland (Figure 4-25). L204001(top) shows a much greater concentration of conductive material at depth in the 400-Foot Aquifer (near northing 4068000) that is not observed in the 2019 data (L204000-bottom). However, note that at the southern end of these two profiles, that resistive (blue) material (indicated by the "Likely Fresh Water" boxes) overlies the very conductive (red) material that may be characterizing the 180-Foot Aquifer.

L204701 (top - Figure 4-26) also shows similar conductive material (near northing 4068000) and also more conductive material between northings 4065000 and 4066000 (blue box) that is not observed in the 2019 results (L204700 – bottom in Figure 4-26). Also note in Figure 4-26 that there are further indications at the southern ends of the flight lines of resistive material (likely fresher water) overlying the conductive material (likely saline water) at northing 4062000 in both the 2017 and 2019 AEM inversion results.

Figure 4-27 presents flight lines L206801 (2017) and L206800 (2019) which show similar results to the previous examples between northings 4062000 and 4069000. In addition, these profiles have a red dashed line (highlighted in the red ellipses at the southern end of the profiles) that indicates the 75 ohm-m cutoff that was determined in the analysis of the 2017 AEM survey to represent the top of the water table (Gottschalk et al., 2018). See Figure 4-28 for full spatial coverage of the <75 ohm-m water table. These images indicate fresh water (blue zones) sitting on more saline water (red zones).

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

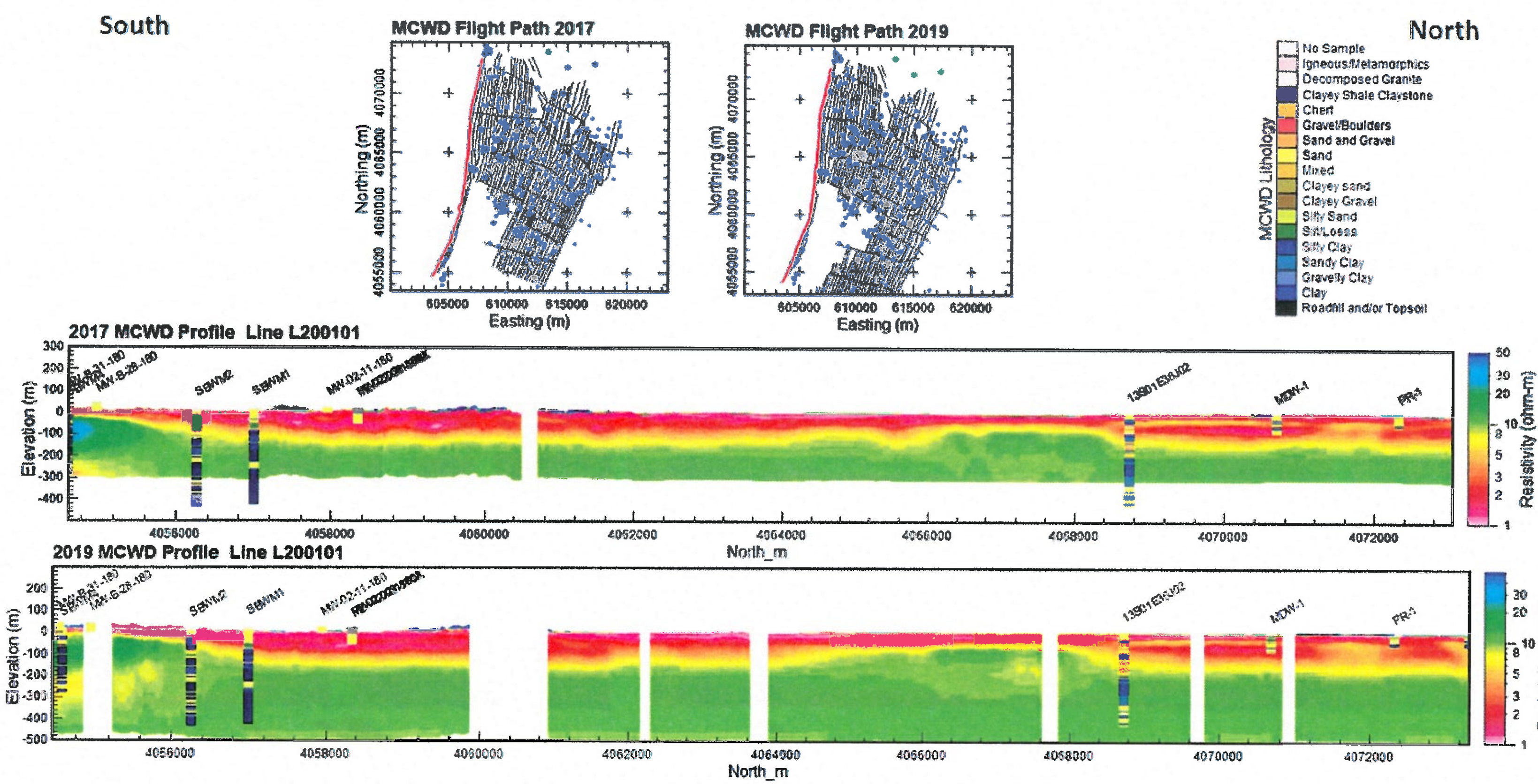


Figure 4-20. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 200101 (red lines in flight map), along the beach. The two sections look quite similar, indication little change in the water quality along this flight line. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

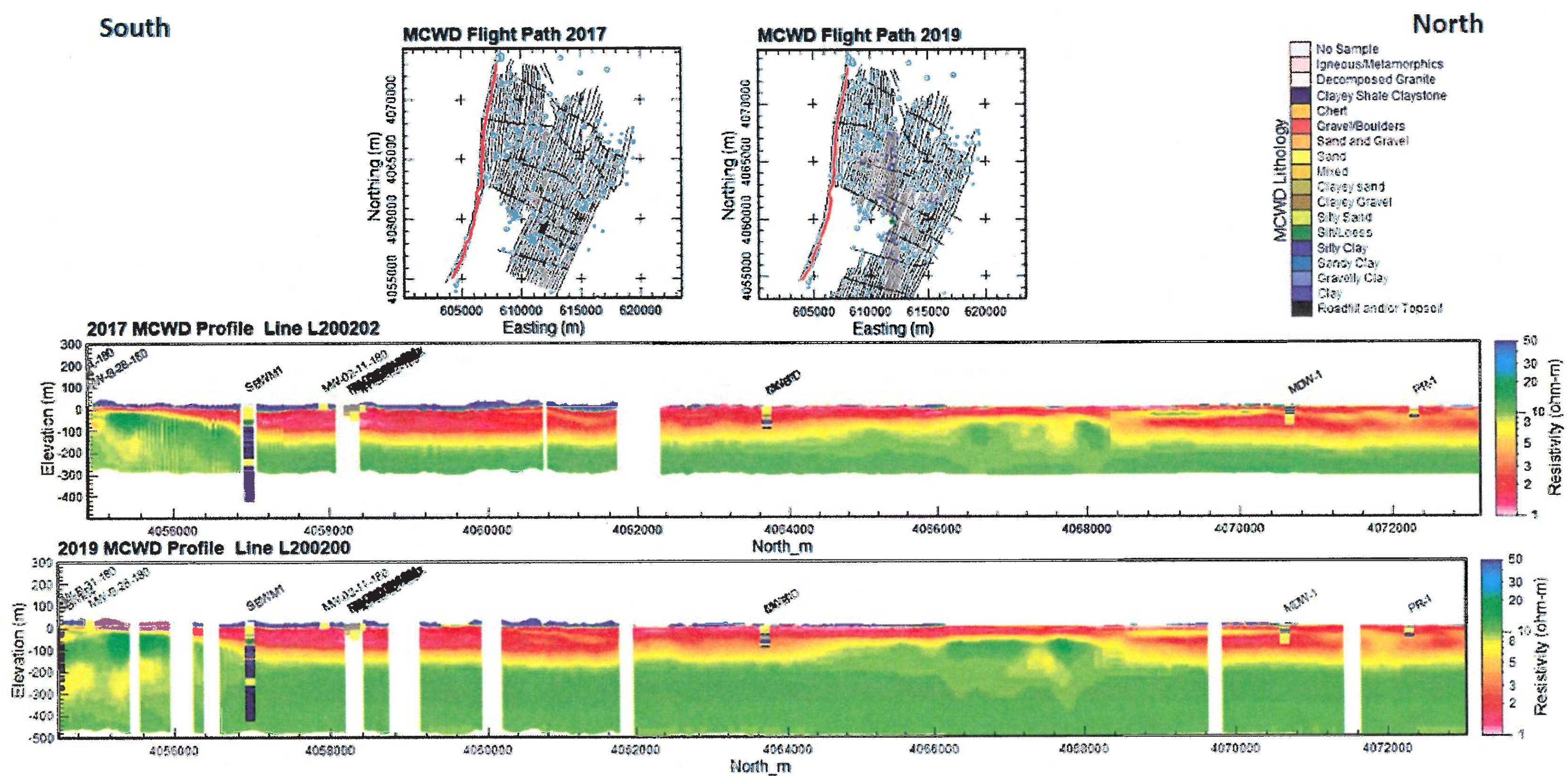


Figure 4-21. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 200202/200200 (red lines in flight map), along the beach. Similar to Figure 4-13, there is little difference between the inversion results for 2017 and 2019 along this flight line. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

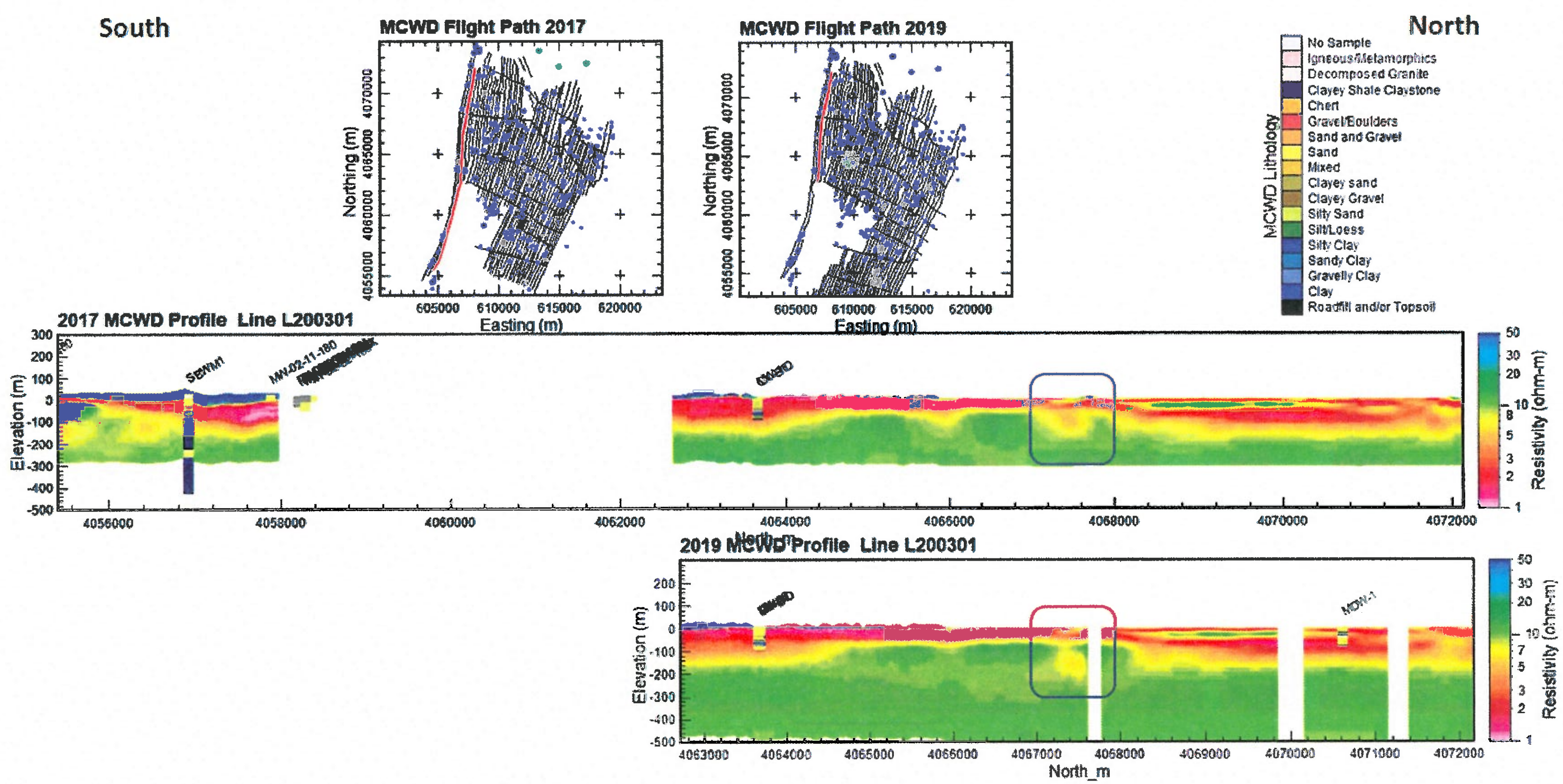


Figure 4-22. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 200301 (red lines in flight map), along the beach. Note the slight difference in the resistivity distribution in the blue boxes. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

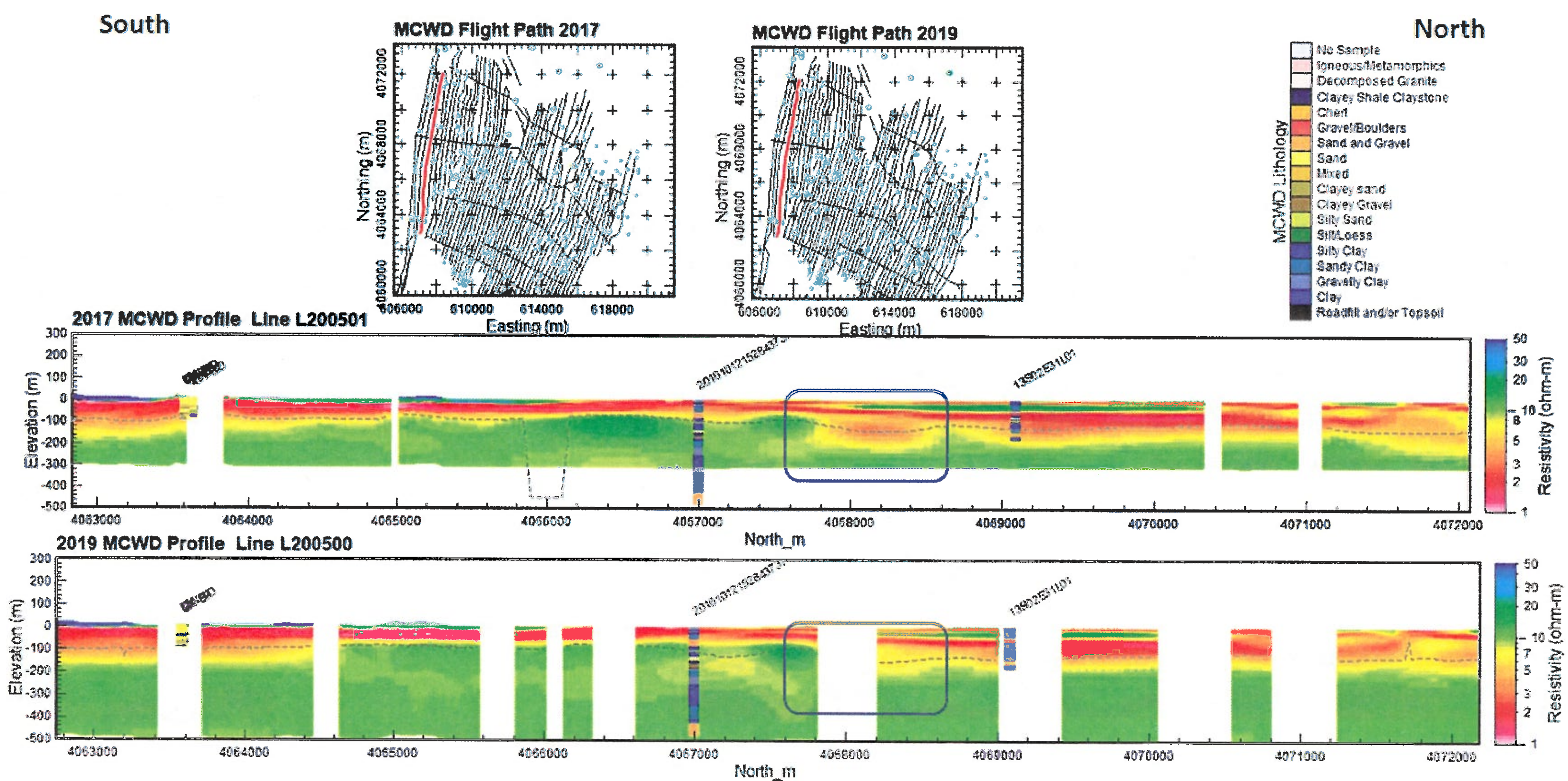


Figure 4-23. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 200501 (red lines in flight map), which is a little further inland. Note the difference in the resistivity distribution within the blue boxes. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

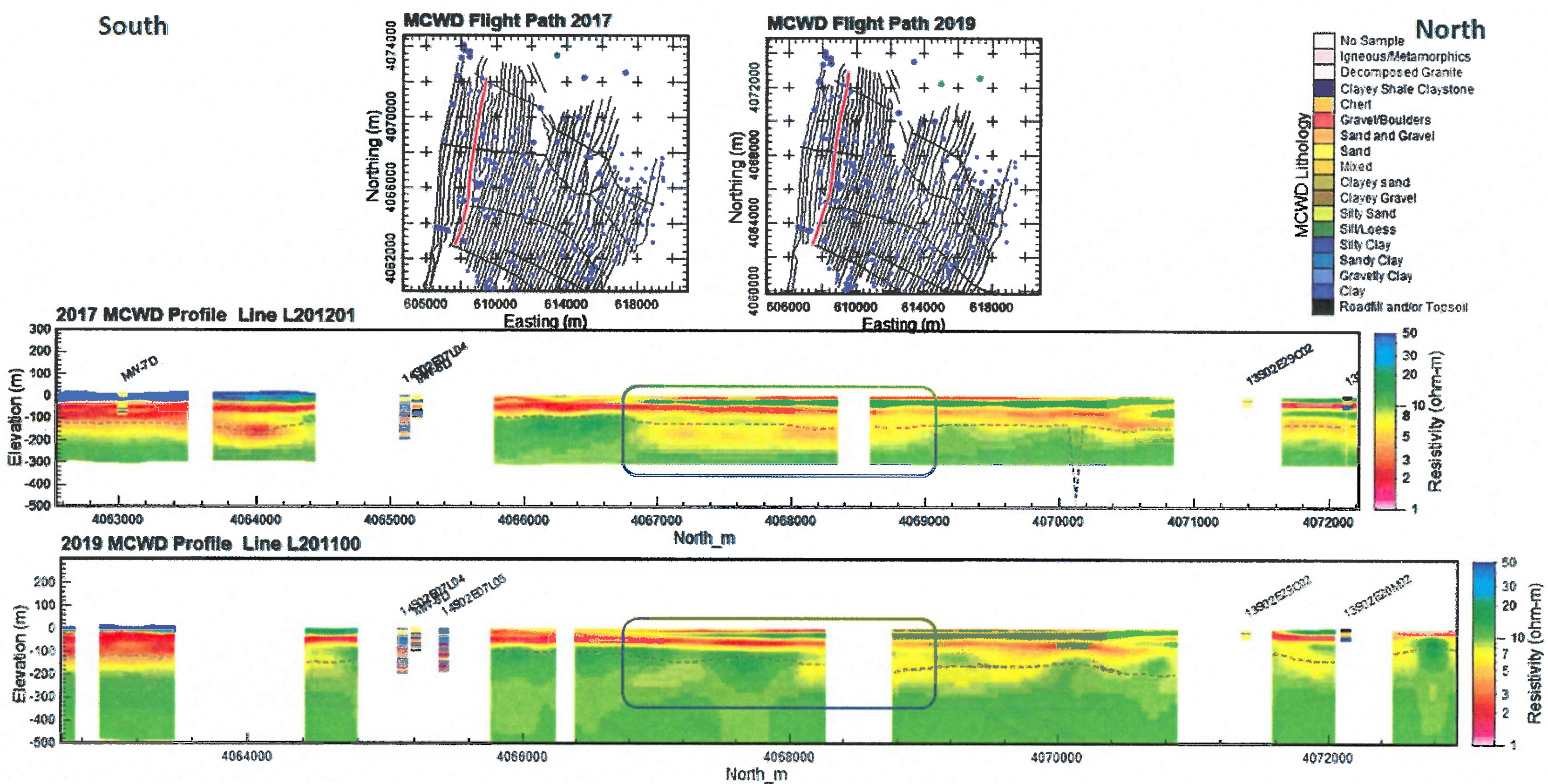


Figure 4-24. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 201201/201100 (red lines in flight map). Note the difference in the resistivity distribution within the blue boxes. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

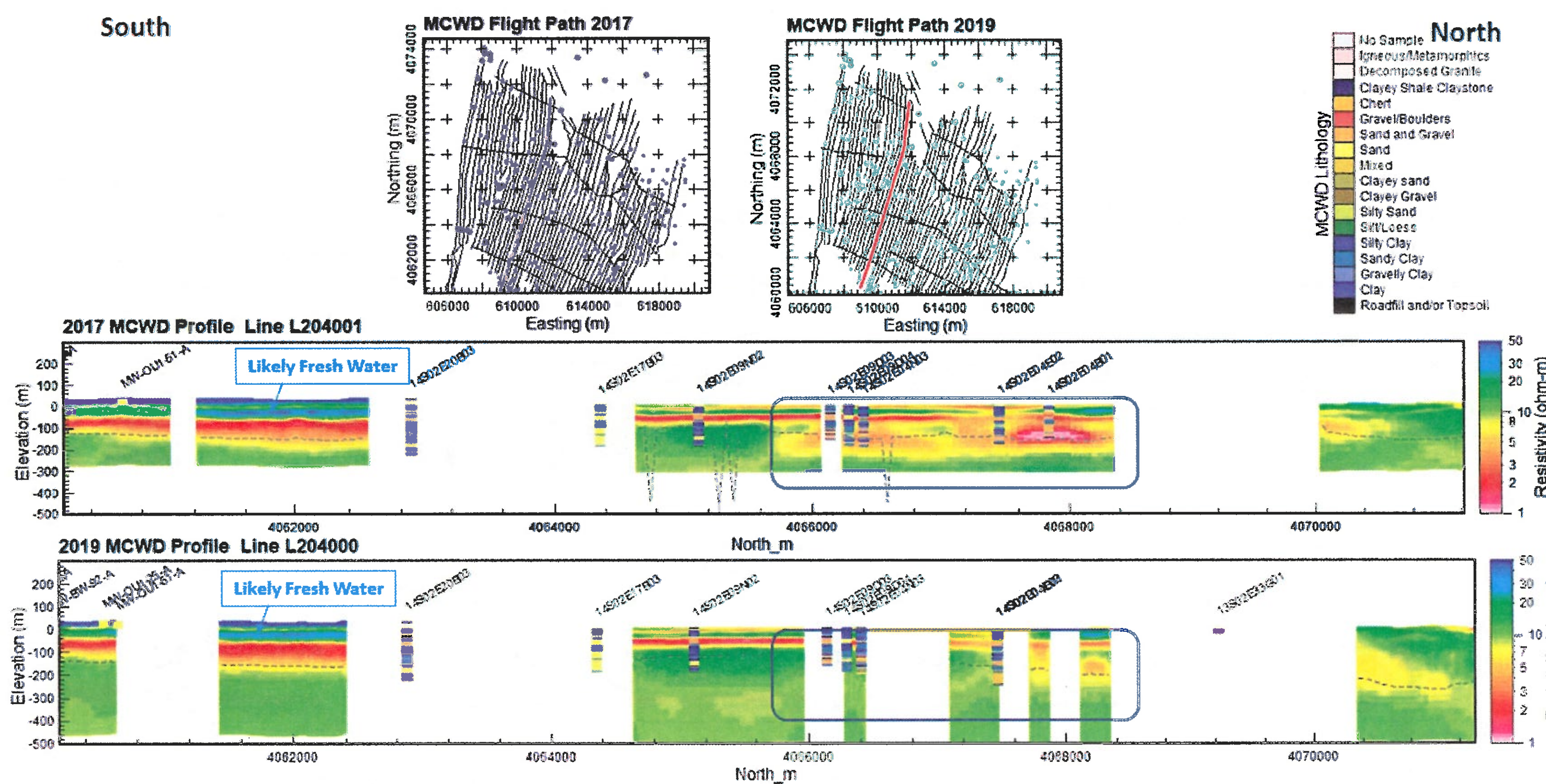


Figure 4-25. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 204001/204000 (red lines in flight map). Note the difference in the resistivity distribution within the blue boxes. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

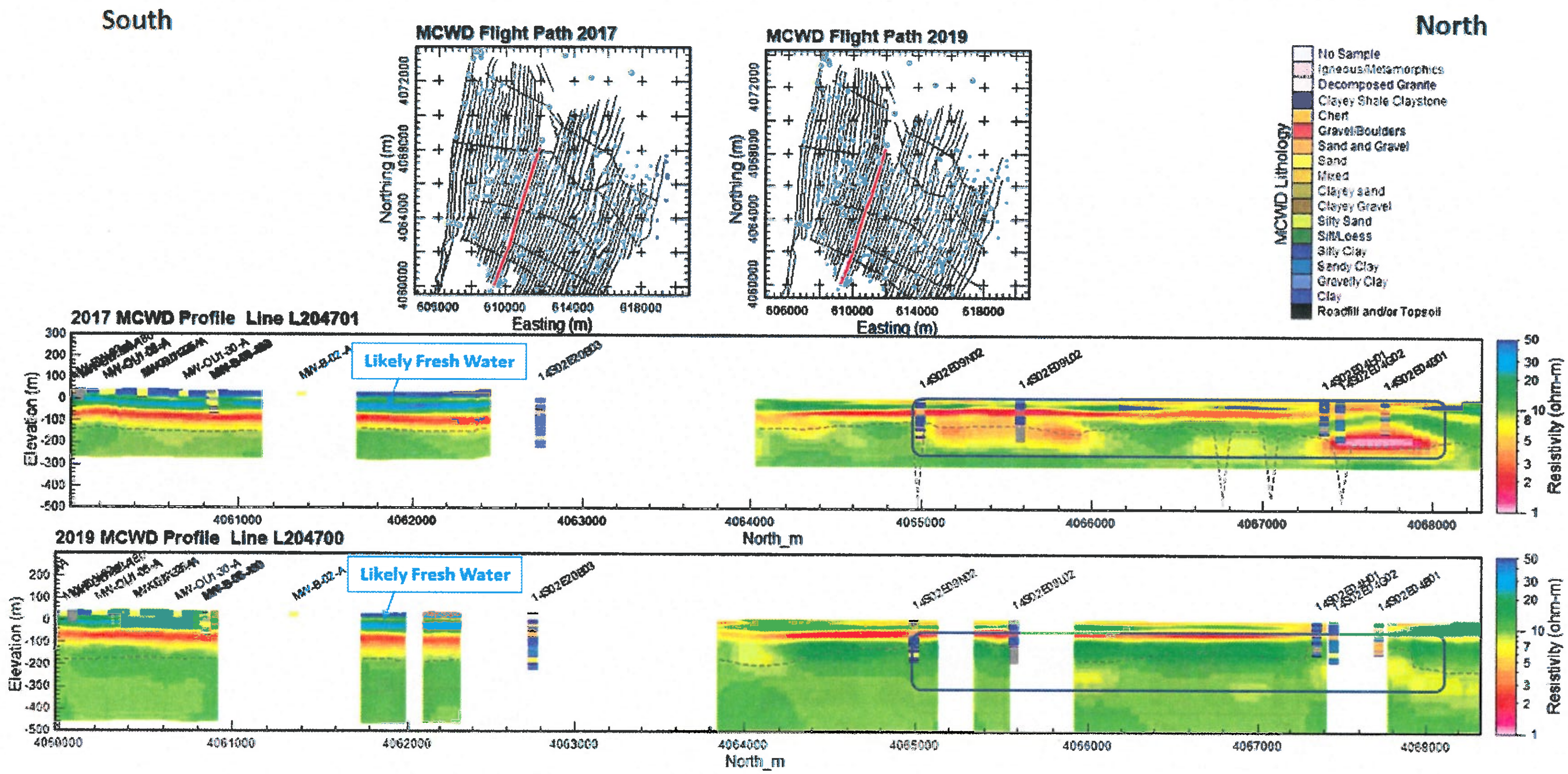


Figure 4-26. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 204701/204700 (red lines in flight map). Note the difference in the resistivity distribution within the 400-ft aquifer in the blue boxes. Also note the zone of likely fresh water on the southern end of the line. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

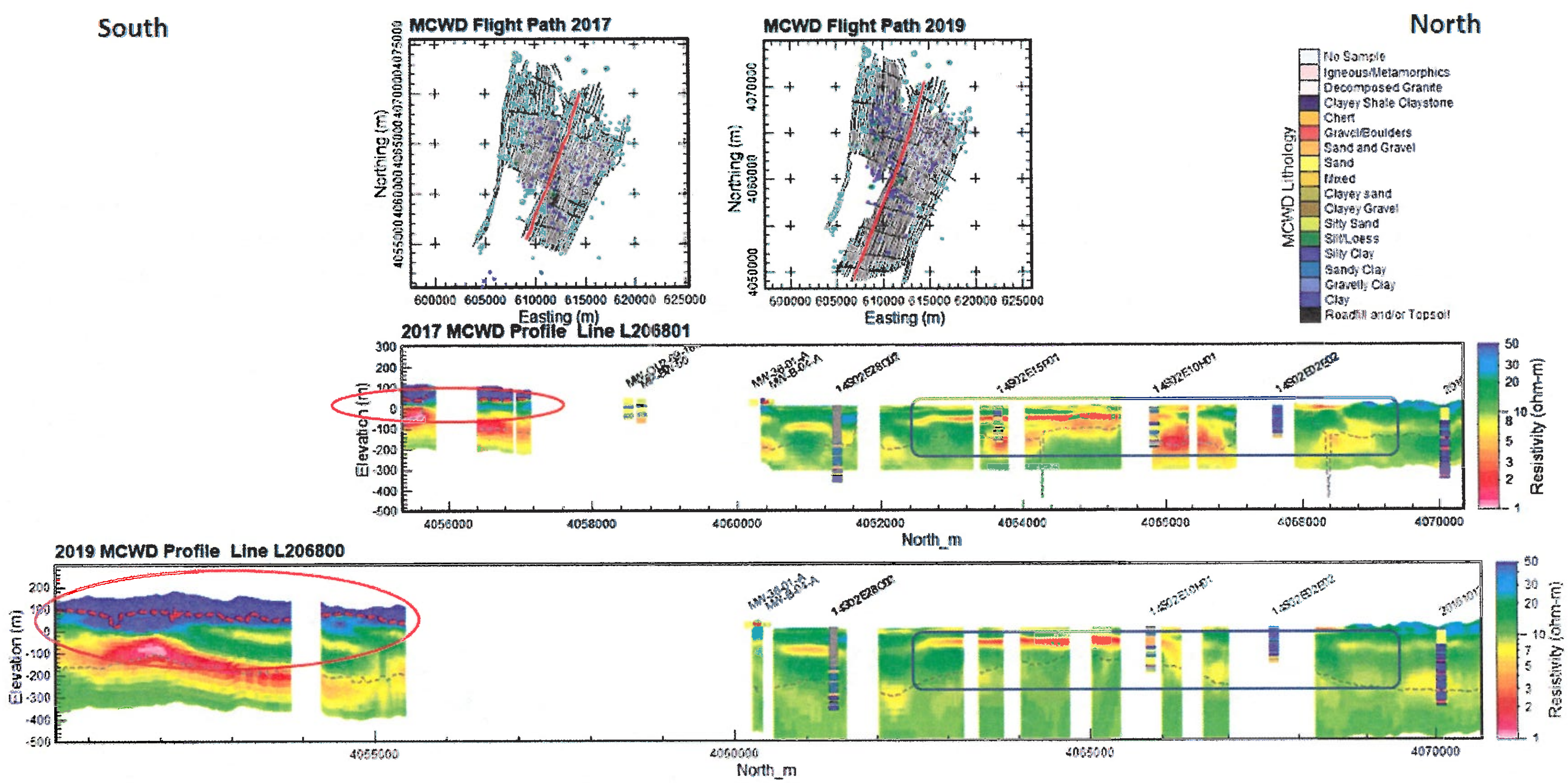


Figure 4-27. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 206801/204800 (red lines in flight map). Note the difference in the resistivity distribution within the 400-ft aquifer in the blue boxes. On the flight map, blue dots are lithology logs and green dots are geophysical logs. The dashed red line on the southern end of the profile indicates the 75 ohm-m demarcation as the top of the groundwater table. See Figure 4-28 for a map of the water table elevation based on locations where resistivities above 75 ohm-m. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters. V.E.=10x.

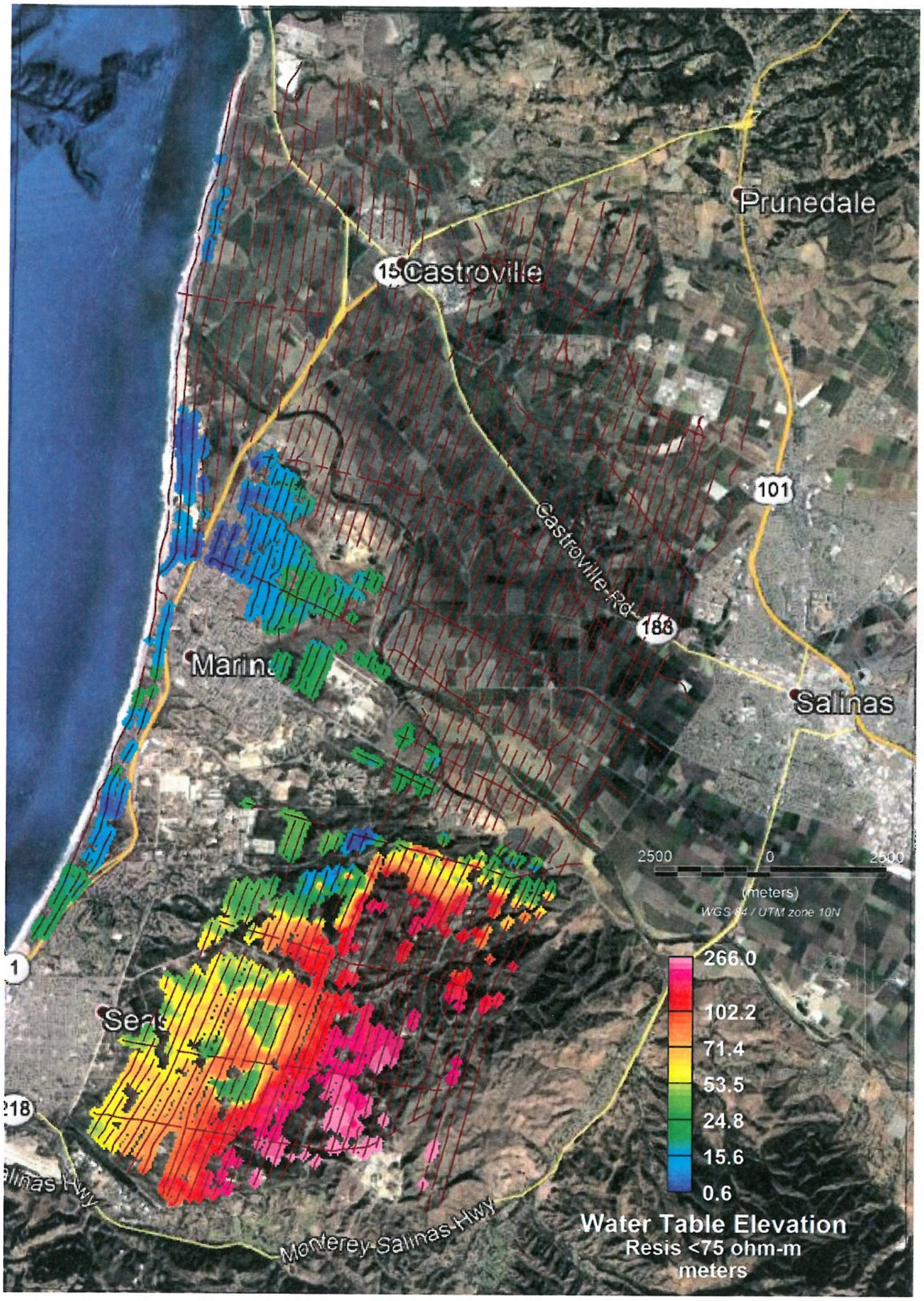


Figure 4-28. Map showing spatial coverage of water table elevation determined by locations where resistivities are greater than 75 ohm-m and elevation of 75 ohm-m material is top of the groundwater table (Gottschalk et al., 2018). Where there is no data indicates an area with resistivities <75 ohm-m.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

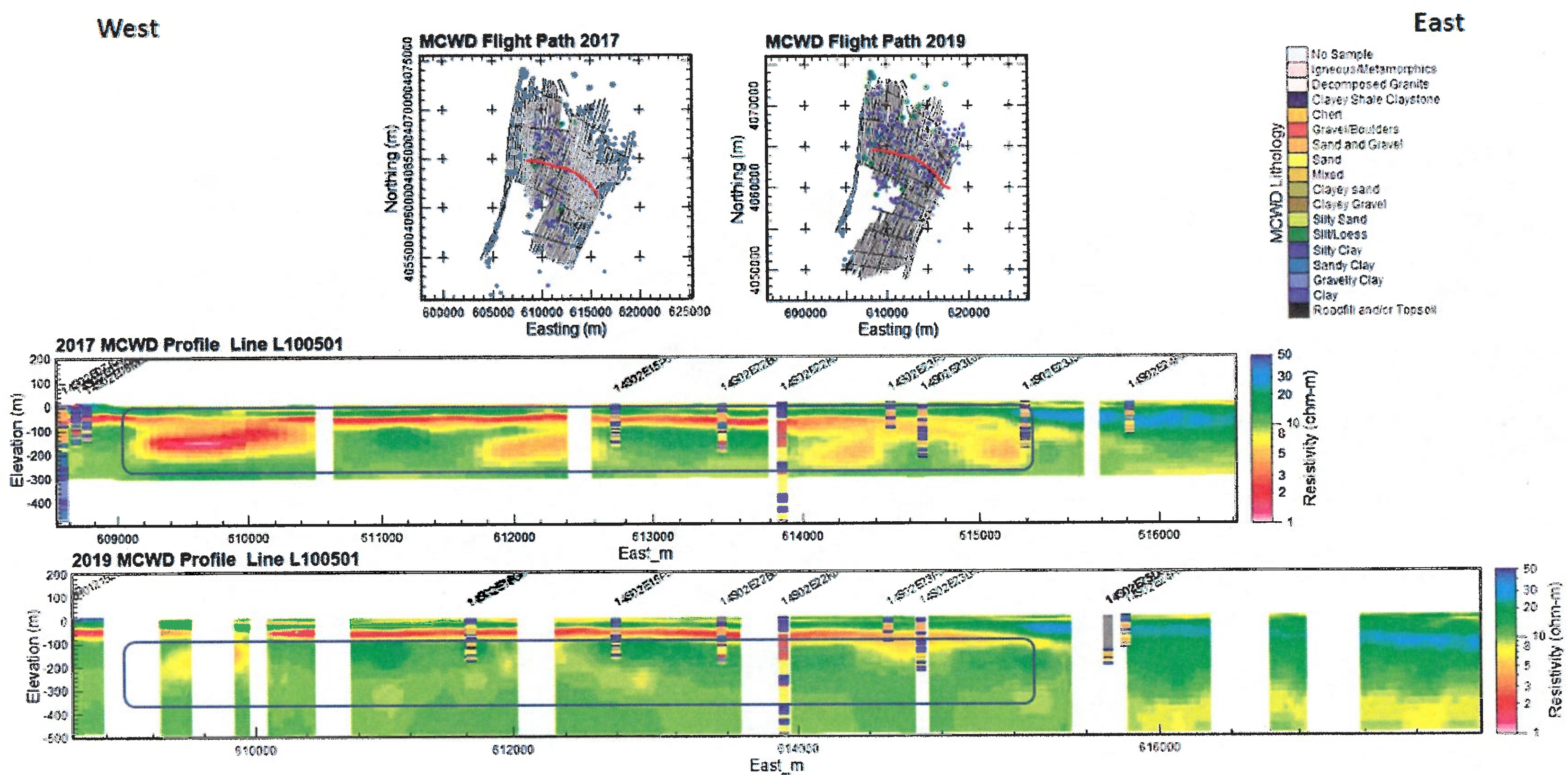


Figure 4-29. Comparison in 2D Profile format of the AEM resistivity inversion results for MCWD 2017 (top) and 2019 (bottom) data along flight line 100501 (red lines in flight map). Note the difference in the resistivity distribution within the 400 ft aquifer in the blue boxes. On the flight map, blue dots are lithology logs and green dots are geophysical logs. V.E.=10x. The projection is NAD83, UTM 10N, meters and elevation values are referenced to NAVD88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

Figure 4-29 presents an approximate east-west "tie" line, L100501, showing similar results of more conductive material identified in the 2017 AEM survey, likely in the 400-Foot Aquifer, that is, predominantly, not present in the 2019 AEM investigation.

Additional comparisons of the inverted resistivity results from the 2017 and 2019 MCWD AEM surveys can be located in Appendix 1 – 2D Profiles.

4.4 Basis of MCWD Chloride Concentration and Total Dissolved Solids Estimations

The AEM resistivities are "bulk" or "formation" resistivities that include the rock, groundwater, and everything within the given volume that the current is passing through. In order to convert these bulk resistivities to ground water chloride and TDS concentrations, some conversions are necessary. First from bulk resistivity to groundwater resistivity and then to groundwater conductivity, and, secondly, from groundwater conductivity to electrical conductance (EC) to groundwater salinity and TDS concentrations.

In order to make these conversions, a comparison table and regression analysis is carefully developed consisting of sampled groundwater conductivities and TDS's and AEM resistivities at the same locations and depths, if possible.

In previous analyses of the 2017 MCWD AEM investigation results (AGF, 2018; AGF, 2019) in response to comments by the Hydrologic Working Group (HWG) and their contractors, a rationale was presented, based on availability and knowledge of its stability, for using salinity to electrical conductance (EC) to AEM resistivity relationships from studies conducted in southern Florida (Fitterman and Prinos, 2011). Since some data from the Marina area is now available online at the MPWSP website (https://www.watersupplyproject.org/test-well), an analysis of local chloride concentration, TDS, and EC compared to the 2019 AEM inverted resistivities has been conducted. The following presents some of the analysis and results of this study.

The MCWD 2019 AEM survey took place between April 24, 2019 and April 26, 2019. It therefore seemed appropriate to find EC and salinity concentrations at locations across the survey area from that timeframe to compare with the inverted AEM resistivities. However, the only data publicly available online were scanned data lists from the April 10, 2019 to May 15, 2019 MPWSP well data monitoring report number 160 (MPWSP, 2019). The report contains varying versions of monitoring data from each of the MPWSP monitoring wells (MW-1 to MW-9, there is no MW-2 in the area). Notably at the end of the report is a graph presenting a relationship between TDS and EC in the MPWSP monitoring wells. This graph is reproduced in Figure 4-30.

Table 4-1 presents some examples of poor to moderate fit of measured TDS and estimations of TDS based on the EC-RhoAEM and Actual Conductivity RhoW-RhoAEM (These relationships are discussed below). The borehole list and TDS values were obtained from Tina Wang of EKI Environment & Water, Inc. (Personal Communication, February 13, 2020). Note that the very low measured TDS values (column 2) are not well matched by the estimated TDS values (estimated by the ED-RhoAEM and Actual Conductivity in columns 4 and 5 with the exception of well MP-BW-40-400 (row 5). The order of magnitudes of the estimated values are about right, but the accuracy is not because no TDS data from inland boreholes was available during this analysis.

Table 4-1. Examples of poor to moderate fit of the estimated TDS values based on AEM resistivities due to lack of ground truth TDS data from the inland areas.

Well Name	TDS (mg/L)	Resistivity near Screen	TDS (EC from RhoAEM)	TDS (RhoW from RhoAEM)	RhoAEM from TDS-EC	RhoAEM from TDS-RhoW
MCWD-34	380	15	1903	1290	49.2	33.1
MCWD-35	584	15	1903	1290	35.9	25.1
MCWD-29	420	20	1288	827	45.7	31.0
MCWD-31	380	20	1288	827	49.2	33.1
MP-BW-40-400	3980	10	3297	2414	8.7	7.2
MW-BW-03-400	391	15	1903	1290	48.2	32.5

A table (Table 4-2) was constructed of the available monitoring data acquired during the same time period as when the AEM survey was performed. In this case, data from April 24, 2019 at 12:00 PM was selected as nominally representing the nature of the water quality during the AEM survey. It would have been nice to have used all the data from the AEM acquisition period. However, the data was not in a format amenable to that option. The data in Table 4-2 lists MPWSP monitoring well data including the well names, the locations of the wells, sampling screen intervals in feet, measured specific conductance and TDS and salinity concentrations from April 24, 2019 at 12PM, the mean AEM inverted resistivity at the approximate screen interval depths (indicated by the AEM layer numbers used), and the distance (in meters) from the closest AEM sounding to the monitoring well. Note that there is no MW-2 data in the table and also no MW-5S, MS-5M, and MW-7M monitoring data in MPWSP monitoring report No. 160 (MPWSP, 2019). Going back to the equation in Figure 4-30 and inserting a value of EC = 294.9 µS, which is the listed value from borehole MW-9D retrieved from MPWSP monitoring report No. 160 (MPWSP, 2019), results in a calculated TDS of -94.36 mg/L, a negative value. The actual TDS value reported is 404.5 mg/L, a 498 mg/L difference.

One observation of interest in Table 4-2 is that for the MW-1 wells (S, M, D), the EC's are 50221 µS, 51263 µS, and 42,936 µS and the mean AEM resistivities are 8.8, 8.7, and 12.1 ohm-m. What is interesting is that you would think that the resistivities for EC's on the order of 50,000 µS would be lower than that for 43,000 µS. But that isn't the case for MW-1. Keep in mind that the AEM inverted resistivities matched both the lithological and geophysical logs very well, which provides confidence in their distribution over the survey area.

Figure 4-31 presents the regression relationship between Salinity (mg/L) and the Measured Specific Conductance (µS) monitoring data from April 24, 2019 at 12PM. In this case, the relation has an R^2 = 0.97 (the closer to 1.0, the better). There are a few things to note in this figure. First is the regression relationship (Salinity = (0.6653 x EC) + 119.54). If EC = 100 µS, Salinity = 186.07 mg/L which is a positive number and so could exist, unlike the relationship from the MPWSP report No. 160 (MPWP, 2019) in Figure 4-30 which resulted in a negative value.

The next item of note in Figure 4-31 is the binary distribution of the EC vs Salinity values. Either they are very high (above 40,000 µS) or low (less than 8,000 µS) with nothing in between. It is preferable to have data points over the full range being considered, not just in two areas.

Finally, in Figure 4-31, note the point labeled "MW-4M" is far off the trend line which directly affects the relationship between Salinity and EC. Note also that all the high EC/Salinity values are not on the trend line, probably because of the MW-4M data point. This suggests that there might be some other values with low confidence in the data listed in Table 4-2 coming from the MPWSP monitoring well reports.

The next step in the analysis is to develop a stable relationship between the groundwater EC or resistivity and the AEM or formation resistivity. A comparison between the AEM resistivities and the measured EC from April 24, 2019 is presented in Figure 4-32. The calculated $R^2 = 0.53$ which is low and indicates a poor relationship. This is likely because the distribution of EC is above 40,000 µS and below 8,000 µS while the range of AEM resistivities is between 1 and 30 ohm-m. It is usually better when comparing two sets of data using a regression analysis if the ranges of values compared are of the same order of magnitude in amplitude.

One way to normalize the data so that they are of the same order of magnitude is to take a natural log (*Ln*) or one or both of the data sets. Taking the natural log of the measured EC and then repeating the regression analysis results in Figure 4-33 where the $R^2 = 0.66$. Better than 0.53, but still not great. One possible reason for the low R^2 coefficient is the large spread of the data across the plot which means that all the data far away from the trend line do not have a good or coherent relationship suggesting that either one set of data or both are not of good quality with high confidence. In order to investigate if this spread is lithology -related, the recorded lithologies in each screen interval were compiled. This is presented in Table 4-3 and plotted up in Figure 4-34.

Looking back at Section 4.2 which showed a very good correlation of the AEM inversion results with the borehole short normal (SN) geophysical logs as well as the lithology logs, it is suggested that it is not the AEM data that has issues with quality, noise, and/or calibration..

The way then to approach this issue with low confidence EC values is to iteratively remove EC values that are located the most distant from the trend line in Figure 4-33 and re-run the regression analysis. The result of this iterative analysis is presented in Figure 4-35 where the $R^2 = 0.96$, which indicates a very good relationship. To get this value six (6) EC data had to be removed from the analysis. The retained data set are indicated in Table 4-4 which lists the MPWSP monitoring well name, the screen intervals and the average recorded lithology over that screen interval, the measured electrical conductance (EC), the natural log of the measured EC, the measured TDS and Salinity concentration values, and the mean AEM inverted resistivities as described in the discussion on Table 4-2 above. The last two columns list the results of applying the relationship shown in Figure 4-35 to the mean AEM resistivities. Compare the natural log of the measured specific conductance to the predicted natural log of the specific conductance as well as the measured and predicted specific conductance data.

Also included in the MPWSP report (MPWSP, 2019) were data identified as "Actual Conductivity" values. It's not exactly clear what "Actual Conductivity" refers to or why they are measuring both Specific

Conductance and "Actual Conductivity". It's been assumed here that the "Actual Conductivity" refers to the conductivity of the water in the boreholes and so, as such, can be converted to water resistivity values. The listed "Actual Conductivity" values are listed in Table 4-5 as is their conversion to conductivity in Siemens/m (S/m) and to resistivity in Ohm-m. Note that the natural log of the water resistivity based on the "Actual Conductivity) (column 7 in Table 4-5), while being of the same general magnitude, is distinctly different than the natural log of the Specific Conductance (column 10 in Table 4-5). They are different in sign because conductance and conductivity are reciprocals of resistivity.

The regression relationship between the mean inverted AEM resistivities and the "Actual Conductivity"-based water resistivity (RhoW(AC)) is presented in Figure 4-36. The R^2 value for this regression is 0.89, not as high as it could be if more data were cut, but still sufficient to accurately describe the relationship. Similar regression relationships between the "Actual Conductivity"-based water resistivity (RhoW(AC)) and measured salinity and TDS are presented in Figure 4-37. For these regressions, the R^2 values are 0.99 for both salinity and TDS, which means the regression relationships are quite accurate.

The 2019 predicted TDS data can be derived from the AEM by substituting RhoW(AC) from the equation in Figure 4-36 into the equation in Figure 4-37. The predicted TDS results at the MPWSP boreholes are presented in Table 4-6. Other TDS results are discussed below in the hydrostratigraphic comparison between the 2017 and 2019 AEM inversion results (Section 4.7).

Note that the results of the regression analyses of the local MPWSP monitoring well data suggests that several of the TDS, Salinity, and EC data may be questionable or non-existent (in the case of MW-5S, MW-5M, and MW-7M). As mentioned above, besides the missing data, this is likely due to measurement quality, noise in the system, and/or calibration of the borehole measuring tools.

4.4.1 Southern Florida Chloride Concentration – AEM Relationship

In order to make a reasonable approximation of the Salinity to EC to AEM resistivities was to search and examine published literature for a similar analysis at a similar site. This search resulted in finding a USGS Open-File Report published by Fitterman and Prinos (2011) describing a similar time-domain geophysical electromagnetic investigation over salt water intruding into the Everglades in southern Florida. The results of the Fitterman and Prinos (2011) study are presented in Figure 4-38.

We recognize that there will be a difference in the character of the electrical conductivity of the saline water in southern Florida and in the Monterey Bay and the intruded coastal geologic materials. We are using the Florida relationships only to produce an approximation for this analysis.

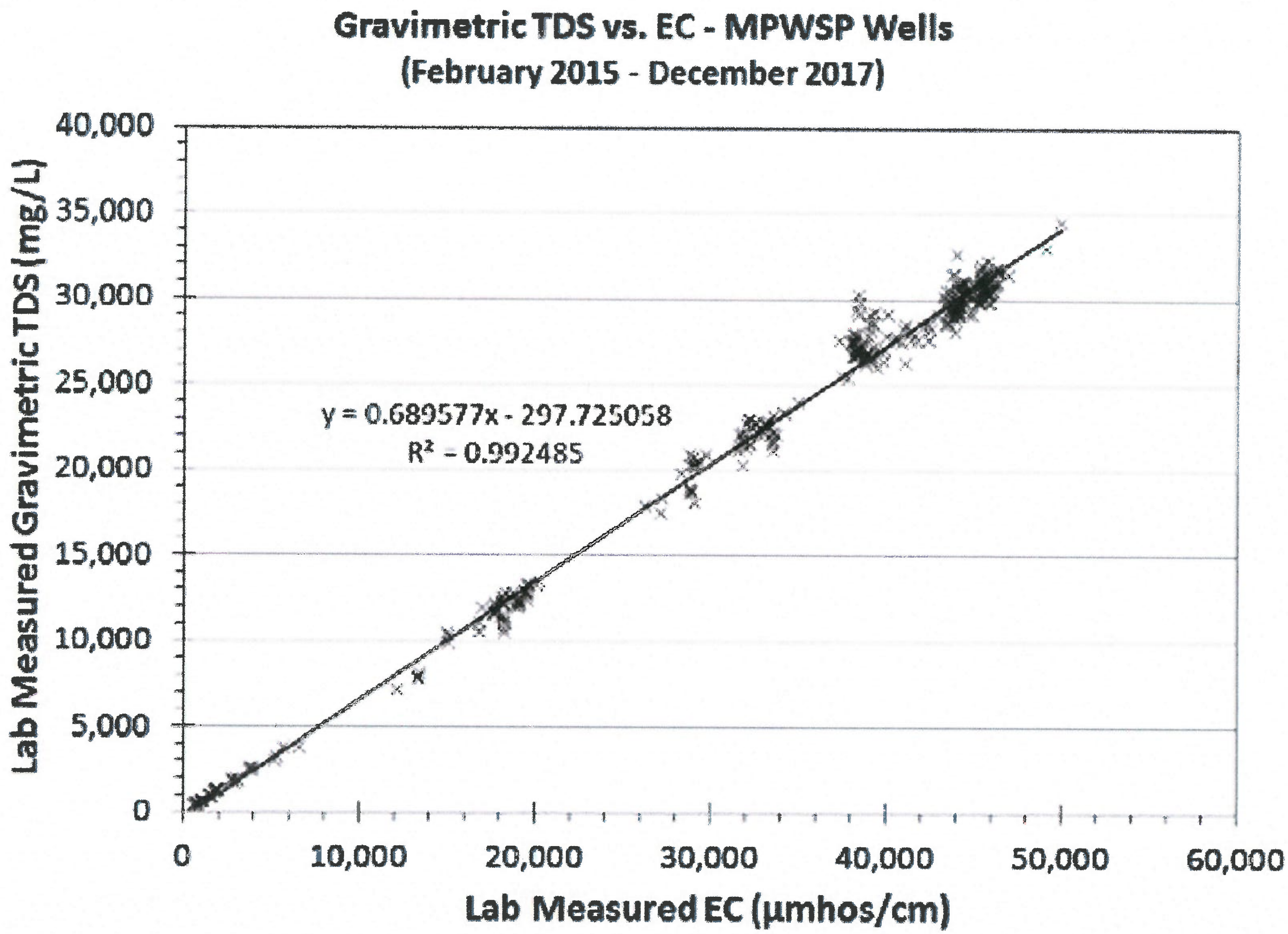


Figure 4-30. MPWSP published relationship between Total Dissolved Solids (TDS) and Electrical Conductance (EC) in the MPWSP wells. From page 605 of the April 10, 2019 to May 15, 2019 MPWSP monitoring well report No. 160 (MPWSP, 2019).

Table 4-2. MPWSP monitoring well data including well name, location in California State Plane Zone 4 feet and UTM zone 10 N meters, screen intervals in feet and meters, measured specific conductance and TDS and salinity concentrations from April 24, 2019 at 12PM, the mean AEM inverted resistivity at the approximate screen interval depths (indicated by the AEM layer numbers used), and the distance (meters) from the closest AEM sounding to the monitoring well. Note that there is no MW-2 data and no MW-5S, MS-5M, and MW-7M monitoring data.

HoleID	E CASP4 ft	N CASP4 ft	E UTM 10N m	N UTM 10N m	Screen Top ft	Screen Bot ft	Screen Top m	Screen Bot m	Meas. Spec. Cond. µS 4/24/2019 12PM	TDS Conc mg/L	Salinity mg/L	AEM Mean Rho Ohm_m	AEM Lyr #	Dist (m) AEM to MW
MW-1S	5739356	2154745	606648	4063716	55	95	17	29	50221.2	34150	32900	1.2	7-9	96
MW-1M	5739348	2154752	606646	4063718	115	225	35	69	51263.2	34900	33700	1.8	11-16	
MW-1D	5739338	2154754	606643	4063718	277	327	84	100	42935.8	29200	27900	3.0	19-20	
MW-3S	5739977	2154600	606839	4063679	50	90	15	27	40351.7	27400	25900	1.4	6-9	91
MW-3M	5739989	2154593	606843	4063677	105	215	32	66	43256.6	29400	28000	1.9	10-16	
MW-3D	5739999	2154590	606846	4063677	285	330	87	101	46802	31800	30700	2.9	19-20	
MW-4S	5741428	2154171	607286	4063567	60	100	18	30	2037.4	1400	1100	4.6	7-10	148
MW-4M	5741417	2154173	607283	4063568	130	260	40	79	34844.9	23700	33200	2.0	12-18	
MW-4D	5741406	2154174	607280	4063568	290	330	88	101	40847.5	27800	26400	2.6	19-20	
MW-5S	5748567	2156239	609434	4064288	43	83	13	25	NA	NA	NA	11.0	6-8	58
MW-5M	5748564	2156230	609433	4064285	100	310	30	94	NA	NA	NA	18.1	11-19	
MW-5D	5748561	2156221	609432	4064282	395	435	120	133	6449.7	4400	3600	8.1	22-24	
MW-6S	5756164	2141143	611939	4059787	30	60	9	18	2239.6	1500	1200	13.6	4-6	111
MW-6M	5756154	2141138	611936	4059786	150	210	46	64	1411.6	1000	710	13.4	13-16	
MW-6D	5756145	2141133	611933	4059784	255	325	78	99	1833.2	3300	2600	9.2	18-20	
MW-7S	5744148	2152099	608141	4062971	60	80	18	24	1477.8	1000	800	24.9	7-8	108
MW-7M	5744146	2152110	608140	4062974	130	220	40	67	NA	NA	NA	9.5	12-16	
MW-7D	5744144	2152121	608140	4062977	295	345	90	105	40179.5	27300	25900	2.3	19-20	
MW-8S	5744872	2159440	608268	4065215	40	80	12	24	761.5	500	400	19.9	5-8	376
MW-8M	5744866	2159431	608266	4065212	125	215	38	66	49993.3	34000	32900	3.3	12-16	
MW-8D	5744861	2159421	608265	4065209	300	350	91	107	1375.1	900	700	9.5	20-21	
MW-9S	5747345	2162011	608988	4066029	30	110	9	34	4804.9	3300	2600	5.8	4-10	292
MW-9M	5747354	2162017	608991	4066031	145	225	44	69	43606.7	29700	28300	2.0	13-16	
MW-9D	5747362	2162023	608994	4066033	353	393	108	120	294.9	404.5	300	12.1	21-22	

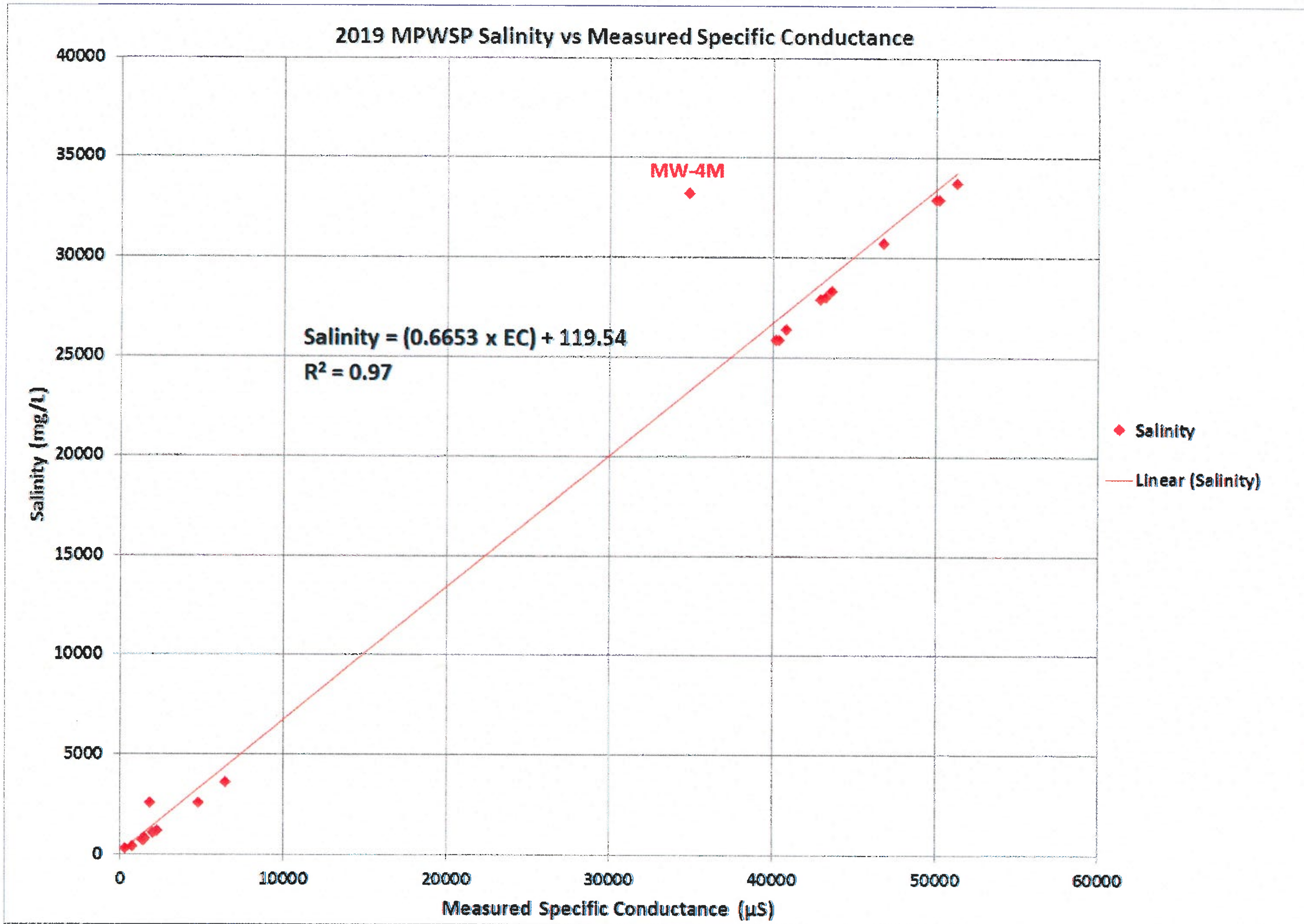


Figure 4-31. The regression relationship for monitoring data from April 24, 2019 at 12PM. In this case, the relation between Salinity (mg/L) and the Measured Specific Conductance (µS) has an $R^2 = 0.97$ (the closer to 1.0, the better). Compare this relationship to that presented in Figure 4-30. Note that the value for MW-4M is far off the trend line. Also note the concentration of values only above 40000 µS and only below 8000 µS.

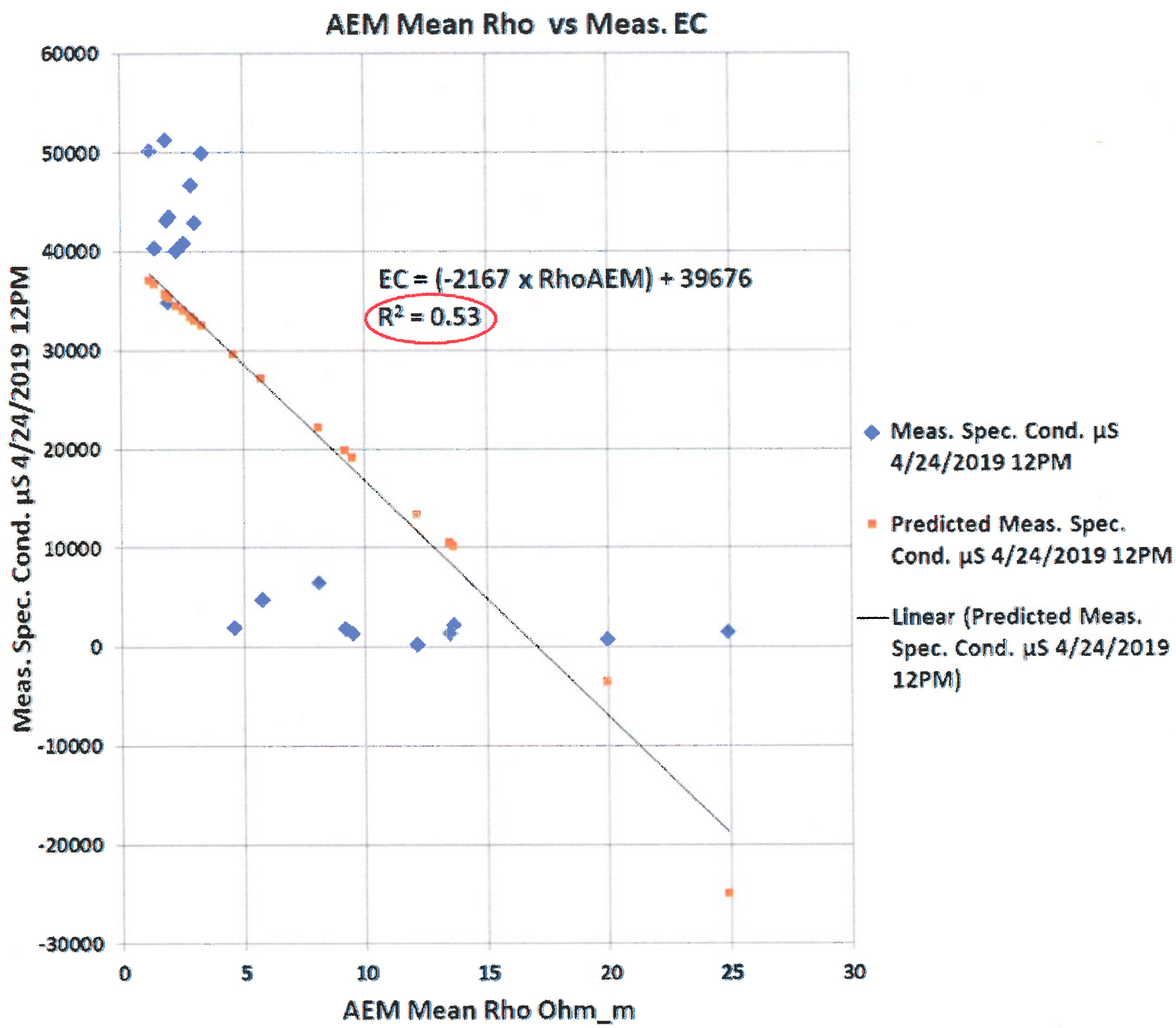


Figure 4-32. **Regression relationship between the mean inverted AEM resistivity and the measured electrical conductance (EC) using all the data in Table 4-2 in their natural units. The R^2 is 0.53.**

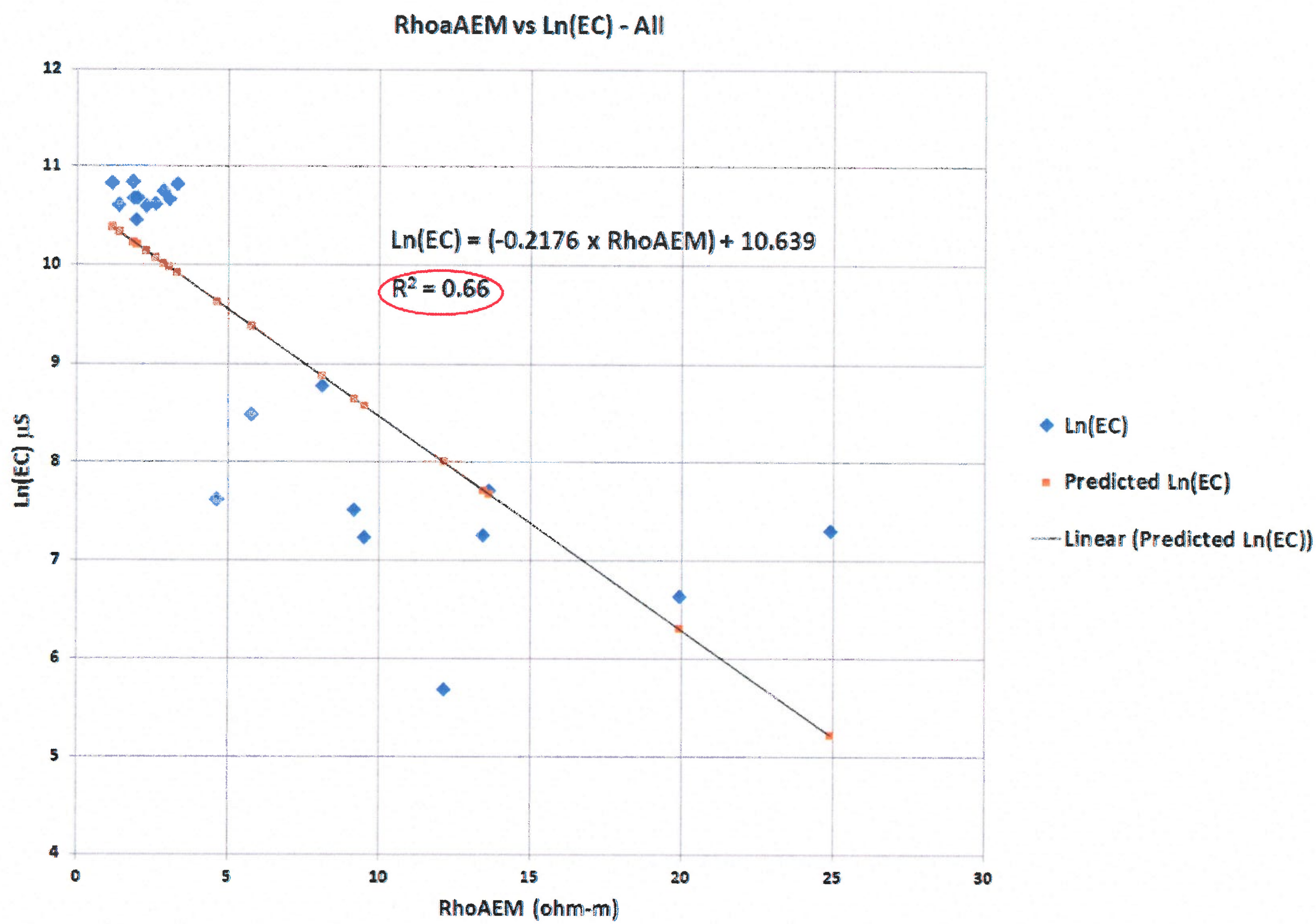


Figure 4-33. Regression relationship between the mean inverted AEM resistivity and the natural log (Ln) of all of the measured electrical conductance (EC) data in Table 4-3. The R^2 is 0.65. The natural log was calculated to put both data sets at the same order of magnitude.

Table 4-3. MPWSP monitoring well data including well name, screen intervals in feet and meters, the average lithology within the specific screen intervals, measured specific conductance and its natural log from April 24, 2019 at 12PM, and the mean AEM inverted resistivity at the approximate screen interval depths.

HoleID	Screen Top ft	Screen Bot ft	Screen Top m	Screen Bot m	Screen Interval Lithology	Meas. Spec. Cond. µS 4/24/2019 12PM	Ln(EC)	AEM Mean Rho Ohm_m
MW-1S	55	95	17	29	Sand	50221	10.824	1.2
MW-1M	115	225	35	69	Clayey Sand	51263	10.845	1.8
MW-1D	277	327	84	100	Clayey Sand	42936	10.667	3.0
MW-3S	50	90	15	27	Sand	40352	10.605	1.4
MW-3M	105	215	32	66	Clayey Sand	43257	10.675	1.9
MW-3D	285	330	87	101	Sand	46802	10.754	2.9
MW-4S	60	100	18	30	Sand	2037	7.619	4.6
MW-4M	130	260	40	79	Clayey Sand	34845	10.459	2.0
MW-4D	290	330	88	101	Clayey Sand	40848	10.618	2.6
MW-5S	43	83	13	25	Silty Clay, Sand			11.0
MW-5M	100	310	30	94	Sand			18.1
MW-5D	395	435	120	133	Sand	6450	8.772	8.1
MW-6S	30	60	9	18	Sand	2240	7.714	13.6
MW-6M	150	210	46	64	Sand	1412	7.252	13.4
MW-6D	255	325	78	99	Sand	1833	7.514	9.2
MW-7S	60	80	18	24	Sand	1478	7.298	24.9
MW-7M	130	220	40	67	Clayey Sand, Clay			9.5
MW-7D	295	345	90	105	Sand	40180	10.601	2.3
MW-8S	40	80	12	24	Sand	762	6.635	19.9
MW-8M	125	215	38	66	Sand	49993	10.820	3.3
MW-8D	300	350	91	107	Sand	1375	7.226	9.5
MW-9S	30	110	9	34	Silty Sand	4805	8.477	5.8
MW-9M	145	225	44	69	Sand	43607	10.683	2.0
MW-9D	353	393	108	120	Clayey Sand	295	5.687	12.1

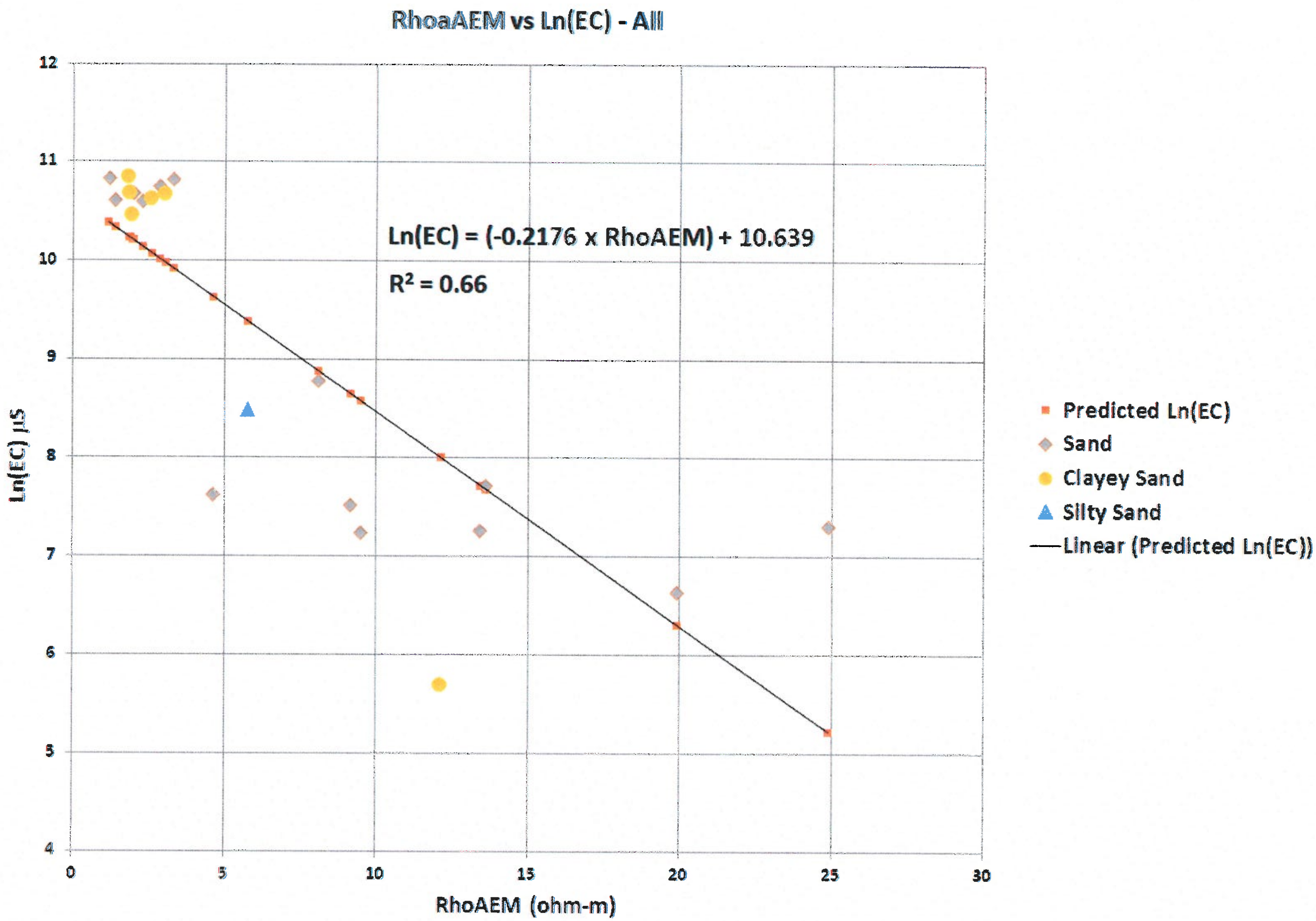


Figure 4-34. This is the same plot as in Figure 4-33 with the change being that the individual data points are represented by the average recorded lithology at the specific screen intervals. Brown diamonds – Sand, yellow circles – clayey sand, and blue triangle – silty sand. The idea is to query if there is a certain lithology group that plots far away from the trend line. But that doesn't appear to be any clear pattern.

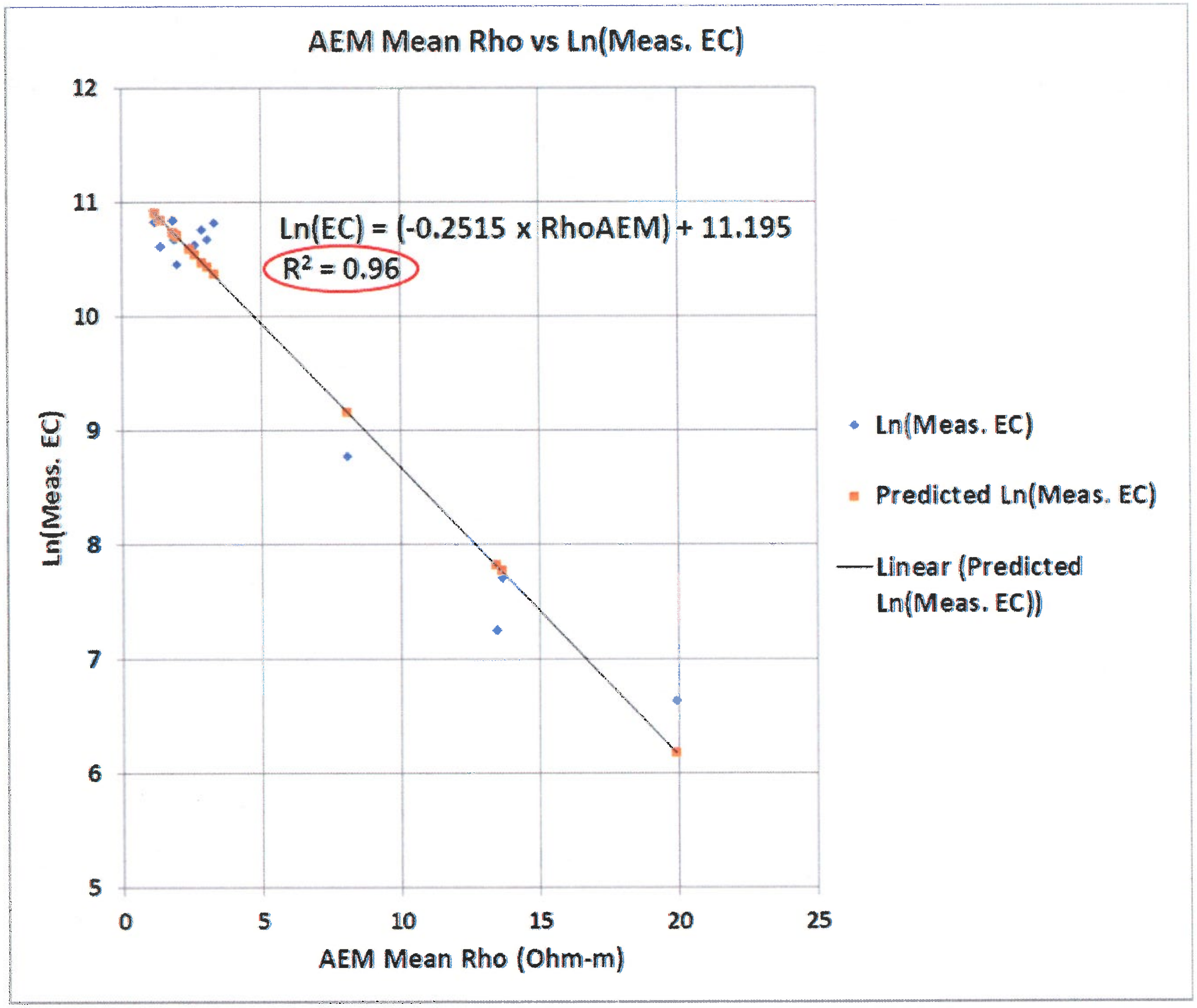


Figure 4-35. Regression relationship between the mean inverted AEM resistivity and the natural log (Ln) of the 12 measured electrical conductance (EC) data retained in Table 4-4. The R^2 is 0.96. The natural log was calculated to put both data sets at the same order of magnitude.

Table 4-4. This table indicates in the last column the final list of borehole data far from the trendline in Figure 4-33 that needed to be cut in order to produce an $R^2 = 0.96$. The last two columns list the results of applying the relationship shown in Figure 4-35 to the mean AEM resistivities. Compare the natural log of the measured EC to the predicted EC as well as the calculated specific conductance.

HoleID	Screen Top ft	Screen Bot ft	Screen Top m	Screen Bot m	Screen Interval Lithology	Meas. Spec. Cond. µS 4/24/2019 12PM	Ln(EC) µS	Ln(EC) S	TDS Conc mg/L	Salinity mg/L	AEM Mean Rho Ohm_m	CUT	Pred. Ln(Meas. EC)	Pred. EC
MW-1S	55	95	17	29	Sand	50221	10.82	1.6139	34150	32900	1.2		10.898	54053
MW-1M	115	225	35	69	Clayey Sand	51263	10.84	1.6344	34900	33700	1.8		10.732	45821
MW-1D	277	327	84	100	Clayey Sand	42936	10.67	1.4571	29200	27900	3.0		10.432	33922
MW-3S	50	90	15	27	Sand	40352	10.61	1.3950	27400	25900	1.4		10.845	51298
MW-3M	105	215	32	66	Clayey Sand	43257	10.67	1.4646	29400	28000	1.9		10.725	45465
MW-3D	285	330	87	101	Sand	46802	10.75	1.5433	31800	30700	2.9		10.471	35266
MW-4S	60	100	18	30	Sand	2037	7.62	-1.5909	1400	1100	4.6	x	10.028	22653
MW-4M	130	260	40	79	Clayey Sand	34845	10.46	1.2483	23700	33200	2.0		10.705	44559
MW-4D	290	330	88	101	Clayey Sand	40848	10.62	1.4073	27800	26400	2.6		10.544	37934
MW-5S	43	83	13	25	x	NA	NA	NA	NA	NA	11.0		8.434	4599
MW-5M	100	310	30	94	x	NA	NA	NA	NA	NA	18.1		6.653	775
MW-5D	395	435	120	133	Sand	6450	8.77	-0.4386	4400	3600	8.1		9.158	9489
MW-6S	30	60	9	18	Sand	2240	7.71	-1.4963	1500	1200	13.6		7.770	2367
MW-6M	150	210	46	64	Sand	1412	7.25	-1.9579	1000	710	13.4		7.815	2477
MW-6D	255	325	78	99	Sand	1833	7.51	-1.6965	3300	2600	9.2	x	8.886	7232
MW-7S	60	80	18	24	Sand	1478	7.30	-1.9120	1000	800	24.9	x	4.933	139
MW-7M	130	220	40	67	x	NA	NA	NA	NA	NA	9.5		8.813	6723
MW-7D	295	345	90	105	Sand	40180	10.60	1.3908	27300	25900	2.3		10.617	40805
MW-8S	40	80	12	24	Sand	762	6.64	-2.5751	500	400	19.9		6.185	485
MW-8M	125	215	38	66	Sand	49993	10.82	1.6093	34000	32900	3.3		10.365	31731
MW-8D	300	350	91	107	Sand	1375	7.23	-1.9841	900	700	9.5	x	8.806	6673
MW-9S	30	110	9	34	Silty Sand	4805	8.48	-0.7329	3300	2600	5.8	x	9.741	17006
MW-9M	145	225	44	69	Sand	43607	10.68	1.4726	29700	28300	2.0		10.695	44113
MW-9D	353	393	108	120	Clayey Sand	295	5.69	-3.5237	405	300	12.1	x	8.144	3444

Table 4-5. This table includes what are named the "actual conductivity" values from the MPWSP wells (MPWSP, 2019) and their conversion to water resistivity (RhoW(AC)) with a comparison to the measured specific conductance in each borehole and the mean inverted AEM resistivity values. Using these values, a regression relationship can be developed between the conductivity-based RhoW(AC) and the mean AEM resistivity (RhoAEM).

HoleID	Screen Interval Lithology	Actual Conductivity µS/cm	Actual Conductivity (AC) S/cm	Actual Conductivity (AC) S/m	RhoW(AC) ohm-m	ln RhoW(AC)	Meas. Spec. Cond. µS 4/24/2019 12PM	Ln(EC) µS	Ln(EC) S	TDS Conc mg/L	Salinity mg/L	AEM Mean Rho Ohm_m
MW-1S	Sand	40172	0.040172	4.0172	0.2489	-1.3906	50221	10.82	1.6139	34150	32900	1.2
MW-1M	Clayey Sand	41691	0.041691	4.1691	0.2399	-1.4277	51263	10.84	1.6344	34900	33700	1.8
MW-1D	Clayey Sand	38218	0.038218	3.8218	0.2617	-1.3407	42936	10.67	1.4571	29200	27900	3.0
MW-3S	Sand	34557	0.034557	3.4557	0.2894	-1.2400	40352	10.61	1.3950	27400	25900	1.4
MW-3M	Clayey Sand	37029	0.037029	3.7029	0.2701	-1.3091	43257	10.67	1.4646	29400	28000	1.9
MW-3D	Sand	41973	0.041973	4.1973	0.2382	-1.4344	46802	10.75	1.5433	31800	30700	2.9
MW-4S	Sand	1751	0.001751	0.1751	5.7123	1.7426	2037	7.62	-1.5909	1400	1100	4.6
MW-4M	Clayey Sand	30126	0.030126	3.0126	0.3319	-1.1028	34845	10.46	1.2483	23700	33200	2.0
MW-4D	Clayey Sand	37219	0.037219	3.7219	0.2687	-1.3142	40848	10.62	1.4073	27800	26400	2.6
MW-5S	x	2016	0.002016	0.2016	4.9596	1.6013	NA	NA	NA	NA	NA	11.0
MW-5M	x	1254	0.001254	0.1254	7.9726	2.0760	NA	NA	NA	NA	NA	18.1
MW-5D	Sand	6016	0.006016	0.6016	1.6622	0.5081	6450	8.77	-0.4386	4400	3600	8.1
MW-6S	Sand	1901	0.001901	0.1901	5.2615	1.6604	2240	7.71	-1.4963	1500	1200	13.6
MW-6M	Sand	1194	0.001194	0.1194	8.3780	2.1256	1412	7.25	-1.9579	1000	710	13.4
MW-6D	Sand	4409	0.004409	0.4409	2.2681	0.8189	1833	7.51	-1.6965	3300	2600	9.2
MW-7S	Sand	1268	0.001268	0.1268	7.8858	2.0651	1478	7.30	-1.9120	1000	800	24.9
MW-7M	x	6440	0.006440	0.6440	1.5528	0.4401	NA	NA	NA	NA	NA	9.5
MW-7D	Sand	35728	0.035728	3.5728	0.2799	-1.2733	40180	10.60	1.3908	27300	25900	2.3
MW-8S	Sand	635	0.000635	0.0635	15.7381	2.7561	762	6.64	-2.5751	500	400	19.9
MW-8M	Sand	42505	0.042505	4.2505	0.2353	-1.4470	49993	10.82	1.6093	34000	32900	3.3
MW-8D	Sand	1255	0.001255	0.1255	7.9707	2.0758	1375	7.23	-1.9841	900	700	9.5
MW-9S	Silty Sand	4066	0.004066	0.4066	2.4594	0.8999	4805	8.48	-0.7329	3300	2600	5.8
MW-9M	Sand	36792	0.036792	3.6792	0.2718	-1.3027	43607	10.68	1.4726	29700	28300	2.0
MW-9D	Clayey Sand	550	0.000550	0.0550	18.1752	2.9001	295	5.69	-3.5237	405	300	12.1

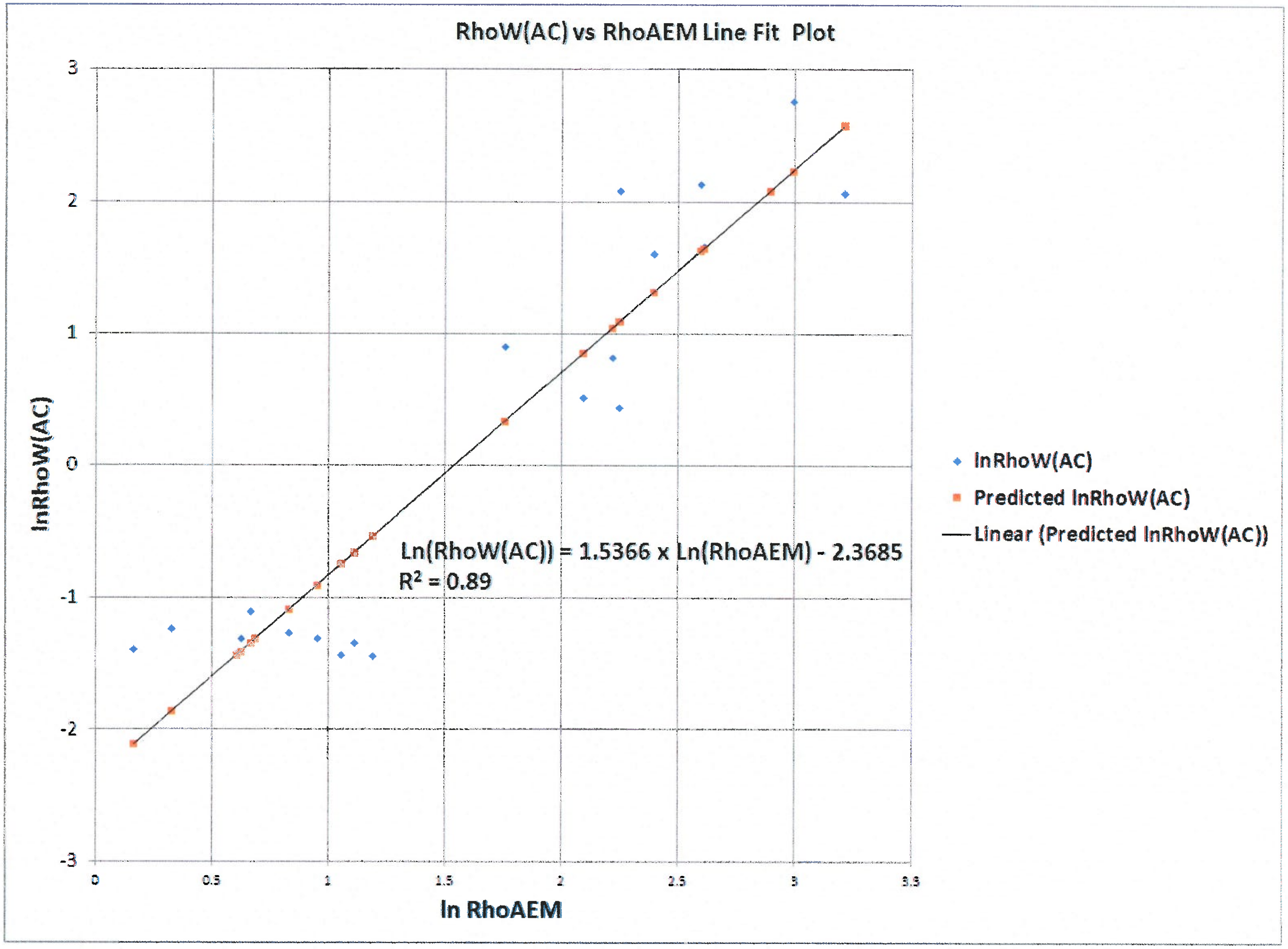


Figure 4-36. Regression relationship between the mean inverted AEM resistivity and the natural log (Ln) of the conductivity-based RhoW(AC) resistivity data Table 4-5. The R^2 is 0.89. The natural log was calculated to put both data sets at the same order of magnitude.

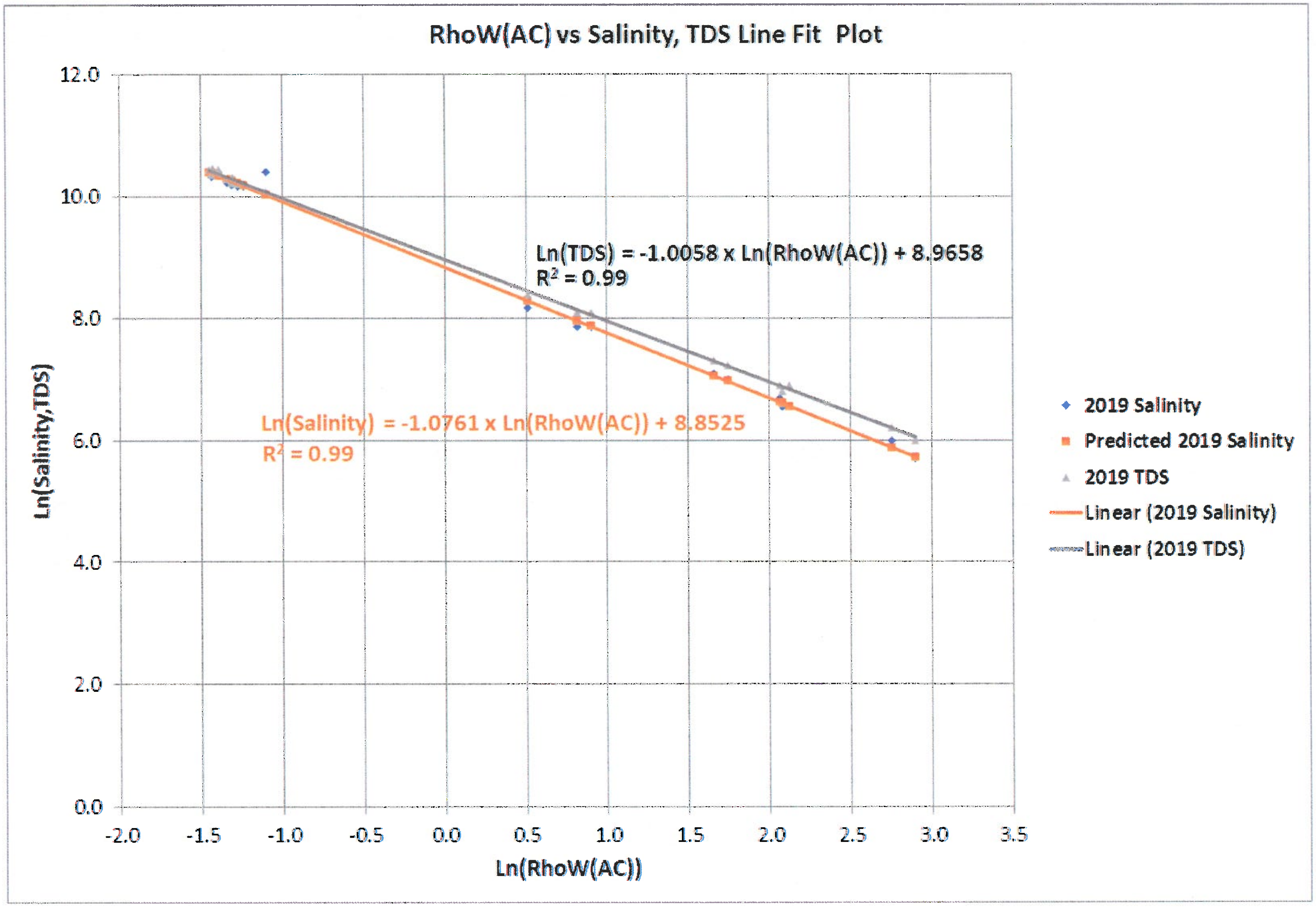


Figure 4-37. Regression relationships between the natural log (ln) of the conductivity-based RhoW(AC) resistivity and the natural log of the measured water salinity and TDS. Thus the TDS can be derived from the AEM by substituting RhoW(AC) from the equation in Figure 4-36. The results are presented in Table 4-6.

Table 4-6. This table includes the TDS estimates (far right columns) derived from the "actual conductivity" values from the MPWSP wells (MPWSP, 2019) based on the regression relationship presented in Figure 4-36 and Figure 4-37 and the specific conductance presented earlier. In the "cut" column a red "x" indicates data cut from the EC regression calculation and a blue "x" from the "actual conductivity" calculation.

HoleID	Screen Interval Lithology	Actual Conductivity µS/cm	Actual Conductivity (AC) S/cm	Actual Conductivity (AC) S/m	RhoW(AC) ohm-m	ln RhoW(AC)	Meas. Spec. Cond. µS 4/24/2019 12PM	Ln(EC) µS	Ln(EC) S	TDS Conc mg/L	Salinity mg/L	AEM Mean Rho Ohm_m	CUT	Pred. Ln(Meas. EC)	Pred. EC	Pred TDS by EC (mg/L)	Pred TDS by RhoW (mg/L)
MW-1S	Sand	40172	0.040172	4.0172	0.2489	-1.3906	50221	10.82	1.6139	34150	32900	1.2		10.893	53809	58411	63981
MW-1M	Clayey Sand	41691	0.041691	4.1691	0.2399	-1.4277	51263	10.84	1.6344	34900	33700	1.8		10.732	45821	32747	33075
MW-1D	Clayey Sand	38218	0.038218	3.8218	0.2617	-1.3407	42936	10.67	1.4571	29200	27900	3.0		10.432	33922	16608	15252
MW-3S	Sand	34557	0.034557	3.4557	0.2894	-1.2400	40352	10.61	1.3950	27400	25900	1.4		10.845	51298	47859	50979
MW-3M	Clayey Sand	37029	0.037029	3.7029	0.2701	-1.3091	43257	10.67	1.4646	29400	28000	1.9		10.725	45465	32013	32231
MW-3D	Sand	41973	0.041973	4.1973	0.2382	-1.4344	46802	10.75	1.5433	31800	30700	2.9		10.471	35266	17827	16535
MW-4S	Sand	1751	0.001751	0.1751	5.7123	1.7426	2037	7.62	-1.5909	1400	1100	4.6	x, x	10.028	22653	9339	7912
MW-4M	Clayey Sand	30126	0.030126	3.0126	0.3319	-1.1028	34845	10.46	1.2483	23700	33200	2.0		10.705	44559	30246	30210
MW-4D	Clayey Sand	37219	0.037219	3.7219	0.2687	-1.3142	40848	10.62	1.4073	27800	26400	2.6		10.544	37934	20586	19482
MW-5S	x	2016	0.002016	0.2016	4.9596	1.6013	NA	NA	NA	NA	NA	11.0		8.434	4599	2905	2090
MW-5M	x	1254	0.001254	0.1254	7.9726	2.0760	NA	NA	NA	NA	NA	18.1		6.653	775	1480	968
MW-5D	Sand	6016	0.006016	0.6016	1.6622	0.5081	6450	8.77	-0.4386	4400	3600	8.1		9.158	9489	4388	3344
MW-6S	Sand	1901	0.001901	0.1901	5.2615	1.6604	2240	7.71	-1.4963	1500	1200	13.6		7.770	2367	2169	1498
MW-6M	Sand	1194	0.001194	0.1194	8.3780	2.1256	1412	7.25	-1.9579	1000	710	13.4		7.815	2477	2209	1529
MW-6D	Sand	4409	0.004409	0.4409	2.2681	0.8189	1833	7.51	-1.6965	3300	2600	9.2	x	8.886	7232	3704	2756
MW-7S	Sand	1268	0.001268	0.1268	7.8858	2.0651	1478	7.30	-1.9120	1000	800	24.9	x	4.933	139	958	589
MW-7M	x	6440	0.006440	0.6440	1.5528	0.4401	NA	NA	NA	NA	NA	9.5		8.813	6723	3551	2627
MW-7D	Sand	35728	0.035728	3.5728	0.2799	-1.2733	40180	10.60	1.3908	27300	25900	2.3		10.617	40805	24181	23407
MW-8S	Sand	635	0.000635	0.0635	15.7381	2.7561	762	6.64	-2.5751	500	400	19.9		6.185	485	1296	832
MW-8M	Sand	42505	0.042505	4.2505	0.2353	-1.4470	49993	10.82	1.6093	34000	32900	3.3		10.365	31731	14823	13397
MW-8D	Sand	1255	0.001255	0.1255	7.9707	2.0758	1375	7.23	-1.9841	900	700	9.5	x	8.806	6673	3535	2614
MW-9S	Silty Sand	4066	0.004066	0.4066	2.4594	0.8999	4805	8.48	-0.7329	3300	2600	5.8	x	9.741	17006	6934	5634
MW-9M	Sand	36792	0.036792	3.6792	0.2718	-1.3027	43607	10.68	1.4726	29700	28300	2.0		10.695	44113	29425	29277
MW-9D	Clayey Sand	550	0.000550	0.0550	18.1752	2.9001	295	5.69	-3.5237	405	300	12.1	x, x	8.144	3444	2538	1792

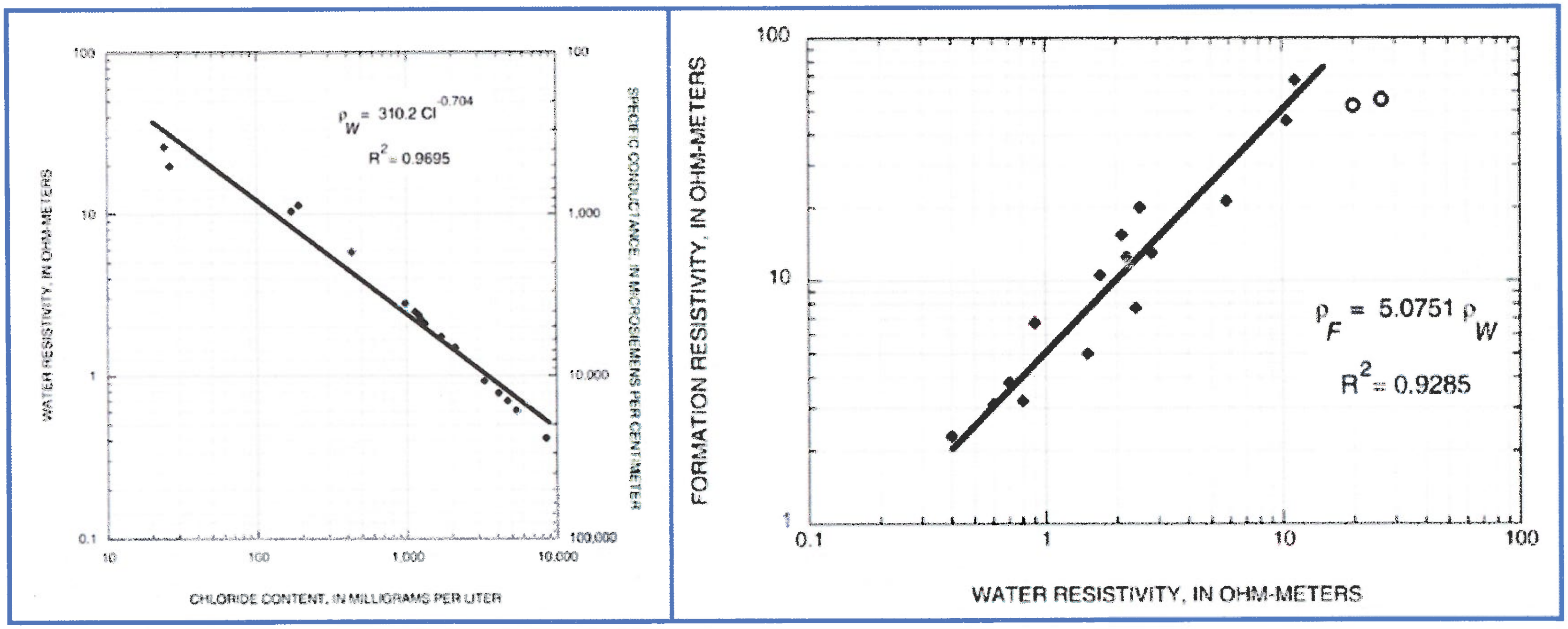


Figure 4-38. Regression relationships between chloride concentration and water resistivity on the left and between water resistivity and inverted bulk resistivity on the right (from Fitterman and Prinos, 2011).

4.5 2019 MCWD AEM Resistivity and Chloride Concentration 2D Profiles

In this section and the sections that follow comparisons are made, initially, between the MCWD 2019 AEM inverted resistivities and the chloride concentration distribution as calculated per the Fitterman and Prinos (2011) relations and then between the MCWD 2017 and 2019 results.

It is important to note that when one examines the AEM resistivity earth-model profiles, and the corresponding chloride concentration profiles, the examiner must keep in mind that they are looking at geologic materials, most containing water, that are being represented as chloride concentrations. For example, unsaturated alluvium on the surface, having a higher electrical resistivity because of the dry material, converts to a low equivalent "chloride concentration". Unsaturated dry surface material, having a high resistivity converts to a low chloride concentration even though it has nothing to do with water quality. Thus, the reader must keep the nature of the basic geology in the area (Dune Sand material, 180 ft aquifer, 180ft/400ft aquitard, 400 ft aquifer) in mind when examining the 2D profiles, 3D fence diagrams, depth slices, and 3D voxels of chloride concentrations.

The displayed chloride concentration range is presented in Figure 4-39.

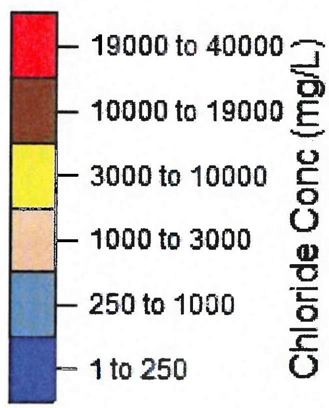


Figure 4-39. Presented chloride concentration distribution.

The same 2D profiles as were presented in Section 4.2 showing just the inverted AEM resistivities in comparison with the geophysical logs are now presented again in comparison with 2D profiles of the calculated chloride concentrations. Figure 4-40 presents flight line L200101, Figure 4-41 presents flight line L200200, Figure 4-42 presents flight line L200400, Figure 4-43 presents flight line L201700, Figure 4-44 presents flight line L202500, Figure 4-45 presents flight line L206800, and Figure 4-46 presents flight line L212200, 3D fence diagrams of the MCWD 2019 interpreted chloride concentrations are presented looking to the east (Figure 4-47), to the northeast (Figure 4-48), to the north (Figure 4-49), and looking to the south (Figure 4-50).

All the 2D profile comparisons of the MCWD 2019 AEM resistivities and chloride concentrations can be found in Appendix 1-2D Profiles and the 3D Fence Diagram views in Appendix 2 – 3D Images.

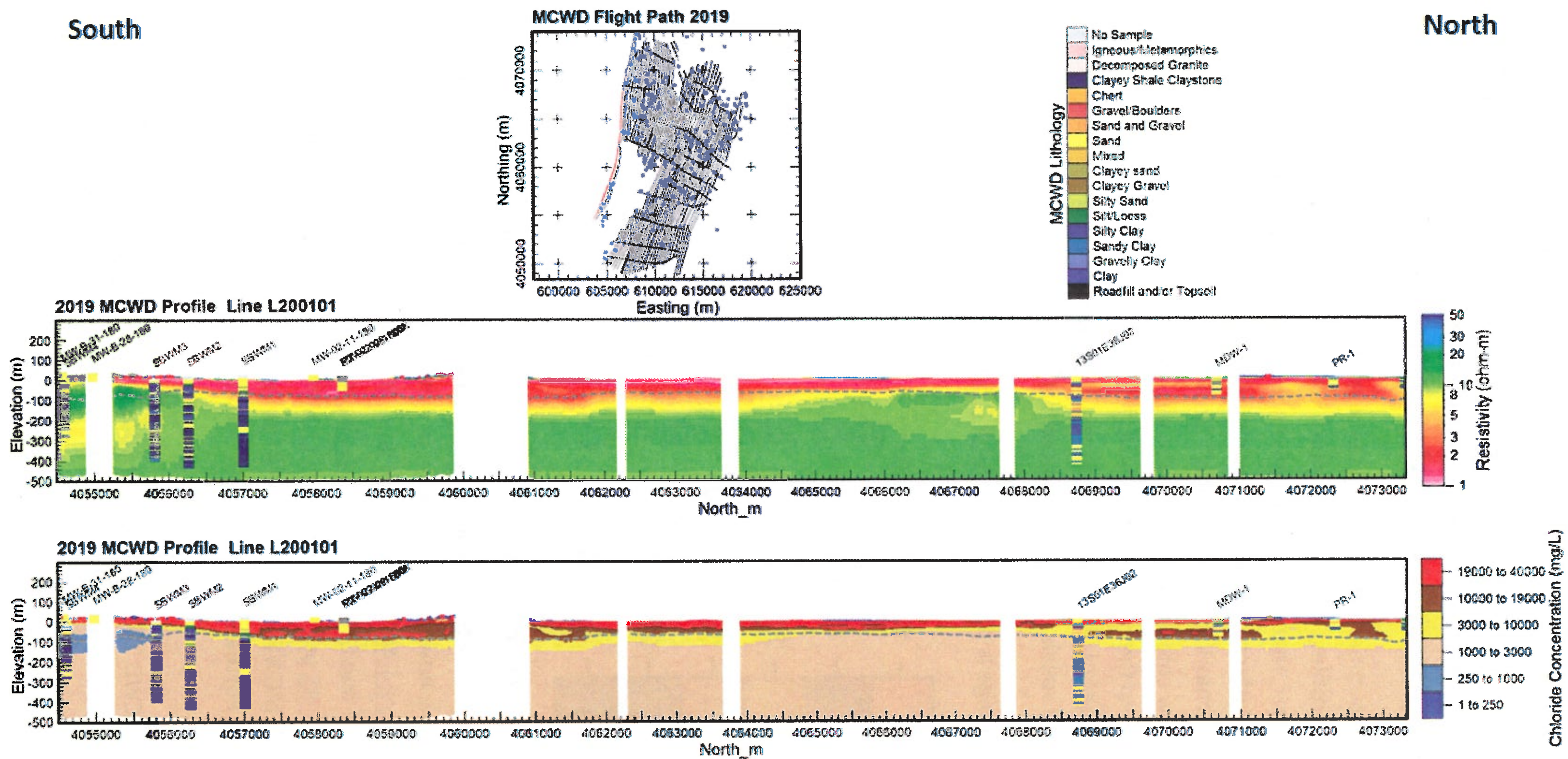


Figure 4-40. Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L200101 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).

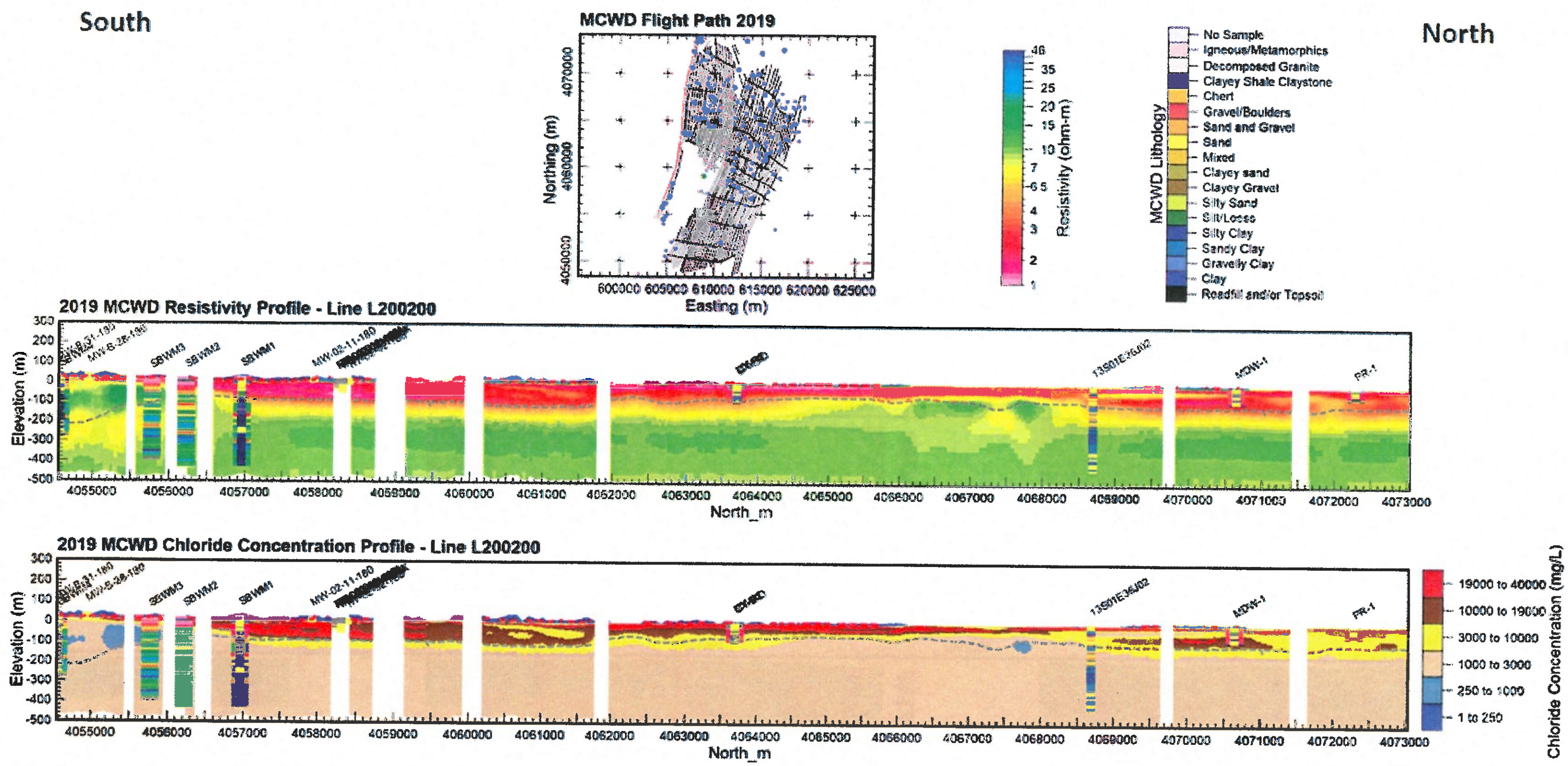


Figure 4-41. **Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L200200 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).**

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

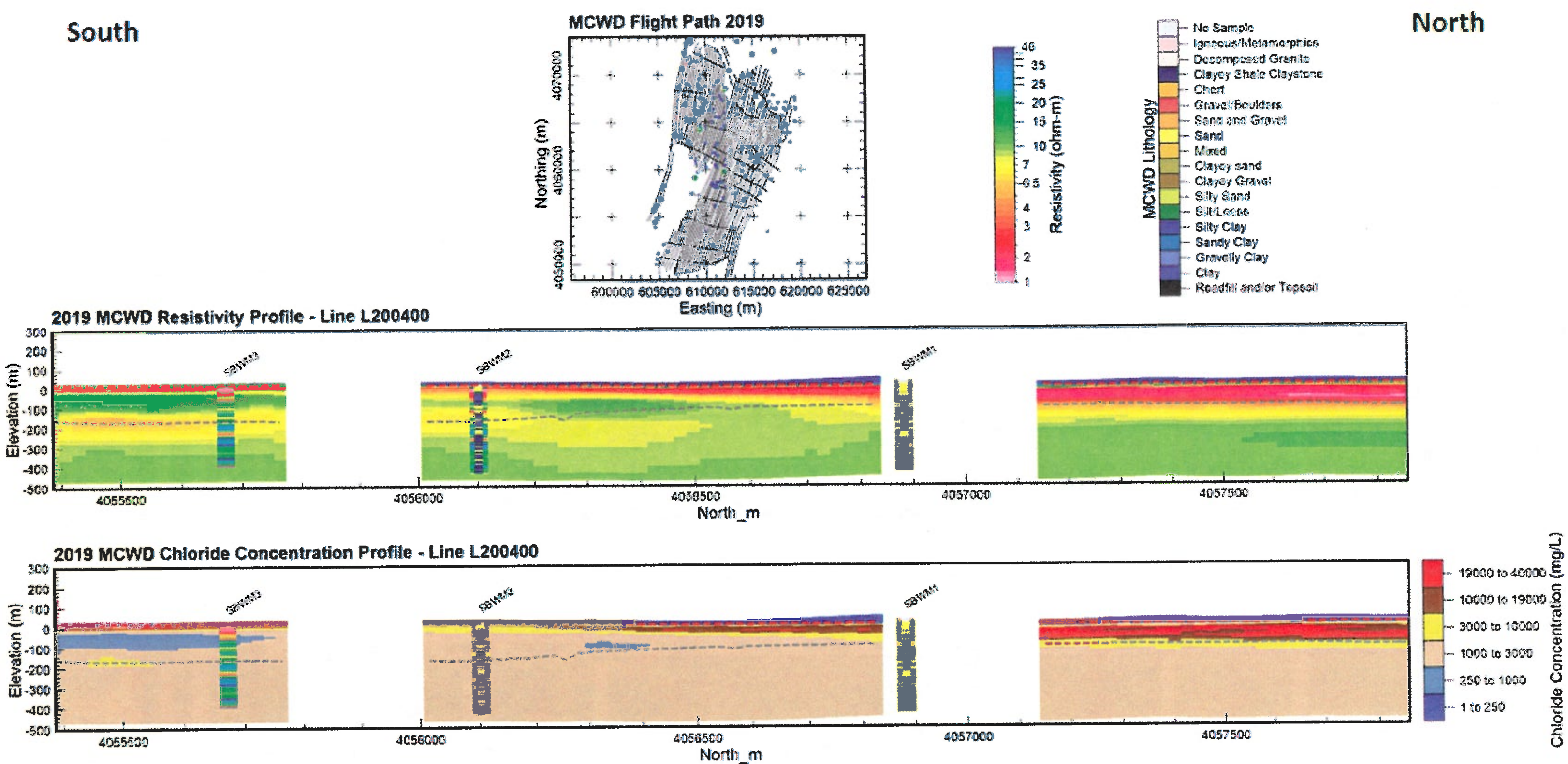


Figure 4-42. Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L200400 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

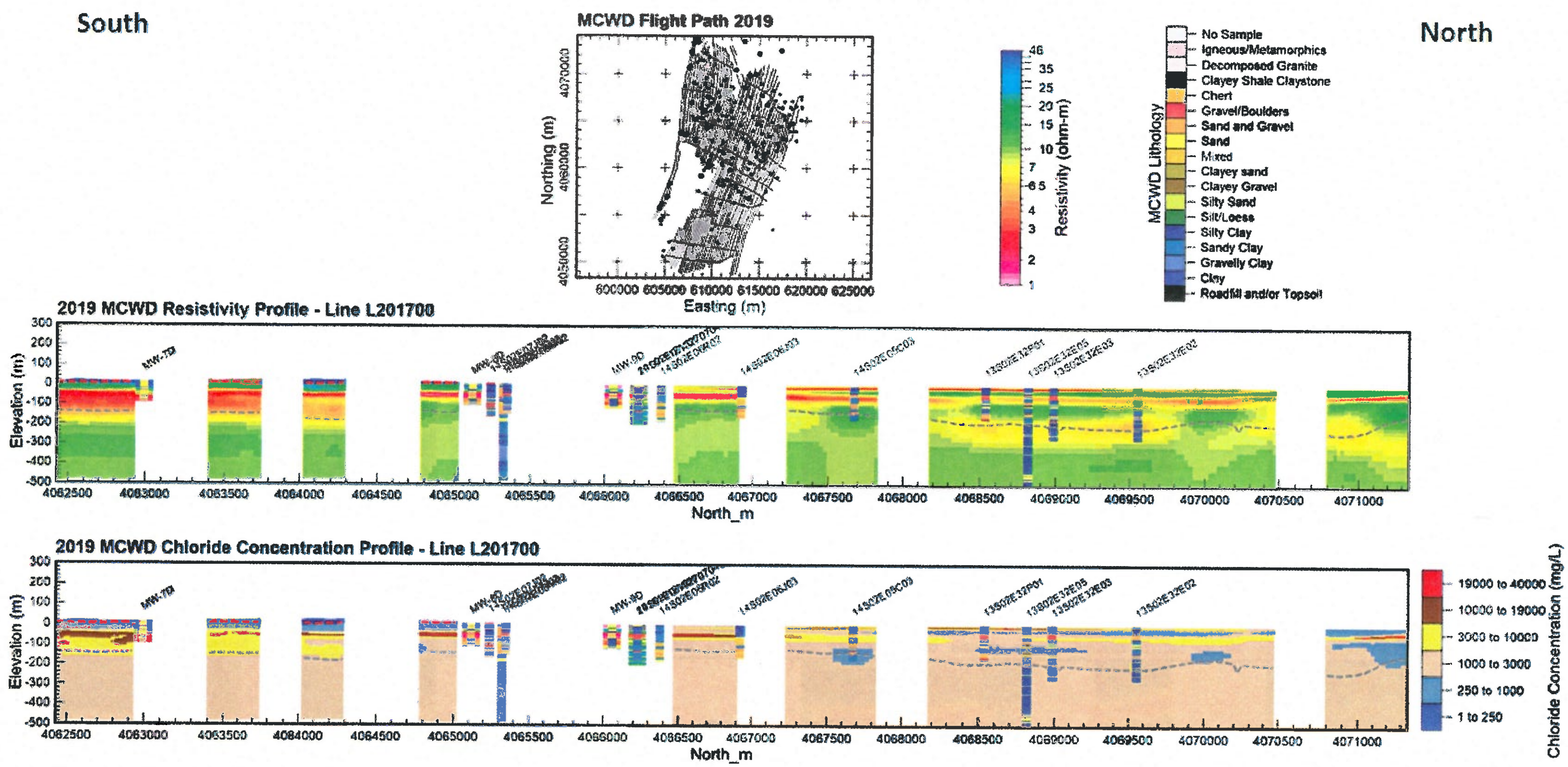


Figure 4-43. Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L201700 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).

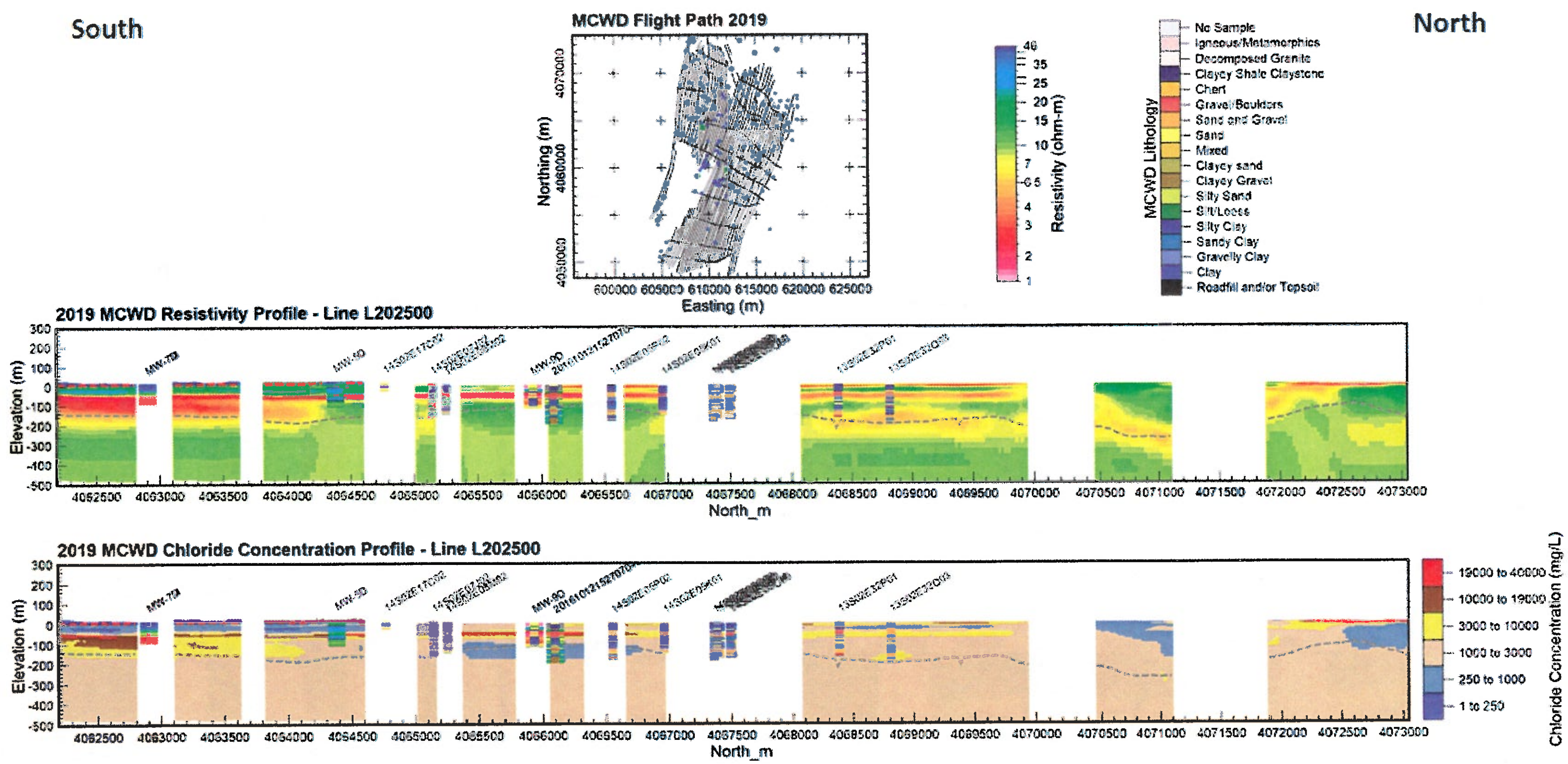


Figure 4-44. Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L202500 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).

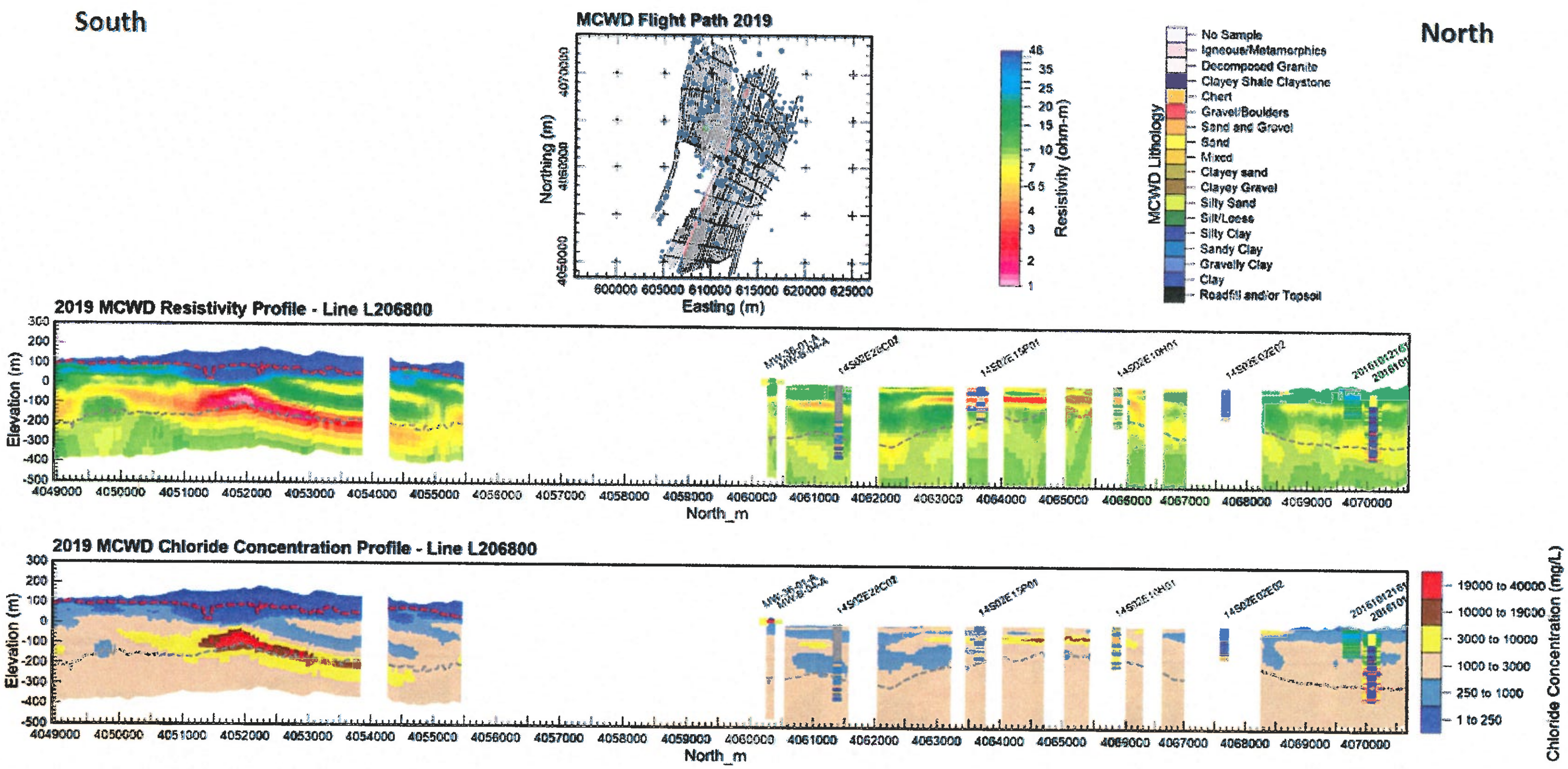


Figure 4-45. Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L206800 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).

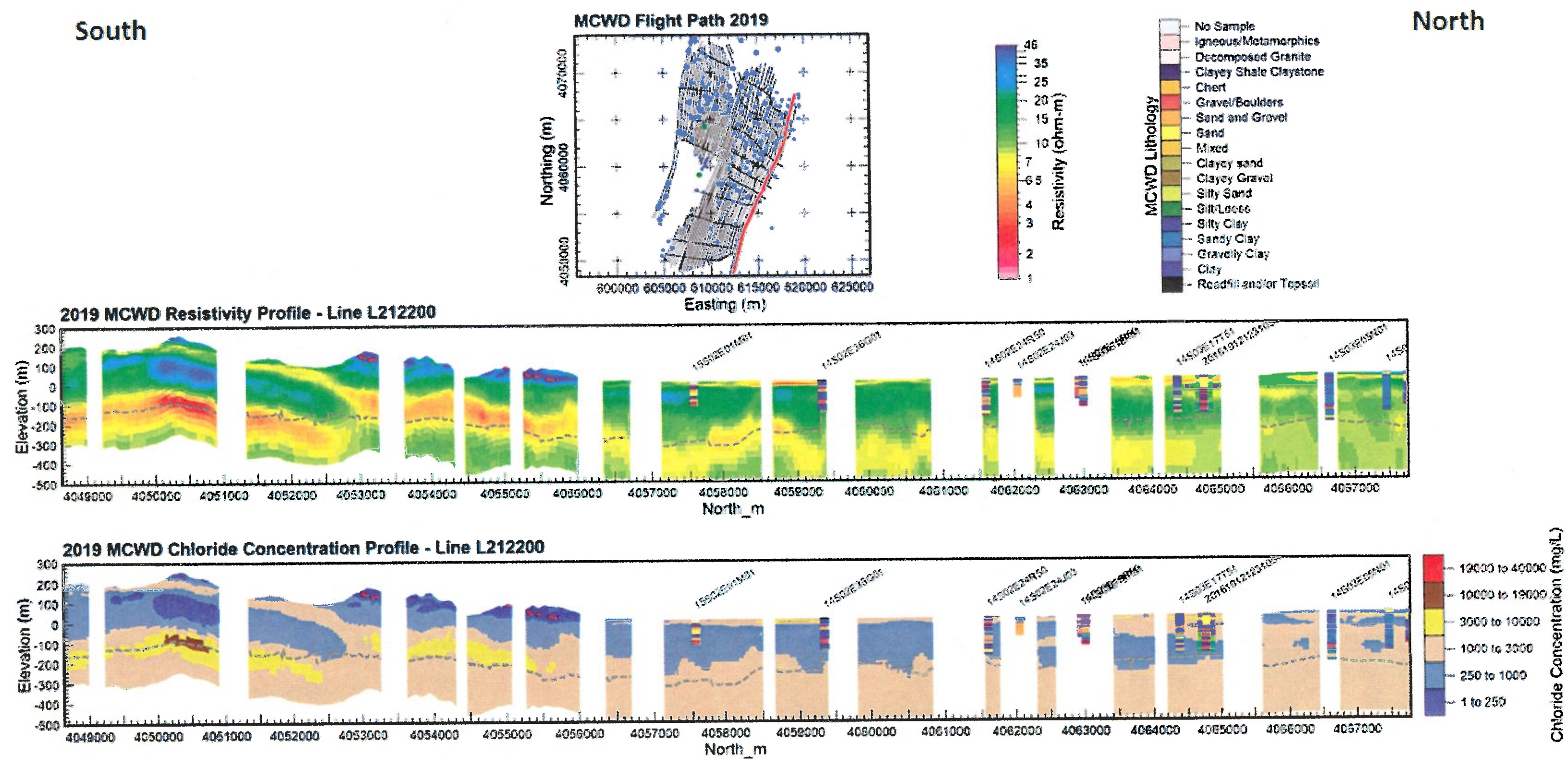


Figure 4-46. Inverted AEM resistivity and calculated chloride concentration profiles of MCWD 2019 AEM survey line L212200 with lithological and geophysical 16-inch Short Normal electrical logs (green dots on map) using the same resistivity scale. The projection is NAD83 UTM Zone 10N (meters) and the elevation values are referenced to NAVD 88 (meters).

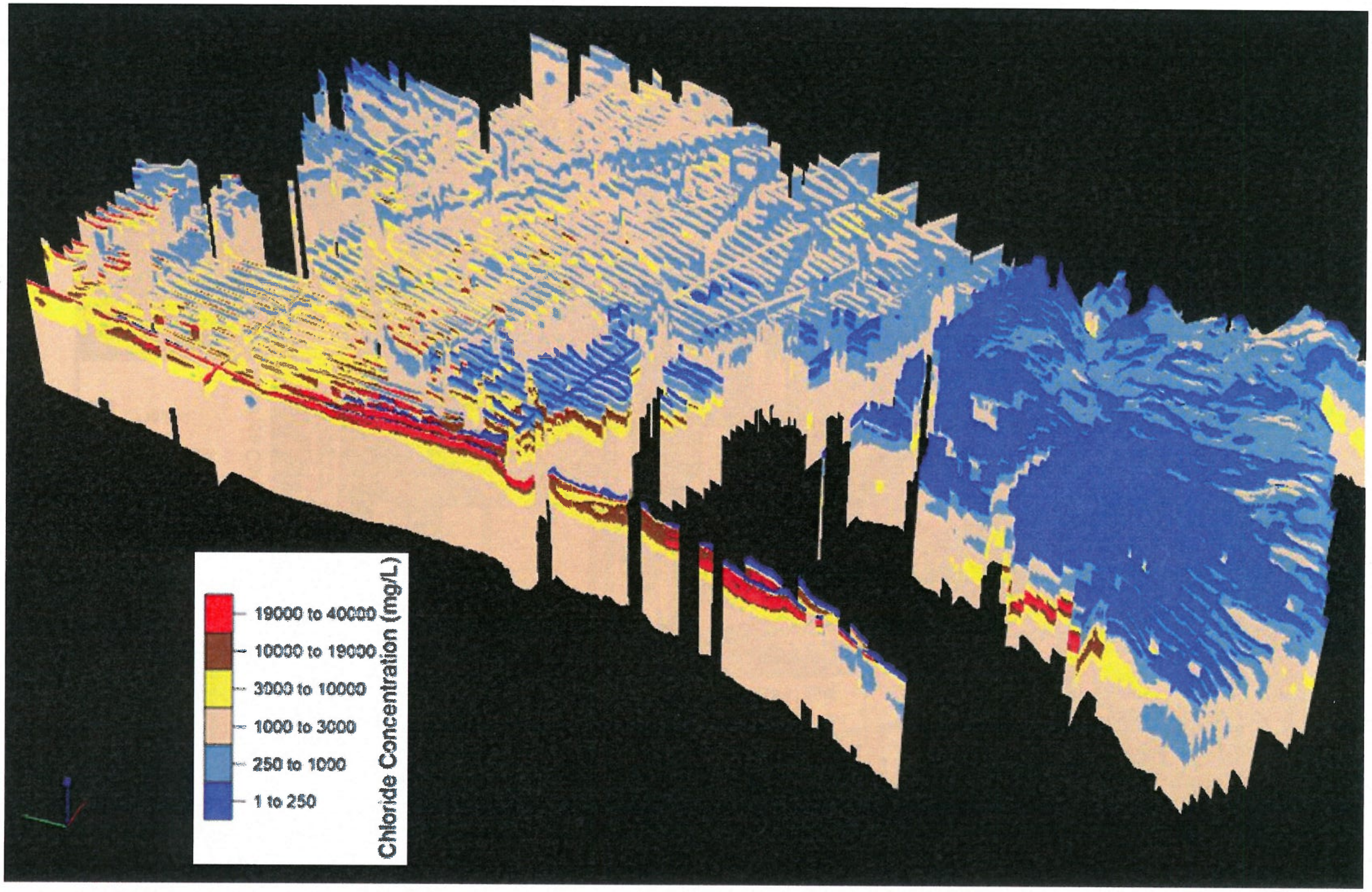


Figure 4-47. 3D fence diagram of MCWD 2019 inverted AEM resistivity and calculated chloride concentrations, looking to the east. V.E.=x10.

3D Map - MCWD 2019 Cl Conc All

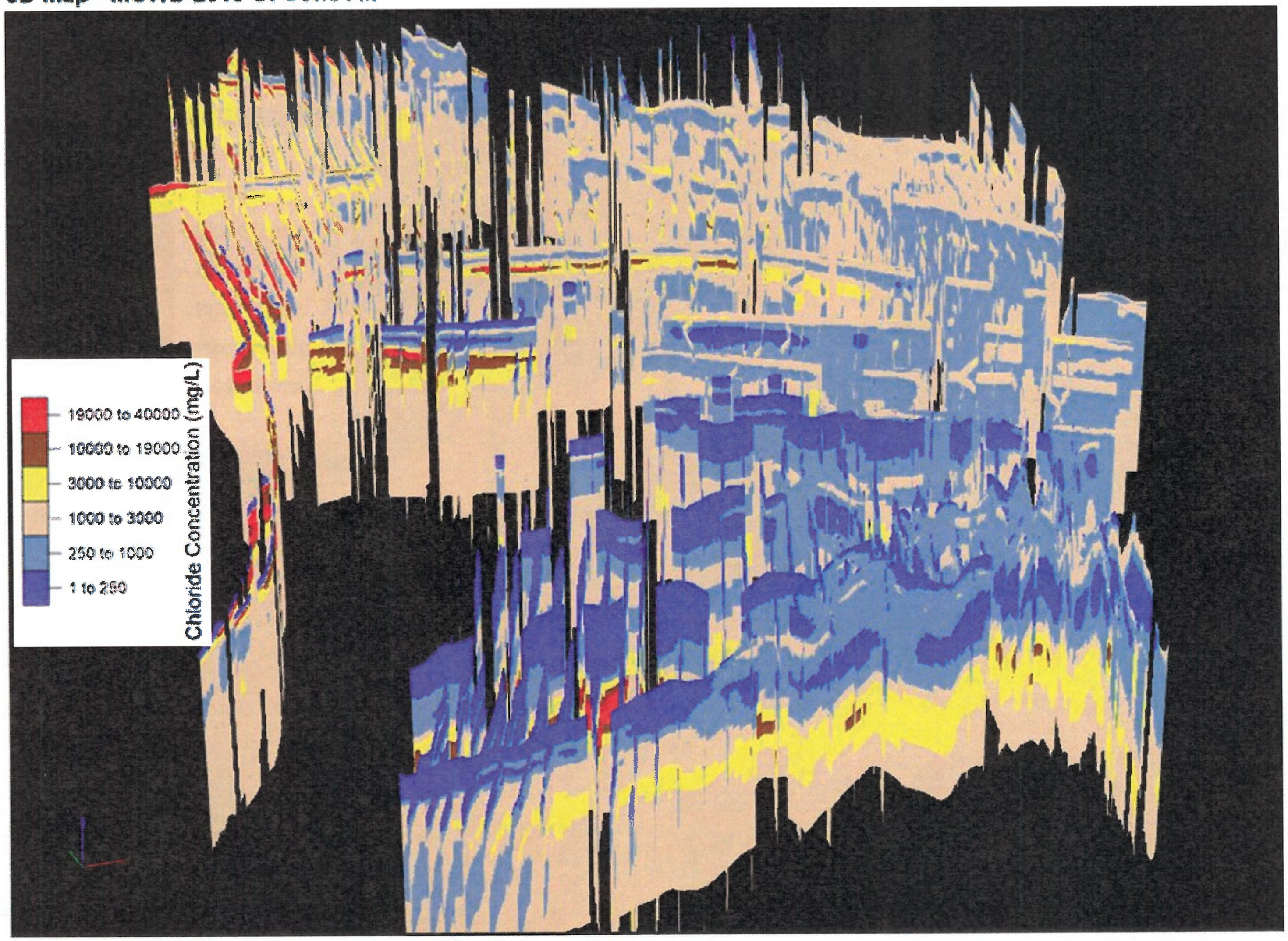


Figure 4-48. 3D fence diagram of MCWD 2019 inverted AEM resistivity and calculated chloride concentrations, looking to the northeast. V.E.=x10.

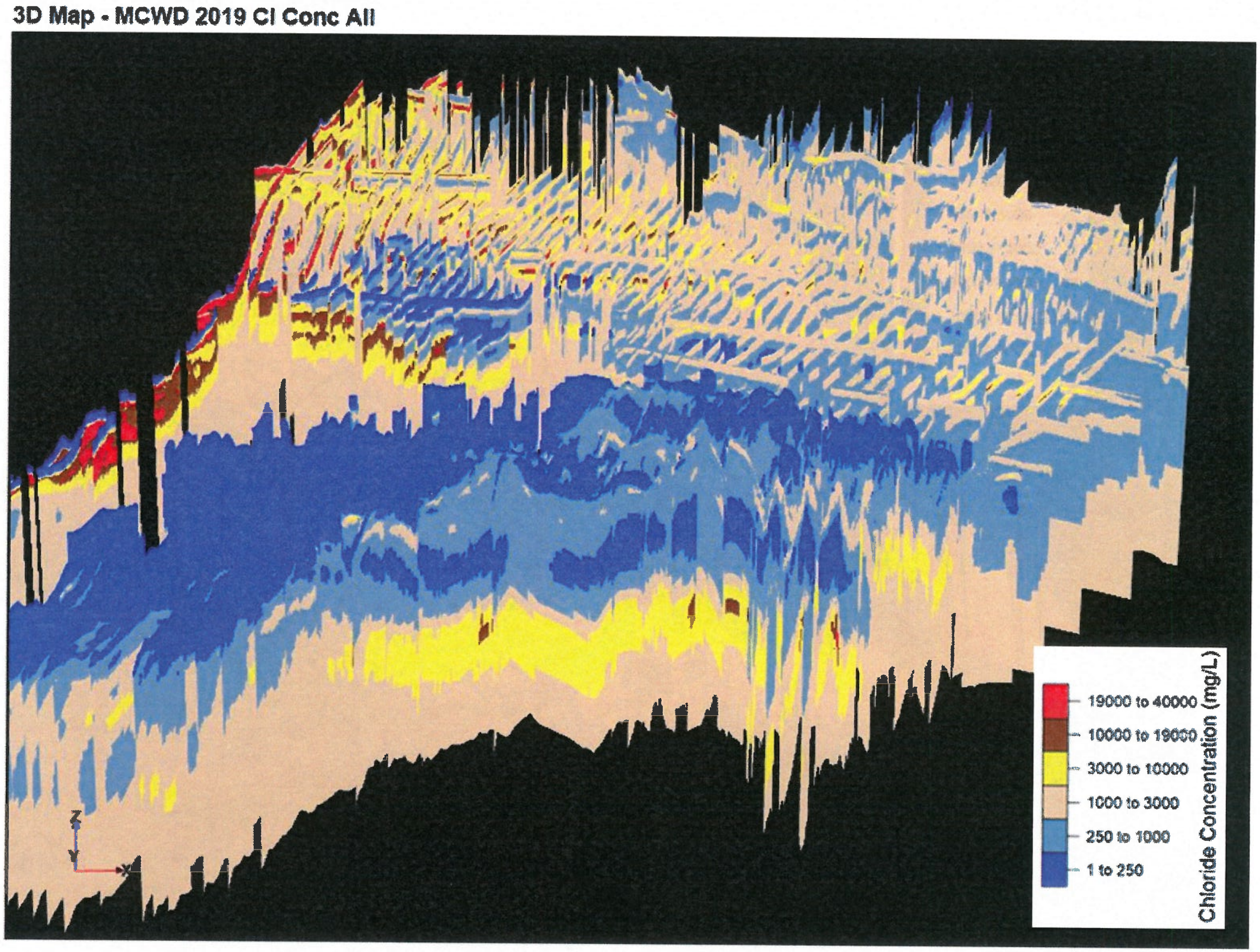


Figure 4-49. 3D fence diagram of MCWD 2019 inverted AEM resistivity and calculated chloride concentrations, looking to the north. V.E.=x10.

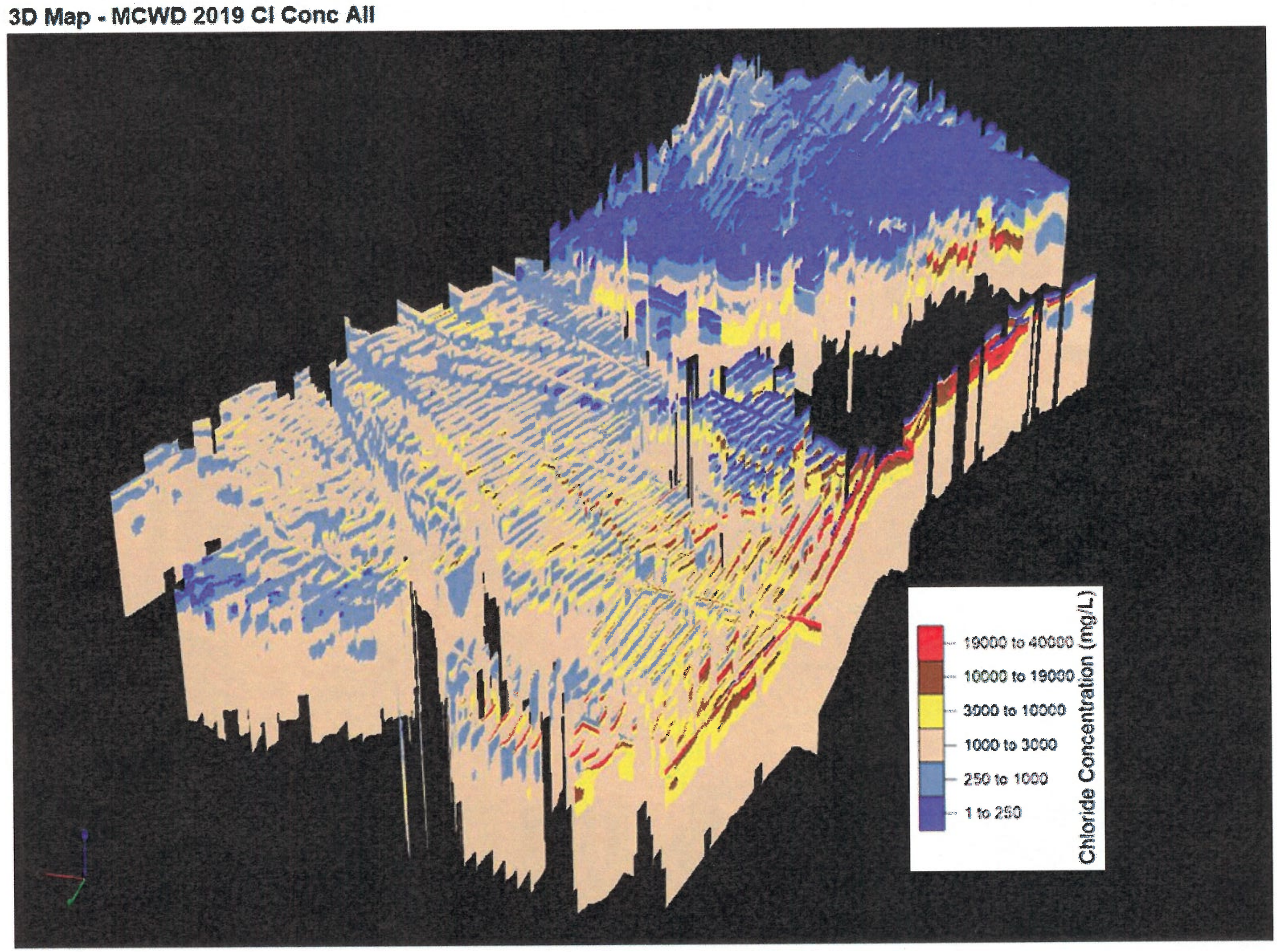


Figure 4-50. 3D fence diagram of MCWD 2019 inverted AEM resistivity and calculated chloride concentrations, looking to the south. V.E.=x10.

4.6 Comparison of MCWD 2017 and 2019 AEM Chloride Concentration Distributions – 2D Profiles, Depth Slices, Northing Slices, Easting Slices

Comparison 2019-2017 CLconc 2D profiles

Comparison 2019-2017 Depth Slices

Comparison 2019-2017 Northing Slices

Comparison 2019-2017 Easting Slices

Comparison 2019-2017 Voxel slices.

Comparison 2019-2017 Voxel Ranges BelowRho75om-m_1-500_10000-40000

Included in this section are comparisons of the MCWD 2017 AEM survey results and the 2019 AEM survey results via the calculated chloride concentrations. The comparisons are presented in multiple formats. First as 2D profiles: L200101-Figure 4-51, L200202-Figure 4-52, L200501-Figure 4-53, L201201-Figure 4-54, L204001-Figure 4-55, L204701-Figure 4-56, L206801-Figure 4-57, L100501-Figure 4-58.

Next, the comparisons are made using 3D voxels. An example of the full 3D voxel of the MCWD 2019 AEM-calculated estimated chloride concentrations is presented in Figure 4-59.

The 3D voxel can be cut into depth slices and the 2017 and 2019 results compared: -4 m/-13 ft – Figure 4-60, -23 m/-75 ft – Figure 4-61, -47 m/-154 ft – Figure 4-62, -56 m/-184 ft – Figure 4-63, -80 m/-263 ft – Figure 4-64, -100 m/-328 ft – Figure 4-65, -133 m/-436 ft – Figure 4-66.

Examples of the voxels being cut along UTM eastings and northings (in meters) are presented in Figure 4-67 (at Easting 611450), Figure 4-68 (at Easting 615450), and Figure 4-69 (at Northing 4062400).

Finally, the display of the 3D voxels can be "thresholded" to show only certain chloride concentration ranges. This allows for visual comparisons between different chloride concentration ranges of interest. Figure 4-70 shows what appears to be a single 3D voxel. Actually, it is composed of six (6) ranges with all ranges displayed. Figure 4-71 presents the same 3D voxel with the 1,000 mg/L to 3,000 mg/L (1k-3k) display turned off and only ranges 1-500 mg/L and 3,000-40,000 mg/L (10k-40k) displayed. Figure 4-72 presents a comparison of the estimated chloride concentrations from the MCWD 2017 and 2019 investigations displaying only estimated chloride concentration ranges 1-500 mg/L and 10k-40k mg/L (no 1k-3k mg/L and 3k to 10k mg/L ranges) with a view looking to the east. Figure 4-73 shows the same ranges as Figure 4-72 but the view is to the north.

All the 2D profile comparisons can be found in Appendix 1 – 2D Profiles. Additional 3D voxel images can be found in Appendix 2 – 3D Images. In addition, a 3D voxel Datamine Discover PA session (Datamine Discover, 2019) has been developed that can be opened in a Datamine Discover PA viewer program (the setup and data files are in Appendix 3-Deliverables/Voxel/PA). Figure 4-74 presents a screen capture of the Datamine Discover PA Viewer (Datamine Discover PA, 2019) session. The operator can change views of the 2019 inverted resistivity and estimated chloride concentrations as well as change which ranges are displayed for the MCWD 2017 and 2019 AEM investigations.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

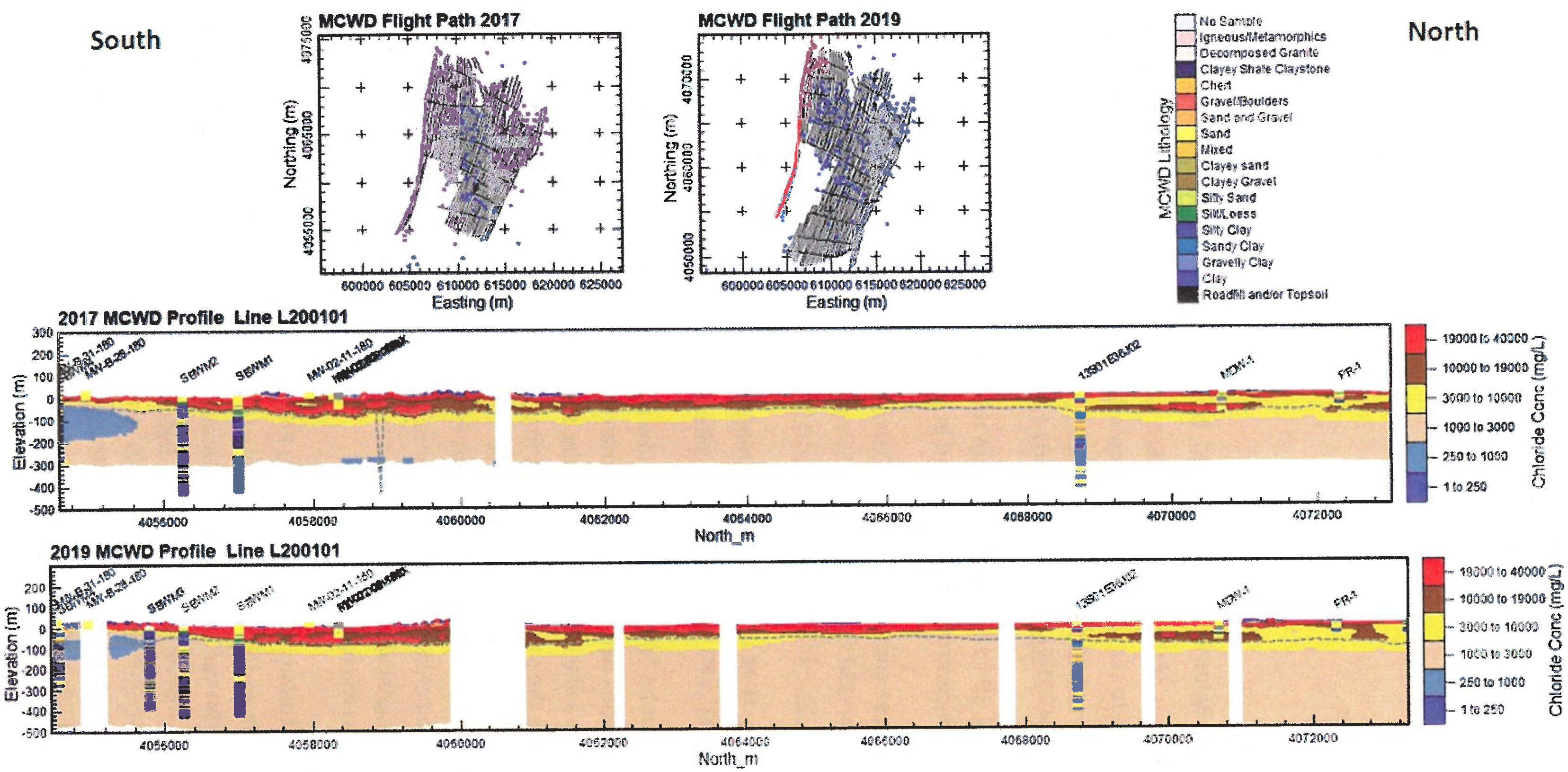


Figure 4-51. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L200101 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

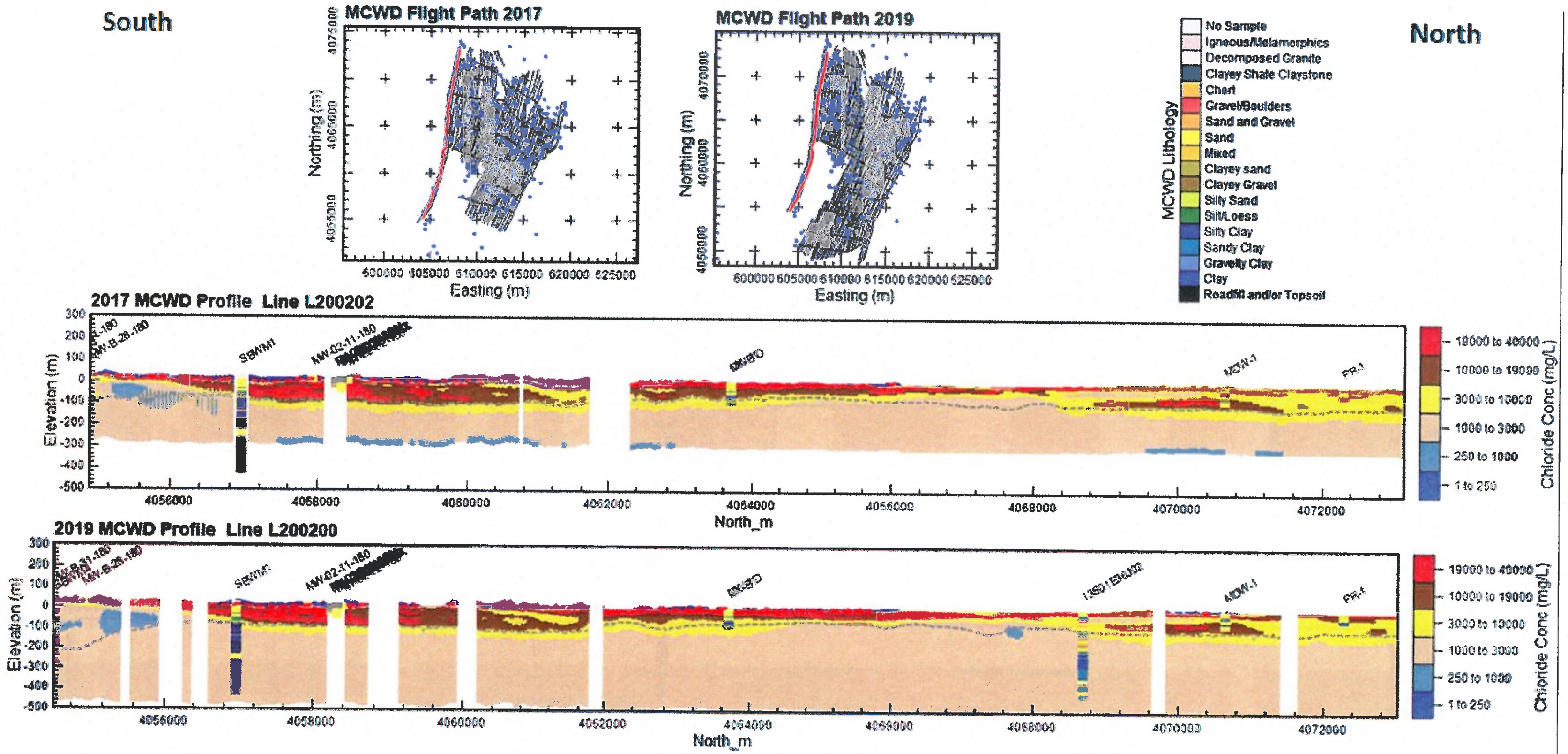


Figure 4-52. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L200202/L200200 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

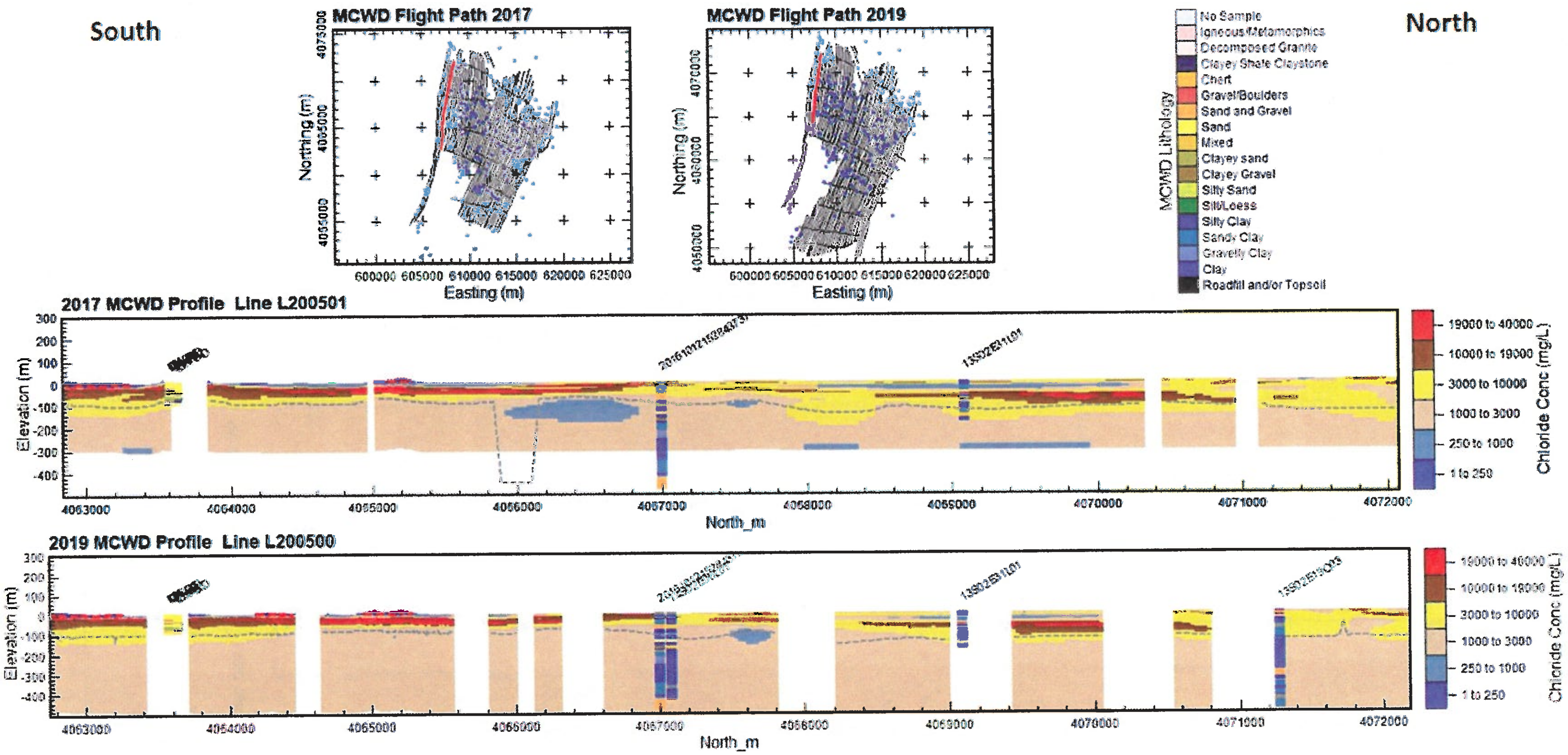


Figure 4-53. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L200501/L200500 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

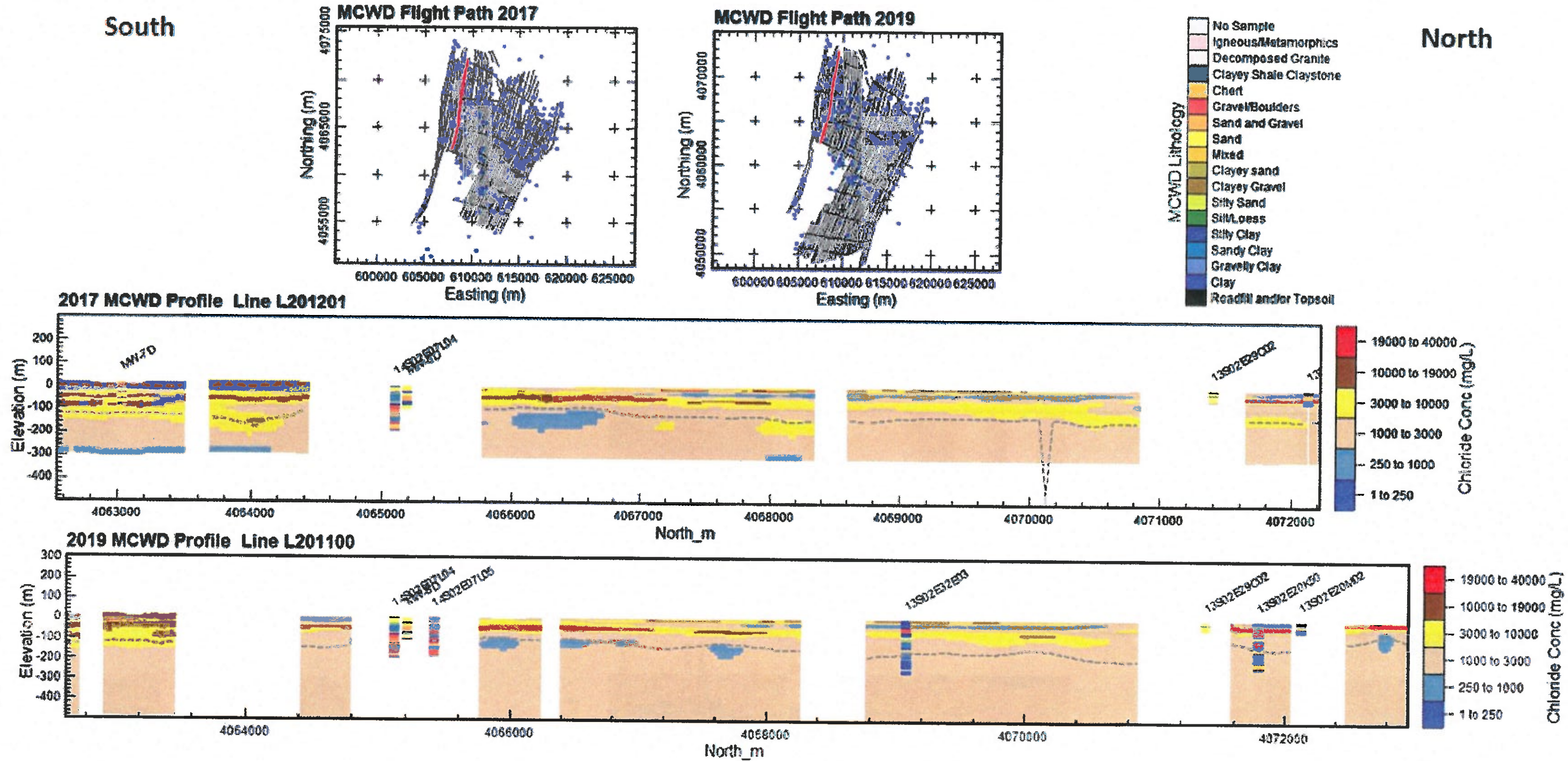


Figure 4-54. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L201201 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

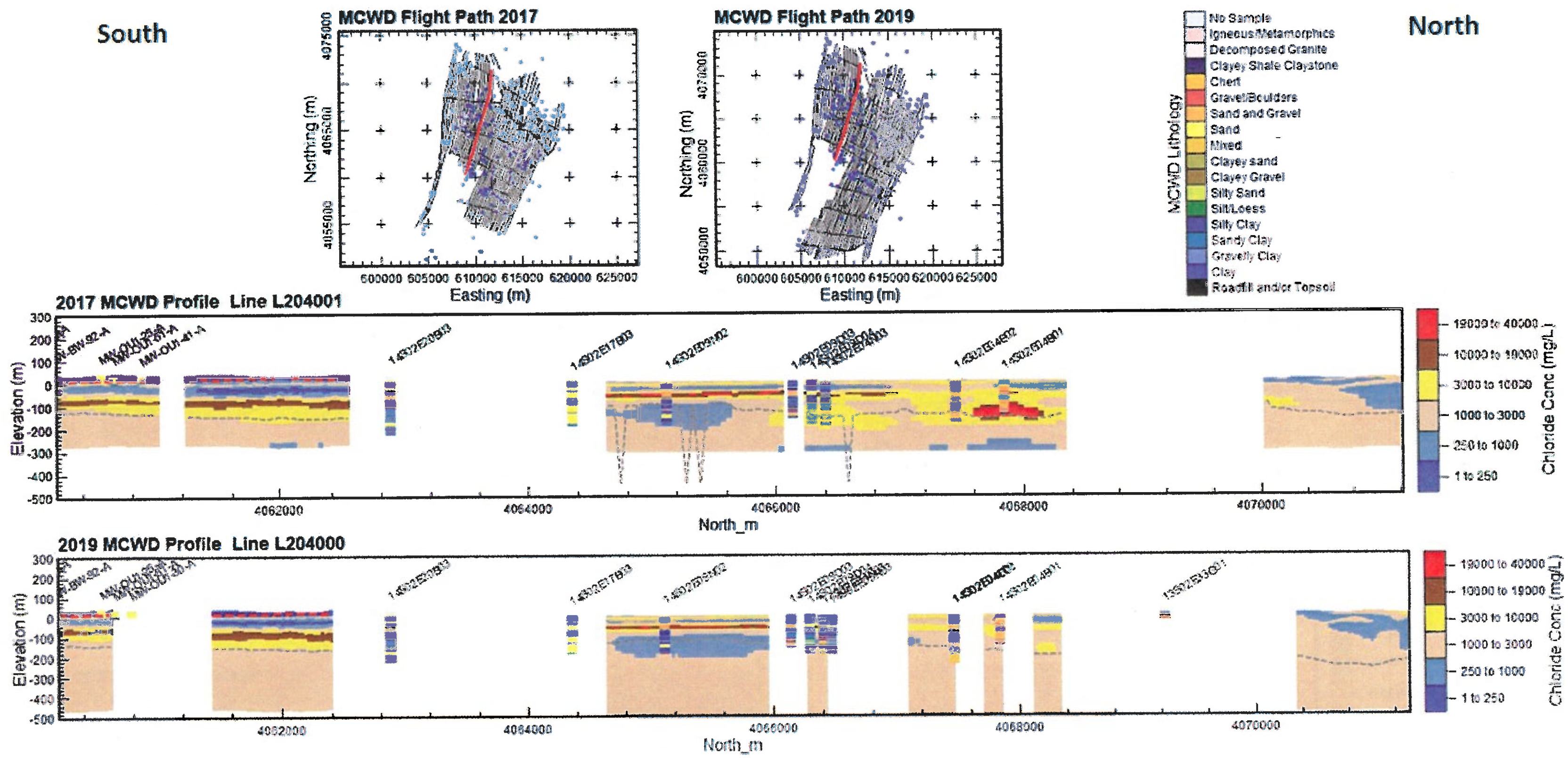


Figure 4-55. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L204001/L204000 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

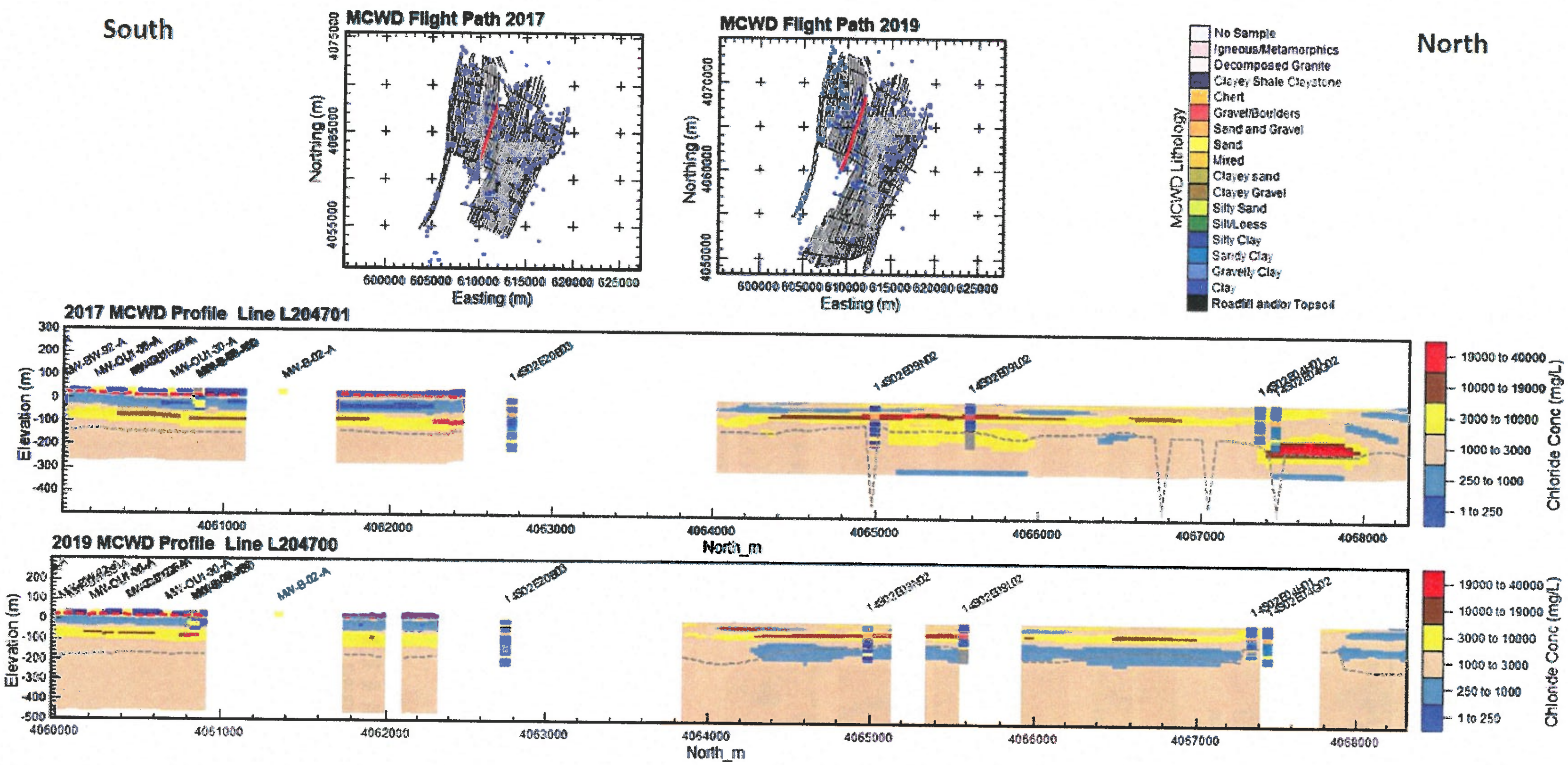


Figure 4-56. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L204701/L204700 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

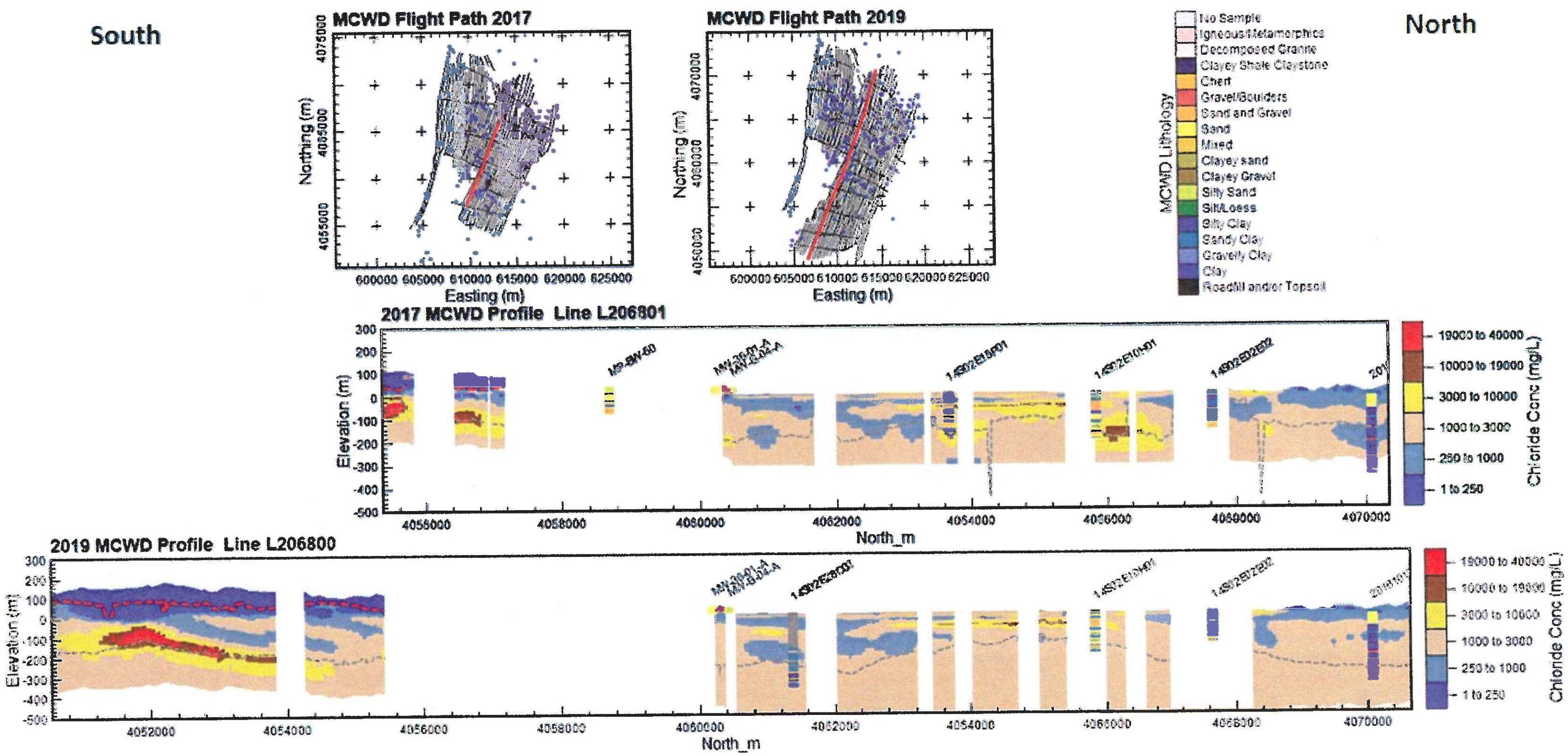


Figure 4-57. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L206801/L206800 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, NAVD88 me and the elevation values are referenced to NAVD 88, meters.

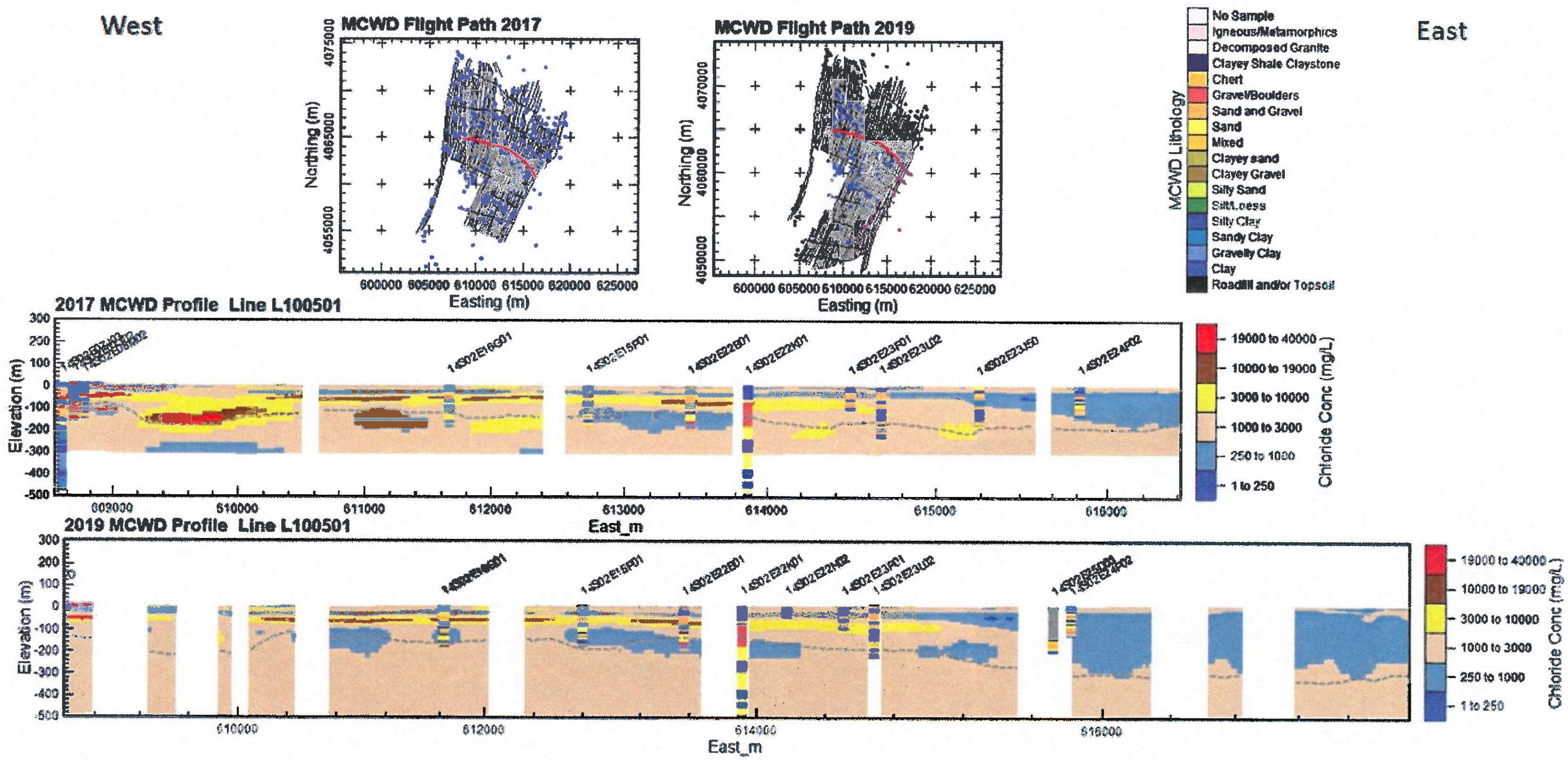


Figure 4-58. Comparison of MCWD 2017 (top) and 2019 (bottom) calculated chloride concentrations along flight line L100501 with lithology logs within 250 m of the flight line. The projection is NAD83, UTM 10N, meters, and the elevation values are referenced to NAVD 88, meters.

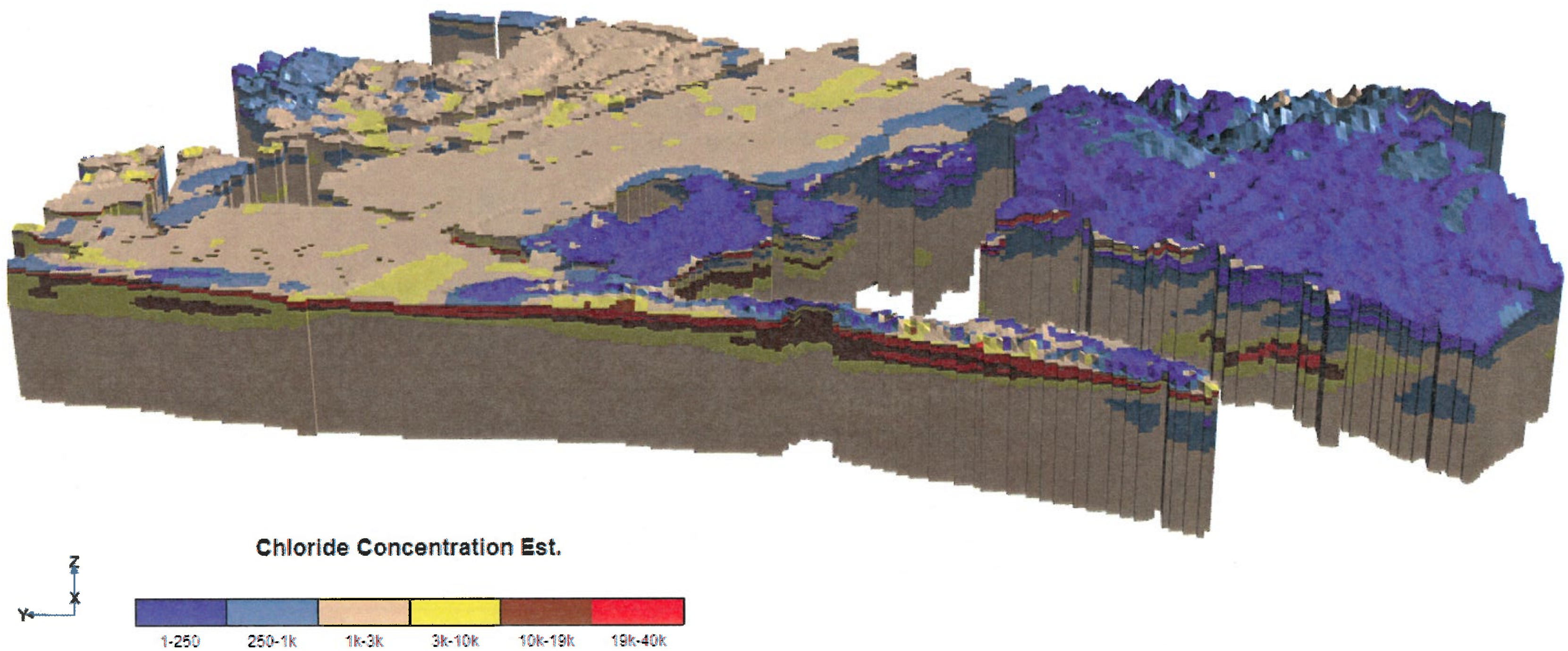
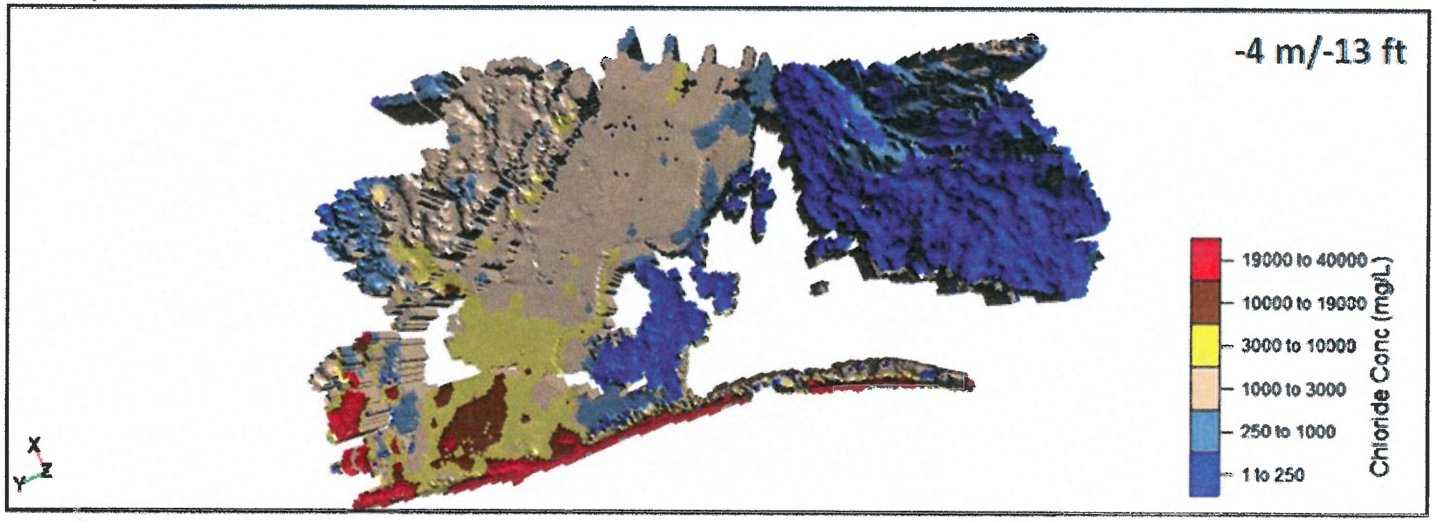


Figure 4-59. 3D voxel of the MCWD 2019 AEM-derived estimated chloride concentrations with a view to the east. V.E.=x5.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

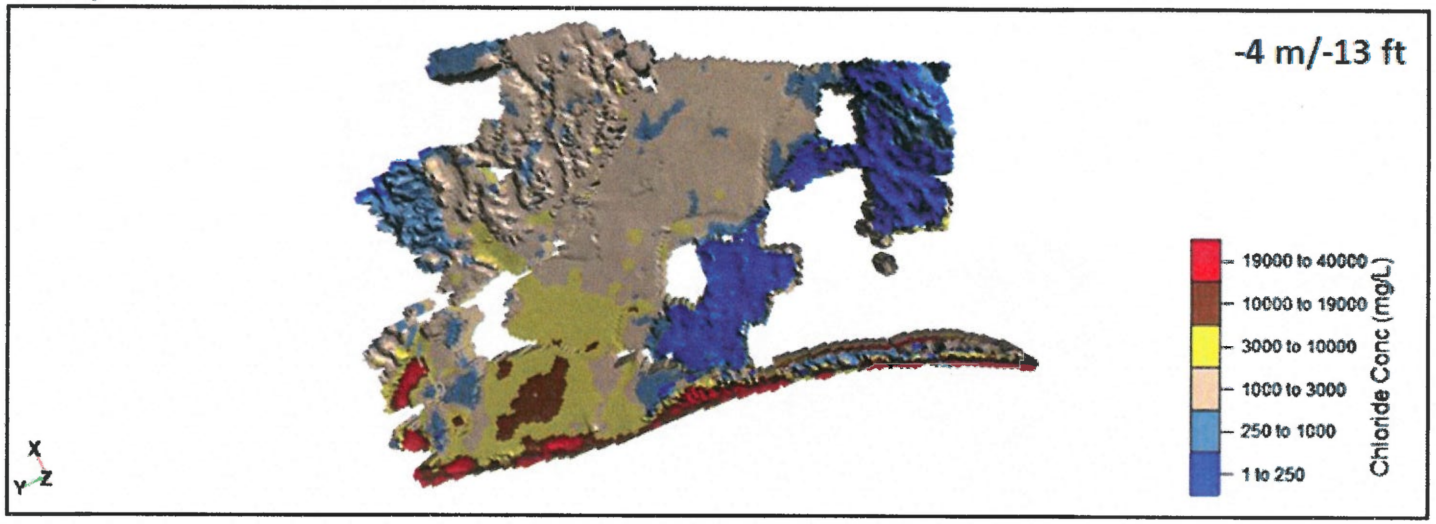
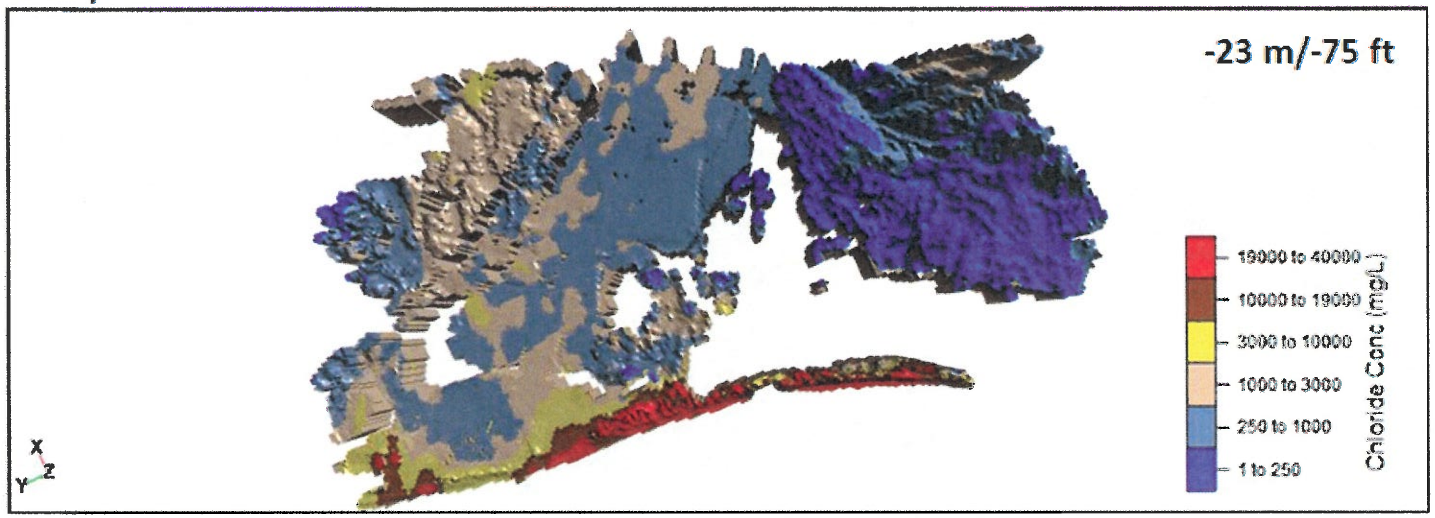


Figure 4-60. Depth slice comparison at -4 m/-13 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

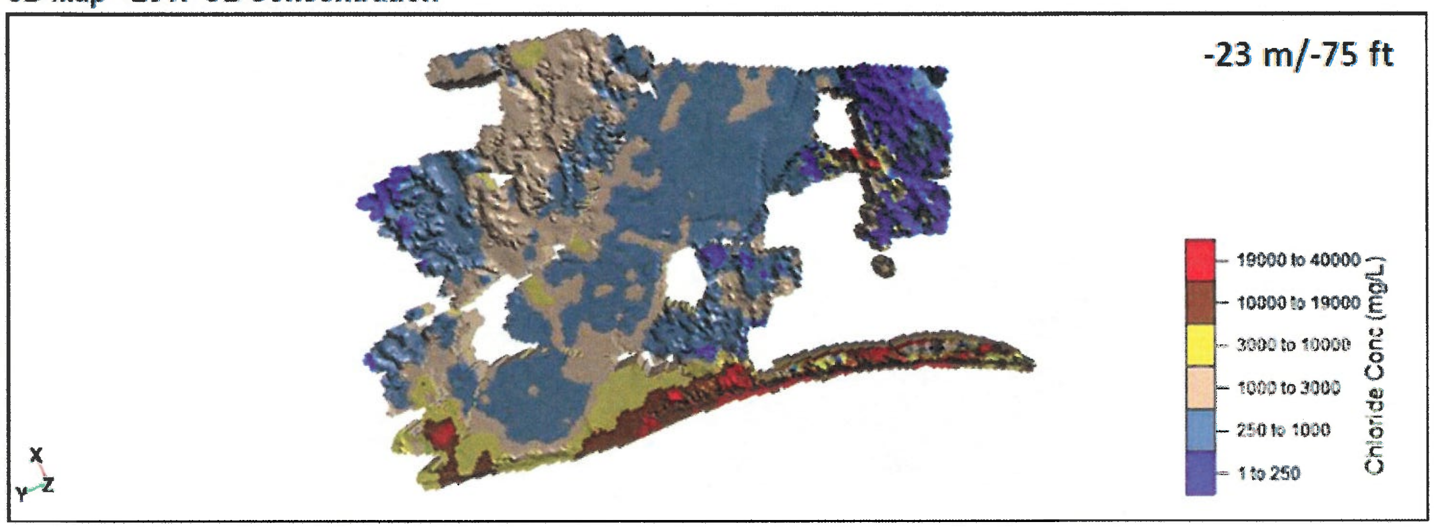
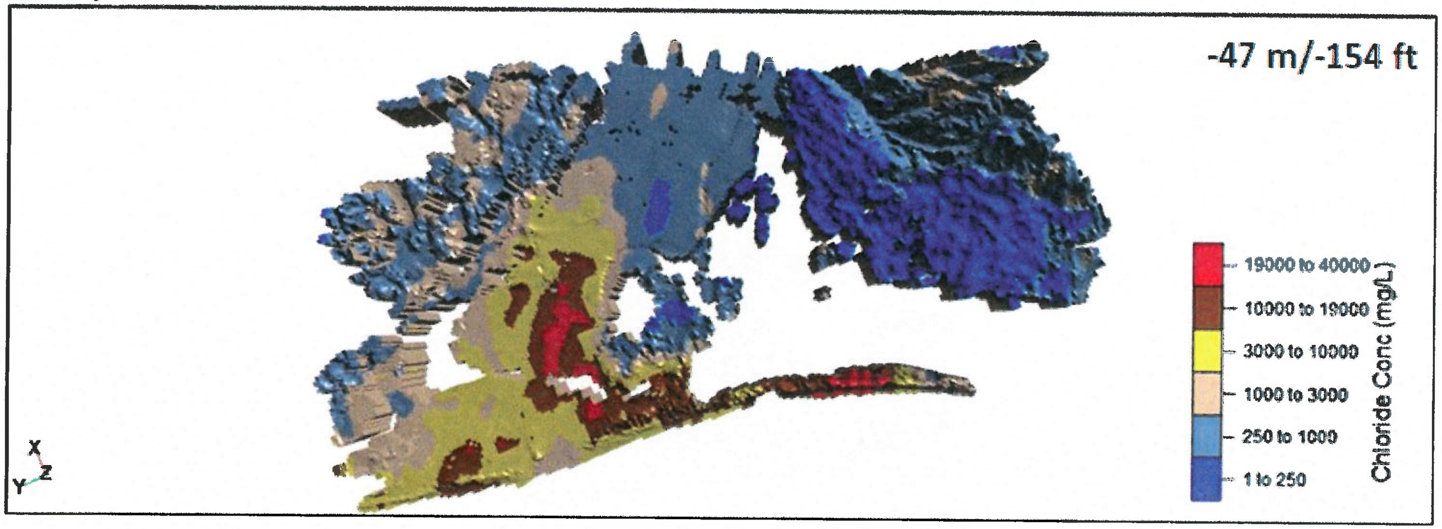


Figure 4-61. Depth slice comparison at -23 m/-75 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

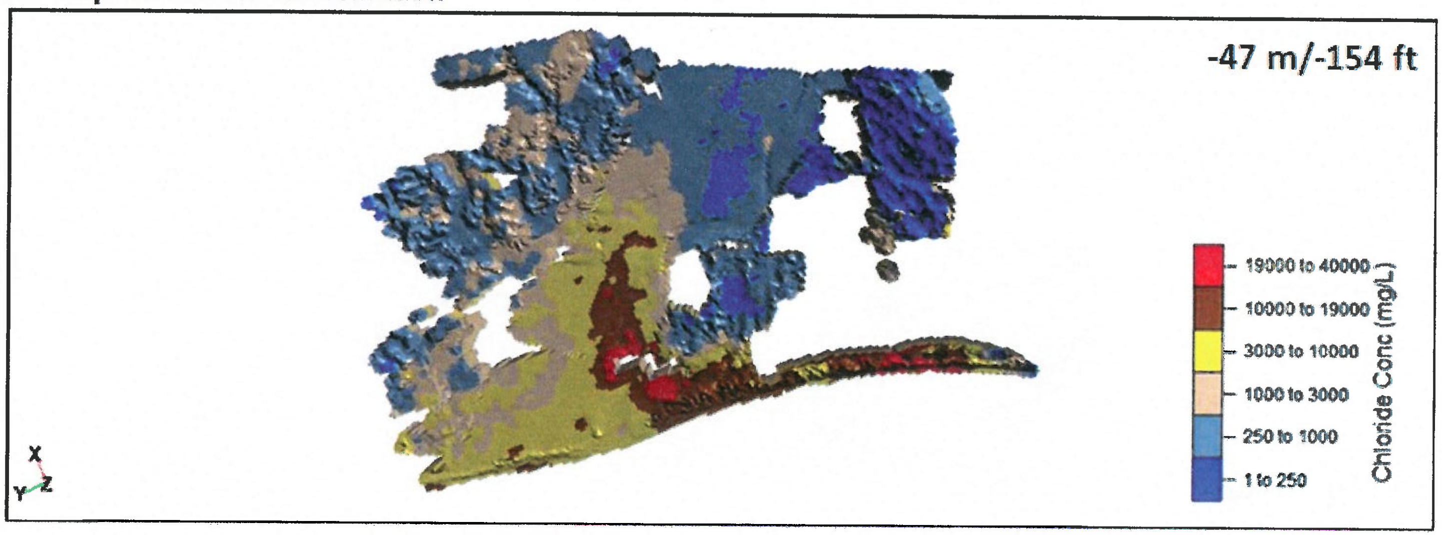
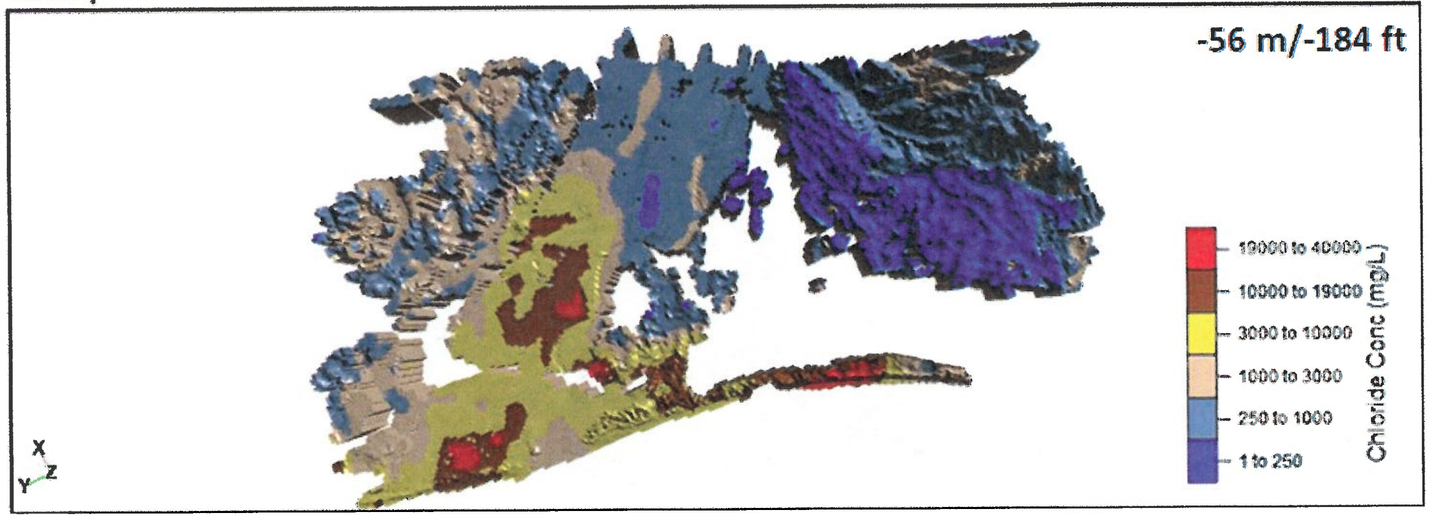


Figure 4-62. Depth slice comparison at -47 m/-154 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

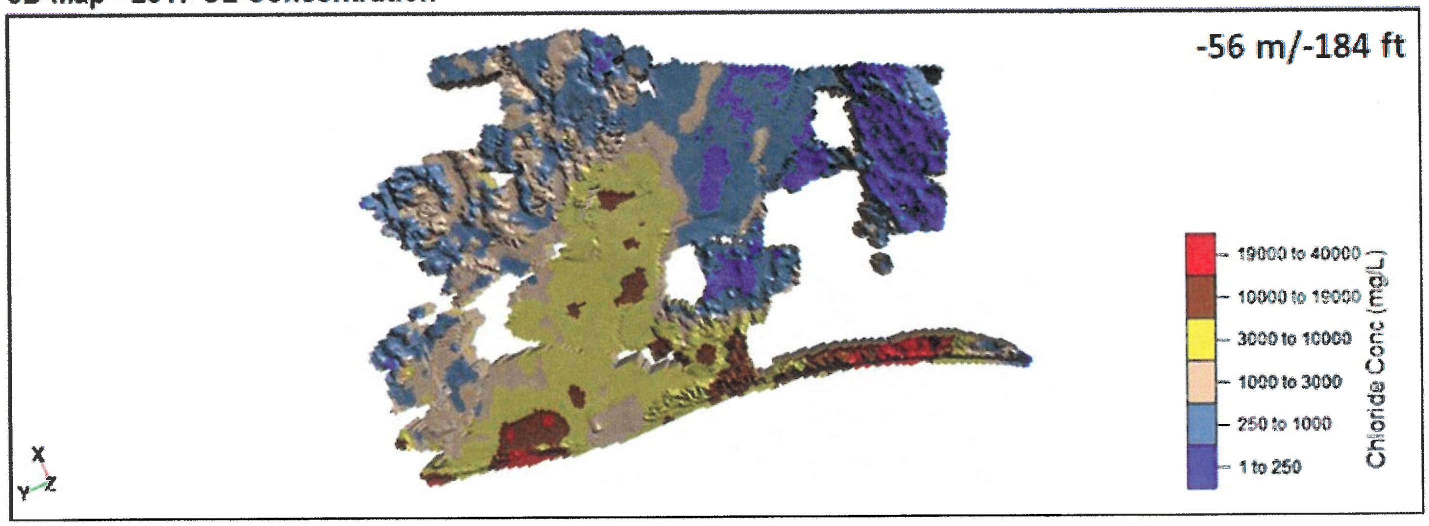
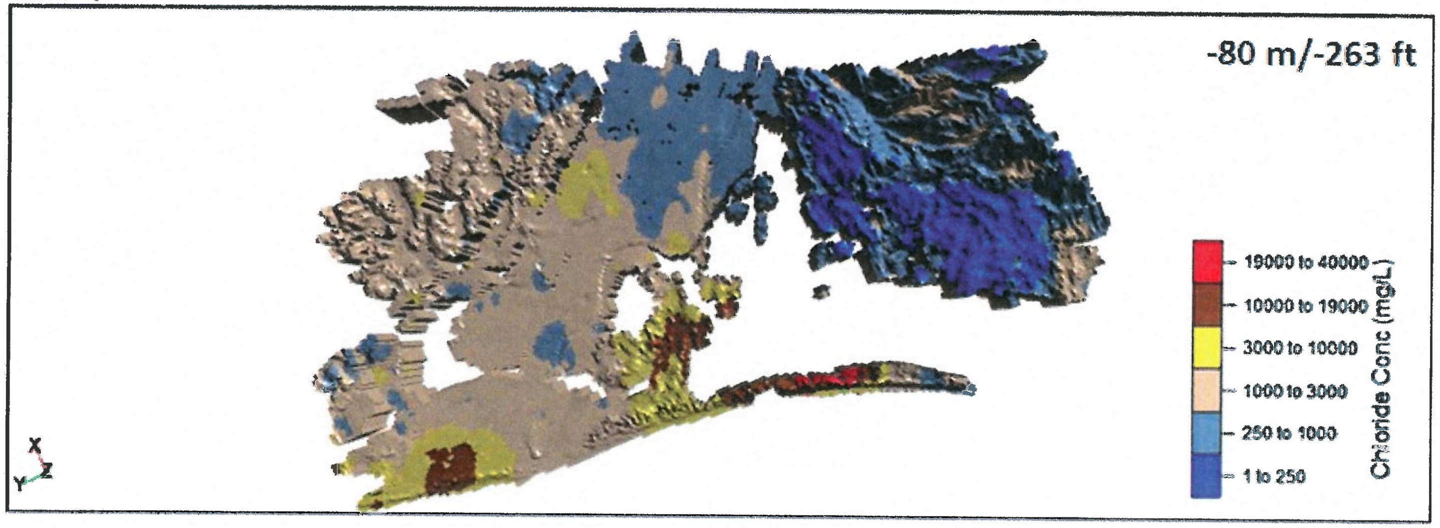


Figure 4-63. Depth slice comparison at -56 m/-184 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

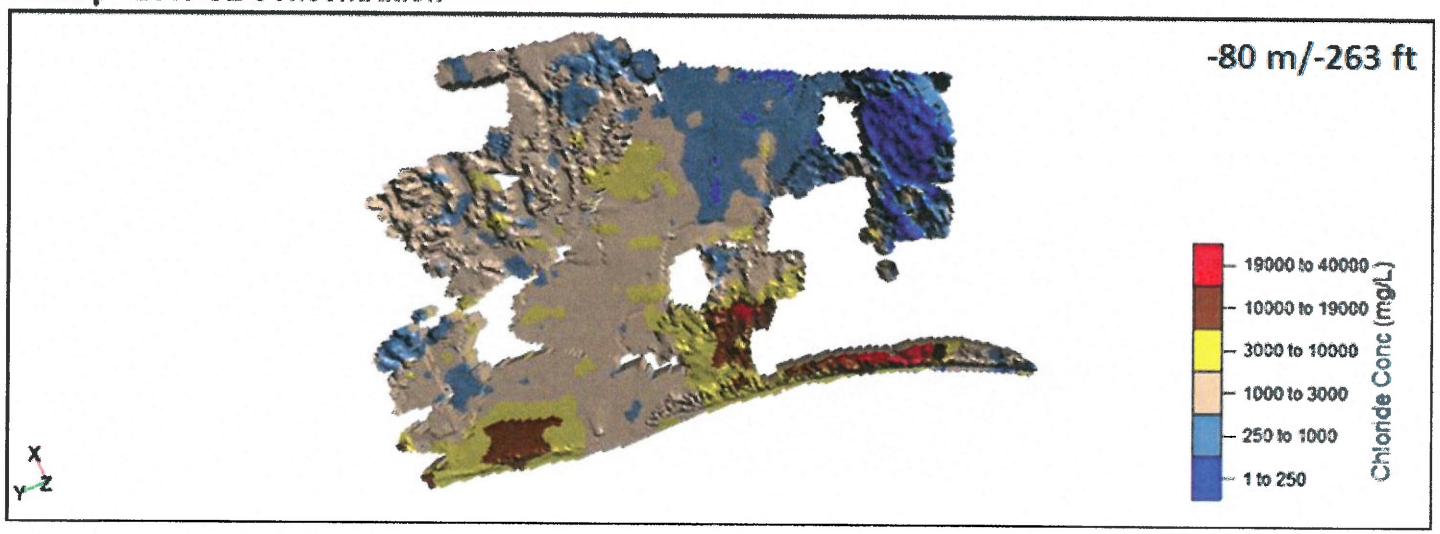


Figure 4-64. Depth slice comparison at -80 m/-263 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

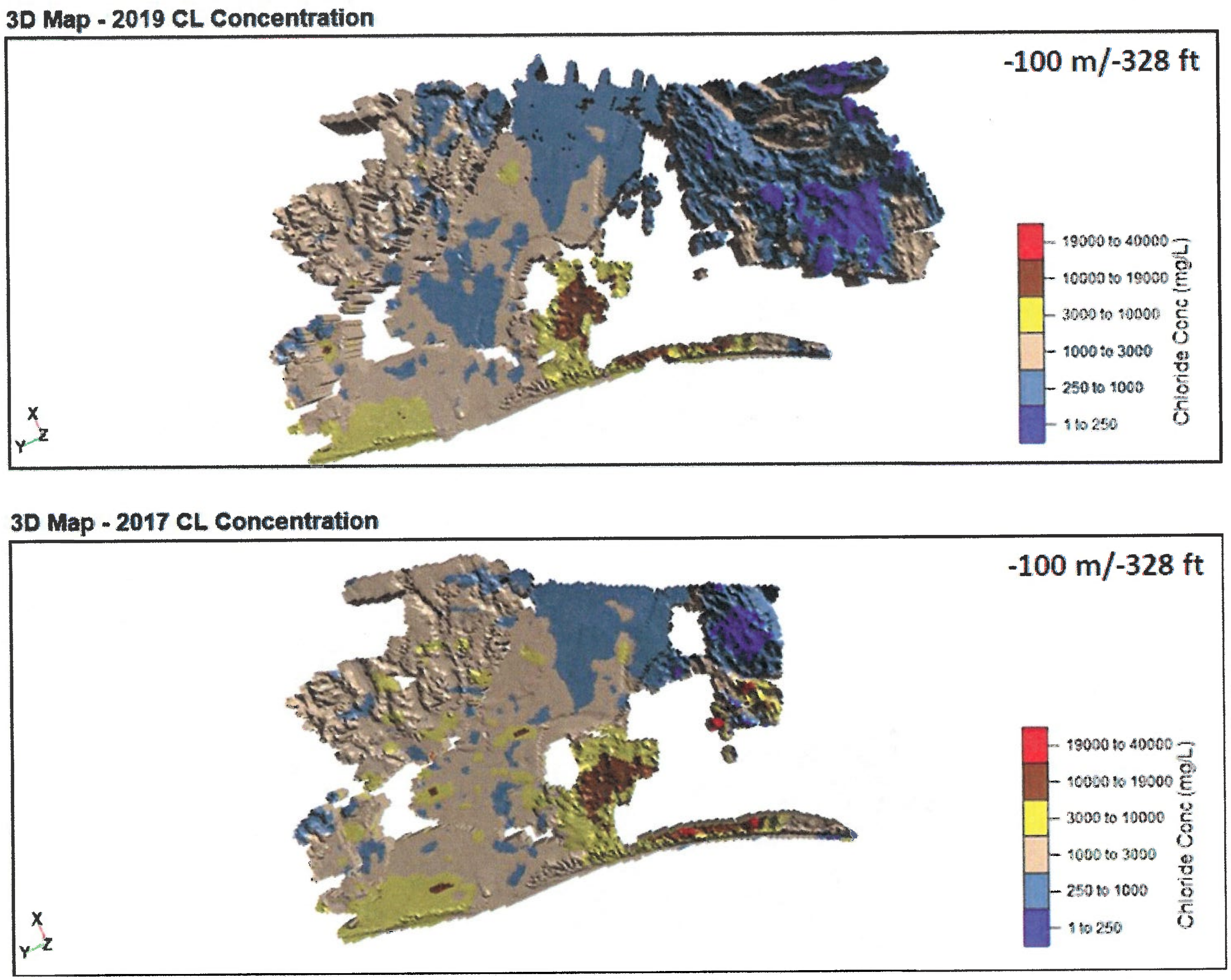


Figure 4-65. Depth slice comparison at -100 m/-328 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

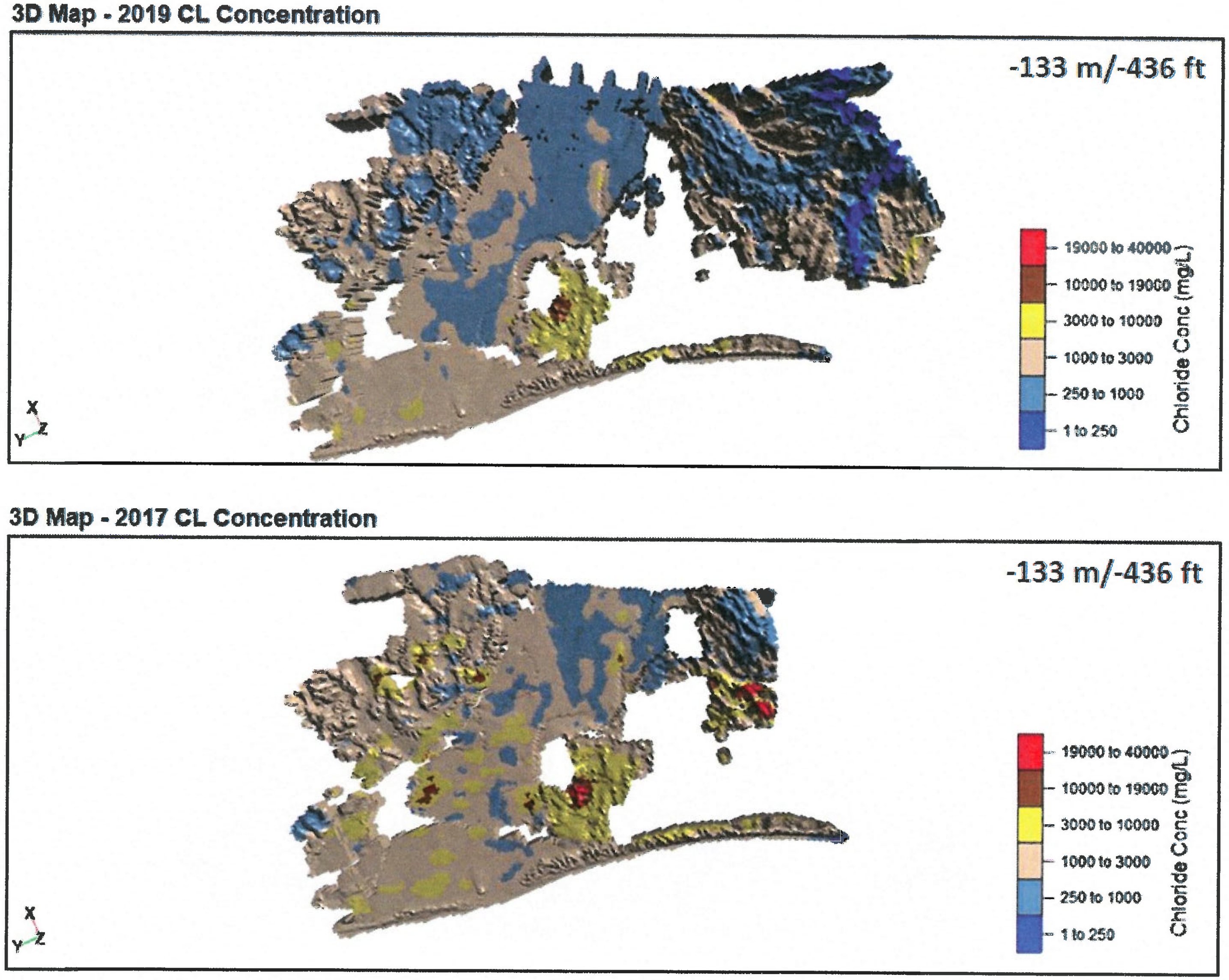
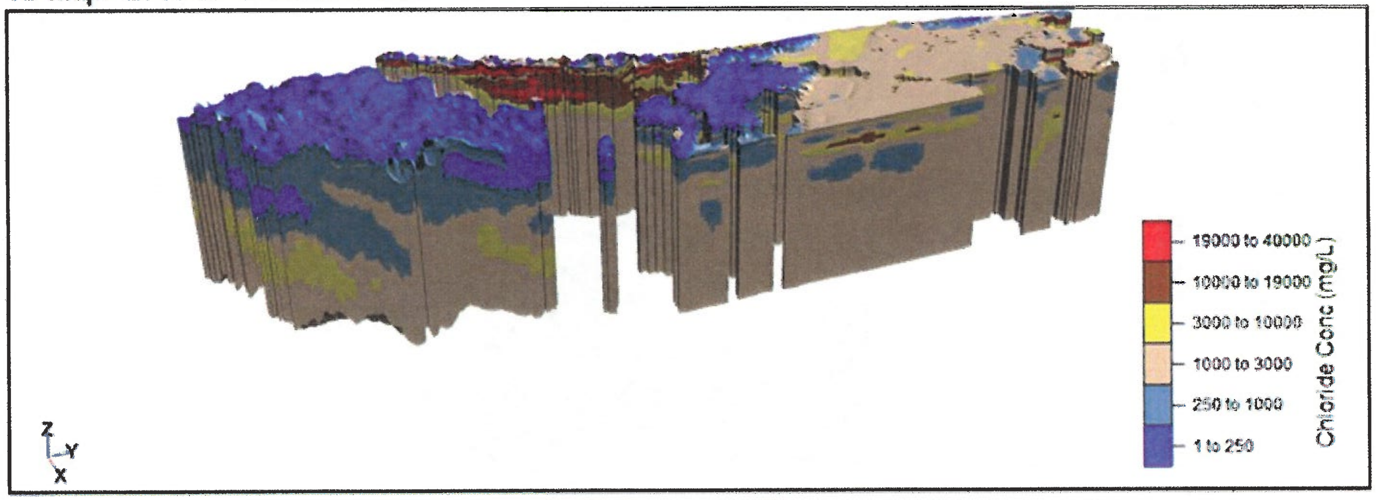


Figure 4-66. Depth slice comparison at -133 m/-436 ft of MCWD 2017 and 2019 AEM investigations via calculated chloride concentrations.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

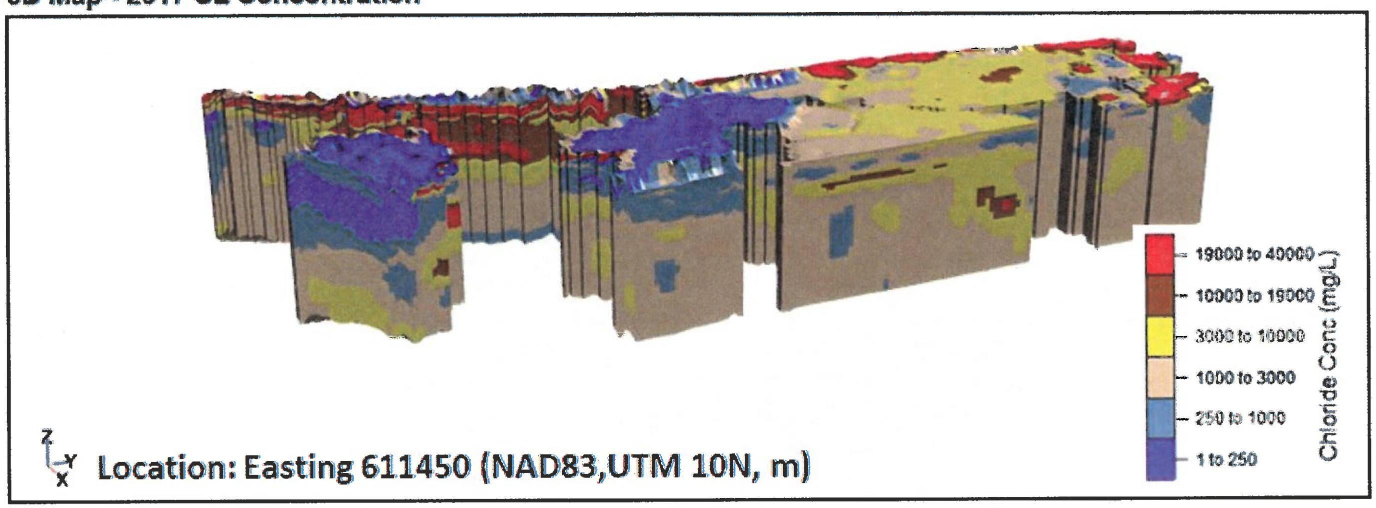
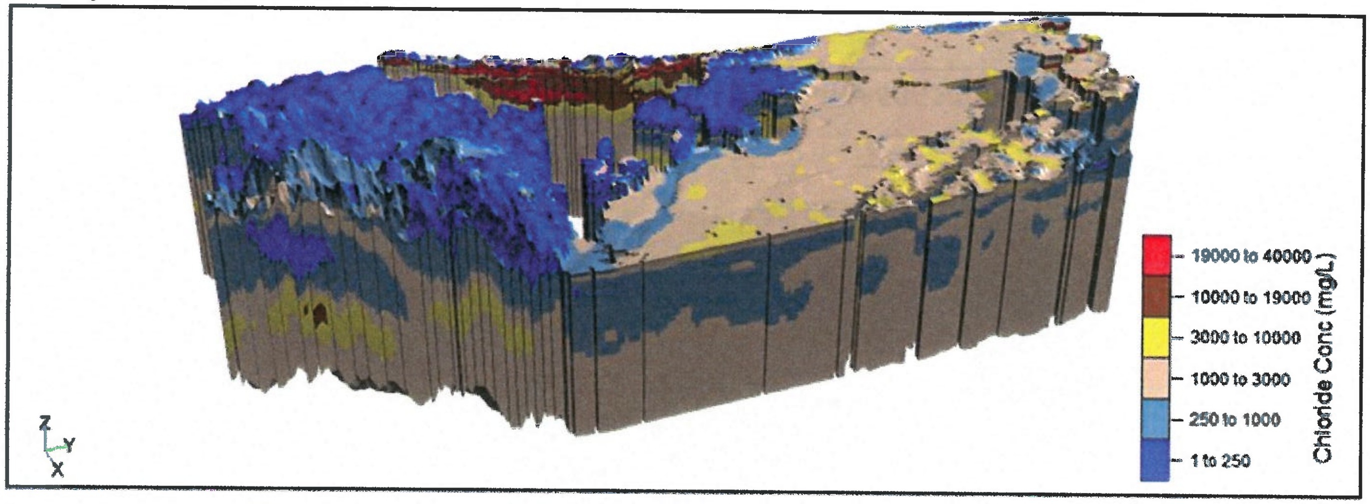


Figure 4-67. Example slice along UTM 10N Easting 611450 (m) of 3D voxels for 2017 (bottom) and 2019 (top) AEM-derived calculated chloride concentrations.

3D Map - 2019 CL Concentration



3D Map - 2017 CL Concentration

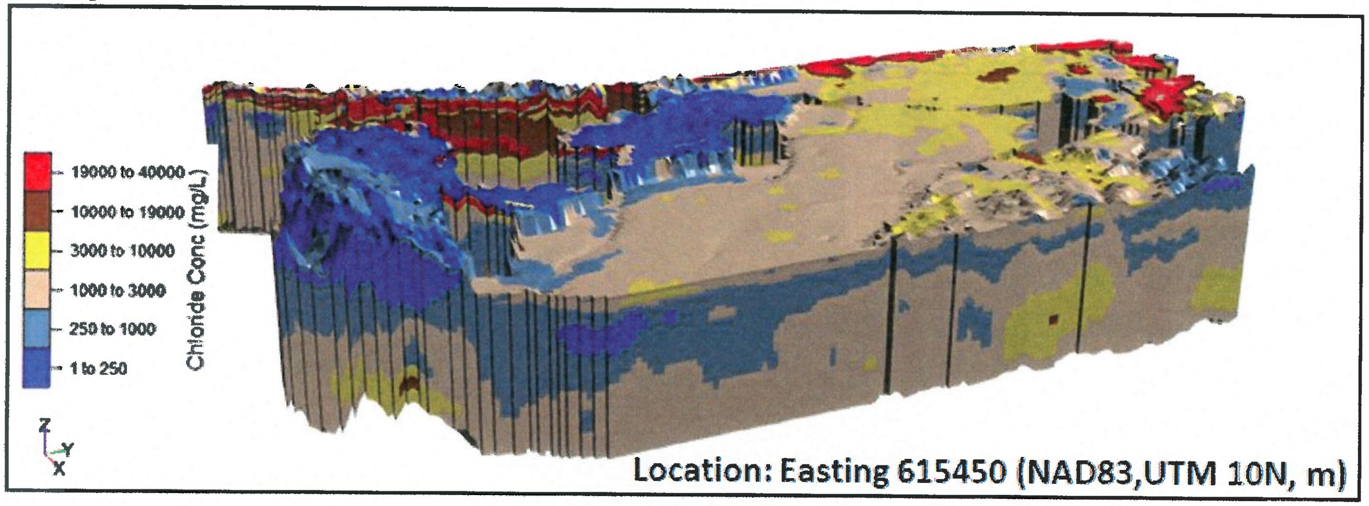


Figure 4-68. Example slice along UTM 10N Easting 615450 (m) of 3D voxels for 2017 (bottom) and 2019 (top) AEM-derived calculated chloride concentrations.

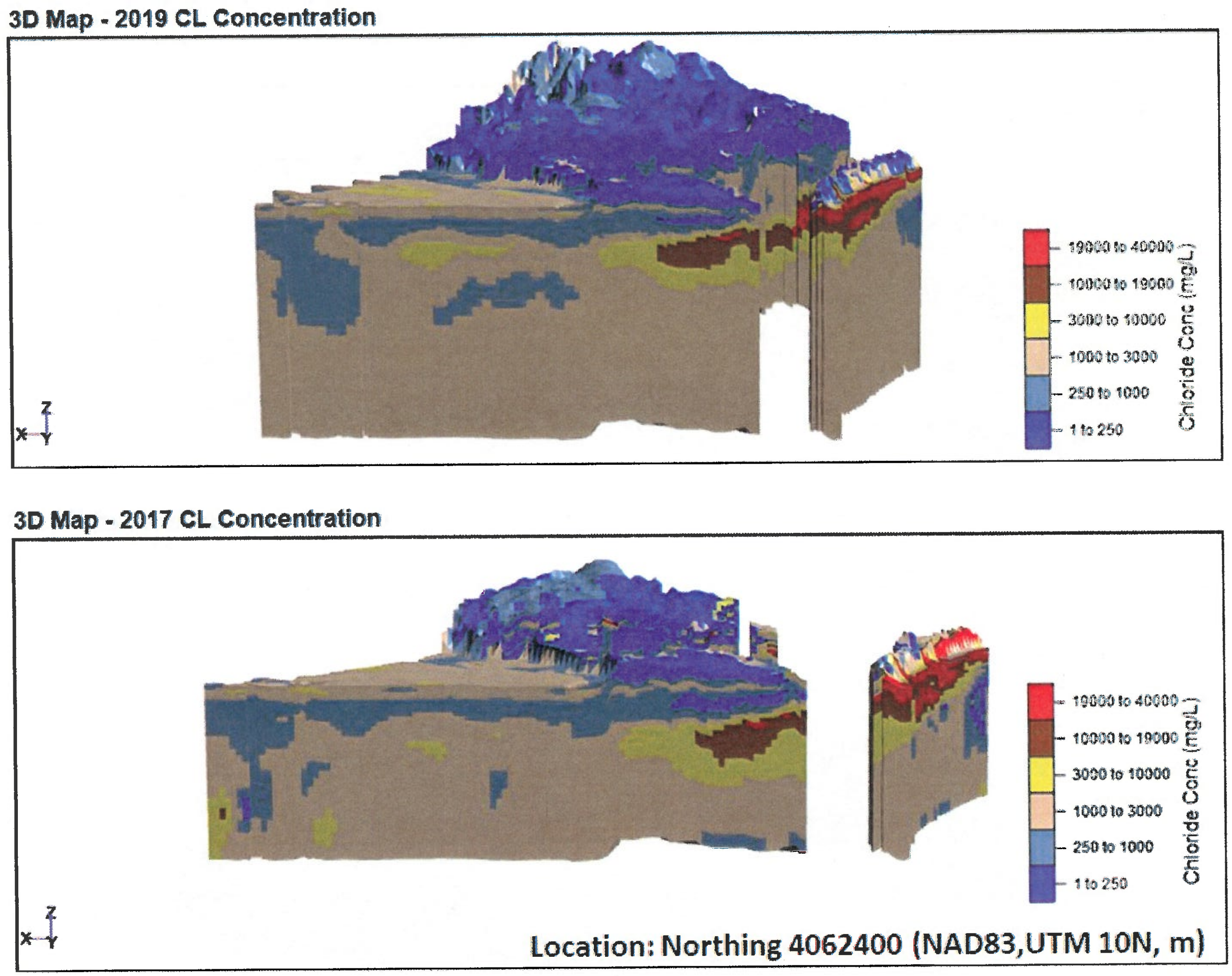


Figure 4-69. Example slice along UTM 10N Northing 4062400 (m) of 3D voxels for 2017 (bottom) and 2019 (top) AEM-derived calculated chloride concentrations.

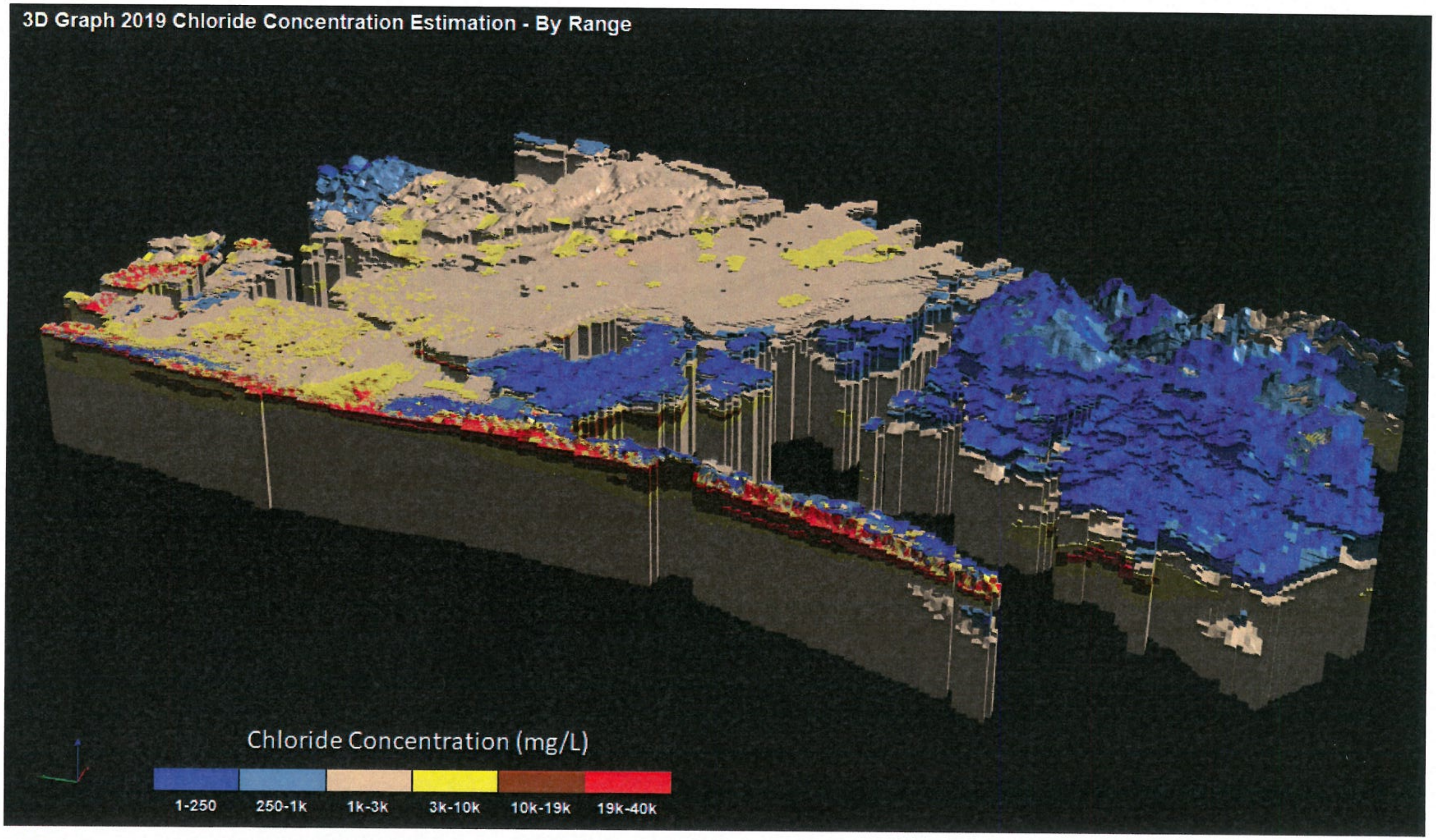


Figure 4-70. 3D voxel of the MCWD 2019 AEM-derived estimated chloride concentrations with a view to the east. While this image is similar to Figure 4-48, it is different in that it is actually five (5) voxels, each representing a different range of estimated chloride concentrations. V.E.=x5.

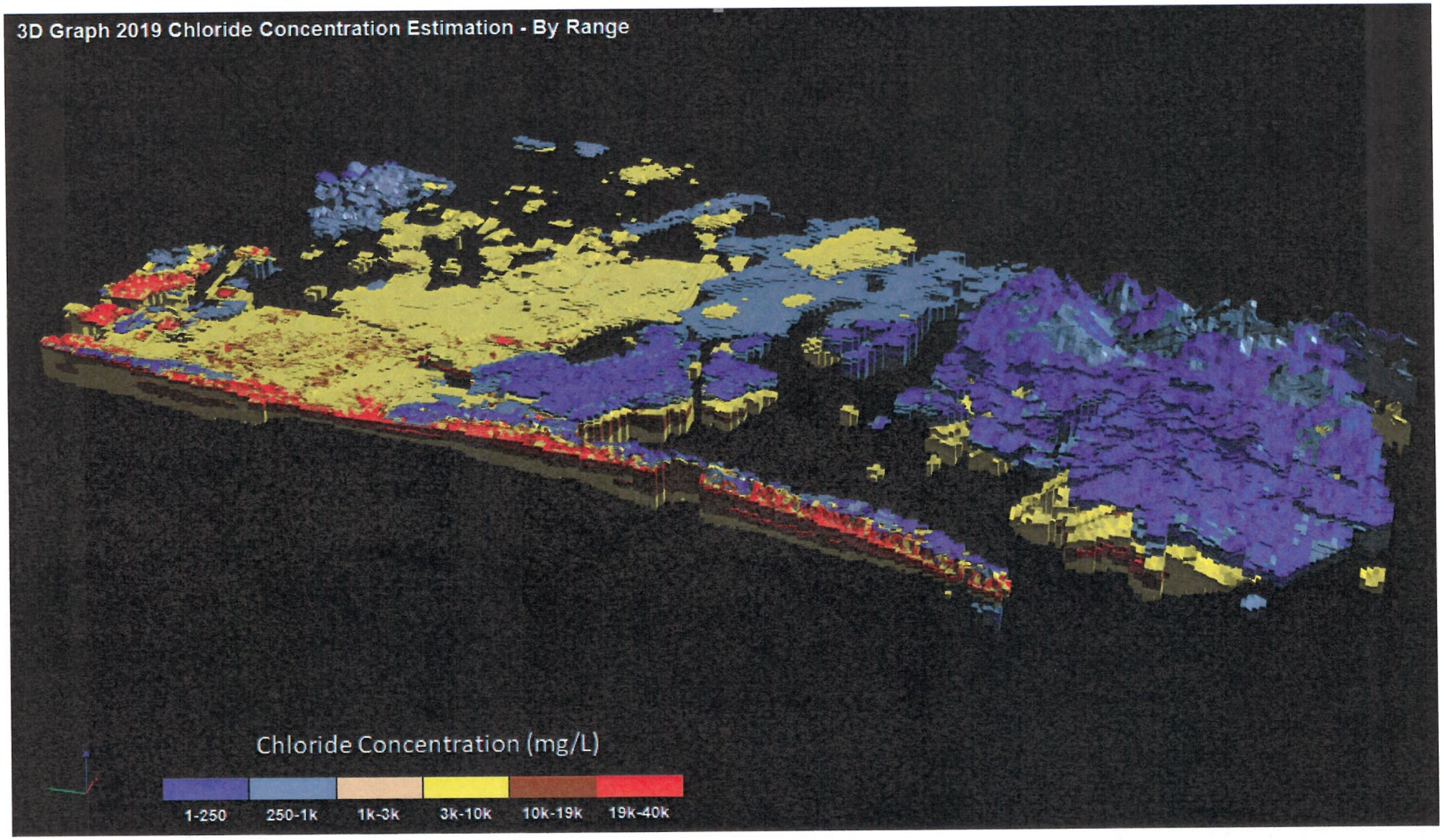
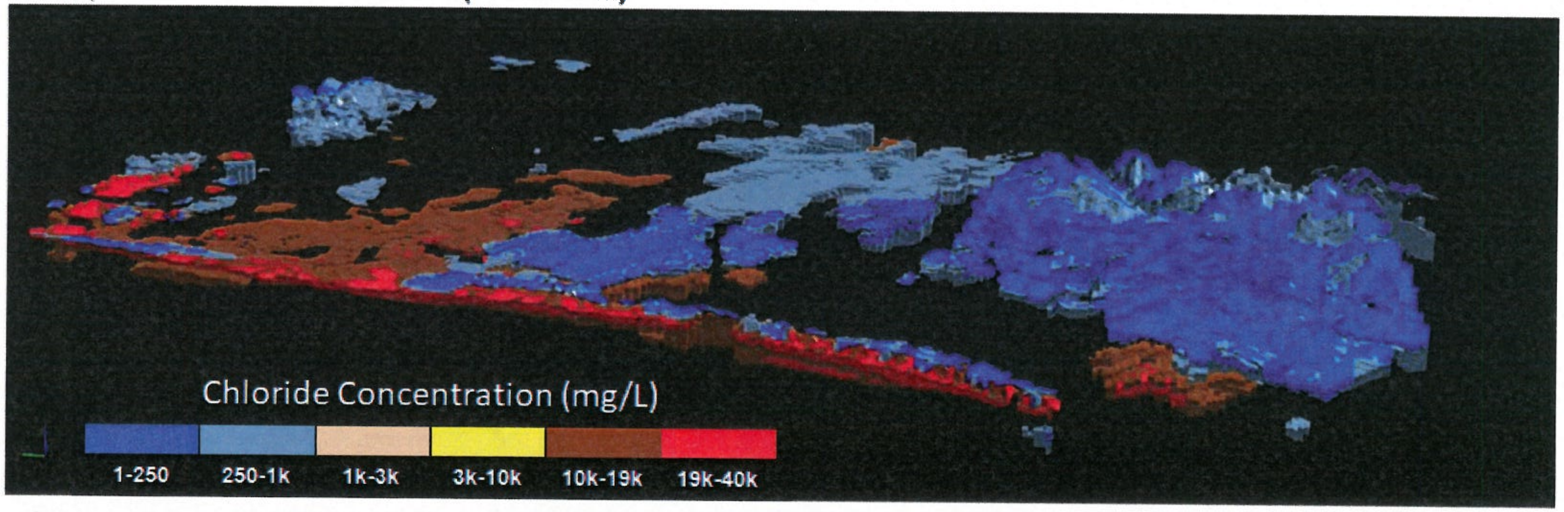


Figure 4-71. This is the same 3D voxel as in Figure 4-70 except that the display of the 1k-3k chloride concentration range has been turned off in order to see the relationships of the other chloride concentration ranges. V.E.=x5.

3D Map - 2019 Cl Conc - Below WT (<75 ohm-m)



3D Map - 2017 Cl Conc - Below WT (<75 ohm-m)

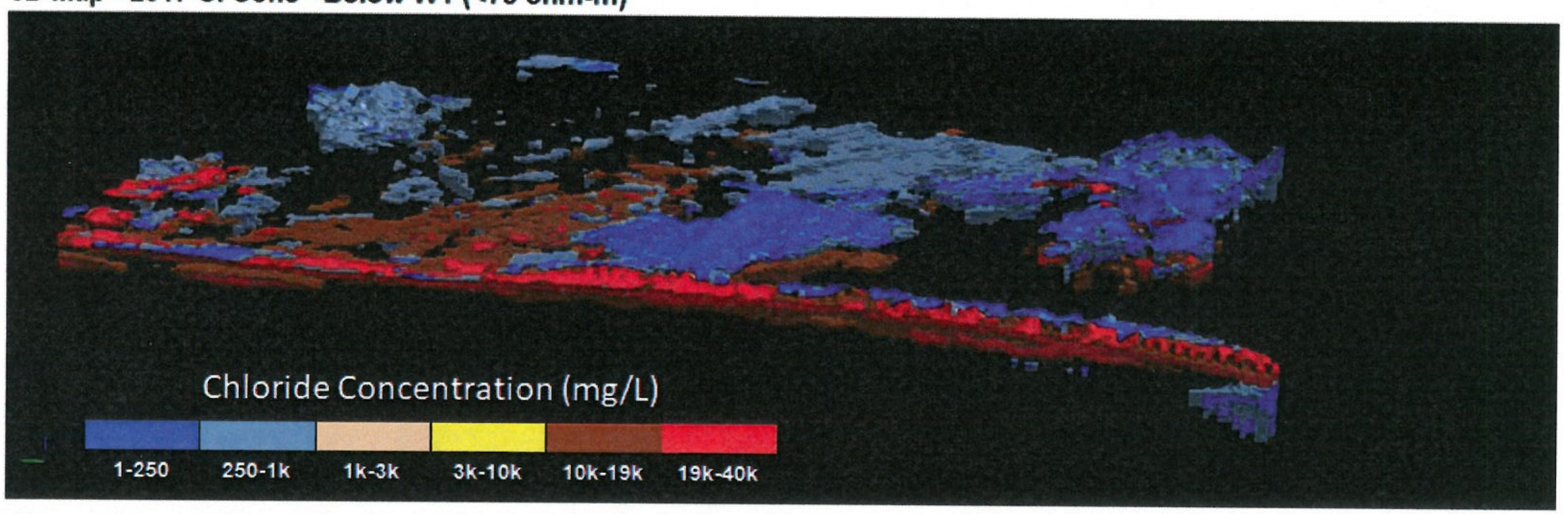
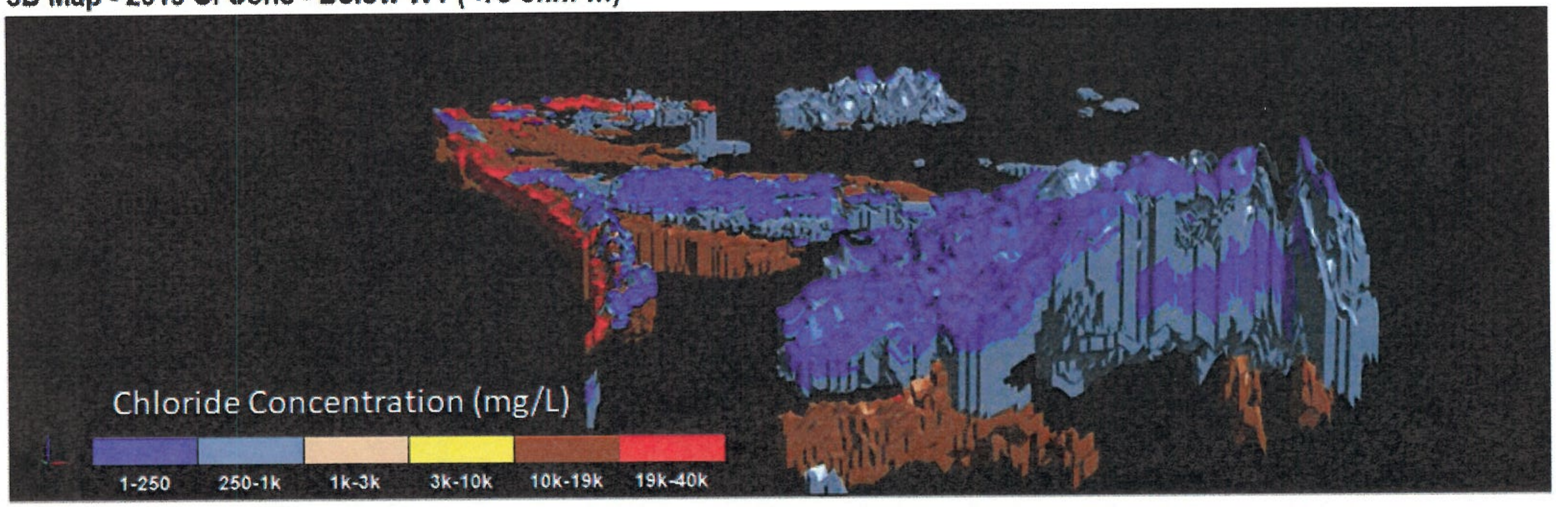


Figure 4-72. Example comparison of 3D voxels of MCWD 2017 and 2019 estimated chloride concentration ranges 1-500 mg/L (blue to bluish-grey colors) and 10k-40k (brown to red colors). The view is to the east. V.E.=x5.

3D Map - 2019 Cl Conc - Below WT (<75 ohm-m)



3D Map - 2017 Cl Conc - Below WT (<75 ohm-m)

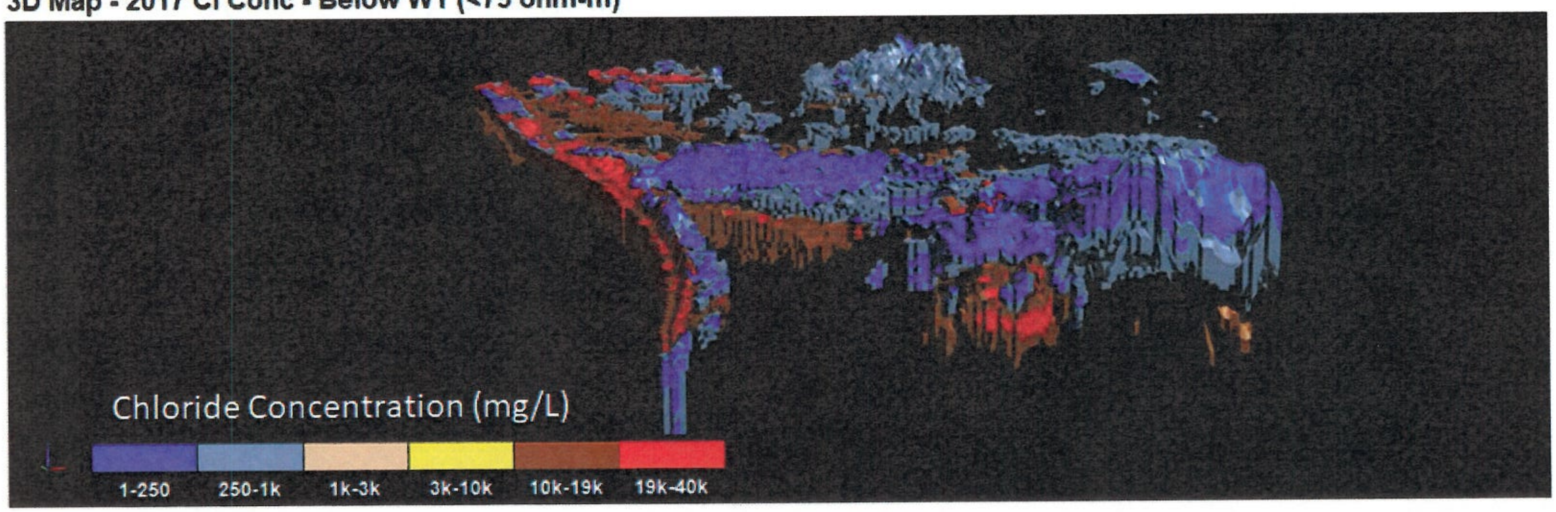


Figure 4-73. Same example comparison of 3D voxels of MCWD 2017 and 2019 estimated chloride concentration ranges 1-500 mg/L (blue to bluish-grey colors) and 10k-40k (brown to red colors) as in Figure 4-72, except the view is now to the northeast. V.E.=x5.

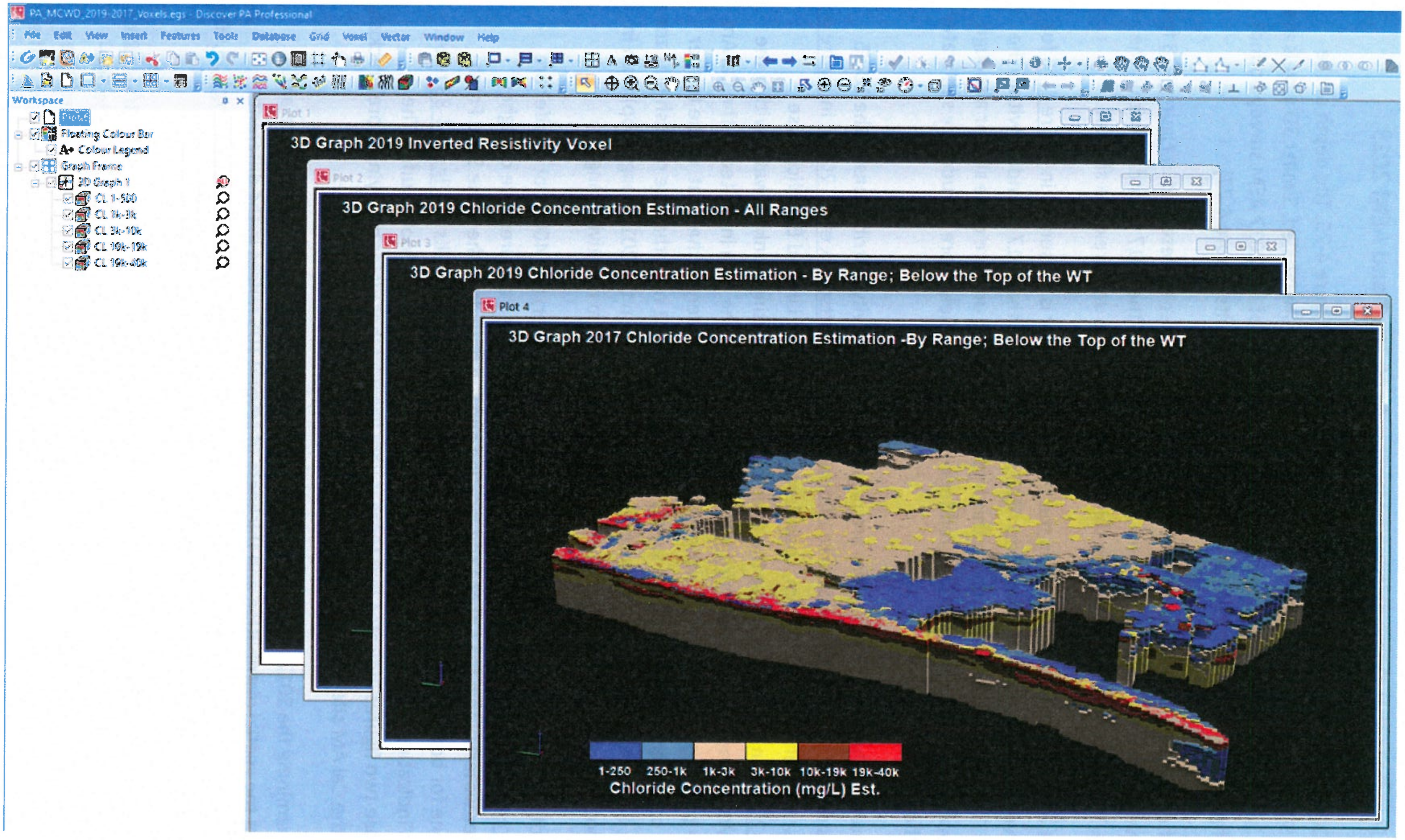


Figure 4-74. Screen capture of the Datamine Discover PA Viewer (Datamine Discover PA, 2019) session which is part of the project deliverables. This session allows the operator to change views of the 2019 inverted resistivity and estimated chloride concentrations as well as change which ranges are displayed for the MCWD 2017 and 2019 AEM investigations.

4.7 Hydro-Stratigraphic Comparisons between AEM 2017 and AEM 2019

A 3D voxel of the 2017 AEM resistivity inversion results is presented in Figure 4-75. The depth of the voxel model is 1,230 ft (375 m). Local hydrologic sub-basins in the area are labeled. Similar 3D voxels are presented for the 2019 AEM inverted resistivity results within the area of the 2017 AEM survey bounds (Figure 4-76) and for the total of the 2019 AEM resistivity inversion results (Figure 4-77).

A comparison of the resistivity distribution in the Perch A Shallow Aquifer is presented in Figure 4-78 for the 2017 AEM survey (top) and the 2019 (bottom) AEM surveys (within the 2017 boundary within the 2019 survey area). The resistivity distributions in this hydrostratigraphic unit are quite similar.

A comparison of the full resistivity distribution in the Dune Sand Aquifer is presented in Figure 4-78 for the 2017 AEM survey (top) and the 2019 (bottom) AEM surveys (within the 2017 boundary within the 2019 survey area). The resistivity distributions in this hydrostratigraphic unit are quite similar although the beach area appears to be more conductive (redder colors) and so likely more intruded by salt water in the 2017 data than in the 2019 data.

Further examinations of the Dune Sand Aquifer are presented as resistivity distributions of the 20-75 ohm-m zone, considered to be a Potential Source of drinking water (Gottschalk et al., 2018), in Figure 4-80 and of the resistivity range 0.01-3 ohm-m, considered to be water of Limited Beneficial Use (Gottschalk et al., 2018), in Figure 4-81. Note the deep blue color indicating drinking water within the Dune Sand Fresh Water Capture Zone in Figure 4-80 that is just within the area indicated as the Cal Am Site. Also note the presence of potential drinking water just on the border, to the right, of the former Fort Ord property on the southern side of the survey area. In Figure 4-81 note that the reddish pink zone (more conductive, likely intruded) is more widespread along the beach in the 2017 image (top) than in the 2019 image (bottom) of the Dune Sand Aquifer for the 0.01-3 ohm-m resistivity range.

The comparisons of the Upper 180-Foot Aquifer, Lower 180-Foot Aquifer, and 400-Foot Aquifer are presented in Figure 4-82, Figure 4-83, and Figure 4-84, respectively. Note the presence of higher resistivities (fresher water) within the Cal AM site location and the bounds of the Dune Sand Fresh Water Capture Zone for both the 2017 and 2019 AEM resistivity inversion results. In Figure 4-83 note the reddish colors indicating more conductive material within the Lower 180-Foot Aquifer. The information in these two figures indicates that there is very likely fresher water overlying more brackish water just within the Cal AM site location and progressing inland.

Another way of examining the 2017 and 2019 AEM survey results is look at them in 2D-space and through the lens of the spatial distribution and thickness of several TDS ranges in the different hydrostratigraphic zones. The TDS ranges includes <500 mg/L, 500-1,000 mg/L, 1,000-3,000 mg/L, 3,000-10,000 mg/L, and >10,000 mg/L. Note that for some of these ranges there is no data to plot.

The TDS ranges for the Perched A Shallow Aquifer are presented in Figure 4-85 (500-1,000 mg/L), Figure 4-86 (1,000-3,000 mg/L), Figure 4-87 (3,000-10,000 mg/L), and Figure 4-88 (>10,000 mg/L). The 500-1,000 mg/L range shows concentrations from both the 2017 and 2019 surveys along the Salinas River. The distribution of TDS range 1,000-3,000 mg/L match well between the 2017 and 2019 surveys of the

Perched-A Aquifer as do the 3,000-10,000 mg/L TDS range for the 2017 and 2019 surveys. However, the >10,000 mg/L TDS thickness distribution shows that there is a lesser amount of this TDS range during the 2019 AEM survey as compared to the 2017 AEM survey.

The TDS spatial distributions and thicknesses for the Dune Sand Aquifer are presented in Figure 4-89 (<500 mg/L0, Figure 4-90 (500-1,000 mg/L), Figure 4-91 (1,000-3,000 mg/L), Figure 4-92 (3,000-10,000 mg/L), and Figure 4-93 (>10,000 mg/L). The Dune Sand Aquifer TDS range of <500 mg/L indicates a thick zone (up to about 65 feet/20 m) beginning just inland from the Cal AM site. The 500-1000 mg/L plots indicate that there is more of this range along the northern beach area in 2019 than was present during the 2017 AEM survey. The 1,000-3,000 mg/L spatial distributions for 2017 and 2019 are similar as is the 3,000-10,000 mg/L distribution. However, the >10,000 mg/L distribution indicates less material south of the Salinas River in 2019 than was present in 2017.

The Upper 180-Foot Aquifer TDS spatial distributions are presented in Figure 4-94 (<500 mg/L), Figure 4-95 (500-1,000 mg/L), Figure 4-96 (1,000-3,000 mg/L), Figure 4-97 (3,000-10,000 mg/L), and Figure 4-98 (>10,000 mg/L). The <500 mg/L distribution shows a little less material is present just north of the Salinas River in 2019 than was present during the 2017 survey. Similarly, the 500-1,000 mg/L distribution shows a channel feature in the 2017 data that is not as clear in the 2019 AEM survey results. The 1,000-3,000 mg/L, 3,000-10,000 mg/L, and >10,000 mg/L Upper 180-Foot Aquifer TDS spatial distributions are each similar across the two AEM surveys.

The Lower 180-Foot Aquifer TDS spatial distributions are presented in Figure 4-99 (500-1,000 mg/L), Figure 4-100 (1,000-3,000 mg/L), Figure 4-101 (3,000-10,000 mg/L), and Figure 4-102 (>10,000 mg/L). The 500-1,000 mg/L , 1,000-3,000 mg/L, and 3,000-10,000 mg/L show similar distributions between 2017 and 2019. However, the >10,000 mg/L distribution indicates a decrease in this range in the area south of the Salinas River and just north of the former Fort Ord.

The 400-Foot Aquifer TDS spatial distributions are presented in Figure 4-103 (500-1,000 mg/L), Figure 4-104 (1,000-3,000 mg/L), Figure 4-105 (3,000-10,000 mg/L), and Figure 4-106 (>10,000 mg/L). The 400-Foot Aquifer 500-1,000 mg/L TDS distribution presents somewhat similar distributions just north of the Salinas River. The 1,000-3,000 mg/L and 3,000-10,000 mg/L distributions are similar across 2017 and 2019 with extended spatial distributions. However, the 400-Foot Aquifer TDS >10,000 mg/L distribution indicates that there is much less saline water intruded in 2019 than in 2017 away from the coast.

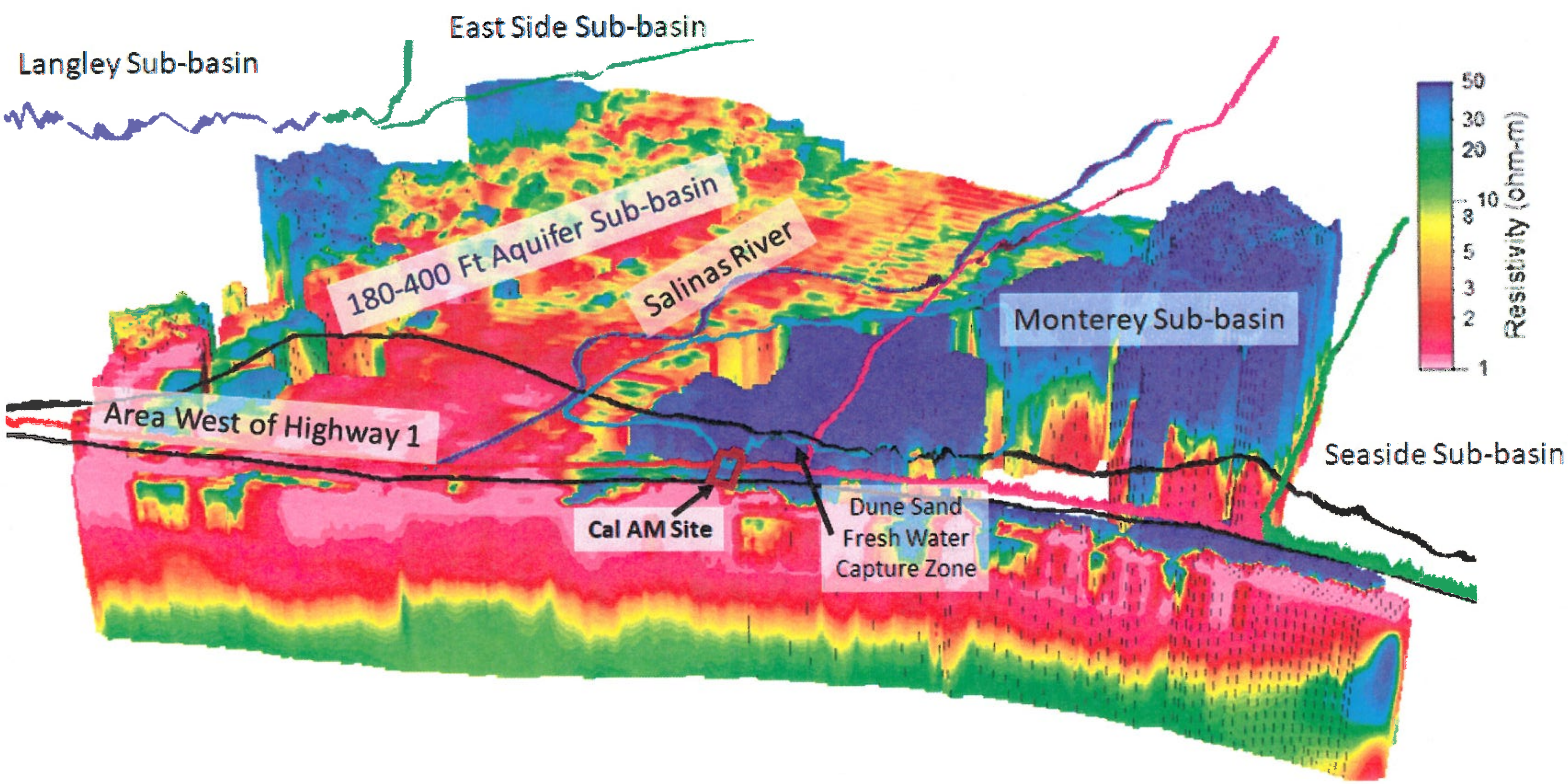


Figure 4-75. 2017 inverted AEM resistivity data within the 2017 AEM survey area with a depth to -1,230 ft (-375 m) and with labeled sub-basins.

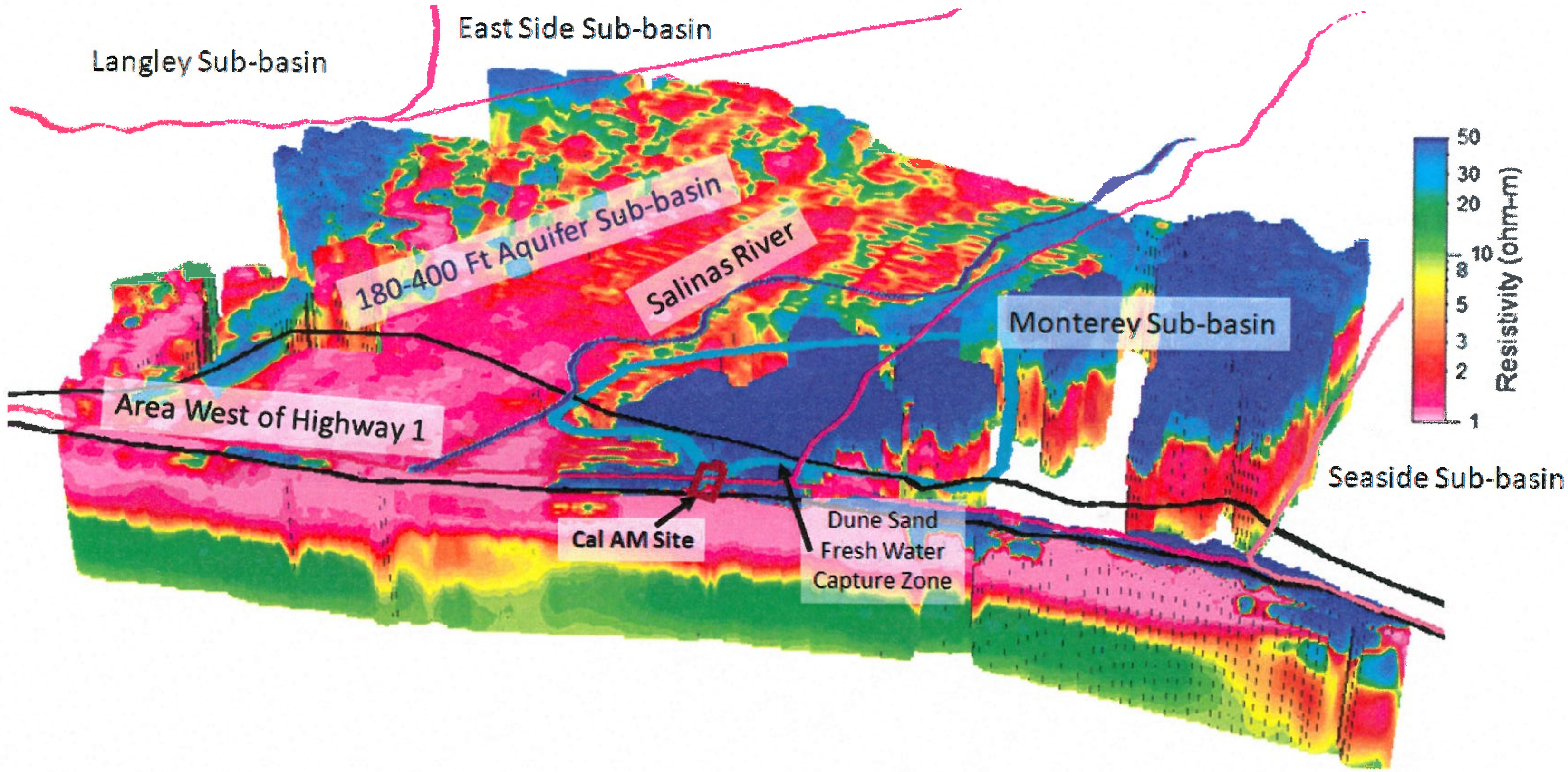


Figure 4-76. 2019 inverted AEM resistivity data within the 2017 AEM survey area with a depth to -1,230 ft (-375 m) and with labeled sub-basins.

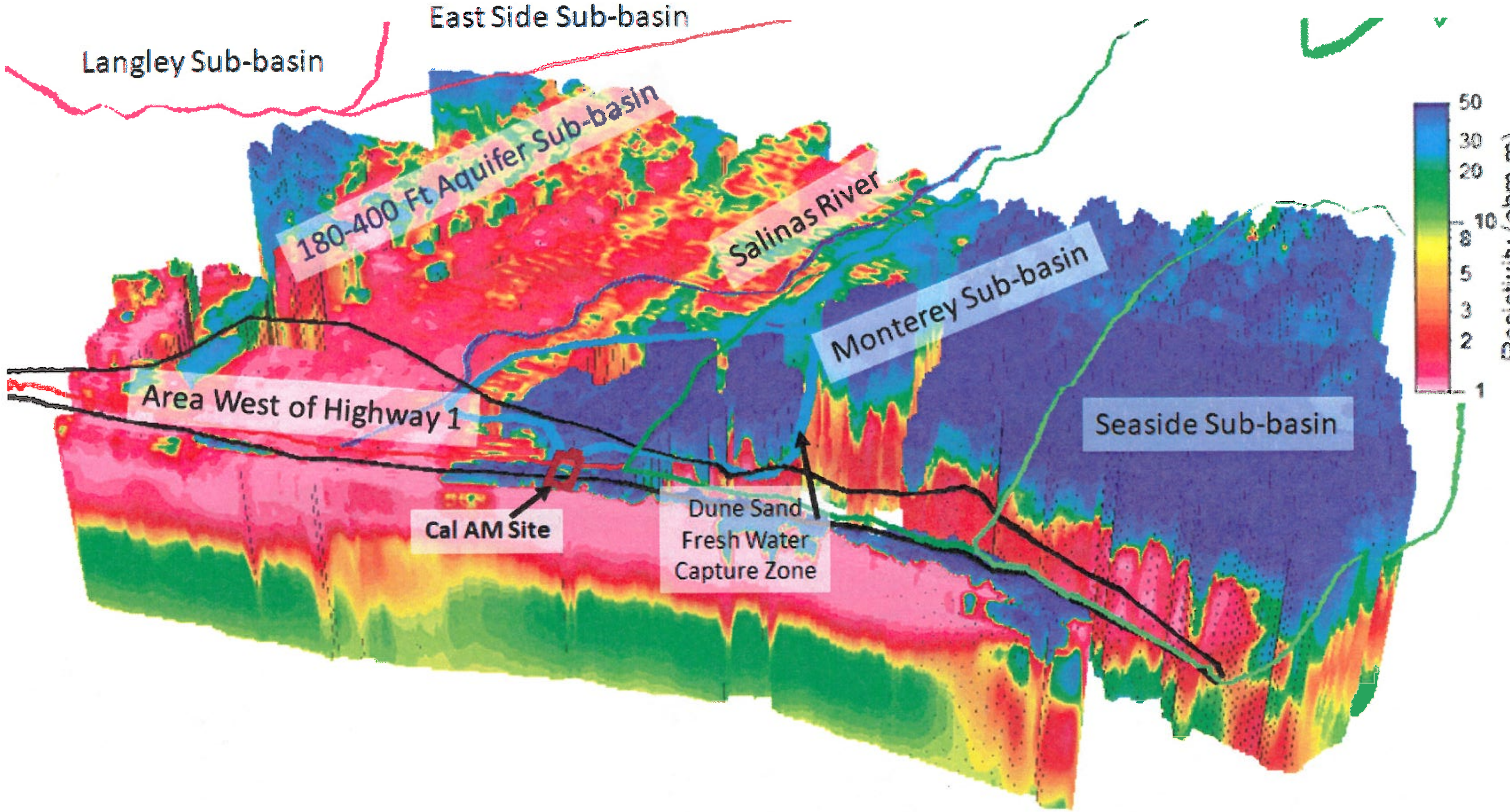


Figure 4-77. 2019 inverted AEM resistivity data in the 2019 AEM survey area with a depth to -1,230 ft (-375 m) and with labeled sub-basins.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

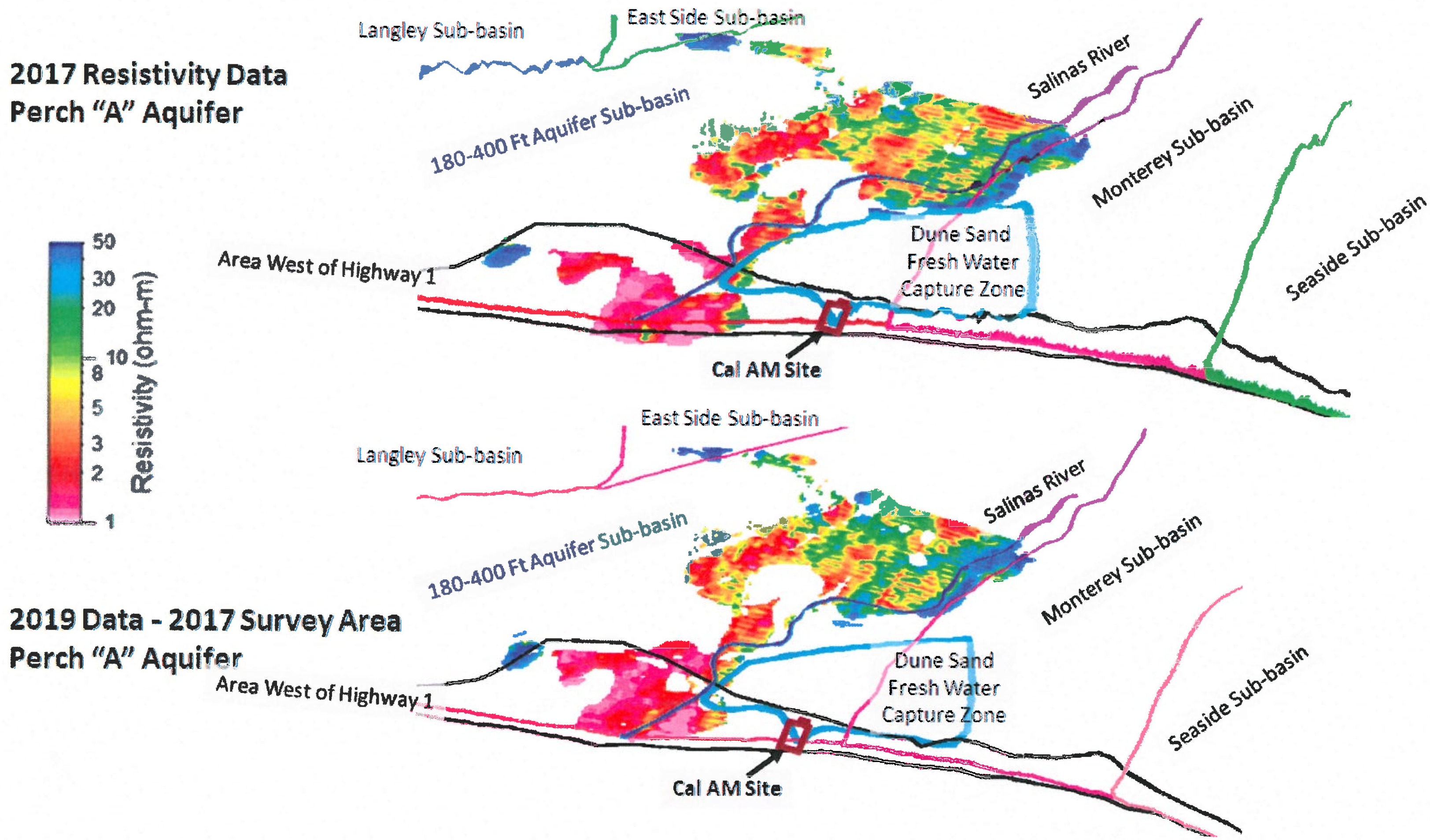


Figure 4-78. Comparison of the Perched A Shallow Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

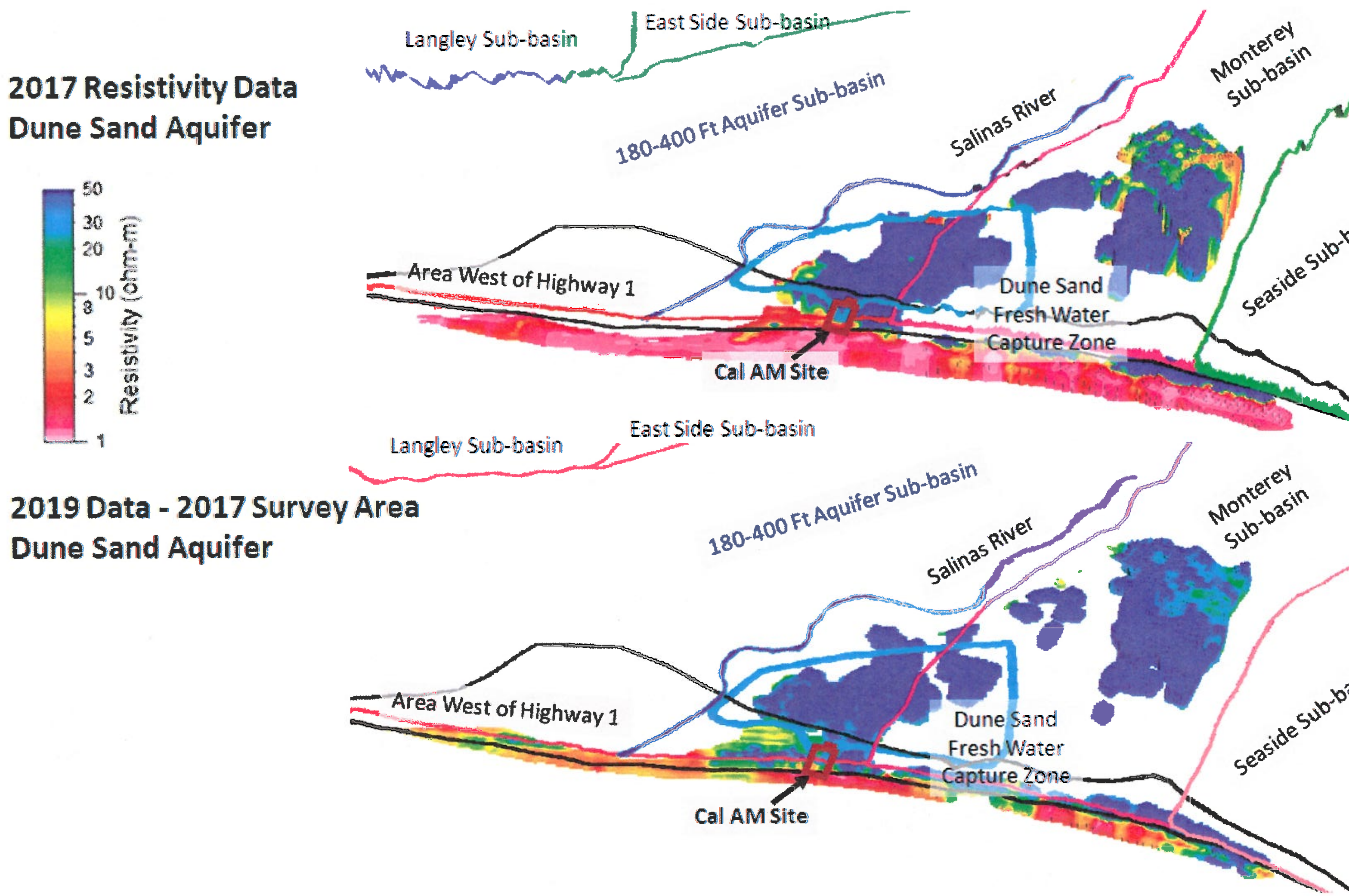


Figure 4-79. Comparison of the Dune Sand Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

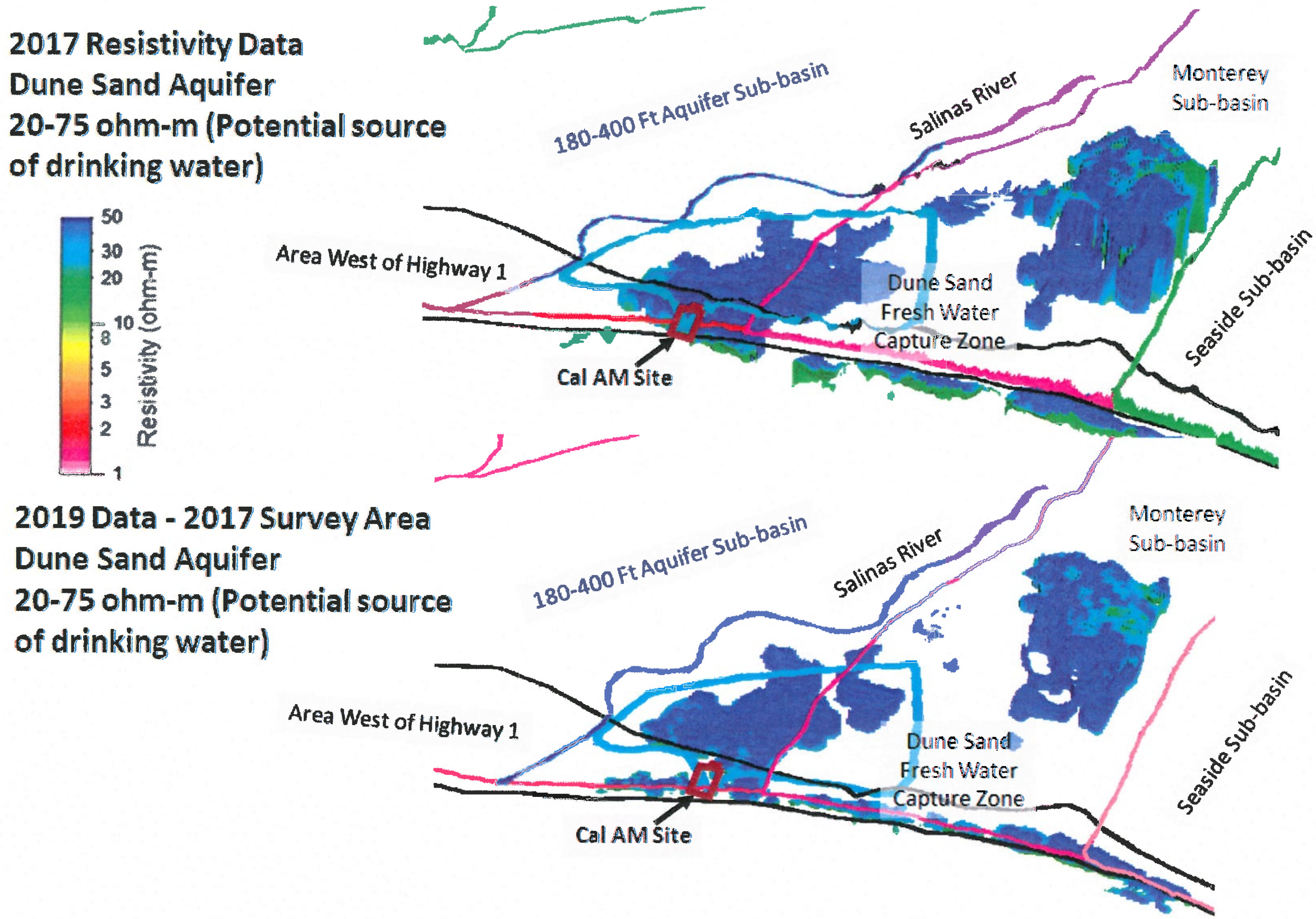


Figure 4-80. Comparison of the Dune Sand Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey for the resistivity range from 20-75 ohm-m, defined as a Potential Source of drinking water in Gottschalk et al. (2018).

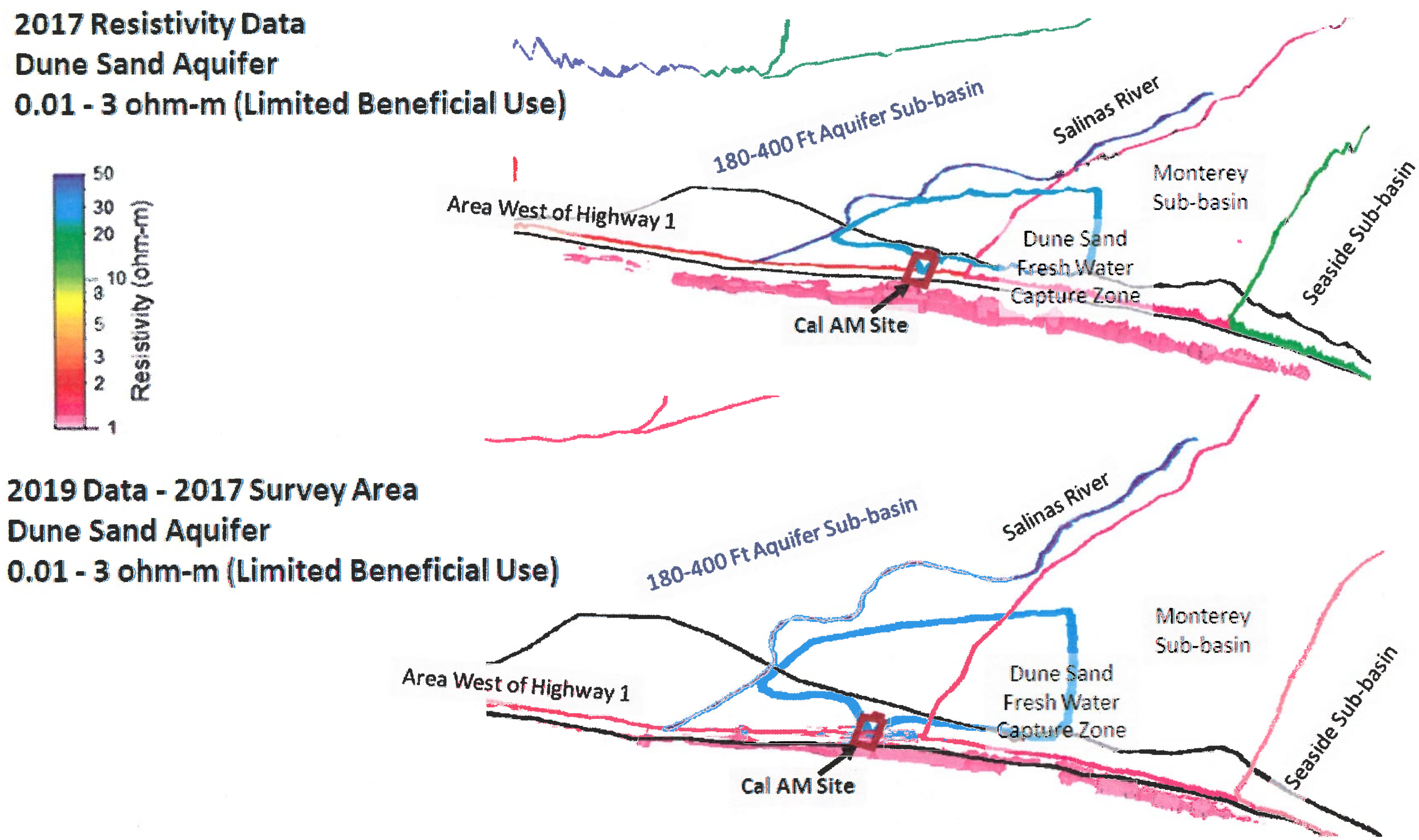


Figure 4-81. Comparison of the Dune Sand Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey for the resistivity range from .01-3 ohm-m, defined as a water with Limited Beneficial Use in Gottschalk et al. (2018).

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

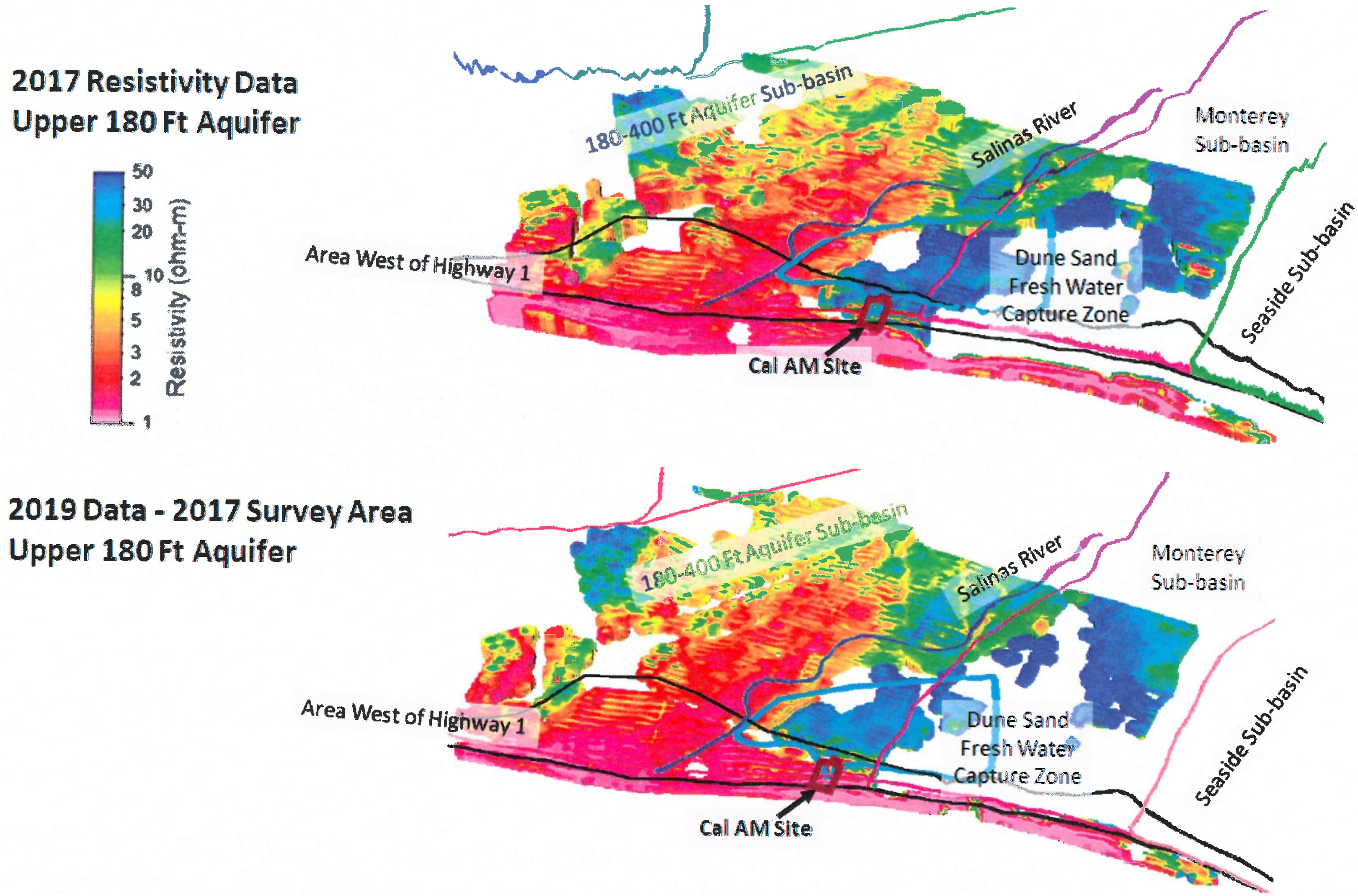


Figure 4-82. Comparison of the Upper 180-Foot Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

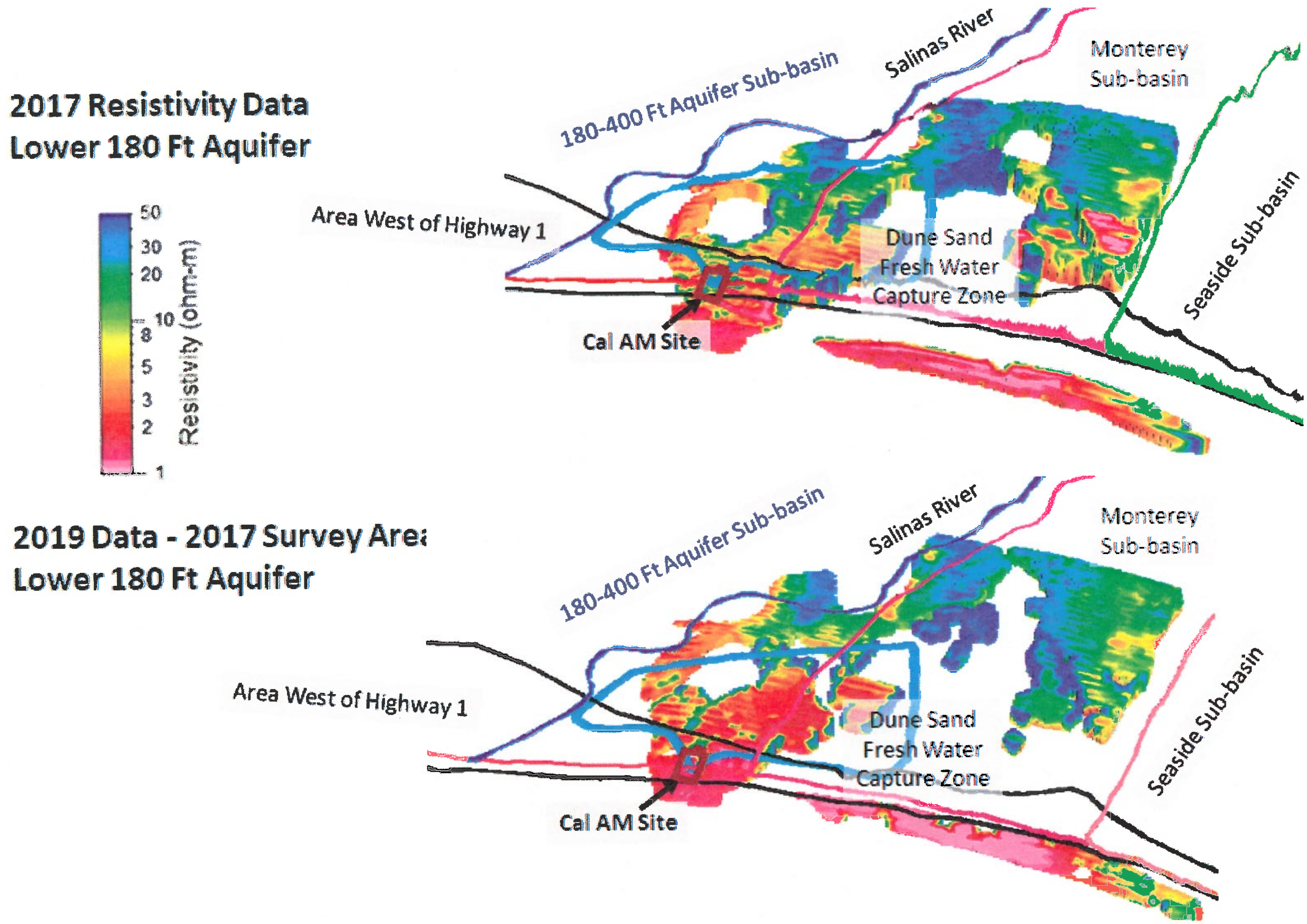


Figure 4-83. Comparison of the Lower 180-Foot Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey.

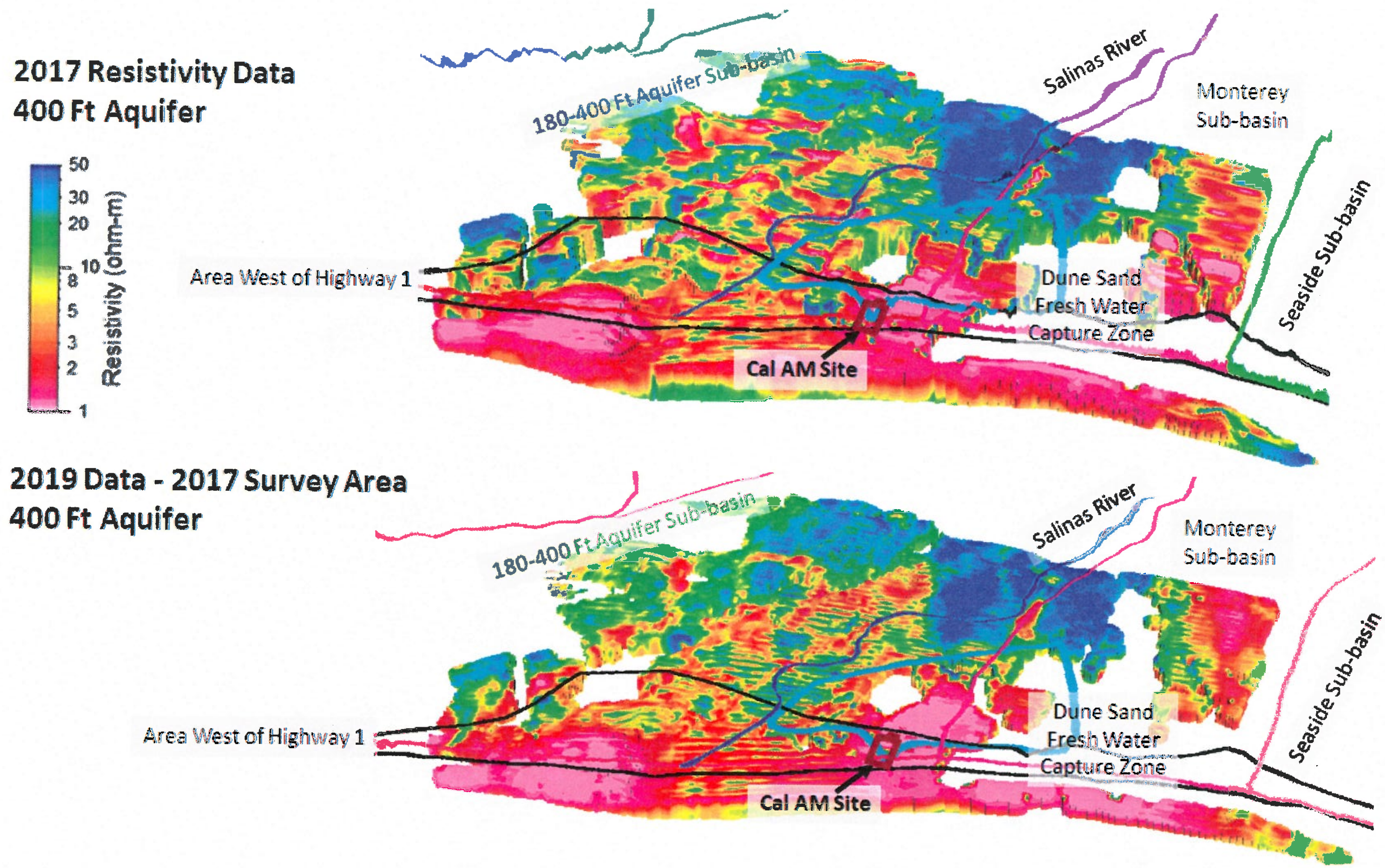


Figure 4-84. Comparison of the 400-Foot Aquifer from the 2017 (top) and 2019 (bottom) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

Figure 4-85. Comparison of the TDS distribution and thickness for the TDS range of 500-1,000 mg/L in the Perched A Shallow Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

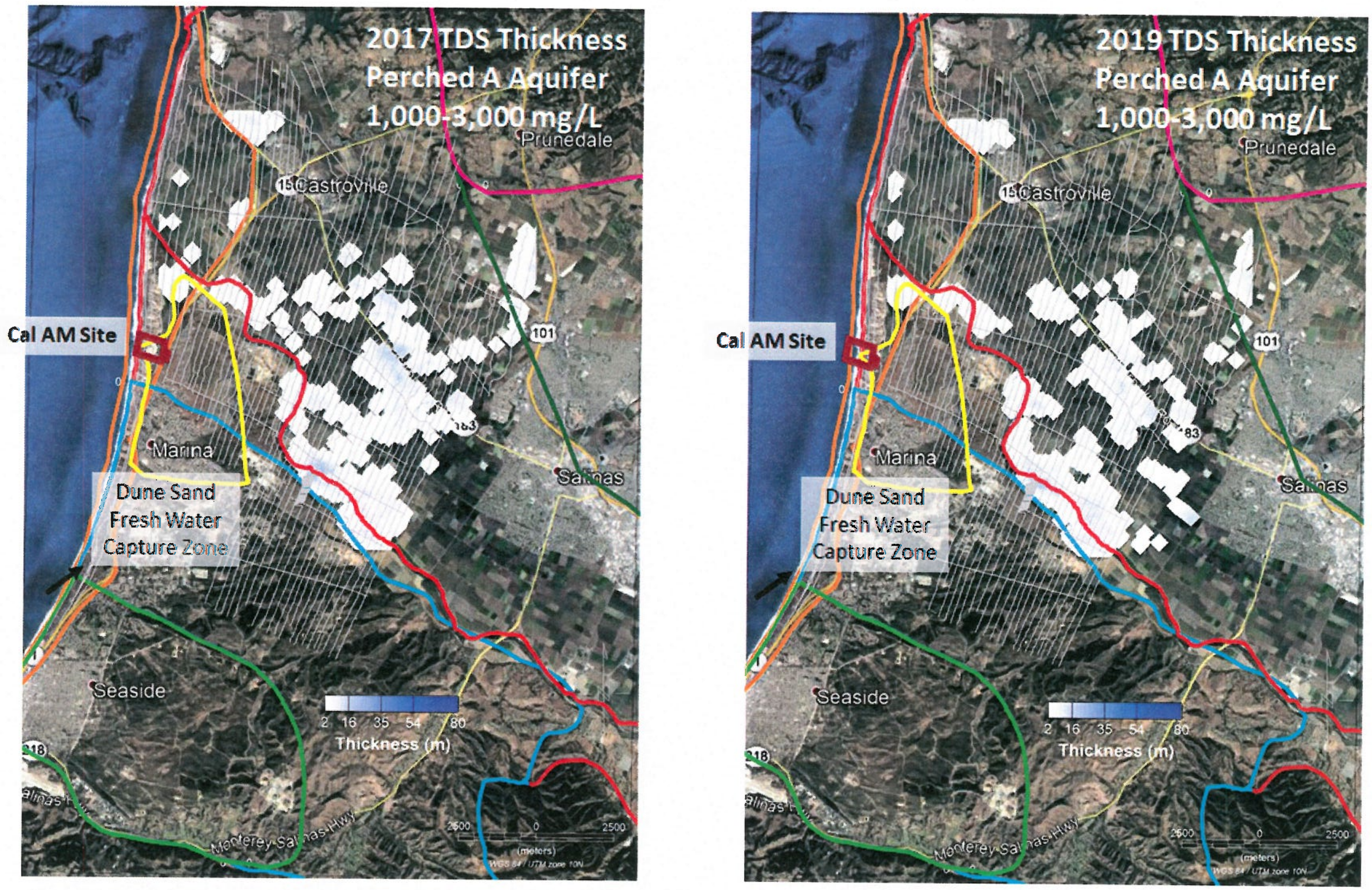
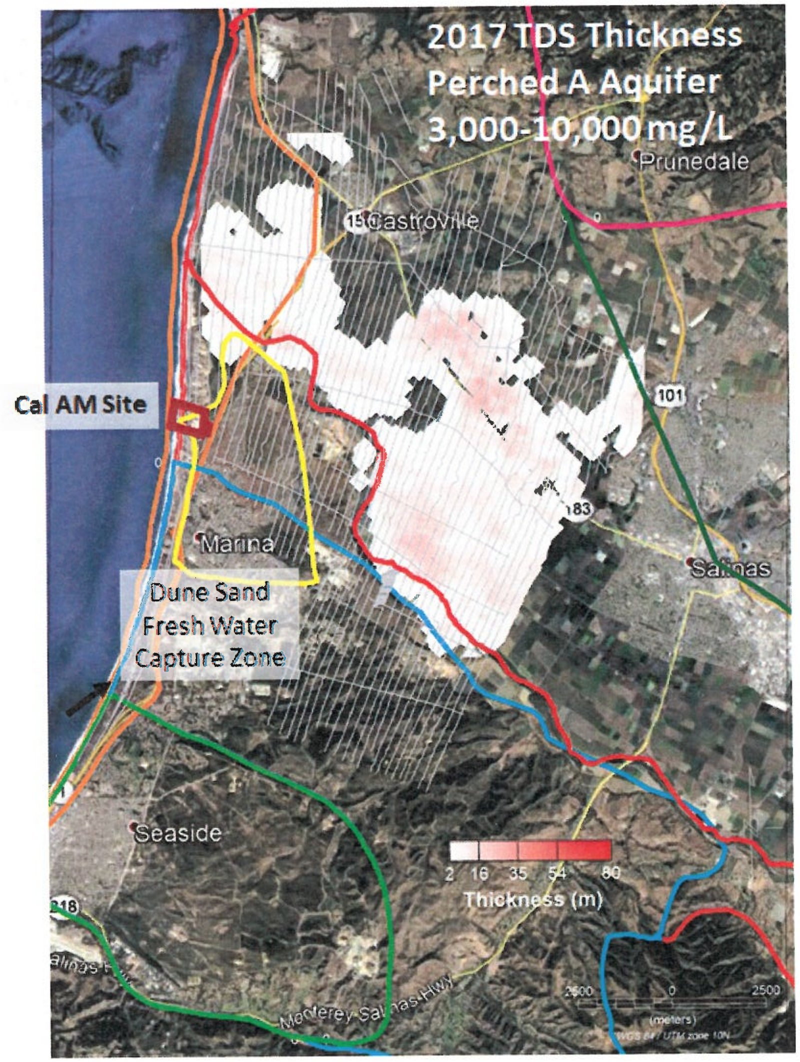


Figure 4-86. Comparison of the TDS distribution and thickness for the TDS range of 1,000-3,000 mg/L in the Perched A Shallow Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017



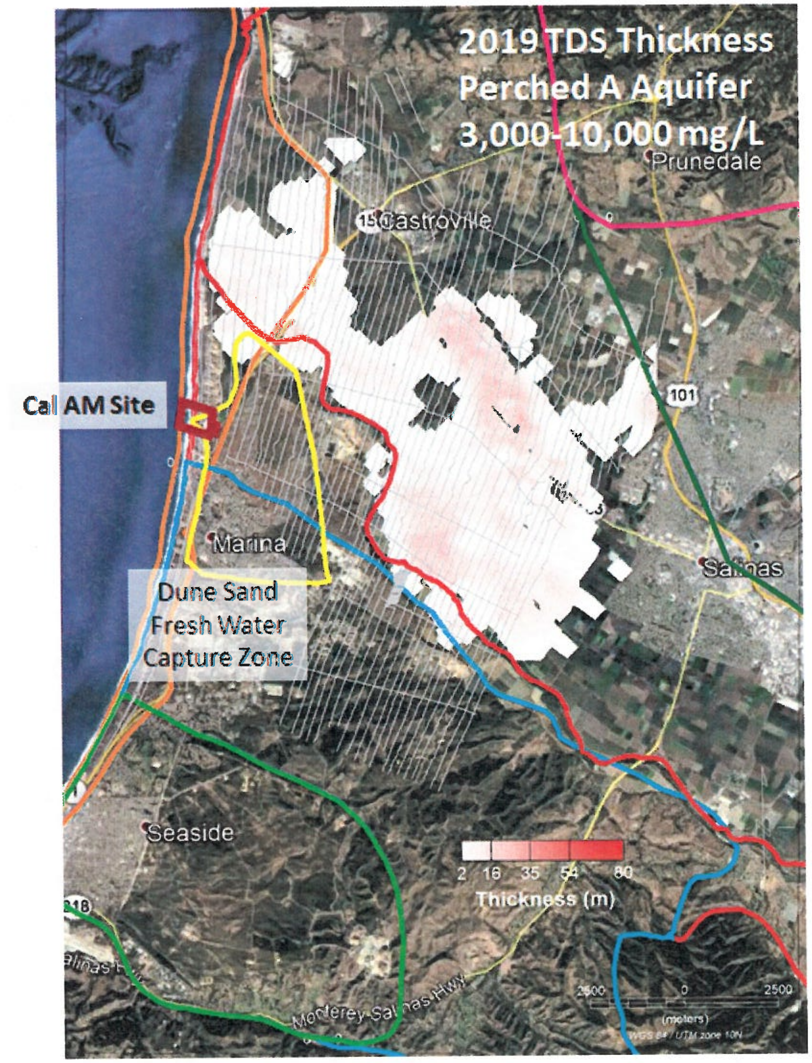


Figure 4-87. Comparison of the TDS distribution and thickness for the TDS range of 3,000-10,000 mg/L in the Perched A Shallow Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

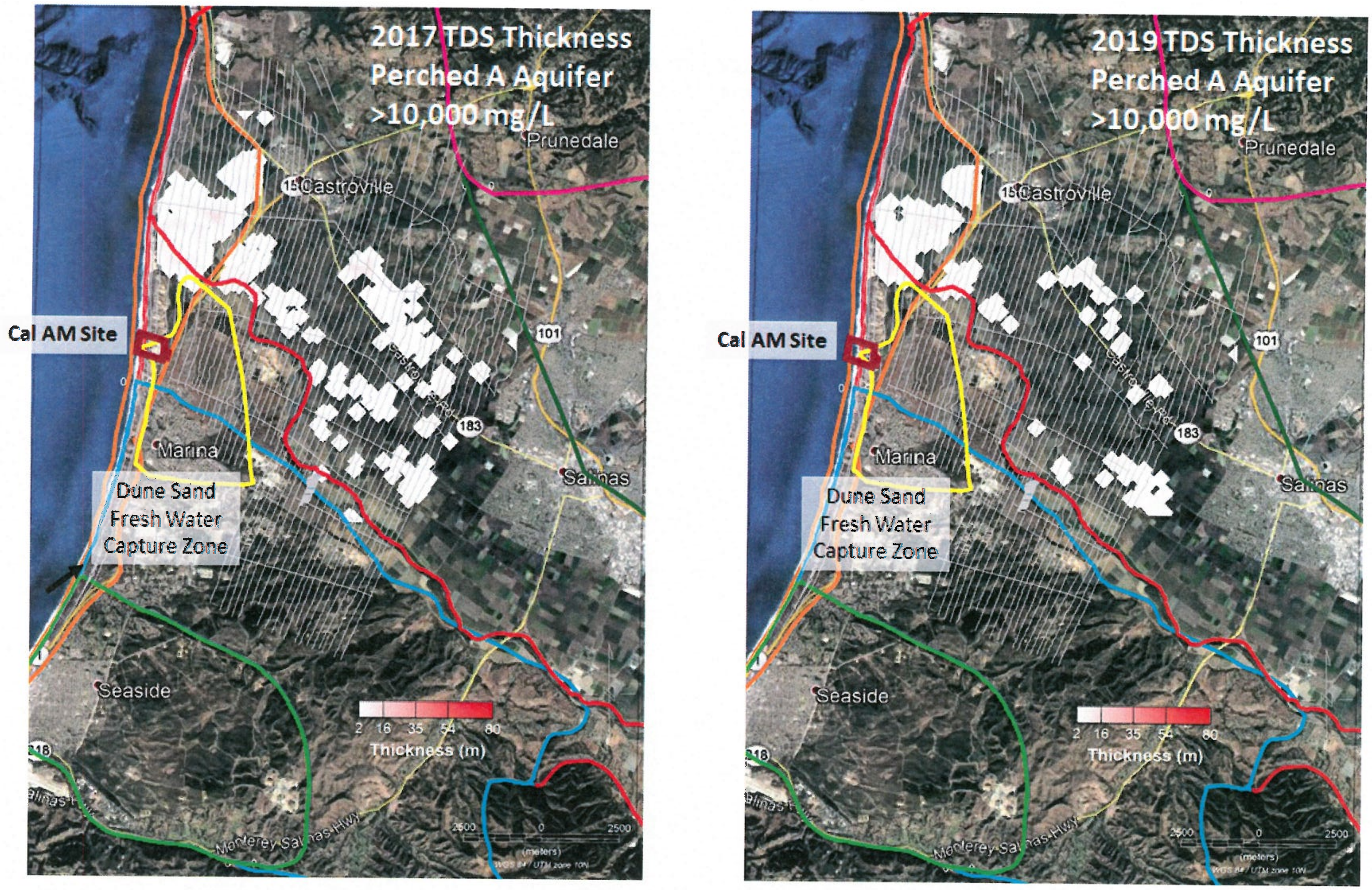


Figure 4-88. Comparison of the TDS distribution and thickness for the TDS range of >10,000 mg/L in the Perched A Shallow Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

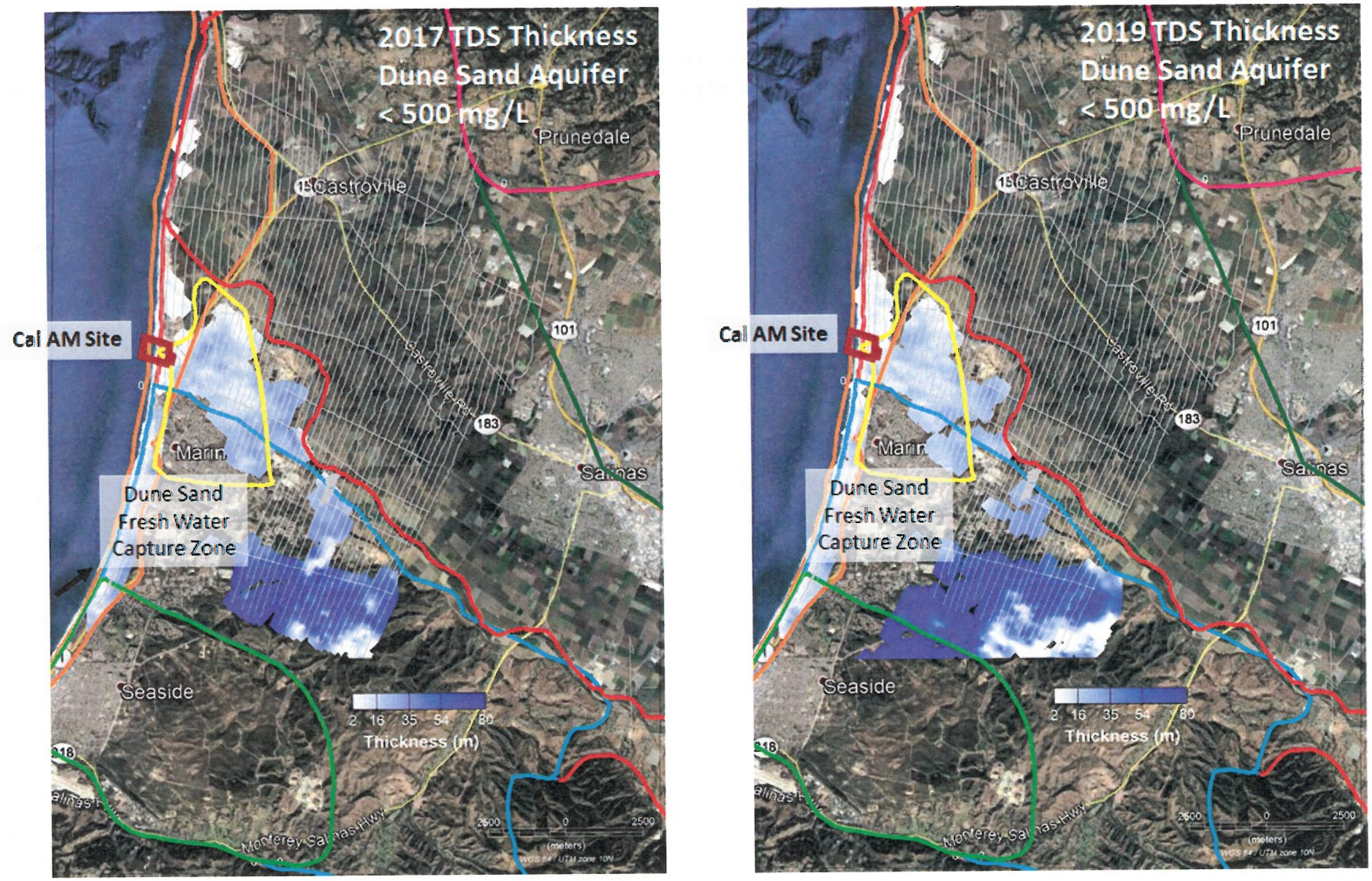


Figure 4-89. Comparison of the TDS distribution and thickness for the TDS range of <500 mg/L in the Dune Sand Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

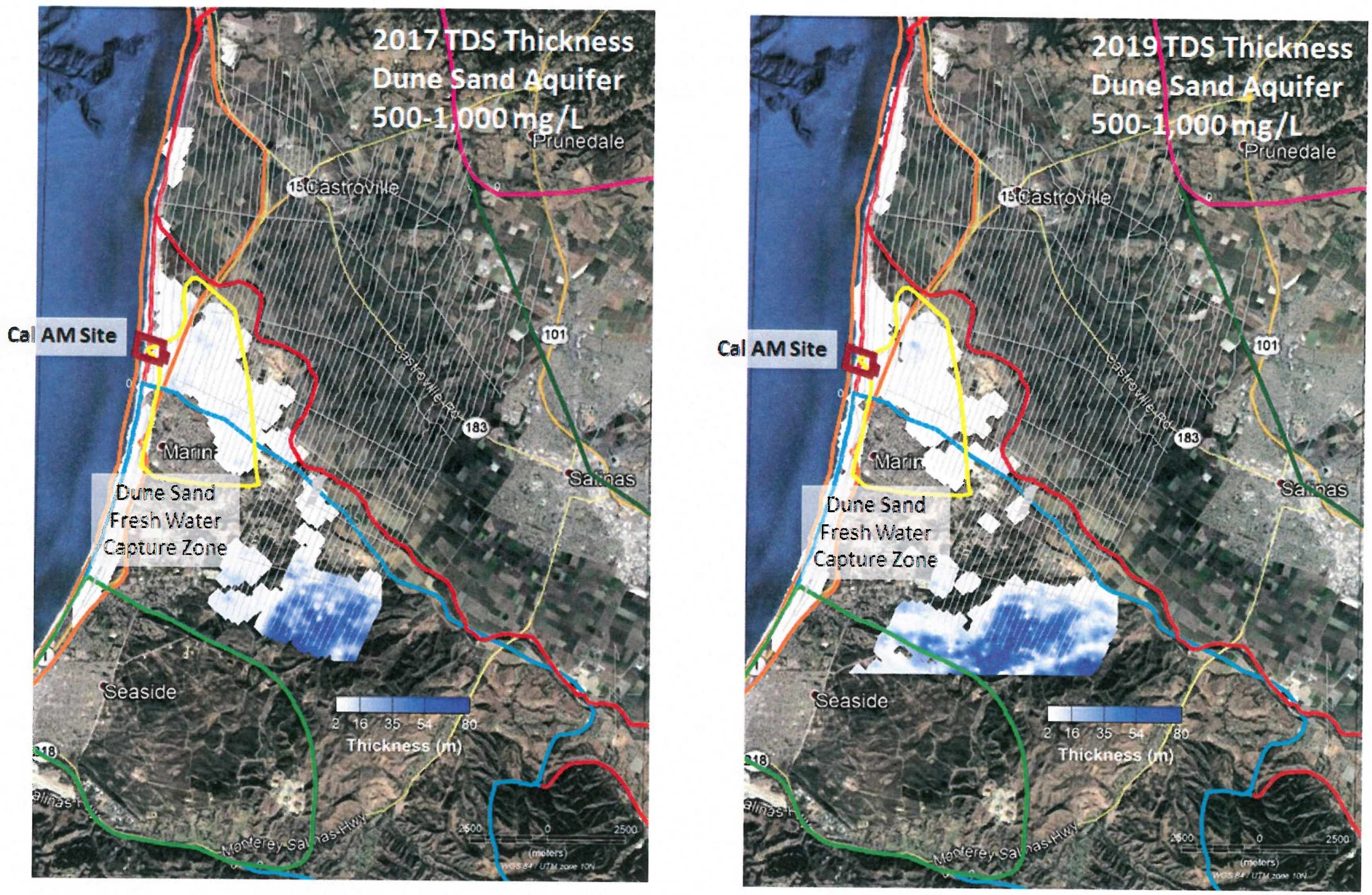


Figure 4-90. Comparison of the TDS distribution and thickness for the TDS range of 500-1,000 mg/L in the Dune Sand Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

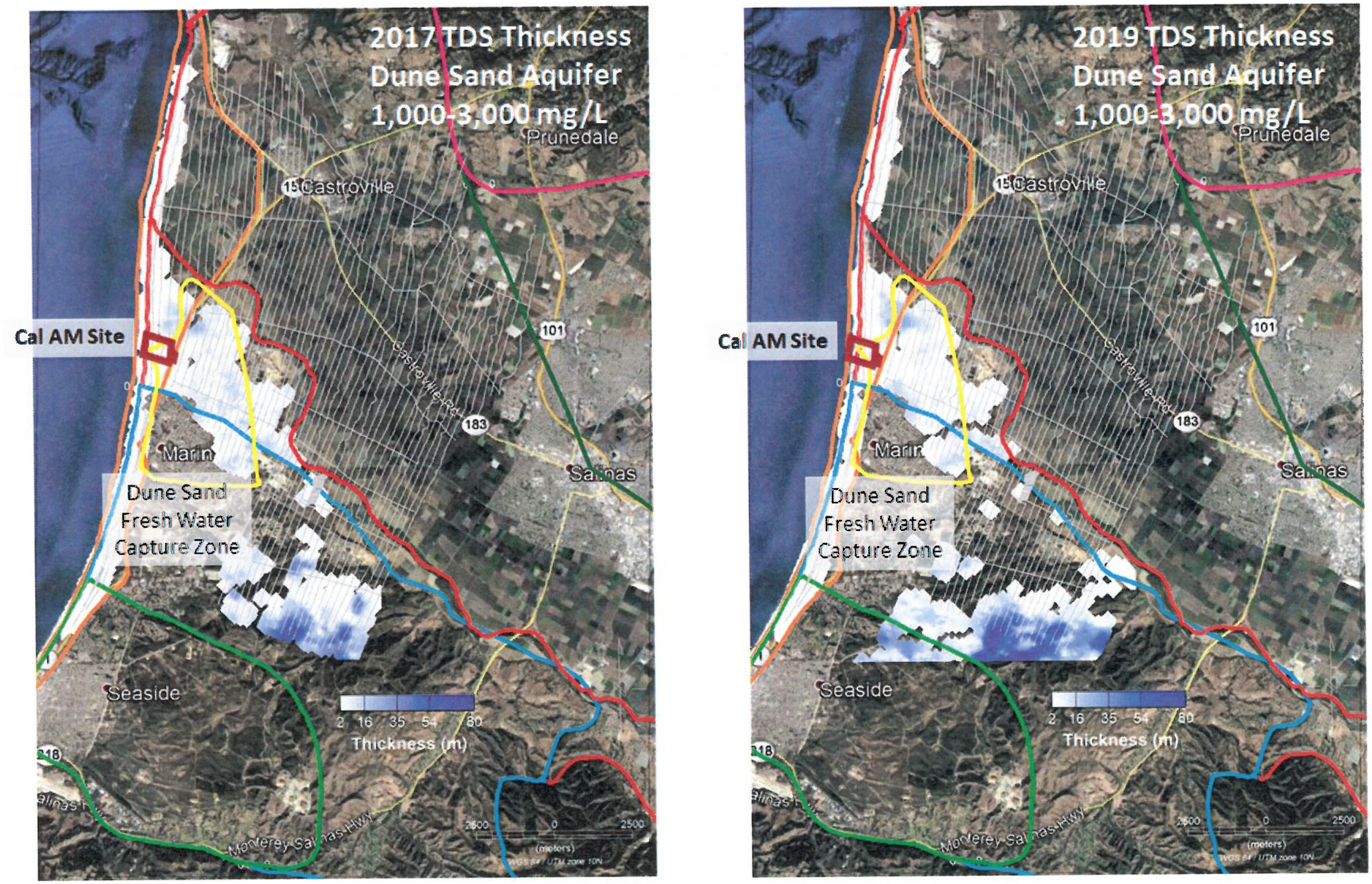


Figure 4-91. Comparison of the TDS distribution and thickness for the TDS range of 1,000-3,000 mg/L in the Dune Sand Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

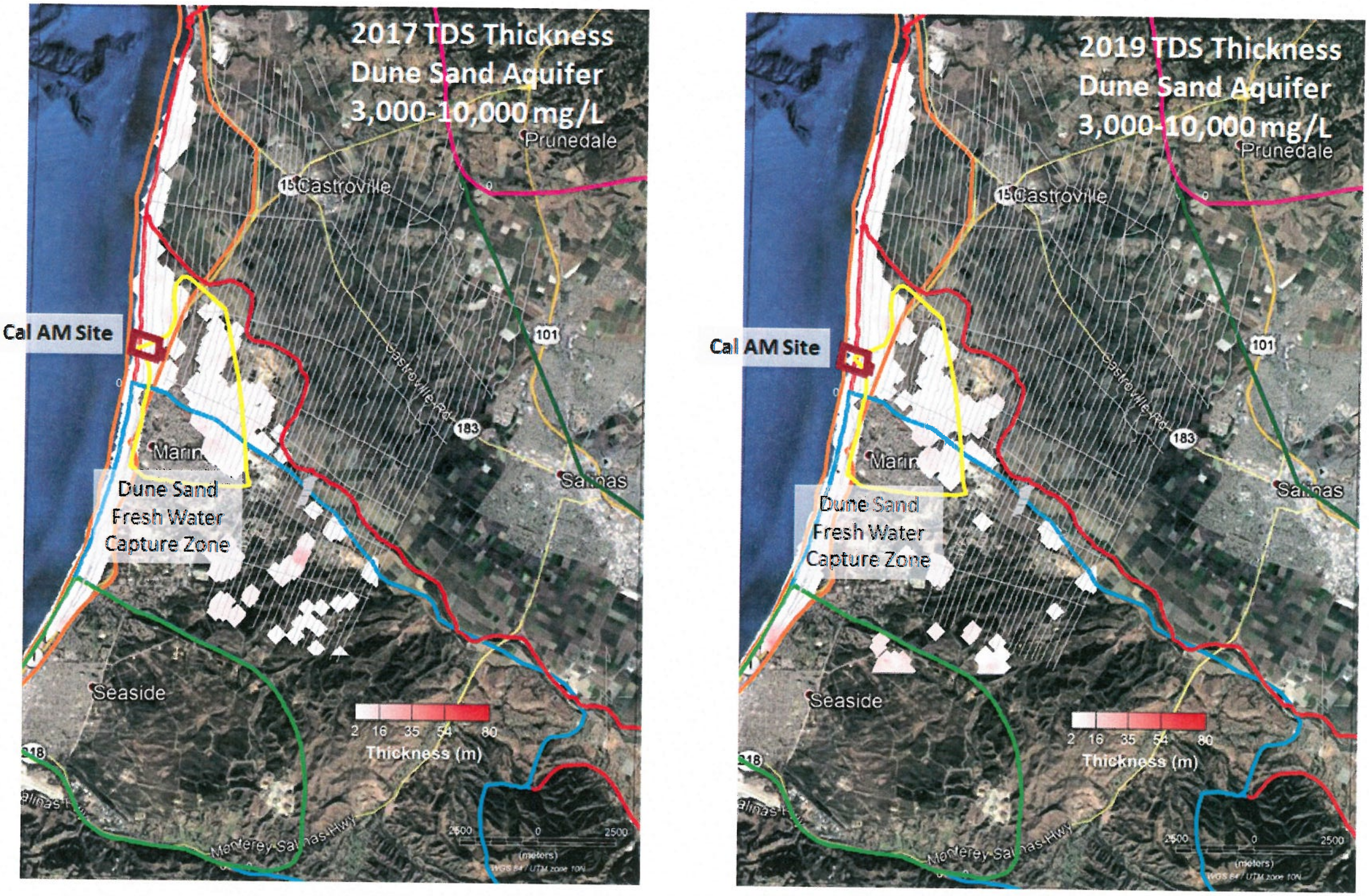


Figure 4-92. Comparison of the TDS distribution and thickness for the TDS range of 3,000-10,000 mg/L in the Dune Sand Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

Figure 4-93. Comparison of the TDS distribution and thickness for the TDS range of >10,000 mg/L in the Dune Sand Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

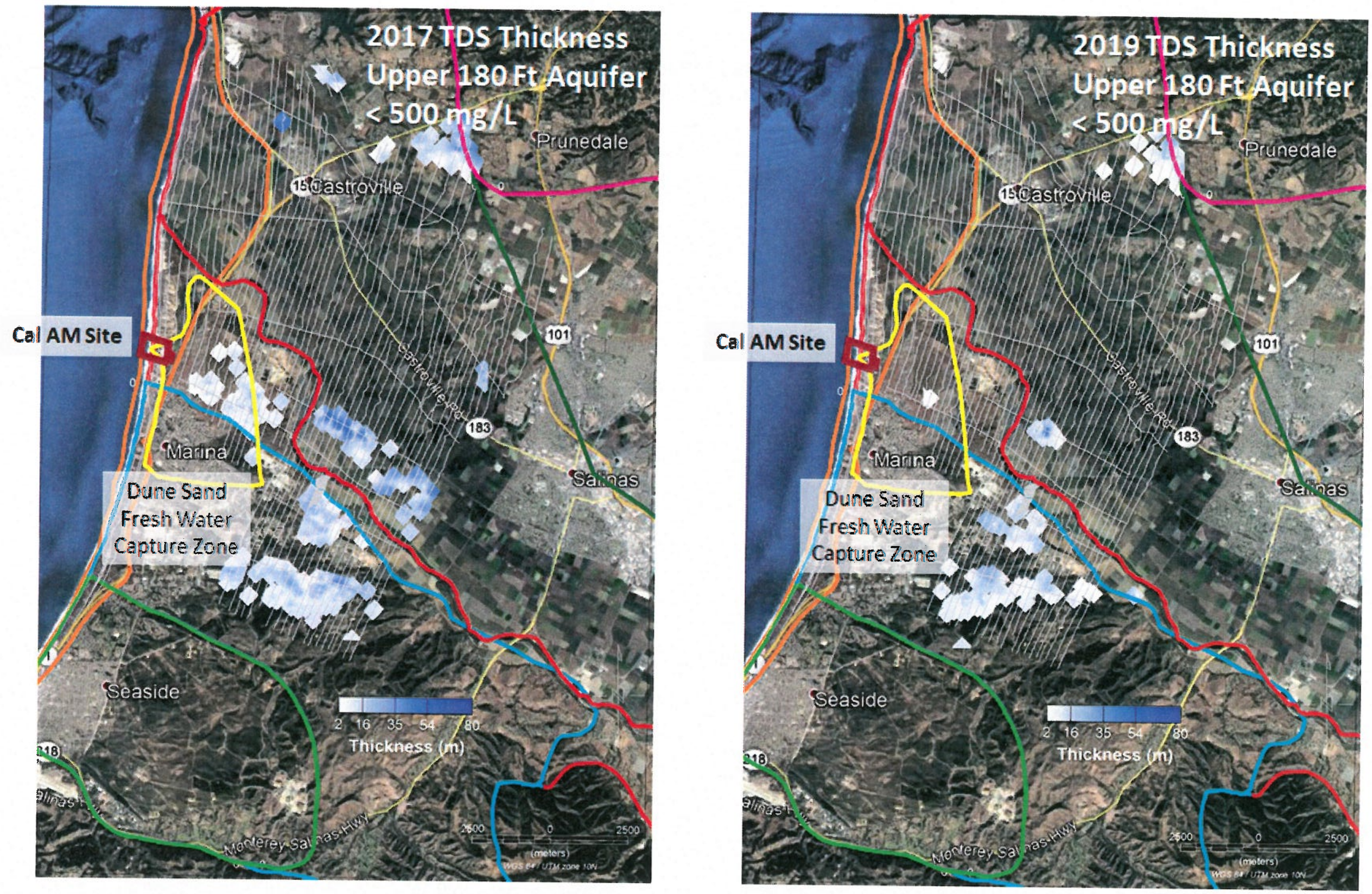
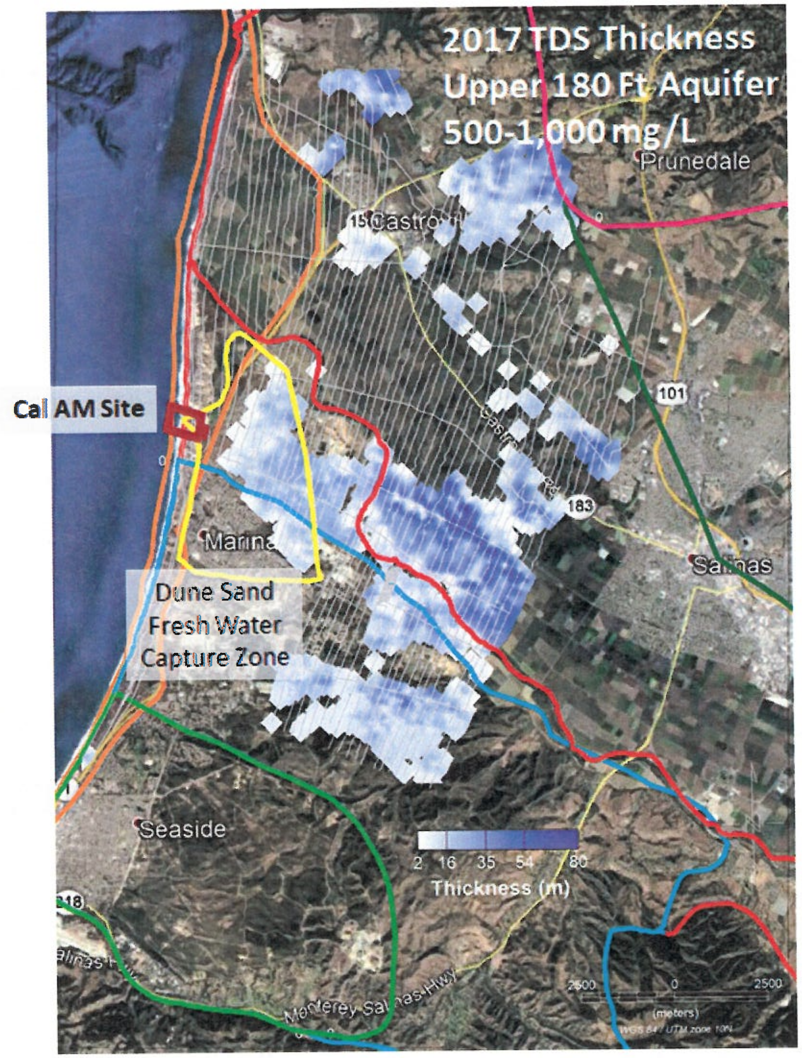


Figure 4-94. Comparison of the TDS distribution and thickness for the TDS range of <500 mg/L in the Upper 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017



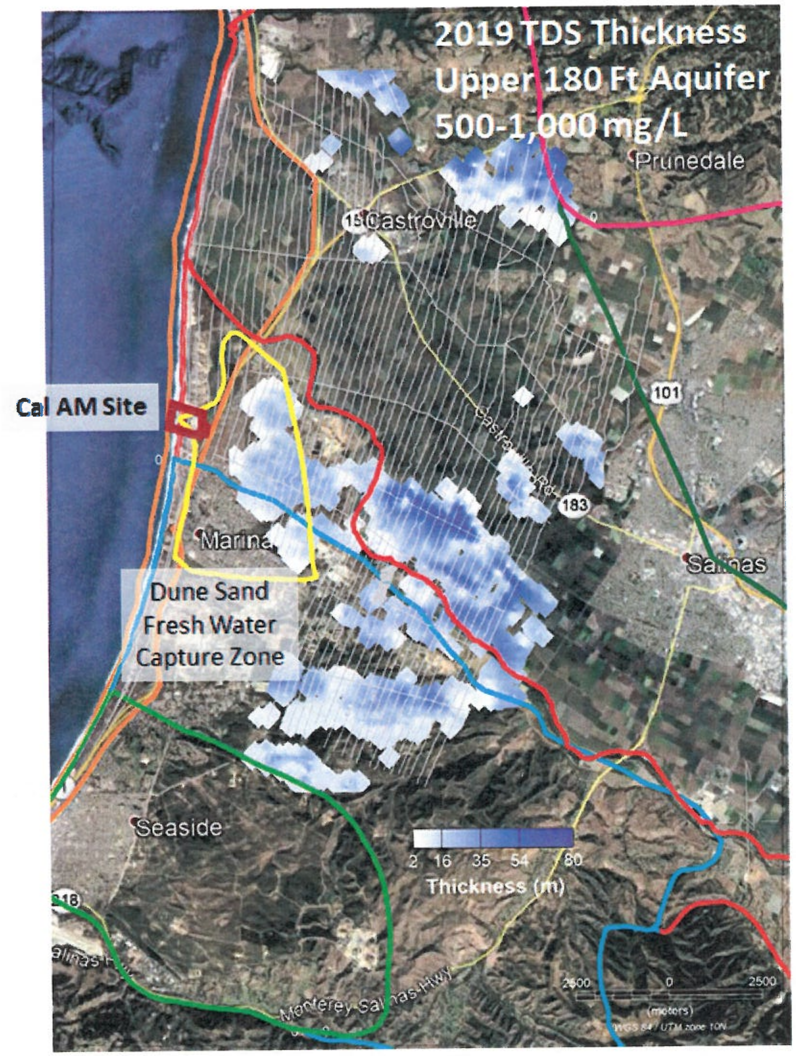
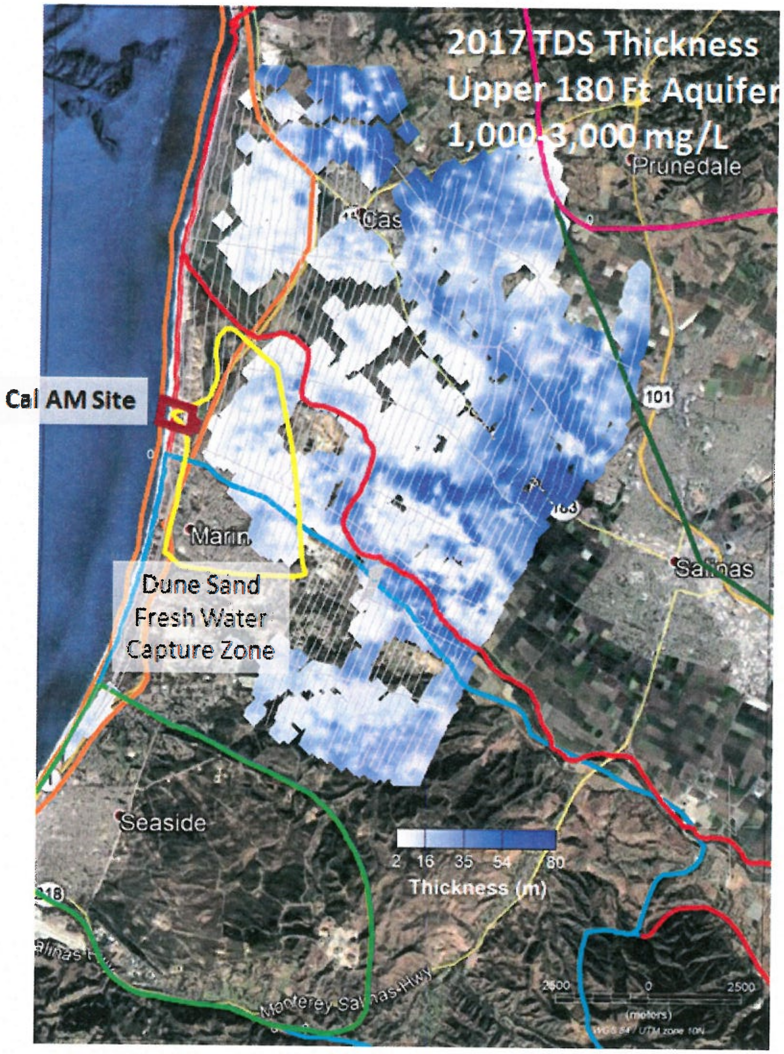


Figure 4-95. Comparison of the TDS distribution and thickness for the TDS range of 500-1,000 mg/L in the Upper 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017



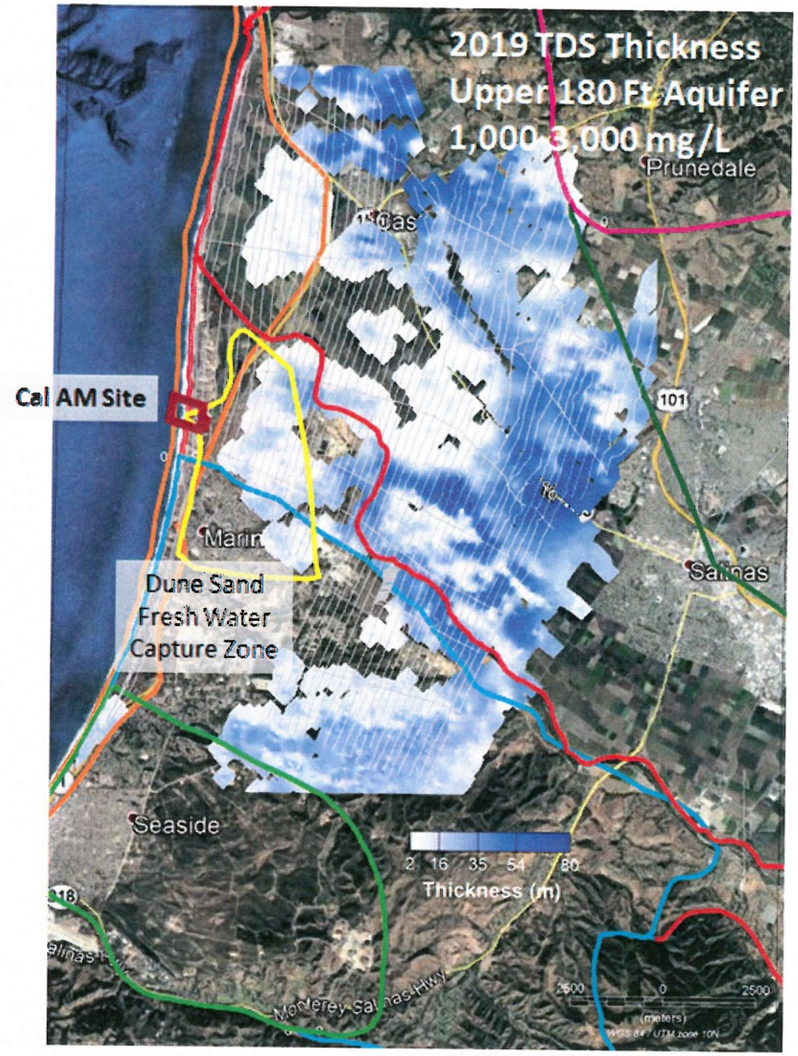


Figure 4-96. Comparison of the TDS distribution and thickness for the TDS range of 1,000-3,000 mg/L in the Upper 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

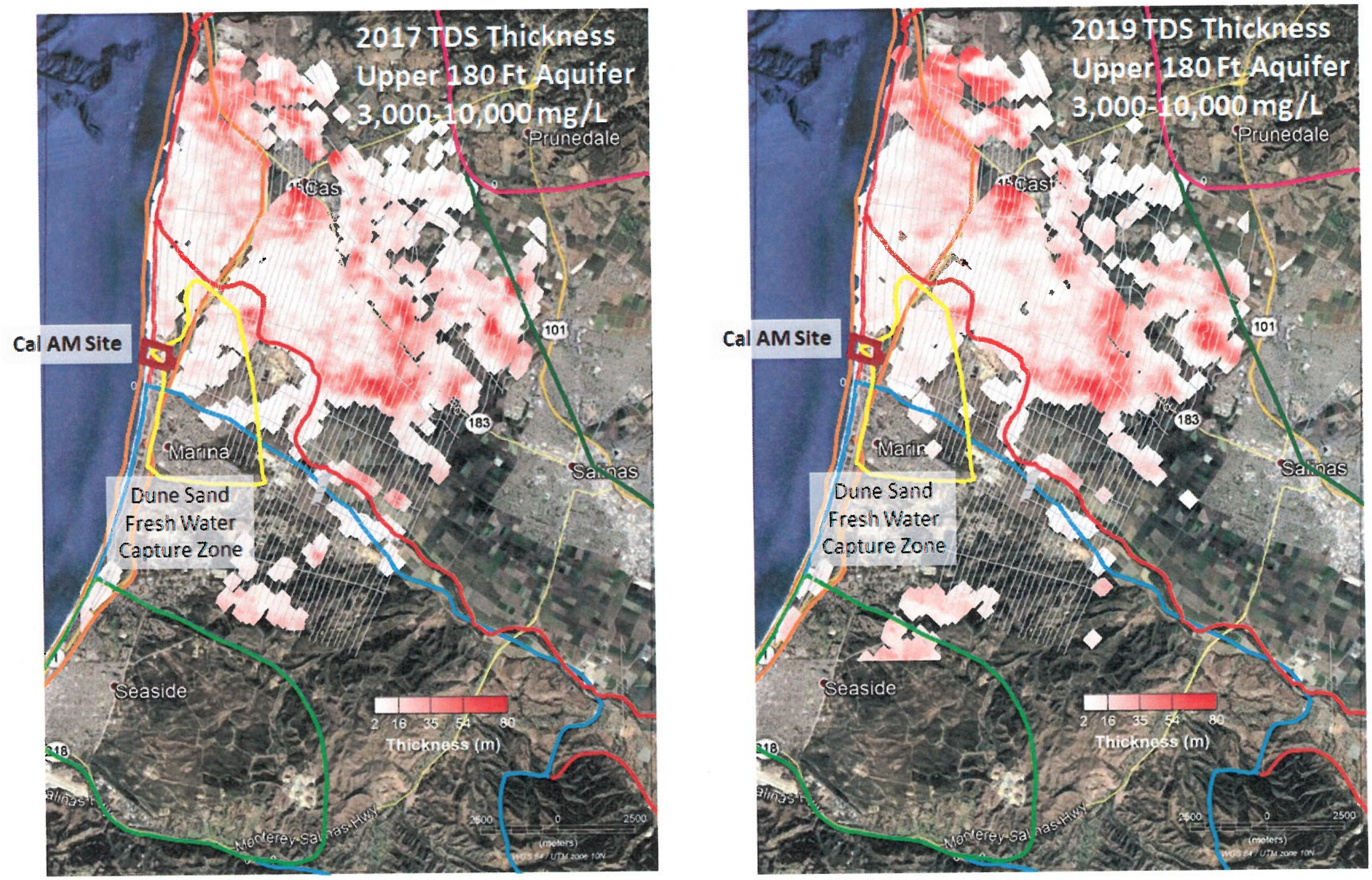


Figure 4-97. Comparison of the TDS distribution and thickness for the TDS range of 3,000-10,000 mg/L in the Upper 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

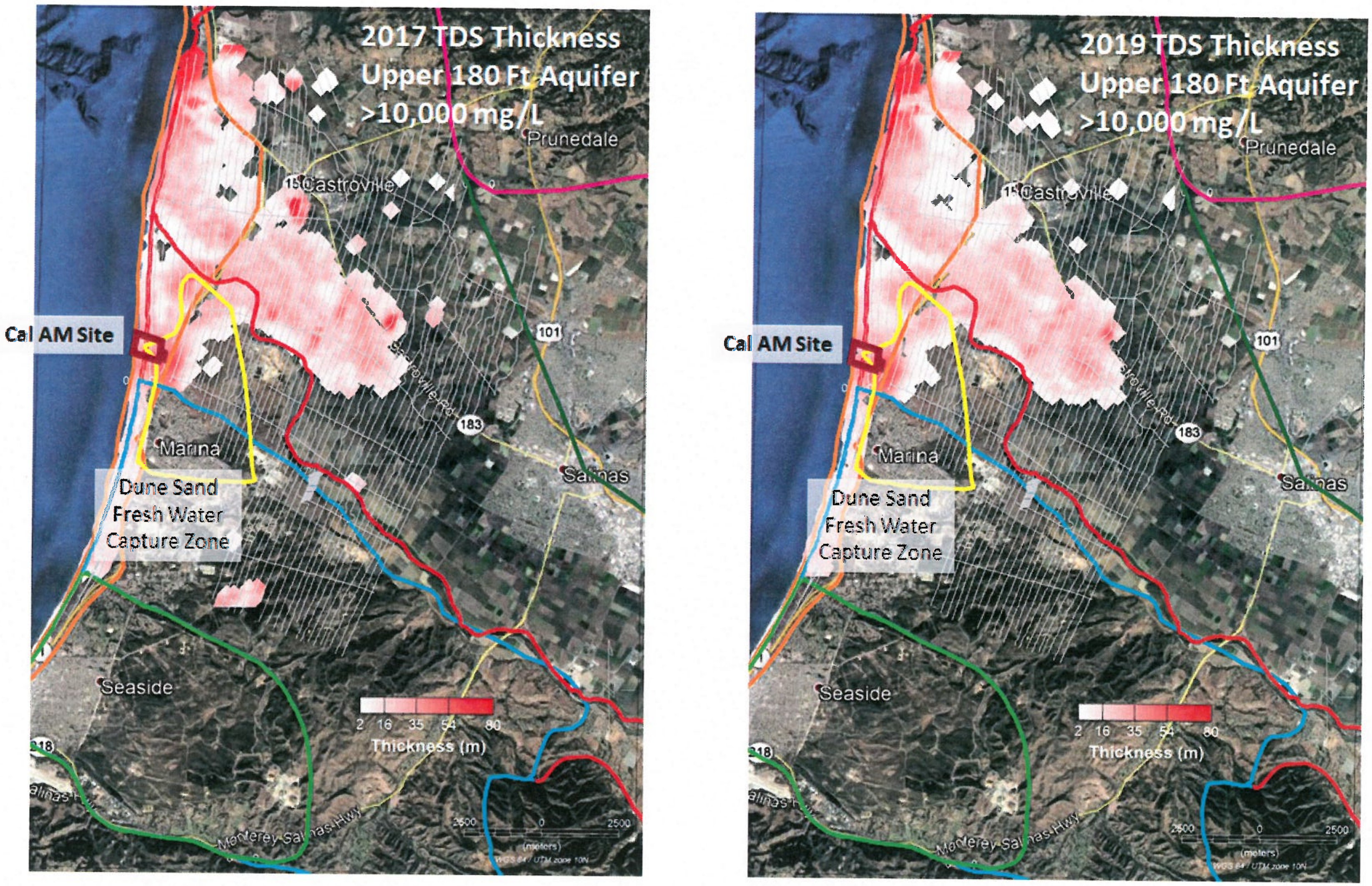


Figure 4-98. Comparison of the TDS distribution and thickness for the TDS range of >10,000 mg/L in the Upper 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

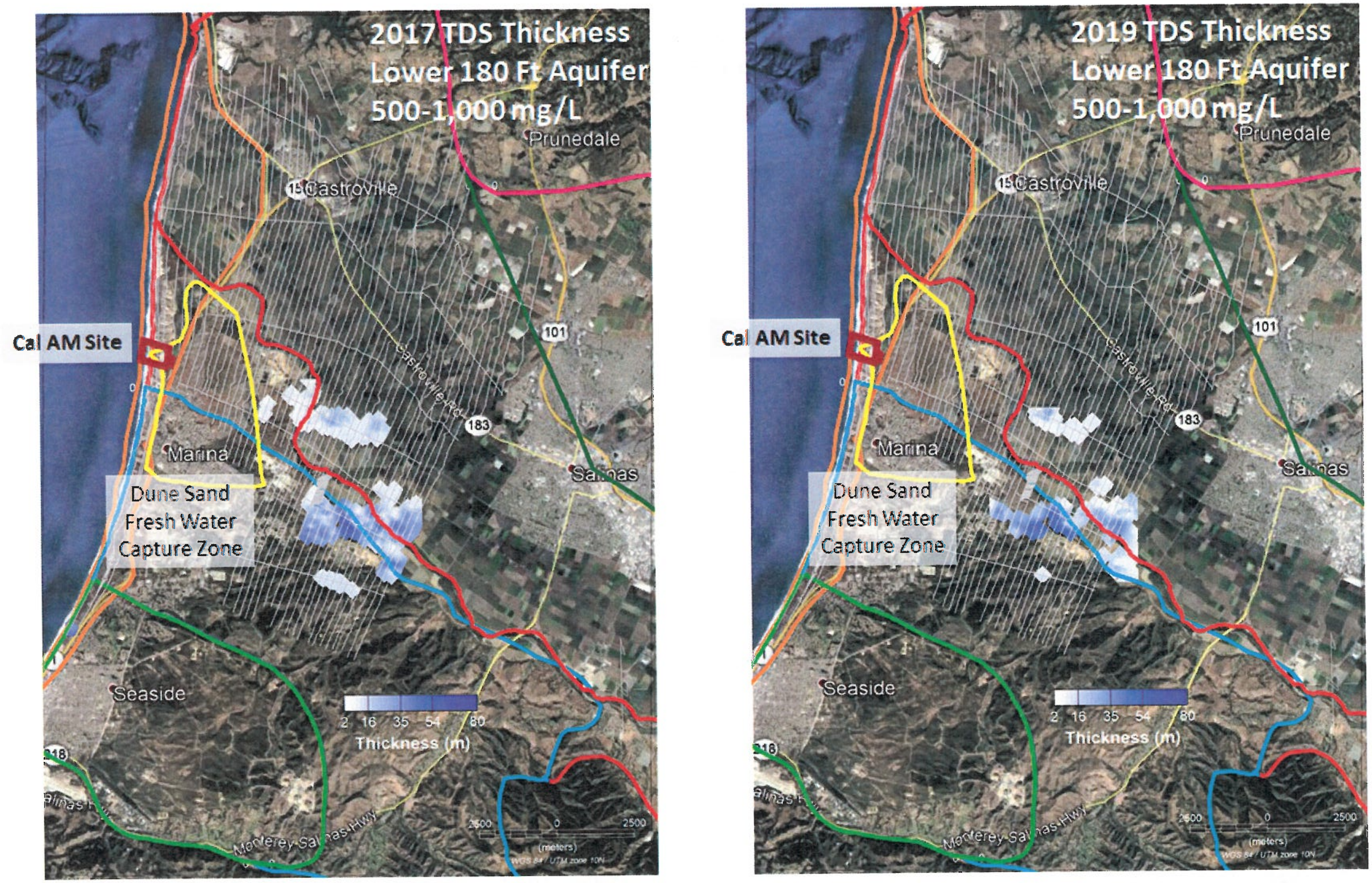


Figure 4-99. Comparison of the TDS distribution and thickness for the TDS range of 500-1,000 mg/L in the Lower 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

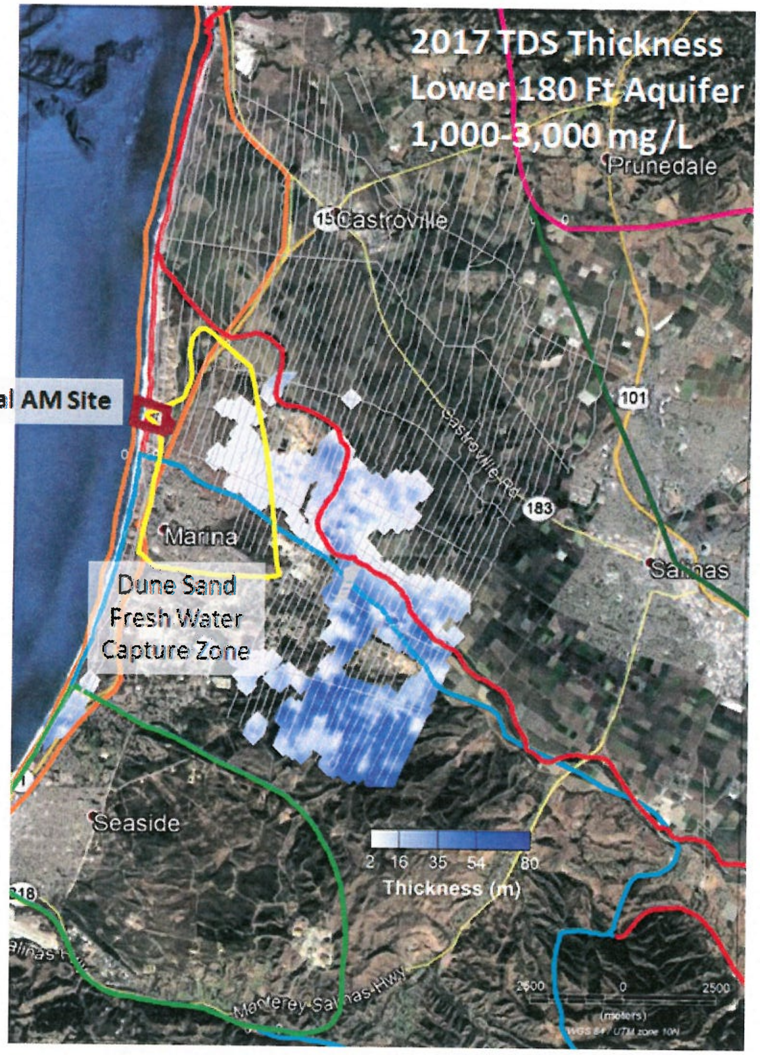


Figure 4-100. Comparison of the TDS distribution and thickness for the TDS range of 1,000-3,000 mg/L in the Lower 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

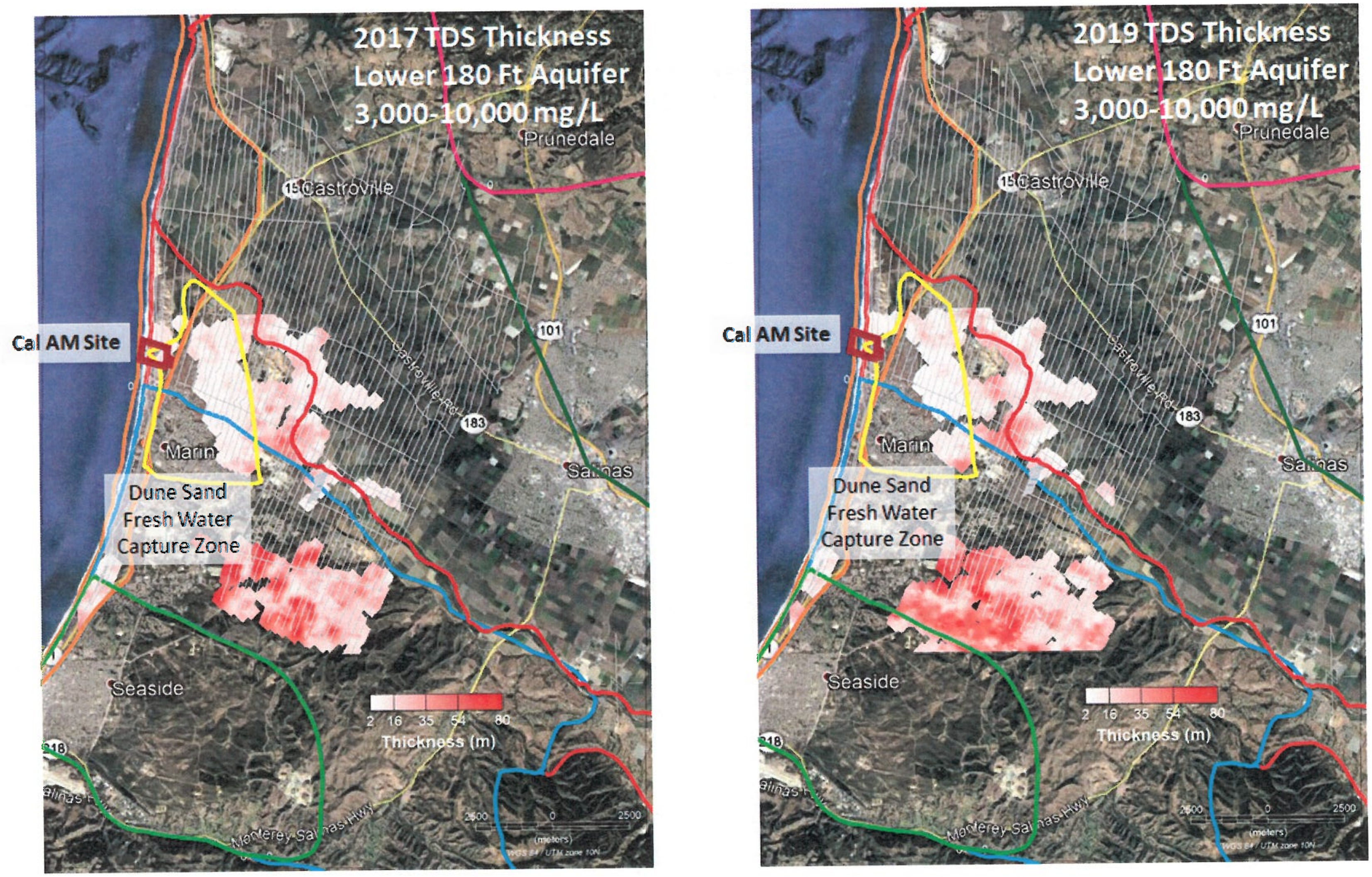


Figure 4-101. Comparison of the TDS distribution and thickness for the TDS range of 3,000-10,000 mg/L in the Lower 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

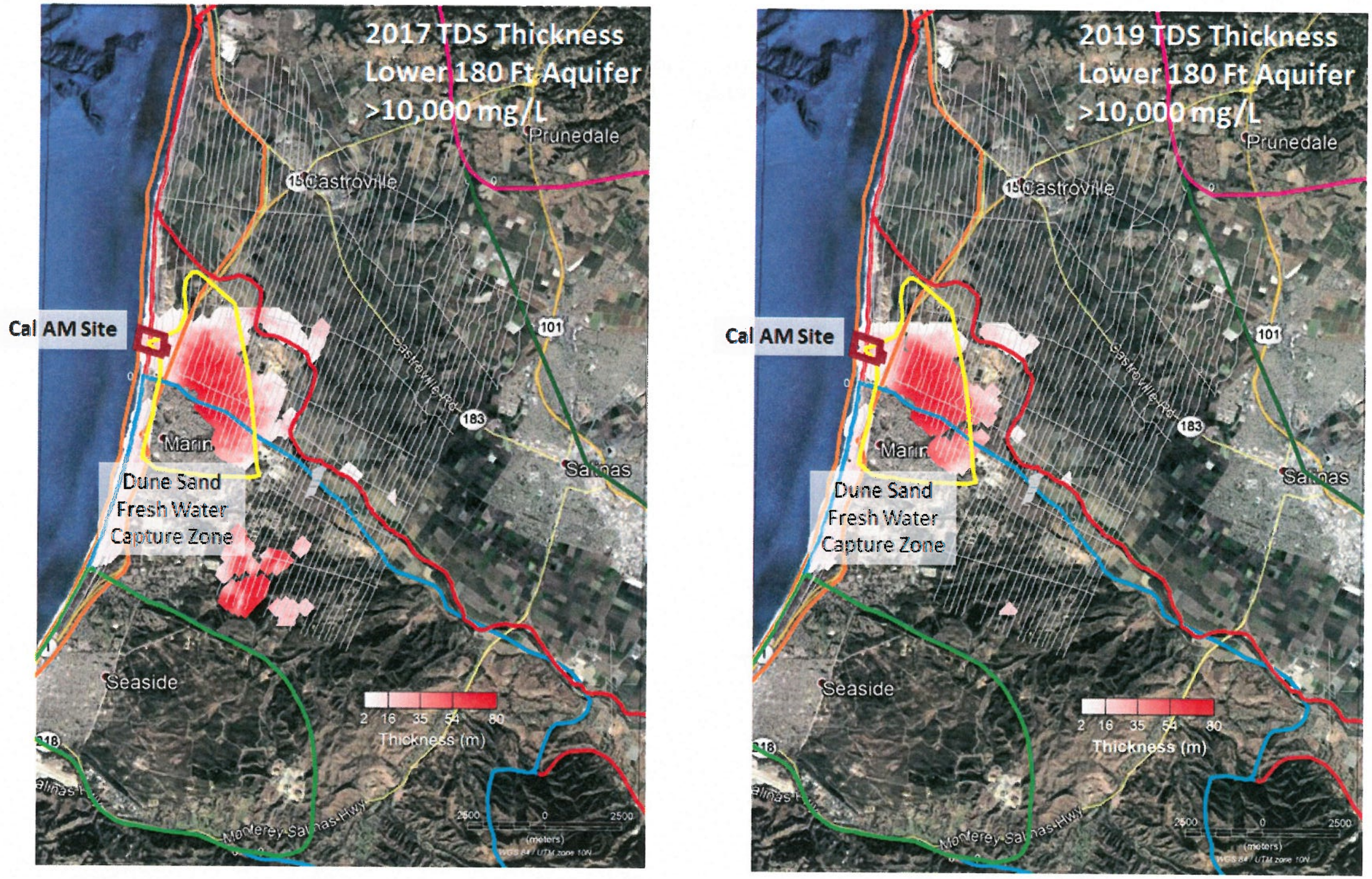
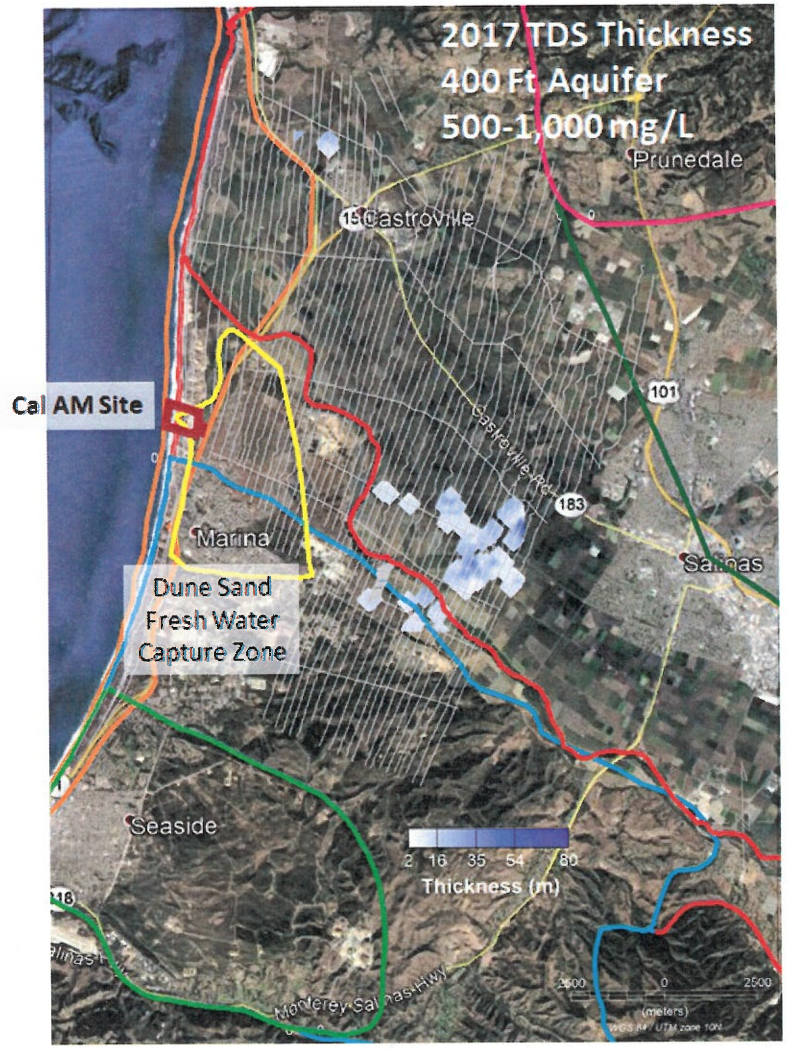


Figure 4-102. Comparison of the TDS distribution and thickness for the TDS range of >10,000 mg/L in the Lower 180-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017



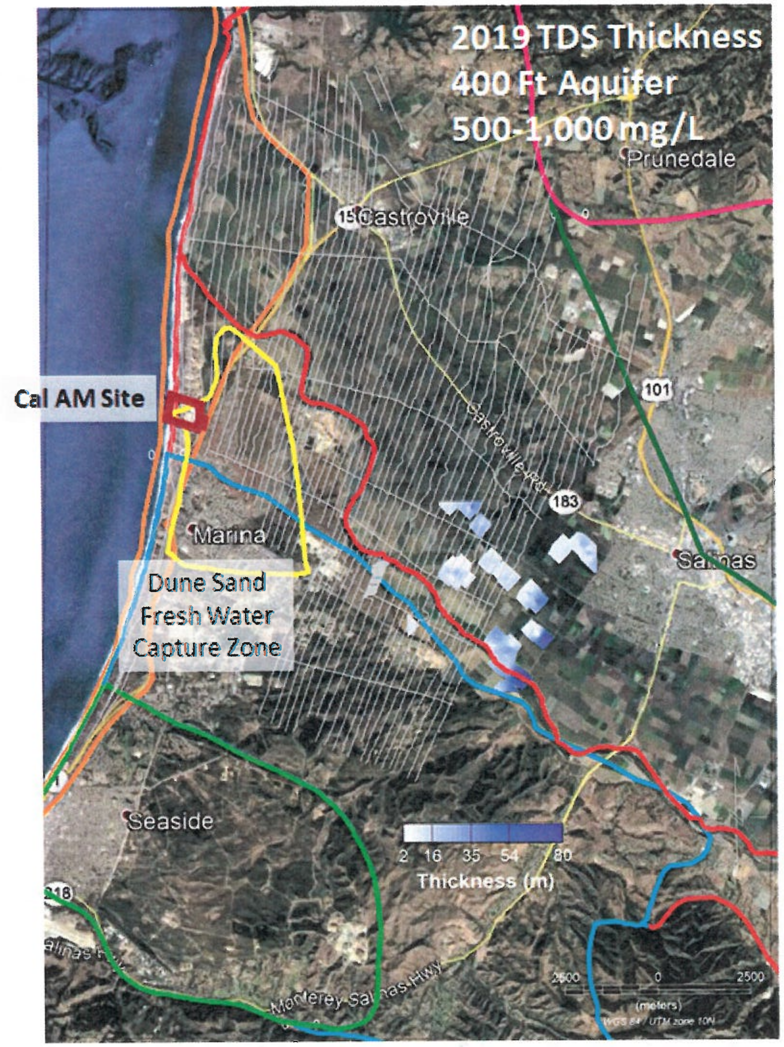
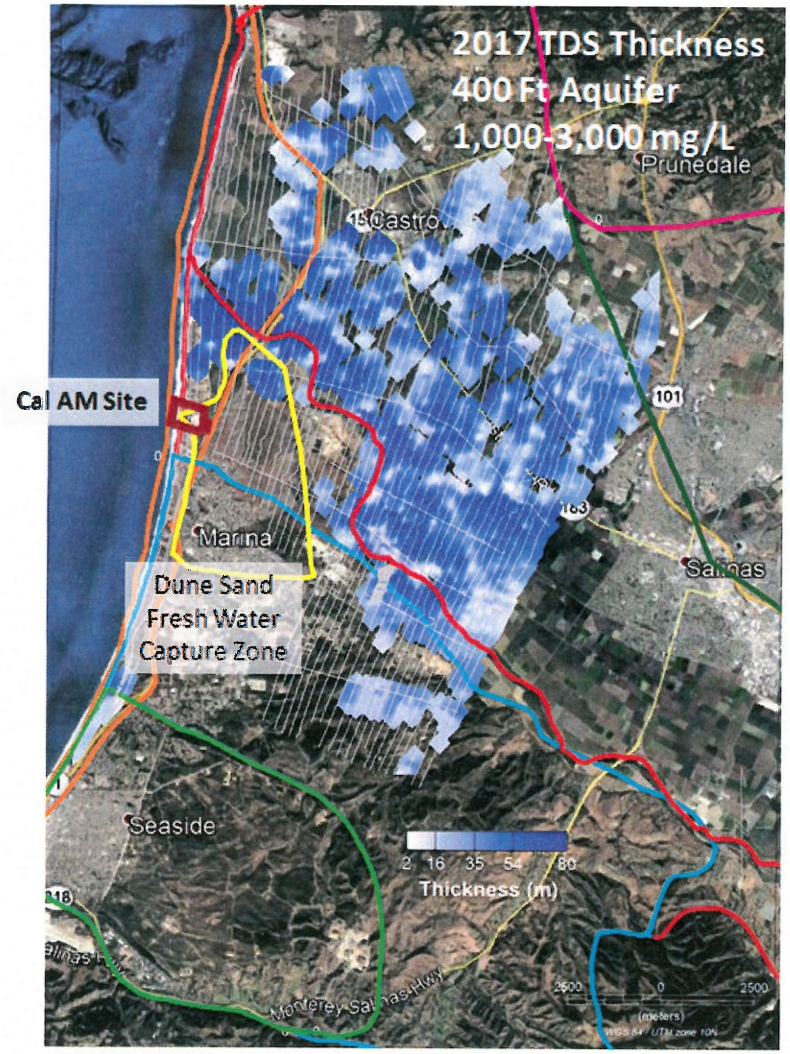


Figure 4-103. Comparison of the TDS distribution and thickness for the TDS range of 500-1,000 mg/L in the 400-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017



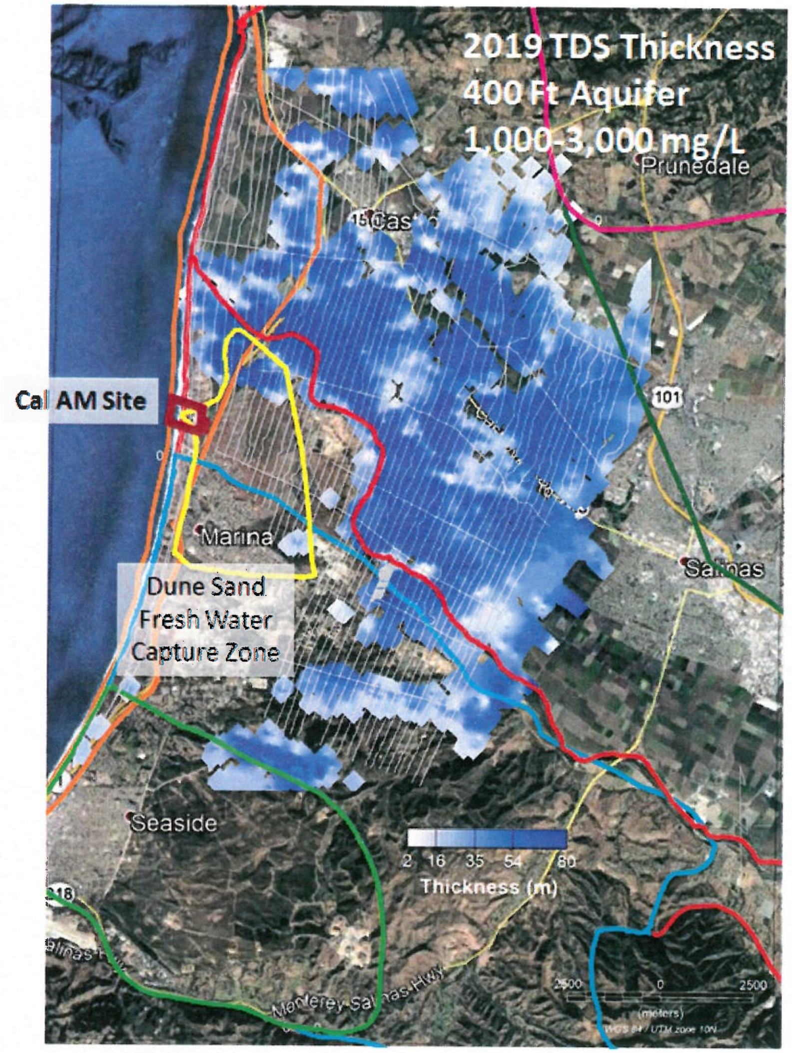
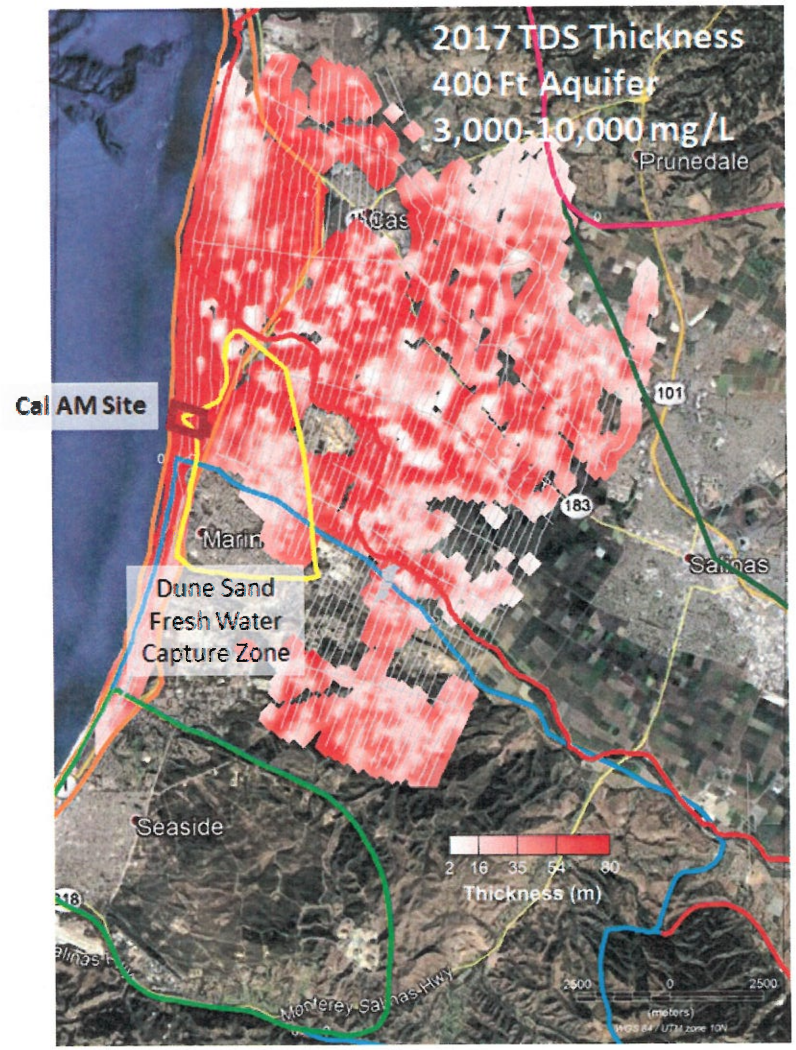


Figure 4-104. Comparison of the TDS distribution and thickness for the TDS range of 1,000-3,000 mg/L in the 400-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.



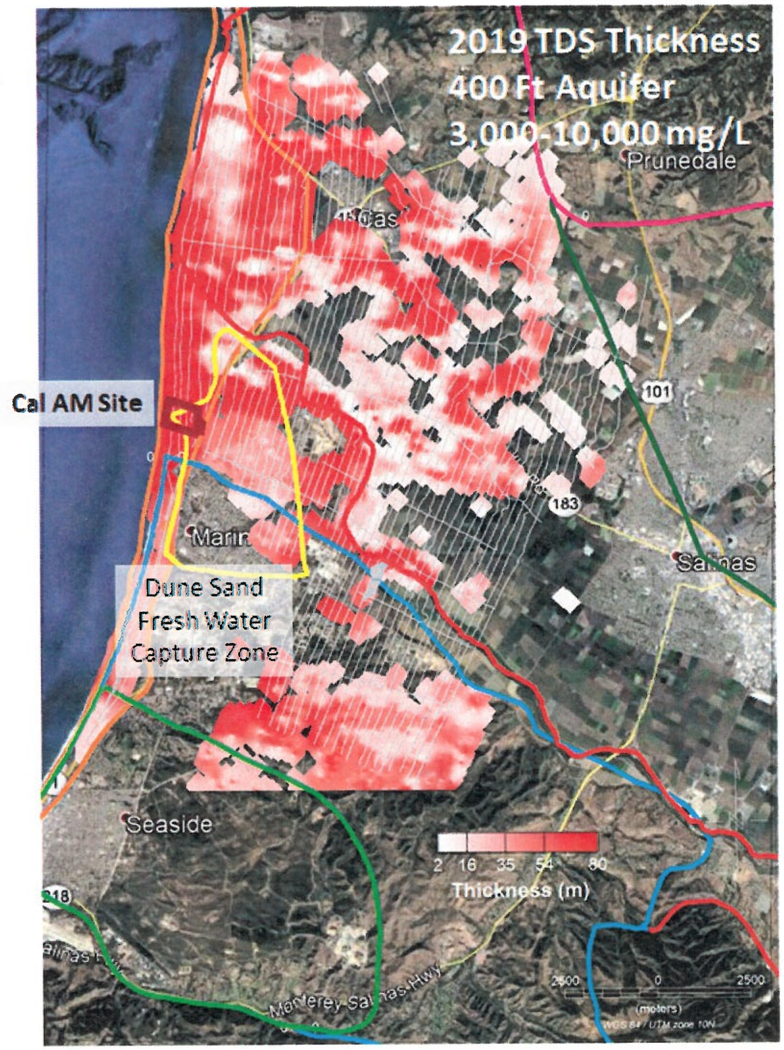


Figure 4-105. Comparison of the TDS distribution and thickness for the TDS range of 3,000-10,000 mg/L in the 400-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

Results of the 2019 AEM Survey of the MCWD and Comparison with 2017

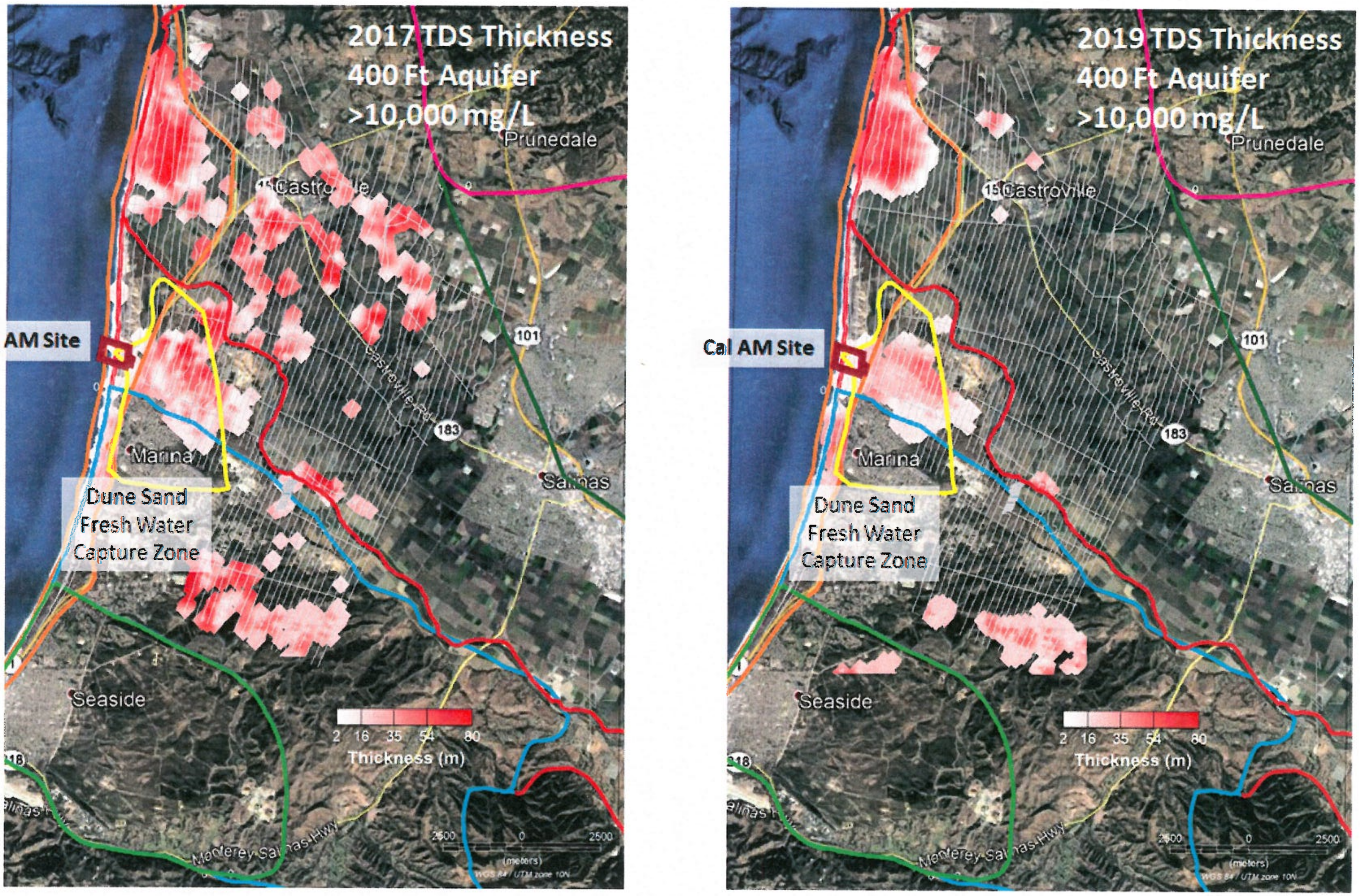


Figure 4-106. Comparison of the TDS distribution and thickness for the TDS range of >10,000 mg/L in the 400-Foot Aquifer from the 2017 (left image) and 2019 (right image) AEM surveys within the bounds of the 2017 AEM survey.

4.8 Hydrostratigraphic Volume Comparisons of 2017 & 2019 AEM Surveys

This section presents volume estimations of Potential Sources of drinking water (resistivities in the range 20-75 ohm and TDS values less than 3,000 mg/L) and volume estimations of water of Limited Beneficial Use (resistivities < 3 ohm-m and TDS values >3,000 mg/L) for the hydrostratigraphic units in the MCWD 2017 and 2019 AEM survey areas as well as estimations of the volumes of the two listed TDS ranges in local hydrological sub-basins.

There are three tables; one for 2017 data (Table 4-7), one for 2019 data within the bounds of the 2017 AEM survey area (Table 4-8), and a third table of the 2019 AEM survey data within the hydrological sub-basins and within the hydrostratigraphic units defined for the 2017 AEM survey (Table 4-9). The 2017 hydrostratigraphic bounds are mentioned because the 2019 AEM survey was extended south onto former Fort Ord property beyond the defined 2017 hydrostratigraphic boundaries.

These tables are based on the organization of Table 5 on page 62 of Gottschalk et al. (2018). Table 4-7 is basically a recreation and check on the data listed in Table 5 of Gottschalk et al. (2018). A check on the Table 5 data might have been sufficient but it was viewed necessary to recreate the 2017 volume estimations in the exact same manner as the 2019 data within the 2017 bounds (Table 4-8) as well as the data for all of the 2019 AEM survey area (Table 4-9). Table 4-9 also has more sub-basins than Table 5 and Table 4-7 and Table 4-8 because the 2019 AEM survey extended beyond the 2017 survey area.

A comparison between the Table 5 data in Gottschalk et al. (2018) and the 2017 AEM volume estimates in Table 4-7 indicates that some of the Table 4-7 volume estimates are different than in Table 5. One way of explanation for these differences may be in the use of different programs with different gridding algorithms used to create the voxels that were used to estimate the volumes. Table 5 in Gottschalk et al. (2018) was created using Seequent's Leapfrog (Leapfrog, 2020) and Table 4-7, the 2017 AEM volume estimations in the hydrostratigraphic units, was created using Oasis montaj (Geosoft, 2020). During creation of the 3D voxels in Geosoft Oasis montaj (Geosoft, 2020) of the 2017 and 2019 AEM data it was observed that volume estimations varied depending on the size of the 3D voxel cells. That's just in the one program, Oasis montaj. Using two different programs with different settings to 3D grid the data could result in slightly different versions.

Also note that there are differences between the total estimated volumes in the hydrostratigraphic units and the sub-basins. This is because the hydrostratigraphic units and sub-basins represent different volumes in space. The hydrostratigraphic units are based on subsets of the total volume whereas the sub-basins. The 180/400 Foot Aquifer Sub-basin encloses a volume from the ocean inland. The Highway 1 Sub-basin encloses the volume in the survey area west of Highway 1 and overlaps with the 180/400 Foot Aquifer Sub-basin.

Table 4-7. Volume Estimations in Hydrostratigraphic Units from 2017 AEM Inversion Results.

Stanford Rept Table 5, p.62, Revised 12/23/2019		2017 Total Volume "Limited Beneficial Use" ($m^3 x10^8$)	2017 Total Volume "Limited Beneficial Use" (acre-ft $x10^3$)	2017 Total Volume Potential source of drinking water ($m^3 x10^8$)	2017 Total Volume Potential source of drinking water (acre-ft $x10^3$)	2017 Net Volume potential source of drinking water, 20% porosity ($m^3 x10^8$)	2017 Net Volume potential source of drinking water, 20% porosity (acre-ft $x10^3$)
By Aquifer							
	Perched A/Shallow Aquifer	0.04	3	0.05	4	0.01	1
	Dune Sand Aquifer	1.48	120	13.11	1062	2.62	212
	Salinas Valley Aquitard	0.70	56	1.64	133	0.33	27
	Upper 180-Foot Aquifer	1.40	113	9.24	749	1.85	150
	Intermediate 180 Aquitard	0.14	11	0.59	48	0.12	10
	Lower 180-Foot Aquifer	1.51	123	2.08	169	0.42	34
	180-400 Ft Aquitard	0.31	25	0.30	24	0.06	5
	400-Foot Aquifer	1.19	96	0.45	36	0.09	7
	400-Foot Aquitard	0.19	15	0.00	0	0.00	0
	Total	6.94	562	27.47	2226	5.49	445
2017 Vol.							
By Region	Monterey Subbasin	4.55	369	12.83	1039	2.57	208
	180/400 Aquifer Subbasin	12.94	1048	18.12	1468	3.62	294
	West of HW 1	10.41	844	0.84	68	0.17	14
	Total	27.91	2261	31.79	2575	6.36	515

Table 4-8. Volume Estimations in Hydrostratigraphic Units from 2019 AEM Inversion Results Within 2017 AEM Survey Boundary.

Stanford Rept Table 5, p.62, Revised 12/23/2019		2019: 2017 Area - Total Volume "Limited Beneficial Use" (m^3x10^8)	2019: 2017 Total Volume "Limited Beneficial Use" (acre-ft $x10^3$)	2019: 2017 Total Volume Potential source of drinking water (m^3x10^8)	2019: 2017 Total Volume Potential source of drinking water (acre-ft $x10^3$)	2019: 2017 Net Volume potential source of drinking water, 20% porosity (m^3x10^8)	2019: 2017 Net Volume potential source of drinking water, 20% porosity (acre-ft $x10^3$)
By Aquifer							
	Perched A/Shallow Aquifer	0.02	1	0.04	3	0.01	1
	Dune Sand Aquifer	1.16	94	13.57	1100	2.71	220
	Salinas Valley Aquitard	0.45	37	1.44	117	0.29	23
	Upper 180-Foot Aquifer	1.68	136	8.07	654	1.61	131
	Intermediate 180 Aquitard	0.14	12	0.82	66	0.16	13
	Lower 180-Foot Aquifer	1.28	104	2.38	193	0.48	39
	180-400 Ft Aquitard	0.36	30	0.24	19	0.05	4
	400-Foot Aquifer	0.42	34	0.44	36	0.09	7
	400-Foot Aquitard	0.00	0	0.04	3	0.01	1
	Total	5.52	447	27.05	2191	5.41	438
2017 Vol.		2019 Data, 2017 Bounds					
By Region	Monterey Subbasin	2.90	235	11.41	924	2.28	185
	180/400 Aquifer Subbasin	12.06	977	13.39	1084	2.68	217
	West of HW 1	9.92	803	0.64	52	0.13	10
	Total	24.88	2015	25.43	2060	5.09	412

Table 4-9. Volume Estimations in Hydrostratigraphic Units from 2019 AEM Inversion Results Using 2017 Hydrostratigraphic Bounds.

		2019 Area - Total Volume "Limited Beneficial Use" ($m^3 x10^8$)	2019 Total Volume "Limited Beneficial Use" (acre-ft $x10^3$)	2019 Total Volume Potential source of drinking water ($m^3 x10^8$)	2019 Total Volume Potential source of drinking water (acre-ft $x10^3$)	2019 Net Volume potential source of drinking water, 20% porosity ($m^3 x10^8$)	2019 Net Volume potential source of drinking water, 20% porosity (acre-ft $x10^3$)
By Aquifer							
	Perched A/Shallow Aquifer	0.02	1	0.04	3	0.01	1
	Dune Sand Aquifer	1.19	97	20.19	1636	4.04	327
	Salinas Valley Aquitard	0.45	37	2.09	170	0.42	34
	Upper 180-Foot Aquifer	1.69	137	9.39	761	1.88	152
	Intermediate 180 Aquitard	0.15	12	0.96	78	0.19	16
	Lower 180-Foot Aquifer	1.29	104	2.52	204	0.50	41
	180-400 Ft Aquitard	0.37	30	0.59	47	0.12	9
	400-Foot Aquifer	0.44	36	1.06	86	0.21	17
	400-Foot Aquitard	0.11	9	0.06	5	0.01	1
	Total	5.71	463	36.89	2989	7.38	598
2019 Vol.	Monterey Subb	3.18	258	24.08	1951	4.82	390
By Region	180-400 Ft Aq Subb	12.10	980	16.28	1319	3.26	264
	Hwy 1	9.93	804	0.64	52	0.13	10
	Seaside	6.88	557	20.67	1675	4.13	335
	Langley	0	0	0.26	21	0.05	4
	East Side	0	0	0.10	8	0.02	2
	Total	32.09	2599	62.02	5024	12.40	1005

4.9 Key AEM Findings and Recommendations

The Key Findings and Recommendations provided to the MCWD in this section are based on the interpretation and understanding gained from the addition of the AEM data to existing information and from discussions with the MCWD about their management challenges.

4.9.1 2019 AEM Investigation

The MCWD 2019 AEM investigation successfully, and accurately per borehole correlations, mapped the subsurface resistivity distribution and provided an estimation of the chloride concentration within the AEM survey boundary. Besides mapping the known locations of fresher water, additional fresher water is indicated under the hills south of the Salinas River on Fort Ord of which some is likely flowing downhill towards the Salinas Valley. Below this zone of fresher water on Fort Ord is a clear very conductive zone that is likely more saline water.

4.9.2 Comparison of MCWD 2017 and 2019 AEM Investigations

A comparison between the MCWD AEM investigations from May 2017 and April 2019 has been conducted via 2D profiles and 3D voxels. The main differences between the two survey periods is that the 2019 electrical resistivity at a depth near the coast, primarily north of the Salinas River, and continuing inland, that is likely the 400-Foot Aquifer, does not indicate the very low resistivities observed in the 2017 AEM investigation that are interpreted to be saline water, likely sea water. While there are some local variations, the resistivity mapping of the 180-Foot Aquifer generally does not show much difference between 2017 and 2019.

If MCWD believes that there have been substantial changes in the subsurface over the 2019 investigation area due to variations in local environmental conditions, then it is recommended that MCWD consider an additional AEM mapping campaign or part or all of the 2019 AEM survey area.

4.9.3 Need Additional Water Table and Water Quality Data Across the Salinas River Valley

It was observed during analysis of the AEM inversion results when applying the available water table elevation and water quality data, that there isn't a lot of this information publicly available. The only available water quality information was from the MPWSP monitoring well reports and those were not consistent in their reporting or possibly accuracy and calibration. Additional compilation and integration of water level measurement locations and accurate water quality data would improve local water table and water quality maps and help in the analysis and interpretation of the previously acquired, and any future, AEM data.

5 Description of Data Delivered

5.1 Tables Describing Included Data Files

Table 5-1 describes the raw data files included in Appendix 3_Deliverables \Raw_Data. As discussed above, six (6) 312 flights were required to acquire the 2019 MCWD AEM data (Figure 3-5). Grouped by flight date, there are four (4) data flies included in Appendix 3\Raw_Data for each flight. These files have extensions of "*.sps" and "*.skb". The "*.sps" files include navigation and DGPS location data and the "*.skb" files include the raw AEM data that have been PFC-corrections (discussed in Section 3.4.2). Two additional sets of files are used for all the flights. These are the system description and specifications file (with the extension "*.gex") in the GEO subdirectory and the 'mask' file (with the extension "*.lin"), in the MASK subdirectory, which correlates the flight dates, flight numbers, and assigned line numbers.

Table 5-2 describes the data columns in the ASCII *.xyz file 20190606_EM_MAG_AUX_PLNI_Monterey.xyz. This file contains the electromagnetic data, plus the magnetic and navigational data, as supplied directly from SkyTEM.

The result of the SCI is included in MCWD2019_AEM_SCI_Inv_v1.xyz and the data columns of these databases are described in Table 5-3.

The borehole data used to assist in the interpretation of the SCI inversion results are included in the files listed in Table 5-4. Each type of borehole information has both a collar file containing the location of each of the wells, and a second file containing the borehole data for the individual wells. The data column descriptions for the collar files are listed in Table 5-5. Table 5-6 describes the channels in the lithology borehole data files and Table 5-7 describes the channels in the geophysical borehole data files.

The various interpretation results are included in the data file MCWD2019_Interp_v2.xyz in ASCII format. Table 5-8 describes the data columns of those files.

ESRI Arc View Binary Grids of the surfaces that were used in the interpretation (DEM, water table) and derived from the interpretation (top of geological units) of the AEM and borehole are listed in Table 5-9 and stored in Appendix 3_Deliverables\Grids.

In summary, the following are included as deliverables:

- Raw EM Mag data as ASCII *.xyz
- SCI inversion as ASCII *.xyz
- Borehole databases as ASCII *.xyz
- Interpretations as ASCII *.xyz
- Raw Data Files - SkyTEM files *.geo, *skb, *.lin
- ESRI ArcView grid files – surface, topo, etc.
- 3D fence diagrams of the lithologic interpretation

KMZs for AsFlown, Retained data

Table 5-1. Raw SkyTEM data files

Folder	File Name	Description
Data	..NavSys.sps, ...PaPc.sps, ...RawData_PFC.skb, ...DPGS.sps	Raw data files included for each flight used in importing to Aarhus Workbench
Geo	20190603_312_Monterey_DualWaveform_60Hz_skb.gex 20190603_312_Monterey_DualWaveform_60Hz_skb_SR2.gex 20190603_312_Monterey_DualWaveform_60Hz_skb_SR2.sr2	312 System Description
Mask	20190426_Production.lin	Production file listing dates, flights, and assigned line numbers

Table 5-2. Channel name, description, and units for 20190606_EM_MAG_AUX_PLNI_Monterey.xyz with EM, magnetic, DGPS, Inclinometer, altitude, and associated data.

Parameter	Description	Unit
Fid	Unique Fiducial Number	
Line	Line Number	
Flight	Name of Flight	yyyymmdd.ff
DateTime	DateTime Format	Decimal days
Date	DateTime Format	yyyymmdd
Time	Time UTC	hhmmss.sss
AngleX	Angle (in flight direction)	Degrees
AngleY	Angle (perpendicular to flight direction)	Degrees
Height	Filtered Height Measurement	Meters [m]
Lon	Longitude, WGS84	Decimal Degrees
Lat	Latitude, WGS84	Decimal Degrees
E_UTM10N_m	Easting, NAD83 UTM Zone 10N	Meters [m]
N_UTM10N m	Northing, NAD83 UTM Zone 10N	Meters [m]
DEM_m	Digital Elevation	Meters [m]
Alt	DGPS Altitude above sea level	Meters [m]
GDSpeedL	Ground Speed	Kilometers/hour [km/h]
Curr_LM	Current, Low Moment	Amps [A]
Curr_HM	Current, High Moment	Amps [A]
LMZ_G01	Normalized (PFC-Corrected) Low Moment Z-RxCoil values array	$pV/(m^4*A)$
HMZ_G01	Normalized (PFC-Corrected) High Moment Z-RxCoil values array	$pV/(m^4*A)$
HMX_G01	Normalized (PFC-Corrected) High Moment X-RxCoil values array	$pV/(m^4*A)$
PLNI	Power Line Noise Intensity monitor	V/m^2
Bmag_Raw	Raw Base Station Mag Data filtered	nanoTesla [nT]
Diurnal	Diurnal Mag Data	nanoTesla [nT]
MAG_Raw	Raw Mag Data	nanoTesla [nT]
Mag_Cor	Mag Data Corrected for Diurnal Drift	nanoTesla [nT]
RMF	Residual Magnetic Field	nanoTesla [nT]
TMI	Total Magnetic Intensity	nanoTesla [nT]

Table 5-3. Channel name, description, and units for MCWD2019_AEM_SCI_Inv_v1.xyz with EM inversion results.

Parameter	Description	Unit
LINE	Line Number	
East_m	Easting NAD83, UTM Zone 10	Meters [m]
North_m	Northing NAD83, UTM Zone 10	Meters [m]
DEM_m	DEM from 30 m grid NED NAVD88	Meters [m]
FID	Unique Fiducial Number	
TIME	Date Time Format	Decimal days
ALT_M	Altitude of system above ground	Meters [m]
INVALT	Inverted Altitude of system above ground	Meters [m]
INVALTSTD	Inverted Altitude Standard Deviation of system above ground	Meters [m]
DELTAALT	Change in Altitude of system above ground	Meters [m]
RESDATA	Residual of individual sounding	
RESTOTAL	Total residual for inverted section	
DOI_CONSERVATIVE_M	More conservative estimate of DOI, bgs	Meters [m]
DOI_STANDARD_M	Less conservative estimate of DOI, bgs	Meters [m]
RHO_0 THROUGH RHO_38	Inverted resistivity of each later	Ohm-m
RHO_STD_0 THROUGH RHO_STD_38	Inverted resistivity error per layer	
SIGMA_I_0 THROUGH SIGMA_I_38	Conductivity	S/m
DEP_TOP_M_0 THRU DEP_TOP_M_38	Depth to the top of individual layers	Meters [m]
DEP_BOT_M_0 THRU DEP_BOT_M_38	Depth to the bottom of individual layers	Meters [m]
THK_M_0 THROUGH THK_M_38	Thickness of individual layers	Meters [m]

Table 5-4. Files containing borehole information.

Database (*.xyz)	Description
MCWDELogs_Collar.xyz	Geophysical Short Normal Resistivity Elogs
MCWDELogs_Data.xyz	
FortOrdLith_Collar.xyz	Lithology logs
FortOrdLith_Data.xyz	
MCWDLith_Collar.xyz	
MCWDLith_Data.xyz	

Table 5-5: Channel name, description, and units for collar files.

Parameter	Description	Unit
DH_Hole	Name of individual boreholes	
DH_East	Easting of boreholes, NAD83, UTM Zone 10	Meters (m)
DH_North	Northing of boreholes, NAD83, UTM Zone 10	Meters (m)
DH_RL	Elevation of top of borehole	Meters (m)
DH_Dip	Dip of borehole	Degrees
DH_Azimuth	Azimuth of borehole	Degrees
DH_Top	Depth to top of borehole	Meters (m)
DH_Bottom	Depth to bottom of borehole	Meters (m)

Table 5-6. Channel name description and units for Lithology borehole data.

Parameter	Description	Unit
DH_Hole	Name of Borehole	
DH_East	Easting of boreholes, NAD83, UTM Zone 10	Meters (m)
DH_North	Northing of boreholes, NAD83, UTM Zone 10	Meters (m)
DH_RL	Elevation of top of borehole	Meters (m)
DH_From	End of interval	Meters (m)
DH_To	Start of interval	Meters (m)
Lithcode	Lithology description associated with 30 categories	
DH_Description	Description of lithology material	

Table 5-7. Channel name description and units for E-Logs borehole data.

Parameter	Description	Unit	Type of Log
DH_Hole	Name of Borehole		
DH_East	Easting of boreholes, WGS84, UTM Zone 10	Meters (m)	
DH_North	Northing of boreholes, WGS84, UTM Zone 10	Meters (m)	
DH_RL	Elevation of borehole data point	Meters (m)	
DH_Depth	Depth	Meters (m)	
SN	Short Normal Resistivity 16in	Ohm-m	GP
LN	Long Normal Resistivity 64in	Meters (m)	GP

Table 5-8: Channel name, description, and units for the interpretation results file MCWD2019_Interp_v1.xyz.

Parameter	Description	Unit
LINE	Line Number	
Easting	Easting NAD83, UTM Zone 10	Meters (m)
Northing	Northing NAD83, UTM Zone 10	Meters (m)
DEM_m	Topography at 30m sampling (NAVD 1988)	Meters (m)
East_CASP4ft	Easting, California State Plane, Zone 4	Feet (ft)
North_CASP4ft	Northing, California State Plane, Zone 4	Feet (ft)
RHO[0] through RHO[38]	Array of Inverted model resistivities of each later	Ohm-m
RESDATA	Inversion model residuals of each individual sounding	
RhoLT75[0] through RHOLT75[38]	Array of inverted model resistivities <75 ohm-m	Ohm-m
CLconcFitt	Array of Chloride concentrations via Fitterman relationship	mg/L
EC_MPWSP	Electrical Conductance calculated using derived MPWSP relation	µS
Salinity_MPWSP	Salinity calculated using derived MPWSP relation	mg/L
TDS_MPWSP	TDS calculated using derived MPWSP relation	mg/L
WT75	Water Table for resistivities <75 ohm-m	Meters (m)
DEP_TOP[0] through DEP_TOP[38]	Depth to the top of individual layers	Meters (m)
DEP_BOT[0] through DEP_BOT[38]	Depth to the bottom of individual layers	Meters (m)
DEM_DepTop[0] thru DEM_DepTop[38]	Array of elevations of top of each model layer	Meters (m)
DOI_Conservative	More conservative estimate of DOI from Workbench	Meters (m)
DOI_Standard	Less conservative estimate of DOI from Workbench	Meters (m)

Table 5-9. Channel name, description, and units for Voxel files: a) MCWD2017_CLconc_LT75_Voxel.xyz; b) MCWD2019_CLconc_All_Voxel.xyz; c) MCWD2019_CLconc_LT75_Voxel.xyz; d) MCWD2019_Resistivity_Voxel

Parameter	Description	Unit
X	Easting UTM 10N	Meters (m)
Y	Northing UTM 10N	Meters (m)
Z	Depth of Voxel Node	Meters (m)
Resistivity	Voxel cell resistivity value	Ohm-m
CLconc	Chloride concentration	mg/L

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Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-B | Meeting Date: February 25, 2020

Prepared By: Roger K. Masuda | Approved By: Keith Van Der Maaten

Agenda Title: Discuss, Consider, and Determine Action on Director Peter Le's Complaint against the District for Negligence, Discrimination, and Retaliation

Staff Recommendation: The Board of Directors discuss, consider, and determine action on Director Le's negligence, discrimination, and retaliation claim against District staff.

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

On January 27, 2020, Director Peter Le emailed to the other four Directors, the General Manager, and Legal Counsel a "Notice of Potential Claim against Marina Coast Water District (MCWD) due to its negligence," which is contained in the attached email string and which stated the following:

> On January 20 ,2020 I received two IRS 1099 Forms for Non-Employee Compensation. I then notified Keith, MCWD General Manager, of the potential errors since I did not receive that much money from MCWD and requested a copy of MCWD payments to me with the amounts and dates for each payment.
>
> On January 21, 2020 I received an email from Paula Riso, Executive Assistant, stating that one 1099 Form was not correct and she believed that only the correct 1099 Form was sent to the IRS. She also included a requested copy of such payments with her email.
>
> However, neither Paula nor the District provided me with evidence that only one correct 1099 Form was sent to the IRS and other taxing authorities. Additionally, the District did not inform me whether it has notified the Internal Revenue Service (IRS) and other taxing authorities of this error and followed their regulations in making corrections to the incorrect Form 1099 and/or voiding the incorrect form.
>
> Therefore, I submit this Notice of Potential Claim against the District in case I incur expenses due to the District's negligence in preparing and issuing two 1099-Forms to the IRS and other taxing authorities.
>
> Additionally, I personally believe that this case is another example of discrimination by District staff against me and also retaliation against me due to my views, comments and voting on District business.

In addition to his claim of negligence, Director Le's last sentence expands his claim to include discrimination and retaliation against him by District staff. While he characterizes his Notice as that of a "Potential Claim," his claims of discrimination and retaliation against him by District staff is a very serious matter, cannot be deferred until if and when he files an actual claim against

District staff, especially since Director Le has made previous complaints of District staff racially discriminating against him.

Because both the General Manager and Legal Counsel were cc'ed on the email, General Manager Keith Van Der Maaten requested that Roger Masuda as Legal Counsel to investigate the matter since Director Le did not accept Paula Riso's explanation of what happened with the Form 1099s. I reported the results of my investigation to Director Le and General Manager Keith Van Der Maaten in the attached email dated January 27, 2020, which was as follows:

> The MCWD Accounting Department prepared the Form 1099s on MCWD's Springbrook software. The first Form 1099 prepared for Director Le incorrectly included an additional $231, which was his travel reimbursement for meals while attending the CSDA conference in Anaheim in September 2019. In the process of reviewing the Form 1099s for accuracy, the Accounting Department discovered the error in Director Le's Form 1099 and removed the $231, which resulted in the correct amount of $750. Correcting the Form 1099 on Springbrook results in the first Form 1099 being automatically erased. <u>The correct $750 Form 1099 was what was filed along with MCWD's other Form 1099s with the IRS</u>. The hardcopy of the first Form 1099 had not been shredded and was inadvertently mailed to Director Le at the same time the correct Form 1099 was sent to him. The second Form 1099 did not have the "Corrected" box checked because the first incorrect Form 1099 had not been filed with the IRS. Paula Riso and Keith Van Der Maaten had no involvement in the preparation and filing of Form 1099s with IRS; that is an Accounting Department function.

Roger Masuda's email ended with the statement, "Since you entitled your email as "Notice of Potential Claim,' please inform me whether you will be submitting a formal written claim."

As of February 5, 2020, Roger Masuda had not heard anything from Director Le so he emailed Director Le the attached email requesting that Director Le provide him by 5:00 PM, Monday, February 10, 2020, written notice that Director Le was formally withdrawing his claim and, if no formal withdrawal was received by then, Roger Masuda would include Director Le's claim on the open session agenda for the February 18 Board meeting for consideration by the Board.

As of 5:00 PM on February 10, 2020, Roger Masuda had not received anything from Director Le, so he notified Director Le in the attached email that the matter will be agendized as an open session item for the next Board meeting. Since the February 18 Board meeting has been moved to February 25, this matter is now before the Board.

Discussion/Analysis: The basis of Director Le's claim is that District staff negligently prepared two Form 1099s, one of which contained an additional $231 for meals at a conference he attended. Based upon his receipt of both Form 1099s, he was concerned about potential action by the Internal Revenue Service or other taxing authorities if in fact both Form 1099s were filed with the IRS and Director Le filed the Notice of Potential Claim "in case I incur expenses due to the District's negligence in preparing and issuing two 1099-Forms to the IRS and other taxing authorities." However, Director Le alleged that the act of preparing and sending him, and presumably the IRS, two Form 1099s constituted discrimination and retaliation against him by District staff "due to [his] views, comments and voting on District business." In other words, Director Le is alleging that the act of preparing and sending to him and the IRS two Form 1099s, which could possibly result in some form of adverse action against him by the IRA, was with the intent by District staff to willfully discriminate and retaliate against him “due to [his] views, comments and voting on District business.”

While Director Le’s prior complaint against District staff was for racial discrimination, which is a protected class, such as race, creed, color, age, religion, general, nationality, national origin, and ancestry (see MCWD Employee Handbook Section 3.1), this claim is based upon discrimination against him “due to [his] views, comments and voting on District business.” The discrimination/retaliation portion of his claim could be classified as an alleged abridgment of his First Amendment right to free speech, which is protected so long as his conduct is within the law and the Board Procedures Manual.

In any event, the District takes any allegations that District staff were negligent, discriminatory, and retaliatory very seriously and, consequently, the General Manager requested that Legal Counsel Roger Masuda investigate why Director Le received two Form 1099 and whether both forms were submitted to the IRS. As stated in his January 27, 2020 email to Director Le, Roger Masuda found that only the correct $750 Form 1099 was filed with the IRS, but apparently his findings did not satisfy Director Le so the matter is now before the Board.

Note that all payments to Director Le are a matter of public record in the District staff’s monthly check registers to the Board and, therefore, are not confidential.

District Employees Have the Right to Have the Matter Heard in Closed Session: Government Code Section 54957(b)(1) allows the Board to hear complaints or charges brought against a District employee by another person or employee unless the employee requests a public session. Director Le states that he notified the General Manager of the potential errors since he did not receive that much money from MCWD. While Director Le did in fact receive that much money from MCWD, the reimburse of $231 for conference meals was not reportable on the Form 1099. While Director Le specifically names Paula Riso in his claim, she appeared to be just reporting the results of her inquiry with District staff on why Director Le received two Form 1099s. It is not clear from Director Le’s claim what specific District staff he was accusing of negligence, discrimination, and retaliation so no specific District staff was notified of their rights under Government Code Section 54957(b)(1).

Possible Form of Investigation if the Board votes that an Investigation is Warranted: Should the Board vote to authorize an investigation of Director Le’s claim, it is recommended that the Board retain an independent attorney to conduct the investigation and to advise the Board on possible options in light of the results of the investigation.

Recommended Action:

1. Receive staff report.
2. The Board President should give Director Le the opportunity to make a statement about his claim.
3. The Board President should then ask Director Le to recuse himself by leaving the dais and the Board chambers because this item involves his personal potential financial claim against the District.
4. Allow the remaining Board members to ask clarifying questions of staff through the President.
5. Receive public comment on the item.

6. Seek a motion and a second on a proposed action on whether Director Le's claim warrants an investigation by the Board and, if an investigation is warranted, what form that investigation should take.
7. Provide for Board discussion of the item.
8. Conclude discussion/debate and consider having the remainder of the Board vote on the item by roll call vote and the Board President announces the result of the vote.
9. Invite Director Le to return to the dais.

Environmental Review Compliance: Not applicable.

Financial Impact: ______Yes ______No Funding Source/Recap: Unknown at this time

Other Considerations: The Board may provide additional direction on how to respond to Director Le's claim.

Material Included for Information/Consideration: String of emails involving this item.

Action Required: _______Resolution ___X___Motion _______Review
(Roll call vote is required.)

Board Action

Motion By________________ Seconded By_____________ No Action Taken_______________

Ayes___________________________ Abstained_____________________________

Noes___________________________ Absent_______________________________

From: Roger Masuda
Sent: Monday, February 10, 2020 5:28 PM
To: Peter Le <DirectorLe@mcwd.org>
Cc: Keith Van Der Maaten <KVanDerMaaten@mcwd.org>
Subject: RE: Notice of Potential Claim of Negligence, Discrimination, and Retaliation by Unnamed District Employees

Director Le:

I have not received any communication from you regarding your Notice of Potential Claim. Therefore, the matter will be agendized as an open session item for the next Board meeting.

Roger K. Masuda
Attorney at Law
Griffith, Masuda & Hobbs
A Professional Law Corporation
517 E. Olive Avenue
Turlock, CA 95380
(209) 667-5501
www.calwaterlaw.com
Founded 1920 - **Celebrating Our 100th Anniversary**

From: Roger Masuda
Sent: Wednesday, February 05, 2020 6:30 PM
To: Peter Le <DirectorLe@mcwd.org>
Cc: Keith Van Der Maaten <KVanDerMaaten@mcwd.org>
Subject: RE: Notice of Potential Claim of Negligence, Discrimination, and Retaliation by Unnamed District Employees

Director Le:

You have not responded to my January 27, 2020 email. Allegations by a Director of negligence, discrimination, and retaliation by unnamed District employees are very serious and need to expeditiously addressed. Please notify me by 5:00 PM, Monday, February 10, 2020, whether you will be (1) submitting a formal written claim based upon your January 27, 2020 Notice of Potential Claim or (2) formally withdrawing your claim. If I do not receive written notice from you by 5:00 PM, Monday, February 10, 2020, that you are formally withdrawing your claim, then your claim will be included in the open session agenda for the February 18 Board meeting for consideration by the Board.

Roger K. Masuda
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Griffith, Masuda & Hobbs
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517 E. Olive Avenue
Turlock, CA 95380
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www.calwaterlaw.com
Founded 1920 - **Celebrating Our 100th Anniversary**

From: Roger Masuda
Sent: Monday, January 27, 2020 5:09 PM
To: Peter Le <DirectorLe@mcwd.org>
Cc: Keith Van Der Maaten <KVanDerMaaten@mcwd.org>
Subject: RE: Notice of Potential Claim

Director Le:

General Manager Van Der Maaten asked me to investigate Director Le's claim. The following is the result of my investigation:

> The MCWD Accounting Department prepared the Form 1099s on MCWD's Springbrook software. The first Form 1099 prepared for Director Le incorrectly included an additional $231, which was his travel reimbursement for meals while attending the CSDA conference in Anaheim in September 2019. In the process of reviewing the Form 1099s for accuracy, the Accounting Department discovered the error in Director Le's Form 1099 and removed the $231, which resulted in the correct amount of $750. Correcting the Form 1099 on Springbrook results in the first Form 1099 being automatically erased. <u>The correct $750 Form 1099 was what was filed along with MCWD's other Form 1099s with the IRS</u>. The hardcopy of the first Form 1099 had not been shredded and was inadvertently mailed to Director Le at the same time the correct Form 1099 was sent to him. The second Form 1099 did not have the "Corrected" box checked because the first incorrect Form 1099 had not been filed with the IRS. Paula Riso and Keith Van Der Maaten had no involvement in the preparation and filing of Form 1099s with IRS; that is an Accounting Department function.

Since you entitled your email as "Notice of Potential Claim," please inform me whether you will be submitting a formal written claim.

Thank you.

Roger K. Masuda
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From: Peter Le <DirectorLe@mcwd.org>
Sent: Monday, January 27, 2020 12:07 PM
To: Thomas Moore <directormoore@mcwd.org>; Jan Shriner <DirectorShriner@mcwd.org>; Herbert Cortez <DirectorCortez@mcwd.org>; Matt Zefferman <DirectorZefferman@mcwd.org>
Cc: Roger Masuda <rmasuda@calwaterlaw.com>; Keith Van Der Maaten <KVanDerMaaten@mcwd.org>
Subject: Notice of Potential Claim

January 27, 2020

Board of Directors

Marina Coast Water District

11 Reservation Rd

Marina, CA 93933

Dear Directors:

Re: Notice of Potential Claim

I like to file a Notice of Potential Claim against Marina Coast Water District (MCWD) due to its negligence.

On January 20 ,2020 I received two IRS 1099 Forms for Non-Employee Compensation. I then notified Keith, MCWD General Manager, of the potential errors since I did not receive that much money from MCWD and requested a copy of MCWD payments to me with the amounts and dates for each payment.

On January 21, 2020 I received an email from Paula Riso, Executive Assistant, stating that one 1099 Form was not correct and she believed that only the correct 1099 Form was sent to the IRS. She also included a requested copy of such payments with her email.

However, neither Paula nor the District provided me with evidence that only one correct 1099 Form was sent to the IRS and other taxing authorities. Additionally, the District did not inform me whether it has notified the Internal Revenue Service (IRS) and other taxing authorities of this error and followed their regulations in making corrections to the incorrect Form 1099 and/or voiding the incorrect form.

Therefore, I submit this Notice of Potential Claim against the District in case I incur expenses due to the District's negligence in preparing and issuing two 1099-Forms to the IRS and other taxing authorities.

Additionally, I personally believe that this case is another example of discrimination by District staff against me and also retaliation against me due to my views, comments and voting on District business.

Sincerely,

Peter Le

Director

Marina Coast Water District

cc: MCWD General Manager

District Counsel

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-C | Meeting Date: February 25, 2020

Prepared By: Keith Van Der Maaten | Approved By: Keith Van Der Maaten

Agenda Title: Discuss and Consider Adoption of Resolution No. 2020-07 Ratifying Comments Submitted to M1W on the Draft Supplemental Environmental Impact Report for the Proposed Pure Water Monterey Expansion Project, Providing Policy Direction to District Staff regarding the Pure Water Monterey Project and Pure Water Monterey Expansion Project, and Appointing a Real Property Negotiator

Staff Recommendation: The Board of Directors discuss and consider adoption of Resolution No. 2020-07 Ratifying Comments Submitted to M1W on the Draft Supplemental Environmental Impact Report for the Proposed Pure Water Monterey Expansion Project, Providing Policy Direction to District Staff regarding the Pure Water Monterey Project and Pure Water Monterey Expansion Project, and Appointing a Real Property Negotiator.

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Discussion/Analysis: At the Board's December 16, 2019 regular meeting under Agenda Item 13-F, District staff presented a draft letter in support of and commenting on the draft Supplemental Environmental Impact Report (SEIR) for the proposed expansion of the Pure Water Monterey/Groundwater Replenishment Project, generally referred to as the Pure Water Monterey (PWM) Expansion Project. By unanimous vote of the Board, the Board authorized District staff to finalize and submit the District's formal comments subject to review by District's Legal Counsel and Special CEQA Counsel. District staff did submit the District's formal comments dated January 30, 2020, to Monterey One Water (M1W) after review by District's Legal Counsel and Special CEQA Counsel. District staff requests that the Board ratify the January 30, 2020 comments.

District staff requests that the Board affirm, clarify, and adopt District policies and Board direction regarding the PWM Project and the PWM Expansion Project. MCWD and M1W entered into the Pure Water Delivery and Supply Project Agreement dated April 8, 2016, and as amended December 18, 2017 (collectively, the PWM Agreement). Under the PWM Agreement, M1W would own and operate the Advanced Wastewater Treatment Plant and MCWD would own and operate the recycled water conveyance pipeline and the Black Horse Recycled Water Reservoir. MCWD would have entitlements to treatment capacity in the Advanced Wastewater Treatment Plant and M1W would have entitlements to pipeline conveyance capacity as set forth in the PWM Agreement. Section 2.02 provides that "The AWT Phase 1 shall be sized to produce a minimum of 600 AFY of purified recycled water with the ability to produce a maximum day demand of 1.37 MGD for MCWD." Section 2.03, Future Expansion of Facilities (AWT Phase 2), provides that "(a) Subject to Section 1.01(a) conditions, [M1W] will provide upon a written request from MCWD an additional AWT Capacity Entitlement for MCWD of up to and including 827 AFY of purified recycled water under AWT Phase 2 for a total AWT Capacity Entitlement of 1,427 AFY. [M1W] will not unreasonably delay implementing the request." District staff requests that the

Board to affirm that MCWD has not submitted a written request to M1W to provide the additional 827 AFY of purified recycled water and will not do so without prior authorization from the Board. The source water for the additional 827 acre feet per year is the District's own sewer flows to M1W and not from any source water needed for the PWM Expansion Project.

District staff has verbally agreed to allow M1W and MPWMD to use MCWD's 100% owned potable water pipeline (as opposed to MCWD's 100% owned recycled water conveyance pipeline) for recovered PWM water and in MCWD's January 30, 2019 SEIR comments stated that their appears to be sufficient unused capacity in the MCWD potable water pipeline for recovered PWM Expansion water. The additional 2,250 AFY of PWM Expansion water in MCWD's recycled water conveyance pipeline will require increases in capacity and operation and maintenance payments by M1W pursuant to the PWM Agreement.

District staff requests that the Board appoint General Manager Keith Van Der Maaten as the District's real property negotiator for (1) an agreement with M1W, MPWMD, and CalAm as appropriate for the use of MCWD's potable water pipeline for recovered PWM water and for recovered PWM Expansion water subject to MCWD's own priority uses of the pipeline and CalAm's contracted right to use the pipeline for ASR water both for injection and recovery, (2) for increases in capacity and operation and maintenance payments by M1W to MCWD, and (3) any other related matters. District staff will conduct any needed engineering analysis on the available capacities in MCWD's potable water pipeline and recycled water conveyance pipeline and the Black Horse Recycled Water Reservoir.

Recommended Action: For the Board of Directors to consider whether to adopt Resolution No. 2020-07 Ratifying Comments Submitted to M1W on the Draft Supplemental Environmental Impact Report for the Proposed Pure Water Monterey Expansion Project, Providing Policy Direction to District Staff regarding the Pure Water Monterey Project and Pure Water Monterey Expansion Project, and Appointing a Real Property Negotiator.

Environmental Review Compliance: Not applicable.

Financial Impact: ______Yes ___X__No Funding Source/Recap: None

Other Considerations: The Board can make other suggestions.

Material Included for Information/Consideration: (1) MCWD's January 30, 2020 Comments on Draft SEIR for the Proposed Modifications to the PWM Groundwater Replenishment Project, i.e., the proposed PWM Expansion Project; (2) PWM Agreement and the First Amendment.

Action Required: ___X___Resolution ______Motion ______Review
(Roll call vote is required.)

Board Action

Motion By________________ Seconded By____________ No Action Taken______________

Ayes__________________________ Abstained____________________________

Noes__________________________ Absent______________________________

February 25, 2020

Resolution No. 2020-07
Resolution of the Board of Directors
Marina Coast Water District
Ratifying Comments Submitted to M1W on the Draft Supplemental Environmental Impact Report for the Proposed Pure Water Monterey Expansion Project, Providing Policy Direction to District Staff regarding the Pure Water Monterey Project and Pure Water Monterey Expansion Project, and Appointing a Real Property Negotiator

RESOLVED by the Board of Directors ("Board" or "Directors") of the Marina Coast Water District ("District" or "MCWD") at a regular meeting duly called and held on February 25, 2020, at 211 Hillcrest Avenue, Marina, California as follows:

WHEREAS, MCWD and Monterey One Water (M1W) entered into the Pure Water Delivery and Supply Project Agreement dated April 8, 2016, and as amended December 18, 2017 (collectively, the PWM Agreement). Under the PWM Agreement, M1W would own and operate the Advanced Wastewater Treatment Plant and MCWD would own and operate the recycled water conveyance pipeline and the Black Horse Recycled Water Reservoir. MCWD would have entitlements to treatment capacity in the Advanced Wastewater Treatment Plant and M1W would have entitlements to pipeline conveyance capacity as set forth in the PWM Agreement. Section 2.02 provides that "The AWT Phase 1 shall be sized to produce a minimum of 600 AFY of purified recycled water with the ability to produce a maximum day demand of 1.37 MGD for MCWD." Section 2.03, Future Expansion of Facilities (AWT Phase 2), provides that "(a) Subject to Section 1.01(a) conditions, [M1W] will provide upon a written request from MCWD an additional AWT Capacity Entitlement for MCWD of up to and including 827 AFY of purified recycled water under AWT Phase 2 for a total AWT Capacity Entitlement of 1,427 AFY. [M1W] will not unreasonably delay implementing the request."; and,

WHEREAS, at the Board's December 16, 2019 regular meeting, District staff presented a draft letter in support of and commenting on the draft Supplemental Environmental Impact Report (SEIR) for the proposed expansion of the Pure Water Monterey/Groundwater Replenishment Project, generally referred to as the Pure Water Monterey (PWM) Expansion Project. By unanimous vote of the Board, the Board authorized District staff to finalize and submit the District's formal comments subject to review by District's Legal Counsel and Special CEQA Counsel. District staff did submit the District's formal comments dated January 30, 2020, to Monterey One Water (M1W) after review by District's Legal Counsel and Special CEQA Counsel. District staff requests that the Board ratify the January 30, 2020 comments; and,

WHEREAS, District staff requests that the Board appoint the General Manager as the District's real property negotiator for (1) an agreement with M1W, MPWMD, and CalAm as applicable for the use of MCWD's potable water pipeline for recovered PWM water and for recovered PWM Expansion water subject to MCWD's own priority uses of the pipeline and CalAm's contracted right to use the pipeline for ASR water both for injection and recovery, (2) for increases in capacity and operation and maintenance payments by M1W to MCWD pursuant to the PWM Agreement as amended, and (3) any other related property matters.

NOW, THEREFORE, BE ITS RESOLVED by the Board of Directors of the Marina Coast Water District as follows:

1. The Board ratifies the January 30, 2020 comments submitted by General Manager Keith Van Der Maaten on the draft Supplemental Environmental Impact Report for the proposed expansion of the Pure Water Monterey/Groundwater Replenishment Project, generally referred to as the Pure Water Monterey Expansion Project.

2. The Board affirms the District's support of the Pure Water Monterey Expansion Project.

3. The Board has not requested and is not now requesting the additional 827 acre feet per year of advanced treated water pursuant to PWM Agreement as amended. Any request for such water must be authorized by the Board. The source water for the additional 827 acre feet per year is the District's own sewer flows to M1W and not from any source water needed for the PWM Expansion Project.

4. The Board hereby appoints the General Manager as the District's real property negotiator for (1) an agreement with M1W, MPWMD, and CalAm, as applicable, for the use of MCWD's potable water pipeline for recovered PWM water and for recovered PWM Expansion water subject to MCWD's own priority uses of the pipeline and CalAm's contracted right to use the pipeline for ASR water both for injection and recovery, (2) for increases in capacity and operation and maintenance payments by M1W to MCWD pursuant to the PWM Agreement as amended, and (3) any other related property matters. District staff will conduct any needed engineering analysis on the available capacities in MCWD's potable water pipeline and recycled water conveyance pipeline and the Black Horse Recycled Water Reservoir.

5. The Board hereby authorizes the General Manager to take all actions and execute all documents as may be necessary and appropriate to give effect to this resolution.

6. All actions heretofore taken by the officers, employees, and agents of the District in connection with the matters authorized by this resolution are hereby ratified, approved, and confirmed.

PASSED AND ADOPTED on February 25, 2020, by the Board of Directors of the Marina Coast Water District by the following roll call vote:

Ayes: Directors____

Noes: Directors____

Absent: Directors____

Abstained: Directors____

____
Thomas P. Moore, President

ATTEST:

____
Keith Van Der Maaten, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2020-07 adopted February 25, 2020.

____

Keith Van Der Maaten, Secretary

MARINA COAST WATER DISTRICT

11 RESERVATION ROAD, MARINA, CA 93933-2099
Home Page: www.mcwd.org
TEL: (831) 384-6131 FAX: (831) 883-5995

January 30, 2020

VIA ELECTRONIC & REGULAR MAIL

Rachel Gaudoin, Public Outreach Coordinator
Monterey One Water
5 Harris Ct., Bldg D
Monterey, CA 93940
Email: purewatermontereyinfo@my1water.org

Re: Marina Coast Water District's Comments on Draft Supplemental Environmental Impact Report for the Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project (November 2019 - SCH No. 2013051094.)

Dear Ms. Gaudoin:

This letter provides Marina Coast Water District's ("MCWD") comments on the Draft Supplemental Environmental Impact Report ("Draft SEIR") for the Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project ("PWM Expansion" or "Project). The purpose of this letter is twofold.

First, MCWD wishes to convey its full support for the Monterey One Water's ("M1W") and Monterey Peninsula Water Management District's ("MPWMD") objectives for the proposed PWM Expansion Project—i.e., to replenish the Seaside Groundwater Basin with 2,250 AFY of additional purified recycled water to replace Cal-Am's use of existing water sources. As explained herein, MCWD is confident that it can work with M1W to ensure MCWD's senior contractual rights to recycled water are fully protected or a mutually beneficial resolution of those rights is achieved that allows both the Project to move forward and MCWD to meet the present and planned future water supply needs of the Central Marina and Ord Community service areas.

Second, MCWD believes changes and clarifications to the Draft SEIR are necessary to ensure it complies with Environmental Quality Act ("CEQA") (Public Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., titl.14, § 15000 et seq.). Foremost, MCWD believes the Project Description must be modified to sever certain proposed Cal-Am Distribution System elements that are unnecessary to meet the Project's purpose and objectives. As explained below, it appears that Cal-Am proposes modifications to its facilities [1] to address deficiencies in the Monterey Peninsula Water Supply Project ("MPWSP") and to avoid mitigation requirements for these facilities required by the California Public Utilities Commission ("CPUC") in the

[1] The SEIR should also clarify that Cal-Am is not proposing to modify existing Cal-Am facilities, but is proposing to build entirely new facilities.

MPWSP EIR/EIS. To avoid this subversion of CEQA, MCWD supports and believes CEQA requires exploring mutually beneficially uses of MCWD's potable water conveyance pipeline that can meet the present and planned future needs of MCWD and the PWM Expansion **without** Cal-Am's proposed new 36" pipeline.

I. The Proposed Modifications to Cal-Am's Distribution System Are Not Properly included in the PWM Expansion Project; the CPUC is the CEQA Lead Agency for the Proposed Modifications to Cal-Am's Distribution System.

Section 2.6.5 of the Draft SEIR includes a limited discussion of proposed modifications to Cal-Am facilities that are purportedly necessary for the PWM Expansion Project. Based on the Draft SEIR's limited discussion, however, it is apparent the proposed modifications to Cal-Am's facilities are **not** needed for PWM Expansion. Rather, it appears the facilities have been included and sized to address deficiencies in Cal-Am's MPWSP. The following are examples of why the proposed facilities are vastly larger than what is needed for the PWM Expansion Project:

1. Cal-Am's proposed new 36" pipeline would have a flow capacity of 15,682 gpm when flowing at a normal 5 feet-per-second, and a maximum capacity of 22,207 gpm when flowing at 7 feet-per-second. The PWM Expansion maximum flow rate is only 4,000 gpm. Therefore, Cal-Am's proposed new 36" pipeline is more than four times larger than what is needed for the PWM Expansion Project. Moreover, as explained below, MCWD's existing product water conveyance pipeline would appear to have adequate capacity to accommodate the PWM Expansion flows.

2. Each of Cal-Am's four new extraction wells are sized at 1750 gpm. This equates to a new extraction capacity of 2,823 AFY per well, or a total new extraction capacity of 11,292 AFY. The PWM Expansion only proposes to add 2,250 AFY of new supply. The additional extraction well expansion capacity is more than five times larger than the supply being added by the PWM Expansion Project. While MCWD understands the need for redundancy, it appears that at least two of these new extraction wells are proposed to address inadequate extraction pumping capacity for the MPWSP.

Based on the foregoing, it appears that the proposed modifications to Cal-Am's facilities are not needed for the PWM Expansion Project, but are instead proposed by Cal-Am to belatedly address deficiencies in the MPWSP. To the extent that these facilities are needed by Cal-Am to accommodate MPWSP desal water, the CPUC is the only appropriate lead agency under CEQA. CEQA defines the "Lead Agency" as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." (Public Resources Code, § 21067; see also CEQA Guidelines, § 15051 ["Lead Agency shall be the public agency with the greatest responsibility for supervising or approving the project as a whole."].) The CEQA Guidelines further provide

> The Lead Agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency

> with a single or limited purpose such as an air pollution control district or a district which will provide a public service or public utility to the project.

(CEQA Guidelines, § 1505, subd. (b)(1).)

Here, the CPUC is the only appropriate CEQA Lead Agency for the proposed modifications to Cal-Am's facilities because it has the greatest responsibility for approving and supervising the proposed modifications to Cal-Am's facilities. In fact, it does not appear that M1W has any role in approving or supervising Cal-Am's proposed modifications to these facilities. Rather, it appears these facilities are proposed by Cal-Am in an attempt to avoid supplementing the MPWSP EIR and obtaining the required CPUC approvals for modifications to that project. This is not harmless error. "The lead agency's function in the environmental review process is so important that it cannot be delegated to another body." (*Friends of the Eel River v. North Coast Railroad Authority* (2017) 3 Cal.5th 677, 712–713; see also *Planning & Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 907.)

Inclusion of Cal-Am's proposed modifications to its facilities in the PWM Expansion SEIR is akin to "piecemealing" the CEQA approvals for the MPWSP and prevents the full disclosure, review, and mitigation of the MPWSP's environmental impacts. For example, the CPUC's EIR for the MPWSP disclosed that air quality impacts associated with construction of Cal-Am's MPWSP were significant and unavoidable:

> Short-term emissions associated with construction of the proposed project could contribute to an exceedance of a state and/or federal standard for ozone, NO2, and, PM10 based on the estimated maximum daily mass emissions levels presented in Table 4.10-5, which would exceed the MBUAPCD significance threshold for PM10. **However, this impact with respect to the ozone and NO2 standards would be significant and unavoidable <u>even with implementation of Mitigation Measures 4.10-1a and 4.10-1b</u>. This significant impact could increase the susceptibility of sensitive individuals to respiratory infections.** With respect to the PM10 standards, this impact would be reduced to a less-than-significant level with implementation of Mitigation Measures 4.10-1a through 4.10-1c. Short-term construction emissions associated with other criteria pollutants, including ROG, CO, and PM2.5, would not be expected to contribute to an exceedance of an ambient air quality standard and the associated impact for all other criteria pollutants would be less than significant.

(Cal-Am MPWSP Final EIR/EIS, p. 4.10-24.)[2] Here, the PWM Expansion EIR concludes the air quality impacts associated with construction of the Project—including the proposed modifications to Cal-Am's facilities—are less than significant. (PWM Expansion Draft SEIR, pp. 4.3-11 through

[2] Available at https://www.cpuc.ca.gov/Environment/info/esa/mpwsp/feir-eis/4-10_air_quality_feir-eis.pdf.

4.3-13.) As a result, the mitigation for air quality impacts for Cal-Am's proposed modifications to its facilities is significantly less protective of Monterey residents and the environment than what is required for other components of the MPWSP. (***Compare*** Cal-Am MPWSP Final EIR/EIS, p. 4.10-25 through 4.10-26 [Mitigation Measure 4.10-1a: Equipment with High-Tiered Engine Standards; Mitigation Measure 4.10-1b: Idling Restrictions; Mitigation Measure 4.10-1c: Construction Fugitive Dust Control Plan; Mitigation Measure 4.10-1e: Off-site Mitigation Program] ***with*** PWM Expansion Draft SEIR, pp. 4.3-11 through 4.3-13 [MM AQ-1: Construction Fugitive Dust Control Plan.].) Therefore, the failure to sever any and all of the proposed modifications to Cal-Am's facilities that are not required for the PWM Expansion would violate both the purpose and requirements of CEQA.

In addition to violating CEQA, including the proposed modifications to Cal-Am's facilities violates the CPUC's exclusive jurisdiction to approve Cal-Am's water distribution facilities. Section 1001 of the Public Utilities Code requires Cal-Am to obtain CPUC approval of proposed new facilities and extensions of its existing utility systems. Although the CPUC approved the MPWSP in September of 2018, that approval – including certification of the EIR for the MPWSP – did not include the newly-proposed pipeline and extraction wells that are described as Cal-Am facilities in the Draft SEIR. If Cal-Am is now proposing to add facilities to the MPWSP, it must return to the CPUC for supplemental environmental review and approval of its newly-proposed facilities. Moreover, the CPUC must consider whether the proposed new Cal-Am facilities would be within the cost cap of the MPWSP.

PWM Expansion's Use of MCWD's Existing 100% Owned Potable Water Pipeline for Extracted PWM Expansion Water.

MCWD believes the Final SEIR should modify the Project to eliminate the proposed 36" Cal Am Conveyance pipeline alternatives analysis based on the availability of MCWD's existing 30" potable water pipeline in General Jim Moore Blvd. At minimum, the SEIR should include an alternative utilizing MCWD's existing 30" potable water pipeline in place of the proposed 36" Cal Am Conveyance pipeline. The MCWD 30" pipeline is already in use for distribution of potable water from the existing ASR wells and may be able to be utilized for the extraction wells. MCWD owns and operates the existing 30" pipeline through an Agreement with Cal Am, which allows Cal Am to use the pipeline to inject into and extract ASR water from the Seaside Groundwater Basin. While the pipeline has insufficient capacity to be used for the large flows from the Desal plant because of priority uses, including PWM prior to expansion, it appears there is enough available, unused, capacity in the pipeline for PWM Expansion. Under the max day scenario, there is 4,145 gpm currently available in the MCWD pipeline which appears sufficient for the 4,000 gpm max flow rate for Pure Water Monterey Expansion. This alternative would completely avoid the need to construct and install the oversized 36" pipeline proposed in the SEIR and likely would avoid all of the environmental impacts of doing so. To the extent the proposed 36" pipeline is intended merely to serve as a work-around to provide Cal-Am with feasible firm conveyance capacity for full flows from the MPWSP for the lifetime of that project, it should be addressed in a request to the CPUC for approval of additional necessary MPWSP facilities. Reviewing the pipeline only as a Cal-Am facility under the Draft SEIR would violate both CEQA and the Public Utilities Code.

II. Comments on PWM Expansion Draft SEIR.

The following paragraphs detail MCWD's comments on the Draft SEIR's compliance with CEQA and the CEQA Guidelines.

A. Project Description (Chapter 2)

In Chapter 2, Project Description, Section 2.2.2 of the Draft SEIR (p. 2-8) states that the "Expanded PWM/GWR Project is proposed as a back-up to the MPWSP, not as an option or alternative to the MPWSP." As the Draft SEIR does not evaluate the MPWSP, there is no factual support for this statement. Moreover, it is not appropriate for an EIR to prejudge whether the PWM Expansion could be a CEQA alternative to the MPWSP unless it is evaluating a CEQA approval for the MPWSP. Approving the EIR with these statements would eliminate both agencies ability to exercise their independent judgement as required by CEQA when evaluating future approvals relating to the MPWSP. Therefore, this statement – and similar references throughout the environmental document - should be stricken.

Section 2.6.5 (Modifications to CalAm Facilities for Expanded PWM/GWR Project) of the Draft SEIR (p. 2-28) lists a new Cal-Am Conveyance System as part of this Project, which is referenced in Chapter 1 (p. 1-4) as: "the addition of potable and raw water pipelines along General Jim Moore Boulevard and at the Seaside Middle School site (referred to as CalAm Conveyance Pipelines)." The Project Description does not include any information about the proposed potable and raw water pipelines. It does not describe where the additional potable pipeline begins and ends, where the additional raw water pipeline begins and ends, what the sizes of these pipes are, and where exactly on General Jim Moore Blvd. they will be constructed (under the existing pavement, under the sidewalk, or adjacent to the sidewalk). Additionally, the Draft SEIR does not describe whether one of these new pipes will be connected to the Cal-Am desalinated pipeline that is part of the MPWSP. The Project Description must be updated to include this information.

Section 2.7 (Permits and Approvals) of the Draft SEIR (p. 2-33) does not indicate whether Cal Am will need to obtain approval from the CPUC for Cal-Am's new facilities in connection with PWM Expansion and for new and/or additional components for its approved MPSWP desal project. The SEIR should clarify which, if any, of these components of this project will require approval from CPUC and what approvals will be required.

Chapter 2 (Figure 2-2) includes reference to a shared potable water pipeline on General Jim Moore Blvd but it does not describe that this pipe is owned 100% by MCWD and it does not describe the manner in which use of the MCWD-owned pipeline is shared among agencies.

Finally, the SEIR should clarify that MCWD owns the existing RUWAP recycled water conveyance pipeline that is located on General Jim Moore Blvd as well as the existing Black Horse Reservoir (recycled water conveyance facilities). The SEIR should clarify whether it has identified any potential impacts (including any mitigation measures and alternatives) to the existing MCWD recycled water conveyance facilities resulting from the Proposed Modifications and the full 1,427 AFY [3]RUWAP. In addition, Section 2.7 (Permits and Approvals) should acknowledge that M1W will need to obtain approvals from MCWD to convey the additional 2,250 AFY of recycled water in MCWD's recycled water pipeline as well as to use the MCWD-owned Black Horse Reservoir storage capacity for the PWM Expansion. We anticipate that approval process will take place in the near future as the project moves forward.

B. Environmental Setting, Impacts, and Mitigation Measures (Chapter 4)

- **Air Quality and Greenhouse Gas (Section 4.3)**

An EIR must discuss cumulative impacts when they are significant and the project's incremental contribution is "cumulatively considerable." (CEQA Guidelines, § 15130, subd. (a). A project's incremental contribution is cumulatively considerable if "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines, § 15065, subd. (a)(3).) To the extent that the proposed modifications to Cal-Am's facilities are not needed for the PWM Expansion Project, but are required to overcome existing conveyance limitations for MPWSP desal water, the Draft SEIR's discussion of cumulative air quality and greenhouse gases is inadequate.

The CPUC's EIR for the MPWSP disclosed that air quality impacts associated with construction of Cal-Am's MPWSP were significant and unavoidable. (Cal-Am MPWSP Final EIR/EIS, p. 4.10-24.) The PWM Expansion EIR, however, concludes the air quality impacts associated with construction of the Project—including the proposed modifications to Cal-Am's facilities—are less than significant. (PWM Expansion Draft SEIR, pp. 4.3-11 through 4.3-13.) As explained above, Cal-Am appears to be avoiding required mitigation under the MPWSP for its expanded facilities by proposing to include them in the PWM Expansion. Notably, the mitigation for air quality impacts for Cal-Am's proposed modifications to its facilities is significantly less protective of local residents and the environment than what is required for other components of the MPWSP. (***Compare*** Cal-Am MPWSP Final EIR/EIS, p. 4.10-25 through 4.10-26 [Mitigation Measure 4.10-1a: Equipment with High-Tiered Engine Standards; Mitigation Measure 4.10-1b: Idling Restrictions; Mitigation Measure 4.10-1c: Construction Fugitive Dust Control Plan; Mitigation Measure 4.10-1e: Off-site Mitigation Program] ***with*** PWM Expansion Draft SEIR, pp. 4.3-11 through 4.3-13 [MM AQ-1: Construction Fugitive Dust Control Plan.].) Cal-Am also appears to be avoiding the required mitigation for GHG emissions. (***Compare*** Cal-Am MPWSP Final EIR/EIS, p. 4.11-21 [Mitigation Measure 4.18-1: Construction Equipment and Vehicle Efficiency Plan] ***with*** PWM Expansion Draft SEIR, pp. 4.3-11 through 4.3-14 [no mitigation required.]

[3] The RUWAP projects utilize MCWD's wastewater flows sent to the M1W Regional Treatment facility, and MCWD's rights to these flows as described in various agreements including the 1989 PCA-MCWD Annexation Agreement, to provide recycled water to its customers to augment and protect groundwater supplies. The RUWAP is part of the District's 2015 Urban Water Management Plan and other planning documents dating back to 2006.

Therefore, unless the proposed additions to Cal-Am's facilities are severed from the project, the Draft SEIR's discussion of cumulative air quality and GHG impacts and proposed mitigation fail to comply with CEQA.

- **Water Supply (Section 4.18)**

Section 4.18 of the Draft SEIR (Water Supply and Wastewater Systems) accurately states that MCWD has existing agreements in place with MW1 that entitle it to receive tertiary treated recycled water from the Regional Treatment Plant. While the Draft SEIR recognizes MCWD's senior recycled water rights, Section 4.18.3.4 does not mention the amended Pure Water Delivery and Supply Project Agreement Between M1W (Monterey Regional Water Pollution Control Agency) and MCWD. Among other ownership, operation and maintenance rights and obligations, the agreement provides MCWD with capacity entitlements based on a maximum annual use of 1,427 AFY of ATW water (Phase 1 of 600 AFY; Phase 2 of 827 AFY) and M1W capacity entitlement of 3,700 AFY of ATW water. The Final SEIR should include this information and identify any impacts, mitigation measures or alternatives analysis for this agreement.

MCWD also notes that Section 4.18.3.4 and Appendix B discuss the 1989 Annexation Agreement between MCWD and M1W and state that "MCWD has not exercised its recycled water rights but may do so in the future." Both documents should be clarified to acknowledge the Pure Water Delivery and Supply Project Agreement between M1W (Monterey Regional Water Pollution Control Agency) and MCWD wherein MCWD is exercising its rights and has completed construction of its RUWAP recycled water conveyance pipeline for that purpose.

Finally, Appendix I, pg. 7 recognizes M1W's allocation of 600 AFY to MCWD. However, it does not mention M1W's additional allocation of 827 AFY to MCWD. Appendix I states that "the approved PWM/GWR Project will also provide up to 600 AFY of purified recycled water to the Marina Coast Water District." The appendix should be updated to clarify that the 600 AFY is for only Phase 1 of MCWD's RUWAP project. The Pure Water Delivery and Supply Project Agreement between M1W (Monterey Regional Water Pollution Control Agency) and MCWD includes rights to MCWD for the source flows for both Phase 1 of 600 AFY and Phase 2 of an additional 827 AFY for a total of 1,427 AFY for MCWD customers. MCWD's analysis of the existing municipal sewer flows to M1W, especially from MCWD's service areas, shows more than sufficient sewer flows for the additional 827 AFY as well as for the additional 2,250 AFY for PWM Expansion. Appendix I should also clarify that the transmission facilities to provide the 1,427 AFY of water to MCWD's customers is complete and the related MCWD distribution facilities are currently being designed and constructed.

C. Alternatives (Chapter 6)

The Draft SEIR correctly notes that an EIR must describe and evaluate a reasonable range of alternatives to a project, or to the location of the project, that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any significant adverse effects of the project. (CEQA Guidelines Sec. 15126.6(a).) As described above, the use of MCWD's potable water conveyance pipeline to meet the present and planned future needs of

MCWD and the PWM Expansion without Cal-Am's proposed new 36" pipeline would appear to be feasible. It would also eliminate the significant impacts associated with construction of Cal-Am's proposed new 36" pipeline. Therefore, the Final SEIR should include an alternative that eliminates Cal-Am's proposed new 36" pipeline.

Additionally, the Final SEIR should consider an alternative for a single pipeline segment in the unpaved road from the Blackhorse Reservoir to the intersection of Eucalyptus Road and Parker Flats Cutoff Road to accommodate the combined flows between M1W's expanded project and MCWD's RUWAP. The pipeline should have an 8" turnout where M1W's pipeline would depart from Eucalyptus Road for MCWD to serve future Seaside East customers. Construction of the expanded project pipeline to MCWD's reservoir site cannot impact MCWD's ability to access the reservoir site to operate the MCWD water systems. MCWD will work with M1W and MPWMD staff to discuss and implement the point of connection and pipeline alignment for any pipeline segment.

MCWD also supports the elimination of extraction wells EW-3 and EW-4 addressed in Section 6.2.2. As noted above, each of Cal-Am's four proposed new extraction wells are sized at 1750 gpm, which equates to a new extraction capacity of 2,823 AFY per well, or a total new extraction capacity of 11,292 AFY. The PWM Expansion only proposes to add 2,250 AFY of new supply. The additional extraction well expansion capacity is more than five times larger than the supply being added by the PWM Expansion Project. Therefore, it would appear that eliminating extraction wells EW-3 and EW-4 would provide more than sufficient pumping capacity as well as redundancy for the PWM Expansion and meet all of the project objectives. Given that this alternative would greatly decrease the Project's significant and unavoidable noise impacts, there would not appear to be any basis for including extraction wells EW-3 and EW-4 in this Project.

Finally, MCWD notes that Section 6.3 should be updated to clarify that the elimination of Cal-Am's proposed new 36" pipeline as well as extraction wells EW-3 and EW-4 is the environmentally superior alternative based on the EIR's analysis.

* * *

MCWD hopes these comments assist M1W and the MPWMD in evaluating the Draft SEIR's compliance with CEQA. As noted above, MCWD looks forward to working with M1W and the MPWMD to assess whether a mutually beneficial use of MCWD's 30" potable water pipeline is feasible. MCWD continues to look forward to continuing to work with M1W and the MPWMD in advancing regional goals through implementation of the PWM Expansion Project.

Sincerely,

Keith Van Der Maaten
General Manager

Pure Water Delivery and Supply Project Agreement Between Monterey Regional Water Pollution Control Agency and Marina Coast Water District

Table of Contents

THIS **PURE WATER DELIVERY AND SUPPLY PROJECT** [hereinafter referred to as "Agreement"] is made this 8th day of April, 2016 ("Effective Date"), by and between Monterey Regional Water Pollution Control Agency ("PCA") and Marina Coast Water District ("MCWD"), hereinafter "Parties."

The PCA was formed as a California Joint Powers Agency by a Joint Exercise of Powers Agreement for the Monterey Regional Water Pollution Control Agency, effective June 29, 1979. The MCWD is a County Water District and political subdivision of the State of California, organized under Division 12, sections 30000 and following, of the California Water Code.

W I T N E S S E T H

WHEREAS, the 1997 Fort Ord Base Reuse Plan (BRP) identifies the availability of water as a resource constraint and the BRP estimates that an additional 2,400 AFY of water is needed to augment the existing groundwater supply to achieve the permitted development level as reflected in the BRP (Volume 3, figure PFIP 2-7); and,

WHEREAS, the Fort Ord Reuse Authority ("FORA") transferred ownership of all of the then existing Fort Ord water and sewer facilities to the Marina Coast Water District ("MCWD") under the 1998 Water/Wastewater Facilities Agreement; title was transferred in 2001; and,

WHEREAS, under Section 3.2.2 of the 1998 Water/Wastewater Facilities Agreement, FORA has the responsibility to determine, in consultation with MCWD, what additional water and sewer facilities are necessary for MCWD's Ord Community service area in order to meet the BRP requirements, and that, once FORA determines that additional water supply and/or sewer conveyance capacity is needed, under Section 3.2.1, it is MCWD's responsibility to plan, design, and construct such additional water and sewer facilities. Section 7.1.2 requires FORA to insure that MCWD recovers all of its costs for the new facilities and their operation; and,

WHEREAS, in 2002, MCWD, in cooperation with FORA, initiated the Regional Urban Water Augmentation Project (RUWAP) to explore water supply alternatives to provide the additional 2,400 AFY of water supply needed under the BRP; and

WHEREAS, as a result of an extensive environmental review, FORA and MCWD agreed to adopt a modified Hybrid Alternative, which would provide 1,427 AFY of recycled water to the Ord Community without the need for seasonal storage, and this in turn resulted in the FORA Board adopting Resolution 07-10 (May 2007), which allocated that 1,427 AFY of RUWAP recycled water to its member agencies having land use jurisdiction; and

WHEREAS, in June 2009, PCA and MCWD entered into a 50-year RUWAP Memorandum of Understanding, in which, subject to certain conditions specified therein, (a) PCA committed 650 AFY of summer recycled water to MCWD for the Ord Community; (b) MCWD affirmed its separate commitment of 300 AFY of summer recycled water to the Ord Community; and (c) PCA and MCWD committed to supply 477 AFY of recycled water during other months to the Ord Community - for a total of 1,427 AFY; and

WHEREAS, MCWD has been and continues to work collaboratively with FORA and with the PCA to carry out MCWD's obligation to provide the 1,427 AFY of recycled water for the Ord Community; and

WHEREAS, on May 31, 2013, PCA commenced environmental review of its Pure Water Monterey Groundwater Replenishment Project ("Pure Water Monterey Project"). The Pure Water Monterey Project is a water supply project that would serve northern Monterey County by providing: (1) purified recycled water for recharge of a groundwater basin that serves as drinking water supply; and (2) recycled water to augment the existing Castroville Seawater Intrusion Project's agricultural irrigation supply. The Pure Water Monterey Project includes a pipeline to transport purified recycled water from a new Advanced Water Treatment Plant ("AWT") at PCA's Regional Treatment Plant to new Injection Well Facilities overlying the Seaside Groundwater Basin ("Product Water Conveyance Pipeline"). The Environmental Impact Report ("EIR") for the Pure Water Monterey Project evaluated two alternative alignments for the Product Water Conveyance Pipeline, a Coastal Alignment and an alignment that follows the right-of-way for the existing and future RUWAP pipeline ("RUWAP Alignment"). The Pure Water Monterey Project EIR identified the environmental effects of constructing the Product Water Conveyance Pipeline along the RUWAP Alignment, and operating the Product Water Conveyance Pipeline for the Pure Water Monterey Project; however the EIR recognized that shared use of a single Product Water Conveyance Pipeline for both the Pure Water Monterey Project and to supply recycled water to MCWD for the RUWAP would necessitate further review under the California Environmental Quality Act ("CEQA"). Shared use of a single Product Water Conveyance Pipeline would necessitate expansion of the Advanced Water Treatment Plant in order to purify the recycled water destined for the RUWAP because all water flowing in the shared pipeline must be purified; by contrast if water to serve the RUWAP were conveyed in its own separate pipeline only tertiary treatment would be needed; and

WHEREAS, on September 8, 2015, MWCD and PCA tentatively agreed to work together on the Pure Water Monterey Project; and

WHEREAS, on October 8, 2015, the PCA Board unanimously voted to certify the EIR for the Pure Water Monterey Project and to approve the Pure Water Monterey Project. The PCA Board selected the RUWAP Alignment for the Product Water Conveyance Pipeline.

WHEREAS, on October 9, 2015, the FORA Board unanimously voted to adopt a resolution to endorse the Pure Water Monterey Project as an acceptable option as the recycled component of the RUWAP and, as part of the Pure Water Monterey Project implementation, the FORA Board will review and consider project component costs and scheduling through annual consideration of the FORA CIP and Ord Community Budgets.

NOW, THEREFORE, for and in reliance of the foregoing, the Parties hereby agree as follows:

DEFINITIONS

For the purposes of this Agreement, the following definitions are provided:

A. The term "Annexation Agreements" refers to the Annexation Agreement between MCWD and PCA dated April 25, 1989, and the Annexation Agreement between MCWD and WRA dated March 26, 1996. The individual Annexation Agreements are referenced herein by their respective dates.

B. The term "AWT" or "AWT Facilities" or "Advanced Water Treatment Facilities" means the Advanced Water Treatment facilities as shown in Exhibit B at the PCA Regional Treatment Plant for the Pure Water Monterey Project and includes the AWT-PCA, AWT Phase 1, and the AWT Phase 2. The AWT Facilities includes that segment of new pipeline shown on Exhibit B and located within the existing property lines of the Regional Treatment Plant property.

C. The term "AWT Capacity Entitlement" shall mean the entitlement to the plant treatment capacity of the AWT which a Party has the right to use under this Agreement.

D. The term "AWT-PCA" shall mean construction and operation of an advanced water treatment plant sized to produce 3,700 AFY of purified recycled water to deliver to the Seaside Groundwater Basin for the Pure Water Monterey Project as approved by the PCA Board in its Resolution Number 2015-24 on October 8, 2015 as part of the "Pure Water Monterey Project".

E. The term "AWT Phase 1" shall mean construction and operation of an expansion to the AWT-PCA to produce an additional 600 AFY of purified recycled water to deliver to the FORA land use jurisdiction members in addition to the 3,700 AFY of purified recycled water from the AWT-PCA to deliver to the Seaside Groundwater Basin, for a total production of purified recycled water of from the AWT Phase 1 of 4,300 AFY.

F. The term "AWT Phase 2" shall mean construction and operation of an expansion to the AWT-PCA to produce an additional 827 AFY for a total of 1,427 AFY of purified recycled water to deliver to the FORA land use jurisdiction members in addition to the 3,700 AFY of purified recycled water from the AWT-PCA to deliver to the Seaside Groundwater Basin, for a total production of purified recycled water from the AWT Phase 2 of 5,127 AFY.

G. The term "Drought Reserve" shall refer to storage of up to 1,000 acre-feet of water for potential use during a drought. During wet or normal water years, about 50% of the years, an additional 200 AFY may be conveyed through the Pipeline Facilities and injected in the winter months to develop the Drought Reserve, thereby increasing PCA's use of the Pipeline Facilities to 3,700 AFY.

H. The term "Existing Pipeline Facilities" shall be the existing recycled water pipeline (and appurtenances) constructed by MCWD and rights-of-ways, which will become part of the Product Water Conveyance Facilities as shown in Exhibit C.

I. The term "Injection Well Facilities" shall mean collectively the Injection Well Facilities, turnouts, diversions and lateral pipelines connected to and beyond the Product Water Conveyance Facilities as shown in Exhibit C.

J. The term "New Pipeline Facilities" shall mean the new recycled water pipeline sections (and appurtenances), booster plant, and rights-of-ways to convey purified recycled water as shown in Exhibit C which will become a part of the Product Water Conveyance Facilities. The beginning and ending points of the "New Pipeline Facilities" are shown in Exhibits A and C, respectively.

K. The term "Parties" or "Both Parties" shall mean MCWD and PCA and their respective Boards.

L. The term "Pipeline Facilities Entitlement" shall mean the entitlement to the capacity of the Pipeline Facilities which a Party has the right to use under this Agreement.

M. The term "Product Water Conveyance Facilities", "Pipeline Facilities", and "RUWAP Conveyance Facilities" shall mean collectively the New Pipeline Facilities and the Existing Pipeline Facilities as shown in Exhibits C.

N. The term "Pure Water Monterey Project" shall mean the full project that the PCA Board approved in its Resolution Number 2015-24 on October 8, 2015 including construction and operation of all source water facilities, Product Water Conveyance Facilities, AWT-PCA and other improvements to the Regional Treatment Plant, and Cal Am Distribution System Improvements described in such resolution and in the EIR for the Pure Water Monterey Project.

O. The term "Pure Water Delivery and Supply Project Facilities" or "Project Facilities" shall mean collectively the AWT and the Product Water Conveyance Pipeline Facilities, as generally shown in Exhibit A. The term "Project Facilities components" shall refer severally to the AWT Facilities and the Pipeline Facilities. The Pure Water Delivery and Supply Project Facilities, as defined by this Agreement is a subset of certain components of the Pure Water Monterey Project and RUWAP Recycled Water Project including expansion of the AWT to implement this Agreement.

P. The terms "reclaimed water", "reclaimed wastewater", and "recycled water" shall mean purified recycled water.

Q. The term "RUWAP Distribution Facilities" shall mean those facilities connected to the Product Water Conveyance Facilities, which will be used to distribute MCWD's recycled water to MCWD's customers. The RUWAP Distribution Facilities are not a Project Facilities component.

R. The term "RUWAP Recycled Project" shall mean the urban recycled water portion of the Regional Urban Water Augmentation Project (RUWAP) approved by the MCWD and FORA Boards. In 2002, MCWD, in cooperation with FORA, initiated the Regional Urban Water Augmentation Project (RUWAP) to explore water supply alternatives to provide an additional 2,400 AFY of water supply needed under the Base Reuse Plan. As a result of an extensive environmental review, FORA and MCWD agreed to adopt a modified Hybrid Alternative, which would provide 1,427 AFY of recycled water to the Ord Community without the need for seasonal storage, and this in turn resulted in the FORA Board adopting Resolution 07-10 (May 2007), which allocated that 1,427 AFY to its member agencies having land use jurisdiction. As a result of the Pure Water Monterey Project, the RUWAP Recycled Project includes MCWD's Pipeline Facilities Entitlement, the RUWAP Distribution Facilities, and MCWD's AWT Capacity Entitlement under this Agreement.

S. The term "Source Water Facilities" shall mean the diversion facilities as approved in the "Pure Water Monterey Project" by the PCA Board in its Resolution Number 2015-24 on October 8, 2015.

T. The term "summer months" shall mean the months of May, June, July, August, and September.

I. DESIGN, ENVIRONMENTAL, RIGHT-OF-WAY, AND CONSTRUCTION

1.01 California Environmental Quality Act Compliance and Other Conditions

(a) Conditions Precedent and Drop Dead Dates: Nothing in this Agreement, except Section 1.01 (b), shall be deemed to constitute a binding obligation on either Party unless and until all of the following have occurred first:

   i. New Pipeline Facilities: MCWD must complete any necessary CEQA review for any change in the location of the New Pipeline Facilities as compared to the location of the pipeline facilities as shown the EIR for the Pure Water Monterey Project by October 31, 2016. Further, upon completion of any such CEQA review, before this Agreement can take effect, MCWD and PCA must approve the change in location of the New Pipeline Facilities. In conducting the CEQA review, MCWD reserves all of its rights, powers and discretion with regard to any such change in location in pipeline facilities. This includes the authority to adopt mitigation measures and/or an alternative project design, configuration, capacity or location in order to reduce any identified significant environmental impacts; the authority to deny the change in location of pipeline facilities based on any significant environmental impact that cannot be mitigated (in which case this Agreement shall not take effect); and the authority to approve the change in location of pipeline facilities notwithstanding any significant environmental impact that cannot be mitigated, if MCWD determines that these impacts are outweighed by the project's social, economic or other benefits. PCA similarly reserves all of its rights, powers and discretion under CEQA with regard to any decision by PCA on whether and how to approve any change in location in pipeline facilities.

ii. AWT: PCA must complete any necessary CEQA review for AWT Phase 1 and AWT Phase 2 by October 31, 2016. In conducting the CEQA review, PCA reserves all of its rights, powers and discretion with regard to the expansion of the AWT. This includes the authority to adopt mitigation measures and/or an alternative project design, configuration, capacity or location in order to reduce any identified significant environmental impacts; the authority to deny the expansion of the AWT based on any significant environmental impact that cannot be mitigated (in which case this Agreement shall not take effect); and the authority to approve the expansion of the AWT notwithstanding any significant environmental impact that cannot be mitigated, if PCA determines that these impacts are outweighed by the project's social, economic or other benefits. MCWD similarly reserves all of its rights, powers and discretion under CEQA with regard to any decision by MCWD on whether and how to approve any expansion of the AWT.

iii. There must be no CEQA lawsuits challenging any of the Parties' approvals with respect to any change in the location of the New Pipeline Facilities or with respect to the AWT Phase 1 or AWT Phase 2; if any such lawsuits are filed, all such lawsuits must be favorably resolved to the satisfaction of both PCA and MCWD.

iv. All necessary regulatory approvals must be obtained for the Pure Water Monterey Project, AWT, and the New Pipeline Facilities including regulatory approvals required for any change in the location of the New Pipeline Facilities as compared to the location evaluated in the EIR for the Pure Water Monterey Project by October 31, 2016.

v. Funding must be secured by December 31, 2016 for the Pure Water Monterey Project and the RUWAP Distribution Facilities, including for any change in the location of the New Pipeline Facilities as compared to the location evaluated in the EIR for the Pure Water Monterey Project, for AWT Phase 1, and for the CEQA work for AWT Phase 2; provided, however, that this funding is not required for the completed design and construction of AWT Phase 2 for the provisions of this Agreement to take effect with regard to implementation of Phase 1.

vi. All source water must be approved for the Pure Water Monterey Project, except for Lake El Estero and Tembladero Slough by October 31, 2016.

vii. All approvals must be obtained from the California Public Utilities Commission for the water purchase agreement under which Cal Am agrees to buy 3,500 acre-feet of water per year from the Pure Water Monterey Project by October 31, 2016.

(b) Key Dates and Conditions for Future Negotiations.

i. If the Division of Financial Services of the State Water Resource Control Board fails to approve PCA's SRF loan Initial Funding Agreement by October 31, 2016, then MCWD and PCA agree to negotiate in good faith alternatives for providing recycled water (tertiary or purified) for potential customers.

ii. If the Division of Financial Services of the State Water Resource Control Board approves PCA's initial funding agreement, then if the Division of Financial Services of the State Water Resource Control Board fails to approve MCWD's State Revolving Fund (SRF) loan Initial Funding Agreement and/or MCWD passes a Board resolution to discontinue work on the project by October 31, 2016, then MCWD shall transfer all work product (e.g. right-of-way, design, survey, environmental, bid documents, etc.) to PCA so PCA can continue progressing with the project. If the Division of Financial Services of the State Water Resource Control Board approves PCA's State Revolving Fund (SRF) Loan Final Funding Agreement but denies MCWD's State Revolving Fund (SRF) Loan Final Funding Agreement and MCWD does not identify alternate financing by December 31, 2016, MCWD shall transfer all work product to PCA for financing and constructing the New Pipeline Facilities.

   a. PCA will pay MCWD for all project expenditures on any work products transferred (e.g. right-of-way, design, survey, environmental, and bid document development).

   b. In the event that PCA assumes responsibility for the financing and construction of the product water conveyance facilities, MCWD would continue to maintain ownership of the Product Water Conveyance Facilities per 2.06 of this agreement, and would assume ownership upon satisfactory demonstration of no additional financial impact to PCA for providing the financing to construct the Product Water Conveyance Facilities.

iii. If the Division of Financial Services awards PCA an interest rate that is lower than the interest rate awarded to MCWD and MCWD does not receive grant or other funds that could be applied to the New Pipeline Facilities that would reduce PCA's share of the New Pipeline Facilities cost by approximately the same amount as the difference in cost from MCWD's higher interest rate, then MCWD and PCA agree to negotiate in good faith alternatives for financing and constructing the New Pipeline Facilities.

1.02 MCWD's Obligations.

MCWD will fulfill the following obligations relating to the New Pipeline Facilities:

(a) MCWD will be responsible for acquiring all rights-of-way needed for the New Pipeline Facilities.

(b) MCWD will conduct any necessary CEQA review for the New Pipeline Facilities.

(c) MCWD will complete the design and contract documents for the construction of the New Pipeline Facilities.

(d) MCWD will finance, construct, and install the New Pipeline Facilities in substantial conformity with designs and plans approved by the Parties in writing. MCWD will put the New Pipeline Facilities out to bid and administer the construction contract.

1.03. PCA's Obligations.

PCA will fulfill the following obligations relating to the AWT Facilities:

(a) PCA will conduct any necessary CEQA review for the AWT including Phase 1 and Phase 2.

(b) PCA will finance, construct, and install the AWT Phase 1, in substantial conformity with designs and plans approved by the Parties in writing. PCA will put the AWT Phase 1 out to bid, and administer the construction contract(s).

(c) PCA will complete the design and contract documents for the AWT Phase 1.

(d) PCA will provide, and MCWD shall have, an AWT Capacity Entitlement of 600 AFY of purified recycled water from the AWT Phase 1 facilities.

(e) PCA will provide, and MCWD shall have, an AWT Capacity Entitlement of an additional 827 AFY of purified recycled water from the AWT Phase 2 for a total AWT Capacity Entitlement in the AWT facilities of 1,427 AFY.

(f) Up until MCWD exercises its option for the AWT Phase 2 facilities, MCWD shall have the continuing right to 827 AFY of tertiary water as set forth in the Annexation Agreements and the 2009 RUWAP MOU (1,427 AFY less the 600 AFY of recycled water provided in the AWT Phase 1 facility). It is not intended or implied that this water would be used in the same pipeline as the advanced treated water.

1.04. Change Orders.

(a) Change orders must be approved in writing.

(b) Any change order or related set of change orders that increases the Pure Water Delivery and Supply Project Facilities cost by $100,000 or more shall require the written consent of both parties within 30 days of presentation.

(c) Any change order or related set of change orders that increases the Pure Water Delivery and Supply Project Facilities cost by less than $100,000 or that lowers the Pure Water Delivery and Supply Project Facilities cost may be approved by the party designated herein to administer the contract, without the consent of the other party, except that a copy of any proposed or executed change order shall promptly be provided to the other party as soon as it is available. The contract administrator party shall not split up change order work so that approval of the combined change order work by the other party is not required.

(d) Each party's contract administrator shall be authorized to give consent to change orders for that party. Neither party's consent to a change order will be unreasonably withheld or delayed.

(e) This Change Orders section shall apply separately to the AWT and Product Water Conveyance Facilities. This section shall no longer apply to a component of the Pure Water Delivery and Supply Project Facilities on the date that the parties agree in writing that that such component has been completed and is ready to be used.

1.05. Project Schedule Cooperation between agencies.

(a) Subject to the terms and conditions of this Agreement, PCA and MCWD shall work cooperatively and with diligence to obtain all permits, approvals, and financing to construct the Pure Water Delivery and Supply Project Facilities.

(b) Both parties will develop an implementation schedule. Representatives of the parties will meet on a monthly basis, or more often if necessary, in order to ensure that the Pure Water Delivery and Supply Project Facilities are proceeding according to the schedule and in conformity with this contract and the approved plans and designs. Each party will make every reasonable effort to fulfill its obligations in a timely manner to meet the projects milestones and deadlines.

1.06. Right to inspect.

(a) Each party shall have the right to inspect the Pure Water Delivery and Supply Project Facilities, while under construction and at any time thereafter during the term of this contract, upon the giving of reasonable advance notice to the party administering the construction contract. Such inspections may take place at any time during the day or night; however, night time inspections will not take place without at least one week's notice, except in case of emergency or by agreement between the parties.

(b) Each party shall have the sole right to direct the construction work that such party is responsible to implement and the work of each party's own employees. Each party's right to inspect is for the purpose of observation only and not for the purpose of supervision of the work observed.

1.07. Ocean Outfall.

Nothing in this Agreement changes past agreements between the Parties to meet and confer in good faith to evaluate the environmental, technical, managerial, and financial feasibility of a project to use the Regional Treatment Plant outfall to transport and discharge brine byproduct from a future water desalination facility.

II. PURE WATER DELIVERY AND SUPPLY PROJECT FACILITIES DESCRIPTION, OWNERSHIP, OPERATIONS, AND MAINTENANCE

2.01. Location and Description of the Pure Water Delivery and Supply Project Facilities.

The Pure Water Delivery and Supply Project Facilities are shown generally in Exhibit A, attached hereto and made a part hereof and consist of the following sections:

- AWT (Exhibit B)
- New Pipeline Facilities (Exhibit C)
- Existing Pipeline Facilities (Exhibit C)

2.02. AWT Phase 1

The AWT Phase 1 shall be sized to produce a minimum of 600 AFY of purified recycled water with the ability to produce a maximum day demand of 1.37 MGD for MCWD and in addition to produce a minimum of 3,700 AFY of purified recycled water with the ability to produce a maximum day demand of 4.0 MGD for the Pure Water Monterey Project.

2.03. Product Water Conveyance Facilities

(a) The New and Existing Pipeline Facilities will have a minimum total conveyance capacity of

5,127 AFY.

(b) PCA is prohibited from providing water to any customer within any MCWD service area through the use of any Pure Water Monterey Project Facility, either directly or through a third party, unless approved and authorized in writing by the MCWD Board of Directors. PCA agrees that it shall not authorize any third party to use any Pure Water Monterey Project Facility to serve water to any customer within any MCWD service area unless approved and authorized in writing by the MCWD Board of Directors.

2.04. Reserved

2.05. Future Expansion of Facilities (AWT Phase 2)

(a) Subject to Section 1.01 (a) conditions, PCA will provide upon a written request from MCWD an additional AWT Capacity Entitlement for MCWD of up to and including 827 AFY of purified recycled water under AWT Phase 2 for a total AWT Capacity Entitlement of 1,427 AFY. PCA will not unreasonably delay implementing the request.

(b) PCA will reserve physical space at the plant site and facilities for expanding the AWT should subsection (a) be triggered from time to time in the future.

(c) Should MCWD request expanding the AWT beyond the AWT Phase 1 while there is sufficient time and funding capacity to include the further expansion in the Clean Water State Revolving Fund loan for the Pure Water Monterey Project, the costs for the AWT Phase 2 will be subject to the cost sharing section of this Agreement.

(d) Subject to Section 2.05(b) above, PCA may expand the AWT and may construct additional reclamation facilities, at its sole cost and expense and without receiving the consent of MCWD, unless the Product Water Conveyance Facilities are disrupted or delivery of AWT water to MCWD is affected, then consent is required by MCWD in writing. Any increases in capacity and any additional reclamation facilities so constructed shall be used at PCA's discretion.

2.06. Ownership, Operation, and Maintenance of the Pure Water Delivery and Supply Project Facilities

(a) PCA will own, operate, and maintain the AWT.

(b) MCWD will own, operate and maintain the Product Water Conveyance Facilities. In addition, MCWD shall own a Pipeline Facilities Capacity Entitlement equal to 27.833% of the capacity of the Product Water Conveyance Facilities with a maximum annual use of 1,427 AFY during the initial term and any extended term of this Agreement. If and when the AWT Phase 2 is commercially operational and as shown on the table accompanying Section 3.02(b), the Parties recognize and agree that, during the summer months, MCWD's use of the Pipeline Facilities' capacity may exceed 27.833% of the instantaneous capacity and that MCWD is hereby authorized to exceed 27.833% during the summer months.

(c) PCA shall own a Pipeline Facilities Capacity Entitlement equal to 72.167% of the capacity of the Product Water Conveyance Facilities with a maximum annual use of 3,700 AFY during initial term and any extended term of this Agreement. Parties recognize and agree that, during the months of November through February, PCA's use of the Pipeline Facilities' capacity may exceed 72.167% of the instantaneous capacity and that PCA is hereby authorized to exceed 72.167% during those specific months.

(d) For the term of this Agreement, PCA shall maintain the AWT in good condition and repair and MCWD shall maintain the Product Water Conveyance Facilities in good condition and repair.

(e) Both parties agree to coordinate operations and to share/integrate SCADA and other operational tools as necessary to facilitate efficient and effective operations of the Pure Water Delivery and Supply Project Facilities.

2.07. Decision-making authority.

In order to provide for the smooth and efficient operation of the Pure Water Delivery and Supply Project Facilities, MCWD and PCA will have the full authority to make and implement decisions with regard to activities and expenditures for the operations, and maintenance of their respective Project Facilities component without prior approval of the other party. All such activities shall be within the scope of services for operations and maintenance. All such expenditures shall be funded with the respective parties operational and maintenance budgets and/or the replacement reserves.

2.08. Outside Contracts.

When either Party deems it more appropriate for an outside contractor to make repairs or perform maintenance, bids may be solicited for contracts to perform this work.

2.09. Permits and approvals.

Each Party shall be responsible for obtaining and complying with all permits and approvals for the Project Facilities component that such Party owns that are necessary to perform its work under this Agreement.

2.10. Safety and loss prevention program.

MCWD and PCA will jointly develop, maintain, and implement a safety and loss prevention program for the Pure Water Delivery and Supply Project Facilities, and will provide appropriate training for its employees working on the facilities. This program will conform to all requirements set forth in CAL OSHA's Process Safety Management Program and US EPA's Risk Management Program, and will be revised and updated as new regulations are promulgated. All costs associated with the program will be included in the annual budget process.

2.11. Access to facilities.

Both MCWD and PCA personnel shall be provided access rights to all Pure Water Delivery and Supply Project Facilities with adequate notice and staff availability/chaperone.

2.12. Pure Water Coordinating Committee.

(a) Within sixty days of the Effective Date of this Agreement, the parties shall establish and maintain a Pure Water Coordinating Committee which membership shall consist of at least one representative from each Party. A representative from each Party shall be the person who will be or who is responsible for the daily operations of a Pure Water Delivery and Supply Project Facilities component. The committee shall have access to and shall share all pertinent information in order to discuss and make recommendations for sustaining or improving the operations (including water quality), maintenance, and capital replacement efforts of the project.

(b) Any financial changes approved by the Pure Water Coordinating Committee at a Committee meeting that require a budget modification will be submitted to both Boards of Directors for approval of the necessary budget modifications.

2.13. Unanticipated events/Emergency situations

(a) Non-emergency circumstances or events may arise which were not anticipated in either the scopes of services or the budgets for the Pure Water Delivery and Supply Project Facilities. In this case, plans for addressing such circumstances or events, including justification and estimated amount of expenditures, will be submitted to the Pure Water Coordinating Committee for its review and recommendations. Before proceeding with those plans, each party must first give its written approval to incur any additional costs associated therewith consistent with the procurement policy of each agency.

(b) If the event or circumstance constitutes an emergency situation which threatens health and safety, damage to property, or injury to persons, the Party having operational control of the affected Pure Water Delivery and Supply Project Facilities component will act as promptly and as efficiently as possible to mitigate the situation without waiting for approval by the Pure Water Coordinating Committee. The Pure Water Coordinating Committee will be advised as soon as possible thereafter of the mitigating actions taken and of any further action that may be necessary.

III. DELIVERY OF PURIFIED RECYCLED WATER

3.01. Existing Allocations

(a) Subject to the terms and conditions described in this Agreement, PCA agrees to treat and provide an annual amount of purified recycled water from PCA's and MCWD's entitlements to assure delivery of the agreed water commitments to the RUWAP Recycled Project approved by the FORA Board of Directors and allocated to FORA land use jurisdiction members. Up to 1,762 AFY of source water would be made available from PCA to provide a net 1,427 AFY of purified recycled water taking into account the assumption of a 19% loss resulting from the advanced water treatment processes with the following limitations unless the FORA Board of Directors agrees to an allocation of less than 1,427 AFY of net purified recycled water:

   i. As stated in the 1996 Annexation Agreement, up to a maximum of 300 AFY of source water will be treated for MCWD's use between the months of April and September.

   ii. As stated in the 2009 RUWAP MOU, up to a maximum of 650 AFY of source water will be made available from PCA entitlements between the months of May and August for recycled water use.

   iii. As per the 2009 RUWAP MOU, Section 3.1, the Parties agreed to meet and confer in good faith to evaluate the environmental, technical, managerial, and financial feasibility of a groundwater recovery replenishment project to inject and store recycled water.

   iv. As stated in Section IV 1(d) of the Amended and Restated Water Recycling Agreement between PCA and Monterey County Water Resources Agency which was approved in November 2015, PCA is allocated 650 AF of water by Water Resources Agency during the months of May through August.

(b) The parties agree to commit to a process to determine the amount of MCWD's Fort Ord Water Rights. The process shall include MCWD, PCA, FORA, U.S. Army, and MCWRA meeting and discussing the various agreements, obtaining legal opinions as necessary, and drafting documentation to clarify each agency's opinion, agreement, or disagreement and next steps on this issue by January 31, 2017.

3.02 Demand Schedule.

(a) According to Section 3.01 and subject to Section 2.03 of this Agreement, PCA will provide MCWD with purified recycled water according to the following typical nonbinding Schedule for AWT Phase 1 (~600 AFY of product water):

Approximate Demand Schedule (Phase 1):

Month	Demand (AF) Others	Demand (AF) Golf Course	Demand (AF) Total	Needed Supply (AF)
January	7	16	23	28
February	5	11	16	19
March	8	19	27	33
April	16	40	56	70
May	26	62	88	108
June	26	63	89	110
July	27	65	92	113
August	22	54	76	94
September	20	49	69	85
October	12	29	41	51
November	5	12	17	21
December	2	5	7	9
Total	175	425	600	741

(b) According to Section 3.01 and subject to Section 2.03 of this Agreement, PCA will provide MCWD with purified recycled water according to the following typical nonbinding Schedule for AWT Phase 2 project (ultimate build out of the AWT to the amount approved by the FORA Board of Directors pursuant to Resolution No. 07-10):

Approximate Demand Schedule (Phase 2):

Month	Demand (AF) Others	Demand (AF) Golf Course	Demand (AF) Total	Needed Supply (AF)
January	38	16	54	66
February	26	11	37	46
March	45	19	64	79
April	94	40	134	166
May	146	62	208	257
June	149	63	212	261
July	153	65	218	269
August	127	54	181	224
Septembe	116	49	165	203
October	68	29	97	120
Novembe	28	12	40	50
Decembe	12	5	17	21
Total	1002	425	1427	1762

3.03 Water Quality.

All water produced and delivered to MCWD shall meet all applicable standards of quality prescribed by the State of California (including, but not limited to, the regulations promulgated by the State Health Department and set forth in the California Code of Regulations, Title 22), or by separate agreement of the parties, so that the water may be used for the purposes specified herein. The parties clarify their intent with regard to the required water quality and further agree that the AWT Facilities have been designed to produce purified recycled water for the injection and landscape irrigation and other authorized purposes. The Parties agree that the purified recycled water to be used for landscape irrigation and other authorized purposes shall be of the same water quality as the water used for injection.

3.04. Warranties.
PCA warrants that all water committed to MCWD pursuant to this Agreement shall be transferred to MCWD free and clear of all claims by any person or entity, except as otherwise specified.

3.05. Duty to monitor water quality; cessation in deliveries.
PCA will monitor the quality of water produced, in accordance with the Indirect Potable Reuse guidelines per the California Department of Drinking Water Title 22 Article 5.2 of the CCR.

3.06. Regulations to protect water quality.
PCA will, to the extent feasible, enact reasonable and appropriate regulations governing the kinds of wastes and other materials that may be discharged into the sewerage system, in order to protect the quality of water ultimately produced by the AWT.

3.07. Daily Operation.
The AWT will be in operation and will supply water to MCWD on a daily basis except for temporary periods of shut-down authorized by this Agreement or made necessary by circumstances beyond the control of PCA or MCWD.

3.08. Incidental Uses.
PCA may use such amounts of purified recycled water from the Pure Water Delivery and Supply Project Facilities as may be needed for the normal operation and maintenance of PCA's facilities, including, but not limited to, the backwash of injection wells.

3.09. Notice of temporary cessation of water deliveries.
PCA will give immediate notice to MCWD, by telephone and/or electronic communication to MCWD's General Manager, or to the person designated by the General Manager to receive such notices, with a prompt follow-up notice in writing, as soon as PCA becomes aware of the need to cease deliveries. In addition, whenever a cessation of deliveries occurs, PCA shall use every reasonable effort to restore service as soon as possible.

3.10. Interruptions of service.

(a) No work of construction, remodeling, renovation, replacement, repairs, addition, or expansion authorized under this Agreement and performed on the AWT or Injection Well Facilities shall, either before, during, or after such work, interfere with, interrupt, or reduce the delivery of advanced treated water to MCWD under this Agreement, except that minor interferences, interruptions, or reductions shall be allowed when necessary, unavoidable, or beyond the control of PCA.

(b) PCA shall schedule its planned maintenance activities on the AWT and the Injection Well Facilities to minimize interruption of distribution of purified recycled water. Unscheduled work to perform repairs or maintenance will be performed in the manner deemed by PCA to have the least impact on the supply of advanced treated water. In case of any interruption of service, PCA shall give notice in the same manner as required by this Agreement.

(c) MCWD shall schedule its planned capital replacement, maintenance activities, and lateral tie-in's to the Product Water Conveyance Facilities to minimize interruption of distribution of purified recycled water. Unscheduled work to perform repairs or maintenance will be performed in the manner deemed by MCWD to have the least impact on the distribution of purified recycled water. In case of any interruption of service on the Product Water Conveyance Facilities, MCWD shall give notice in the same manner as required by this Agreement.

IV. ESTIMATED COSTS, COST SHARING, FINANCING, AND BUDGETING

4.01. Estimated Costs of the Project

(a) The PCA submitted an SRF loan package in the amount of $113,000,000 of which $41,190,000 is for the Advanced Water Treatment Facilities. It is anticipated that project costs will be below this amount. MCWD submitted an SRF loan package in the amount of $35,000,000 which includes $22,600,000 for the RUWAP New Pipeline Facilities. It is also anticipated that project costs will be below this amount.

(b) The estimated construction costs and proportional share of the New Pipeline Facilities and AWT Phase 1 are presented below. The cost allocations for the Pipeline Facilities are based upon a MCWD maximum use of 1,427 AFY per year and a PCA maximum use of 3,700 AFY. If any maximum use amount is exceeded, then the Parties agree to recalculate the allocations for the Pipeline Facilities, to true up those capital costs back to the date of this Agreement, and to agree on a true up amount and payment schedule. The estimated annual debt service cost share is located in Exhibit E:

ESTIMATED CAPITAL COSTS	Total Amount	PCA Share	MCWD Share
New Pipeline Facilities	$ 22,600,000	$ 16,309,742 72.167%	$ 6,290,258 27.833%
AWT Phase 1	$ 41,184,636	$ 35,438,144 86.047%	$ 5,746,492 13.953%
Existing Pipeline Facilities	$ 1,389,000	$ 1,002,400 72.167%	$ 386,600 27.833%
TOTAL	$ 65,173,636	$ 52,185,008 80.071%	$ 12,988,628 19.929%

(c) Except for the $1,389,000 in Section 4.02 (a) (iii) for the Existing Pipeline Facilities, the Parties agree that all dollar amounts in this Agreement, including exhibits, are estimates and that this Agreement shall be amended from time to time to reflect the actual dollar amounts when known.

(d) Both Parties commit grant funds to the Project Facilities by the ratio of the costs of the Project Facilities to the total costs to each party for Project Facilities, Injection Facilities, RUWAP Distribution Facilities, and Source Water Facilities. Both Parties agrees to apply those grant funds towards the total capital costs of a Project Facilities component, to be allocated to each parties share of capital costs as defined in Section 4.02 (a). The following is an example:

PRODUCT CONVEYANCE FACILITIES AND RUWAP DISTRIBUTION FACILITIES

Total Project Cost	$35 Million
Transmission Line PCA 71% MCWD 29%	$23 Million $16.33 Million $ 6.67 Million
Distribution (ALL MCWD)	$12 Million
Capital Cost Split (Grant Distribution %)	PCA $16.33 Million (46.7%) MCWD $18.67 Million (53.3%)
Assume $17M in Grants	PCA $7,939,000 MCWD $9,061,000

AWT, DIVERSION, INJECTION FACILITIES

AWTF PCA 72.17% MCWD 27.83%	$40,000,000 $28,866,783 $11,133,216
Diversion PCA 100%	$947,765 + 5,649,339 ≈ $6,600,000
Injection PCA 100%	$10,668,000
Capital Distribution (Grant Distribution %)	
MCWD -AWTF	$11,133,216 (19.44%)
PCA AWTF+DIV+IND	$46,134,783 (80.56%)
TOTAL	$57,267,999
Assume $15M in Grants	PCA $12,084,000 MCWD $2,916,000

Total Project Costs	$92,267,999
Total Capital Cost Split PCA MCWD	 $62,464,783 $29,803,216
Total Assured Grants	$32,000,000
Grant Amounts PCA MCWD	 $20,023,000 $11,977,000

4.02. Cost Sharing: Capital and Replacement Costs

(a) Both parties will pay their share of all capital and replacement costs for the Project Facilities based on its percentage share of AWT Capacity Entitlement and/or Pipeline Facilities Capacity Entitlement as follows:

i. AWT Facilities: % of a party's AWT Capacity Entitlement in AFY to the total AWT Capacity Entitlement in AFY from both parties. For AWT Phase 1, PCA = 86.047% and MCWD = 13.953%. For AWT Phase 2, PCA = 72.167% and MCWD = 27.833%.

ii. New Pipeline Facilities: PCA = 72.167% and MCWD = 27.833%.

iii. Existing Pipeline Facilities: PCA = 72.167% and MCWD = 27.833%. The parties agree that the total value of MCWD's Existing Pipeline Facilities for purposes of this Agreement is $1,390,000. The parties agree that the annual payment to MCWD shall be equal to this total value amortized over a 30 year period.

4.03. Cost Sharing: Operations and Maintenance Costs

(a) Both parties will pay their share of all operations and maintenance costs for the Pure Water Delivery and Supply Project Facilities based on actual use of the facilities based on the following:

i. AWT Facilities: % of AFY produced vs total from both parties

ii. Product Water Conveyance Facilities: % AFY through pipeline vs total from both parties

iii. Operations and Maintenance costs include, but are not limited to, the following: Power, chemicals, a Party's own or contracted labor and services, parts, materials, supplies, insurance, engineering, financial, and legal services, and such other cost categories agreed to by the Parties.

4.04. Project Funding: Capital Costs

(a) PCA applied for a Clean Water SRF loan to pay for the entire capital costs of AWT which shall include all of the design, contract documents, rights-of-way acquisition, and all work to construct the AWT.

(b) MCWD applied for a Clean Water SRF loan to pay for the entire capital costs of the New Pipeline Facilities which shall include all of the design, contract document, rights-of-way acquisition, and CEQA work necessary, and all work to construct the New Pipeline Facilities.

4.05. Project Funding: Replacement and Renewal Reserves

(a) Each Agency shall establish a Replacement and Renewal Reserve Fund for the purpose of funding capital outlay projects on the Pure Water Delivery and Supply Project Facilities; assist in meeting any fiscal sustainability plan requirements for the Clean Water State Revolving Fund loans; and maintaining a proportional share of the State Revolving Fund loan's debt reserve requirement.

(b) Each agency shall allocate sufficient funds in their annual budget to contribute to each Replacement and Renewal Reserve Fund in accordance with the capital cost sharing section of this Agreement. PCA will retain the replacement funds for those facilities in which they own and operate. MCWD will retain the replacement funds for those facilities in which they own and operate. Unless otherwise stated in Clean Water State Revolving Fund agreements, the following depreciation schedule related to operational equipment shall be used as a basis to establish annual funding of replacement reserves:

Equipment Type	Useful Life (Years)
Replacement Electrical	30
Replacement Instrumentation	15
Replacement Pumps & Motors	20
Motorized sluice gates	30
Replacement Wells & Ozonators	20

(c) Two years prior to the completion of the thirty-year loan cycle, MCWD and PCA will develop a long-term Capital Improvement Plan, which includes establishing an appropriate level of Renewal and Replacement reserves. Any funds that are held in Reserves in excess of the Capital Improvement Plan will be refunded within ninety (90) days of the Plan's establishment.

4.06. Project Funding: Operations and Maintenance Costs

Each party shall place in their annual operating budget sufficient funds to pay for operations and maintenance according to the operations and maintenance cost sharing section of this Agreement.

Each party shall follow the recommended operation and maintenance schedules as suggested by the manufacturers throughout the initial term of this agreement.

4.07. Annual Budget Process.

Each year, in accordance with its normal budgeting schedule, both parties will adopt budgets sufficient to cover the capital, renewal, operation, and maintenance costs of their proportional share of the Pure Water Delivery and Supply Project Facilities.

4.08 Financial Obligations

Both Parties agree to pledge sufficient funds to meet their respective financial obligations under this Agreement by Board action.

V. PAYMENTS AND ACCOUNTING

5.01 Payment Schedule and Procedures.

(a) MCWD will make payments to PCA each year as follows:

i. Thirty (30) days before the date the PCA's annual payment on the Clean Water State Revolving Fund loan for the Pure Water Monterey Project is due, MCWD will pay an amount equal to MCWD's proportional share of capital costs (debt service) as provided in Exhibit E.

ii. By March 1 of each year, MCWD shall pay PCA the proportional share of the amortized replacement/renewal costs as identified in Exhibit E.

iii. On a monthly basis, PCA will bill MCWD for Operation and Maintenance costs on an acre foot rate basis and actual demand.

(a) PCA will make payments to MCWD each year as follows:

i. Thirty (30) days before the date the MCWD's annual payment on the Clean Water State Revolving Fund loan for the New Pipeline Facilities is due, PCA will pay an amount equal to PCA's proportional share of capital costs (debt service) as provided in Exhibit E.

ii. By March 1 of each year, PCA shall pay MCWD the proportional share of the amortized replacement/renewal costs of the New Pipeline Facilities as identified in Exhibit E.

iii. By June 30 of each year, PCA will pay an amount equal to PCA's proportional share of capital costs (debt service) for the construction of the Existing Pipeline Facilities funded by MCWD as provided in Exhibit E.

iv. By June 30 of each year, PCA will pay MCWD the proportional share of the amortized replacement/renewal costs of the Existing Pipeline Facilities as identified in Exhibit E.

v. On a monthly basis, MCWD will bill PCA for the Operation and Maintenance costs for the Product Water Conveyance Facilities on an acre foot rate basis and actual demand.

(b) At least thirty (30) days before capital or replacement payments are due, a request for payment shall be sent indicating the amount due, the date payment is due, and the nature of the payment.

(c) Payment requests for operation and maintenance costs will be billed monthly. The resulting payments will be due within thirty days of billing.

(d) Notwithstanding anything to the contrary contained herein, obligations to make payments shall be prioritized as follows, and the obligations in each category shall be subordinate to the obligations in each prior category, shall be on a parity with all other obligations in such category, and shall be senior to the obligations in each subsequent category:

i. Operation and maintenance

ii. Debt service on obligations incurred to finance the Pure Water Delivery and Supply Project Facilities and payments to any provider of credit enhancement for such obligations

iii. Replacement/renewal costs

(e) All requests for payment shall be promptly reviewed, approved for payment where such requests or portion thereof that are in conformity with this Agreement, and promptly submitted for payment. Disputed payment shall be resolved according to the Dispute Resolution Process in this Agreement.

5.02. Application of loan payments by PCA.

(a) All payments made by MCWD to PCA for the repayment of the Clean Water SRF loan shall be used for such repayment. Upon termination of any loan agreement, any unused funds retained by PCA shall be returned to MCWD within 60 days from the date of the approved PCA audit for the fiscal year in which the agreement was terminated.

(b) All payments made by PCA to MCWD for the repayment of the Clean Water SRF loan shall be used for such repayment. Upon termination of any loan agreement, any unused funds retained by MCWD shall be returned to PCA within 60 days from the date of the approved MCWD audit for the fiscal year in which the agreement was terminated.

5.03. Remedies for Delinquent Payments.

(a) If either party should fail to make any payment required under this Agreement for a period of ninety (90) days or more after the due date, then upon fifteen (15) days' written notice, the party that is owed may act to proportionally reduce the activities for which payment is due; provided that no such reduction shall take effect if Dispute Resolution has been invoked and the full amount of the payment has been paid under protest.

(b) In addition, if either party should fail to make any payment required under this Agreement for a period of ninety (90) days or more after the due date and Dispute Resolution has not been invoked, the party that is owed shall have the right to seek any appropriate judicial relief, at law or in equity, for such default. Such relief may include, but need not be limited to, damages and injunctive relief.

5.04 Allocations: Operations and Maintenance Rates

(a) Operations and Maintenance Rates: Based on electronic timesheets and indirectly through each Agency's Cost Allocation Plan, all costs associated with the new AWT Facilities will be allocated directly to PCA's Pure Water Monterey Fund and all costs associated with the Product Water Conveyance Facilities will be allocated directly to MCWD's RUWAP Conveyance Facilities Fund. Indirect costs and direct costs will be used in the development of PCA's and MCWD's Operation and Maintenance Rates. Each Agency's Operation and Maintenance rate will be subject to review and/or development of a third party consultant of the respective Agency's selection. PCA's Operation and Maintenance component of the rate will be consistent with rates provided to entities who utilize Advanced Treated Water.

(b) PCA and MCWD retain the right to transition from any cost allocation plan identified in 5.04 of this Agreement to a cost allocation model that is compliant with the Office of Management and Budget (OMB) Circular A-87 – Cost Principles for State, Local, and Indian Tribe Governments or a subsequent revision. Any cost allocation subject to this provision shall be accompanied by a Certificate of Cost Allocation Plan and be in compliance with Title 2 CFR, Part 200. All indirect costs charged to the Pure Water Monterey Fund and the RUWAP Conveyance Facilities Fund will be applied consistently with the results of this plan to ensure equity between costs centers and conformance with OMB standards.

5.05. Accounting system.

Both parties will maintain an accounting system that is in conformity with generally accepted accounting principles (GAAP) and will allow for the segregation and tracking of all Replacement/Renewal reserves associated with the Project Facilities. Indirect costs shall not be applied to Replacement/Renewal Reserve contributions.

5.06. Financial reports.

Both parties will provide an annual report of the proportional share of reserve funds retained for the purpose of renewing the Pure Water Delivery and Supply Project Facilities. This report will be provided by September 30 of each year; and include deposits made to the Repair/Renewal Reserve, proportional interest earned, and the proportional share of any replacement/renewal costs.

5.07. Annual audit.

The accounting for the Pure Water Delivery and Supply Project Facilities will be subject to both parties Annual Audit. The Replacement/Renewal Reserve funds will be classified as Restricted on both parties Comprehensive Annual Financial Statement (CAFR). This Restricted classification will remain in effect through the term of this agreement, unless there are any new Governmental Accounting Standards Board (GASB) pronouncements or auditor comments that require a change in classification. A copy of each parties CAFR will be provided to the other by January following the close of the prior fiscal year.

5.08. Right to inspect and audit records.

Both parties shall have the right to inspect the other's records pertaining to debt service payments associated with the Pure Water Delivery and Supply Project Facilities and contributions for Renewal/Replacement Reserves, upon reasonable advance notice. Both parties shall also have the right to audit the other's records pertaining to the Project Facilities and contributions for Renewal/Replacement Reserves, or to have them audited by an auditor selected by the other party at that party's sole cost and expense. Such audit may be performed at any time during regular business hours, upon the giving of reasonable advance notice.

5.09. Reimbursement for overcharge or undercharge.
If any there is audit shows that the incorrect application of replacement/renewal reserves, each agency will have 90 days to comply with the audit findings. If an undercharge or an overcharge has occurred in monthly demand billings, each agency will have 90 days to refund or pay the identified difference.

5.10. Claims for Stranded Costs
The parties agree to commit to a process to determine the amount of each parties' claims for stranded costs. The process shall include MCWD and PCA meeting and discussing the documentation to clarify each agency's opinion, agreement, or disagreement and next steps on this issue by March 31, 2017.

VI. INDEMNIFICATION.

6.01. Indemnification.
(a) PCA shall indemnify, defend, and hold harmless MCWD , its officers, agents, and employees, from and against any and all claims, liabilities, and losses whatsoever against MCWD (including damages to property and injuries to or death of persons, court costs, and reasonable attorneys' fees) occurring or resulting to any and all persons, firms or corporations furnishing or supplying work, services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims, liabilities, and losses occurring or resulting to any person, firm, or corporation for damage, injury, or death arising out of or connected with the PCA's performance or non-performance of its obligations pursuant to this Agreement caused in whole or in part by any negligent act or omission or willful misconduct of PCA, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except to the extent caused by the negligence or willful misconduct of MCWD.

(b) MCWD shall indemnify, defend, and hold harmless PCA, its officers, agents, and employees, from and against any and all claims, liabilities, and losses whatsoever against PCA (including damages to property and injuries to or death of persons, court costs, and reasonable attorneys' fees) occurring or resulting to any and all persons, firms or corporations furnishing or supplying work, services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims, liabilities, and losses occurring or resulting to any person, firm, or corporation for damage, injury, or death arising out of or connected with the MCWD's performance or non-performance of its obligations pursuant to this Agreement caused in whole or in part by any negligent act or omission or willful misconduct of MCWD, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except to the extent caused by the negligence or willful misconduct of PCA.

6.02. Procedure for Indemnification.
(a) If any legal or administrative proceedings are instituted, or any claim or demand is asserted, by any third party which may give rise to any damage, liability loss or cost or expense with respect to which either party has agreed to indemnify the other party in this contract, then the indemnified party shall give the indemnifying party written notice of the institution of such proceedings, or the assertion of such claim or demand, promptly after the indemnified party first becomes aware thereof. However, any failure by the indemnified party to give such notice on such prompt basis shall not affect any of its rights to indemnification hereunder unless such failure materially and

adversely affects the ability of the indemnifying party to defend such proceeding.

(b) The indemnifying party shall have the right, at its option and at its own expense, to utilize counsel of its choice in connection with such proceeding, claim or demand, subject to the approval of the indemnified party, which approval shall not be unreasonably withheld or delayed. The indemnifying party shall also have the right to defend against, negotiate with respect to, settle or otherwise deal with such proceeding, claim or demand. However, no settlement of such proceeding, claim or demand shall be made without the prior written consent of the indemnified party, which consent shall not be unreasonably withheld or delayed. The indemnified party may participate in any such proceeding with counsel of its choice at its own expense.

(c) In the event, or to the extent, the indemnifying party elects not to, or fails to, defend such proceeding, claim or demand and the indemnified party defends against, settles or otherwise deals with any such proceeding, claim or demand, any settlement thereof may be made without the consent of the indemnifying party if it is given written notice of the material terms and conditions of such settlement at least ten days before a binding agreement with respect to such settlement is executed. However, nothing herein is intended to bar either party from submitting any dispute arising from this section to Dispute Resolution.

(d) Each of the parties agrees to cooperate fully with each other in connection with the defense, negotiation or settlement or any such proceeding, claim or demand.

6.03. Payment of indemnified claims.
The indemnifying party shall forthwith pay all of the sums owing to or on behalf of the indemnified party, upon the happening of any of the following events:

(a) Upon the rendition of a final judgment or award with respect to any proceeding described in Section 6.02, above, by a court, arbitration board or administrative agency of competent jurisdiction and upon the expiration of the time in which an appeal therefrom may be made; or

(b) Upon the making of a settlement of such proceeding, claim or demand; or

(c) Upon the parties' making of a mutually binding agreement with respect to each separate matter indemnified thereunder.

6.04. Contribution in the event of shared liability.
In the event any proceeding, claim or demand described in Section 6.01 is brought, in which allegations of fault are made against both the parties, the extent of indemnification shall be determined in accordance with the agreement of the parties, or, if there is no agreement, then in accordance with the findings of the court as to the relative contribution by each of the parties to the damage suffered by the party seeking indemnity with respect to such proceedings. If the court fails to make any such findings, then the matter shall be submitted to Dispute Resolution.

6.05. Exclusion from O&M costs.
Amounts payable by either party as indemnification shall not be included in the operations and maintenance costs of the Project.

VII. INSURANCE

7.01. General insurance requirements.
Without limiting either parties duty to indemnify, both parties shall maintain in effect throughout the

term of this Agreement a policy or policies of insurance meeting the requirements hereinafter set forth. All such insurance required by this article shall meet the following requirements:

(a) Each policy shall be with a company authorized by law to transact insurance business in the State of California, and shall be written on an occurrence form unless such insurance is only available at a reasonable cost if written on a claims made form.

(b) Each policy shall provide that both parties shall be given notice in writing at least thirty days in advance of any change, cancellation or non-renewal thereof.

(c) Except with respect to workers compensation insurance, each policy shall provide an endorsement naming both parties and its officers, agents and employees as additional insureds, or additional insureds, as applicable, and shall further provide that such insurance is primary to any other insurance maintained by either party.

(d) Unless otherwise agreed by MCWD and PCA, if a party awards a contract for construction work for the Pure Water Delivery and Supply Project Facilities, that party shall require the general contractor to provide commercial general liability and motor vehicle liability insurance coverage at least equal to the coverages required under this Agreement and shall name both MCWD and PCA as an additional named insureds and shall further provide that such insurance is primary to any issuance maintained by MCWD or PCA.

7.02. Commercial general liability insurance.

(a) MCWD and PCA shall maintain (and be named insured under) commercial general liability insurance covering all operations under this Agreement, with such coverages as the parties may agree upon from time to time. Each party shall be named as an additional insured on the other party's commercial general liability coverage.

(b) Each party shall pay the annual cost of such insurance for the term of this Agreement. Such insurance costs shall be treated as an annual operation and maintenance cost for the AWT Facilities and the Product Water Conveyance Facilities. In addition, should this Agreement be terminated by the parties, the obligation to pay for such insurance regarding the Project shall be accordingly reduced.

7.03. Motor vehicle insurance.

Both parties shall maintain insurance covering all motor vehicles (including owned and non-owned) used in providing services under this Agreement, with a combined single limit of not less than $2,000,000.

7.04. Property insurance.

(a) PCA shall maintain insurance covering the AWT Facilities against loss or damage due to fire and other perils to the extent that such insurance is reasonably commercially available and within available funds for the Pure Water Monterey Project. MCWD shall maintain insurance covering the Product Water Conveyance Facilities against loss or damage due to fire and other perils to the extent that such insurance is reasonably commercially available and within available funds for the Project.

(b) Subject to Subsection (a) above, the amount of the insurance shall not be less than the then-current replacement cost of the applicable Pure Water Delivery and Supply Project Facilities, without depreciation. Insurance coverage for the Pure Water Delivery and Supply Project Facilities under this section shall be reviewed and approved by both parties, which shall not unreasonably withhold or delay its approval. Both parties shall provide each other with a copy of the insurance policy and shall give the other party thirty (30) days' advance notice of any cancellation or proposed change in the insurance required by this section, and any such change shall be subject to review and approval by the other party.

7.05. Workers' compensation insurance.

Each party shall maintain a workers' compensation plan covering all of its employees as required by Labor Code Sec 3700, either (a) through workers' compensation insurance issued by an insurance company, with coverage meeting the statutory limits and with a minimum of $100,000 per accident for employer's liability, or (b) through a plan of self-insurance certified by the State Director of Industrial Relations, with equivalent coverage. If either party elects to be self-insured, the certificate of insurance otherwise required by this Agreement shall be replaced with a consent to self-insure issued by the State Director of Industrial Relations.

7.06. Certificate of insurance.

Each party shall file certificates of insurance with the other party, showing that it has in effect the insurance required by this contract. Each party shall file a new or amended certificate promptly after any change is made in any insurance policy which would alter the information on the certificate then on file.

7.07. Self-insurance up to and including the first $1 million of liability.

Each party may elect to be self-insured or to participate in the self-insurance pool for up to and including the first $1 million of liability under any insurance required to be provide by it under this Agreement, provided the other party first gives its written consent, which will not be unreasonably withheld or delayed. The parties shall enter into a separate written memorandum of understanding specifying the proportionate amount or share of such self-insurance costs to be allowed and allocated as annual operation and maintenance costs for the Pure Water Delivery and Supply Project Facilities.

7.08. Insurance costs.

Except as otherwise specifically provided for in this Agreement, the parties agree to determine as part of the annual budget process what annual insurance costs are to be allowed and allocated as annual operation and maintenance costs for the Pure Water Delivery and Supply Project Facilities.

7.09. Periodic increases in coverage requirements.

Not more frequently than every five (5) years, if in the opinion of an insurance broker or consultant retained jointly by the parties, the amount of any insurance coverage required by this Agreement is not adequate, the party responsible for providing that insurance coverage shall increase the amount of the insurance coverage as required by the insurance broker or consultant.

7.10. Duty to apply insurance proceeds.

If either party recovers any insurance proceeds on account of loss or damage to any Project Facilities component, such proceeds shall be applied to repair or replace the damaged portion of that Project Facilities component, and not otherwise. If either party is self-insured and any loss or damage occurs that would have been covered by insurance otherwise required to be maintained by such party under this Agreement, then such party shall provide the funds that would have been recovered had the party been insured and shall apply the funds to repair or replace the damaged portion of the Project Facilities component.

7.11. Losses Caused by Third Parties.

If any Project Facilities component is damaged or destroyed or any other personal injury, death, property damage or economic loss is incurred relating to any Project Facilities component (collectively, "damage or loss") during the term of this Agreement, and excluding the amount of any such damage or loss covered in Section VI, Indemnification, then the responsible third party or parties shall be responsible for paying for any such damage or loss. If the funds or other consideration paid by either party pursuant to Section VI and by the third parties are insufficient to cover the total cost of the damage or loss, then the balance necessary to cover the total cost of the damage or loss shall be paid from the applicable reserve and, then to the extent the funds in the replacement reserve are inadequate, the balance will be allocated between the parties based upon the then Capital Cost allocation for the applicable Project Facilities component.

VIII. TERM OF AGREEMENT

8.01. Term of Agreement.
This Agreement shall become effective on the date hereinabove entered and terminate on December 31, 2055 unless extended in accordance with Section 8.02.

8.02. Automatic extension.
This Agreement shall be automatically renewed for an additional 10-year period (an "extended term") unless a party is in default under this Agreement or unless one party provides the other party with written notice to terminate this Agreement upon expiration of the initial term or of any extended term. Any such notice must be provided to the other party at least three (3) full years prior to the expiration of any extended term. Unless such notice is provided, the parties agree that there shall not be a limit on the number of extended terms.

8.03. Conditions of agreement during term.
All the terms of this Agreement shall remain in effect during any term, except as otherwise provided in this Agreement or as may be amended in writing which is signed by both parties.

8.04. Rights on Termination.
(a) Unless otherwise agreed upon in writing by the parties, upon any termination of this Agreement, MCWD shall have the continuing right to tertiary water as set forth in the Annexation Agreements and the 2009 RUWAP MOU. Except as provided in the Annexation Agreements and the 2009 RUWAP MOU, PCA shall provide facilities for treating the water beyond secondary treatment level at its sole cost and expense or through a cooperative agreement with MCWD or any other entity. Upon any termination of this Agreement, MCWD shall have the continuing right to receive the same quantity of tertiary treated water as MCWD was or would have been entitled to receive during any term of this Agreement so long as MCWD provides facilities at its sole cost and expense or through a cooperative agreement with PCA or any other entity for the delivery of such tertiary treated water and purified recycled water.

(b) MCWD's and PCA's respective rights to tertiary treated water in accordance with this Agreement shall also survive termination.

IX. DISPUTE RESOLUTION

9.01. Dispute resolution procedure.
If any dispute arises between the parties as to the proper interpretation or application of this Agreement and/or the proper operation of the facilities, the parties shall resolve the dispute in accordance with this Article.

9.02. Duty to meet and confer.
If any dispute under this Agreement arises, the parties shall first meet and confer, in an attempt to resolve the matter between themselves. Each party shall make all reasonable efforts to provide to the other party all the information that the party has in its possession that is relevant to the dispute, so that both parties will have ample information with which to reach a decision.

9.03. Mediation and Binding Arbitration.

(a) If the dispute is not resolved within sixty (60) days after the first meeting under Section 9.02, then either party may notify the other party that the notifying party elects to submit the dispute to mediation. If the other party agrees to submit the dispute to mediation, then the parties will jointly select a mediator. The terms of mediation shall be set by agreement of the parties and the mediator.

(b) If the dispute is not resolved by meeting and conferring, and mediation does not occur or is unsuccessful, the parties may agree to submit the matter to binding arbitration. In that event, the parties will jointly select a single arbitrator. If the parties are unable to agree on a single arbitrator, then the parties shall request the Presiding Judge of the Monterey County Superior Court to appoint an arbitrator who has proven experience in the subject matter of the dispute. Any person selected as an arbitrator shall be a qualified professional with expertise in the area that is the subject of the dispute, unless the parties otherwise agree. The cost of the arbitrator shall be shared equally between the parties. Unless otherwise agreed by the parties, the arbitration shall be conducted in accordance with the rules of the American Arbitration Association ("Rules"); provided that the arbitration does not have to be handled through the American Arbitration Association. . The parties agree that they will faithfully observe the Rules and will abide by and perform any award rendered by the arbitrator, and that a judgment of the court having jurisdiction may be entered on the award. Notwithstanding the Rules, discovery will be permitted and the provisions of the California Code of Civil Procedure Section 1283.05 are incorporated herein unless the parties agree otherwise. The parties hereby consent to the jurisdiction of the courts of Monterey County for the confirmation, correction or vacation of any arbitration award. The arbitrator may grant any remedy or relief deemed by the arbitrator just and equitable under the circumstances, whether or not such relief could be awarded in a court of law. The arbitrator will have no power to award punitive damages or other damages not measured by the party's actual damages against any party. This limitation of the arbitrator's powers under this Agreement shall not operate as an exclusion of the issue of punitive damages from this Agreement to arbitrate sufficient to vest jurisdiction in a court with respect to that issue. The arbitrator's award will be deemed final, conclusive and binding to the fullest extent allowed by California law, and may be entered as a final judgment in court.

X. GENERAL PROVISIONS

10.01. Compliance with laws.
Both parties will comply with all permit and licensing requirements applicable to the project, and will operate the project in accordance with all requirements of law and governmental regulations.

10.02. Attorney's fees.
If either party commences an action against the other party arising out of or in connection with this Agreement, the prevailing party shall be entitled to have and recover from the losing party reasonable attorneys' fees and costs.

10.03. Amendments.
No amendment or modification shall be made to this Agreement, except in writing, approved by the respective Boards and duly signed by both parties.

10.04. Contract administrators.

(a) MCWD hereby designates its General Manager as its contract administrator for this Agreement. All matters concerning this Agreement which are within the responsibility of MCWD shall be under the direction of or shall be submitted to the General Manager or such other MCWD employee in the MCWD as the General Manager may appoint. MCWD may, in its sole discretion, change its designation of the contract administrator and shall promptly give written notice to PCA of any such change.

(b) PCA hereby designates its General Manager as its contract administrator for this Agreement. All matters concerning this Agreement which are within the responsibility of PCA shall be under the direction of or shall be submitted to the General Manager or such other PCA employee in the PCA as the General Manager may appoint. PCA may, in its sole discretion, change its designation of the contract administrator and shall promptly give written notice to MCWD of any such change.

10.05. Assignment.
Any assignment of this Agreement shall be void without the written consent of the non-assigning party, except that PCA shall have the right to assign all of its rights and obligations under this Agreement to a local governmental agency created by PCA for the sole purpose of assuming and performing all rights and obligations of PCA under the Pure Water Monterey Project and except that MCWD shall have the right to assign all of its rights and obligations under this Agreement to a local governmental agency created by MCWD for the sole purpose of assuming and performing all rights and obligations of MCWD under this Agreement; provided that in either case the local governmental agency assignee shall have adequate financial assets to insure its performance of all assigned obligations.

10.06. No Modification of MCWD Contract Entitlement.
Nothing in this Agreement is intended to, nor shall it be interpreted to, expand, limit or otherwise modify MCWD's existing contractual rights, entitlements, and obligations pursuant to either of the Annexation Agreements or the 2009 RUWAP MOU.

10.07. Negotiated Agreement.
This Agreement has been arrived at through negotiation between the parties. Neither party is to be deemed the party which prepared this Agreement within the meaning of Civil Code Sec. 1654.

10.08. Time is of essence.
Time is of the essence of this Agreement.

10.09. Headings.
The article and paragraph headings are for convenience only and shall not be used to limit or interpret the terms of this Agreement.

10.10. Entire Agreement.
This written Agreement, together with all exhibits attached hereto and incorporated by reference, is the complete and exclusive statement of the mutual understanding of the parties, except to the extent that this Agreement expressly refers to or requires the preparation of additional agreements. Any such additional agreement shall be in writing.

10.11. Notices.
All notices and demands required under this Agreement shall be deemed given by one party when delivered personally to the principal office of the other party; when faxed to the other party, to the fax number provided by the receiving party; or five days after the document is placed in the US mail, certified mail and return receipt requested, addressed to the other party as follows:

To PCA:

General Manager
MRWPCA
5 Harris Court, Building D
Monterey, CA 93940
Fax: (831) 372-6178

To MCWD:

General Manager
MCWD
11 Reservation Road
Marina, CA 93933
Fax: (831) 883-5995

10.12. Execution of documents.
(a) The parties will execute all documents necessary to complete their performance under this Agreement.

10.13. Exhibits.
(a) The following exhibits are attached to this Agreement:

Exhibit A: Pure Water Delivery and Supply Facilities

Exhibit B: AWT Facilities

Exhibit C: Product Water Conveyance Facilities

Exhibit D: Reserved

Exhibit E: Summary of Estimated Costs- Phase 1 only

Exhibit F: Financial and Construction Responsibilities of the Project Components

Exhibit G: Important Project Agreement Dates

10.14. Severability.
If any one or more of the terms, provisions, covenants or conditions of this Agreement are to any extent declared invalid, unenforceable, void or voidable for any reason whatsoever by a court of competent jurisdiction, the finding or order or decree of which becomes final, the Parties agree to amend the terms in a reasonable manner to achieve the intention of the Parties without invalidity. If the terms cannot be amended thusly, the invalidity of one or several terms will not affect the validity of the Agreement as a whole, unless the invalid terms are of such essential importance to this Agreement that it can be reasonably assumed that the Parties would not have contracted this Agreement without the invalid terms. In such case, the Party affected may terminate this Agreement by written notice to the other Party without prejudice to the affected Party's rights in law or equity.

10.15. Waiver.
(a) No waiver of any right or obligation of any of the parties shall be effective unless in writing, specifying such waiver, executed by the party against whom such waiver is sought to be

enforced. A waiver by any of the parties of any of its rights under this Agreement on any occasion shall not be a bar to the exercise of the same right on any subsequent occasion or of any other right at any time.

10.16. Written Authorization.

(a) For any action by any party which requires written authorization from the other party, the written authorization shall be signed by authorizing party's General Manager, or the General Manager's written designee.

XII. EXECUTION

In witness whereof, the parties execute this Agreement as follows:

PCA	MCWD
Dated: 4/8/2016	Dated: 4.7.16
Gloria De La Rosa	
Board Chair, Board of Directors	President, Board of Directors
Approved as to form:	
Dated: 4/8/2016	Dated: April 7, 2016
Robert R. Wellington	Roger K. Masuda
Counsel, PCA	Legal Counsel, MCWD

Exhibit A: Pure Water Delivery and Supply Facilities

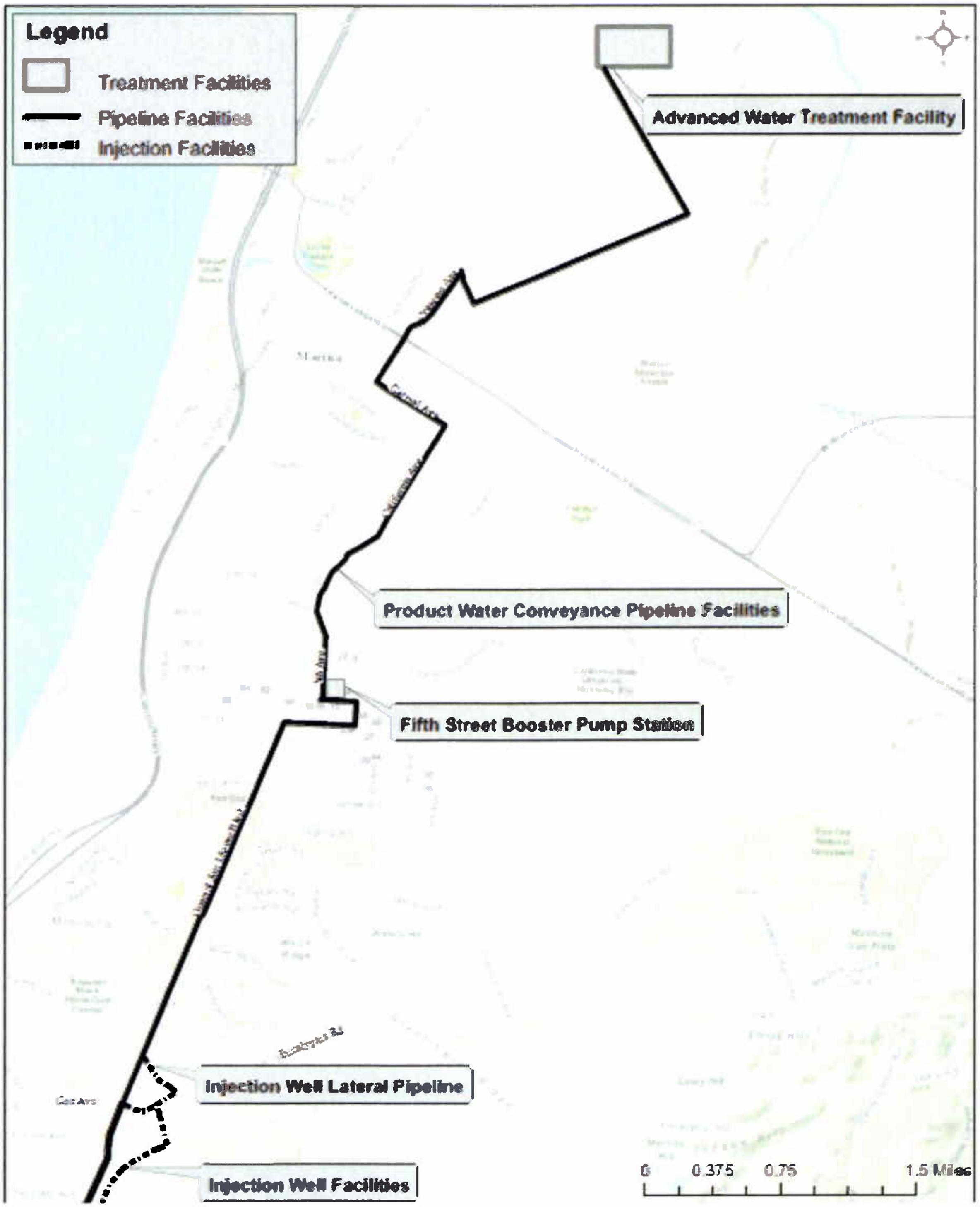
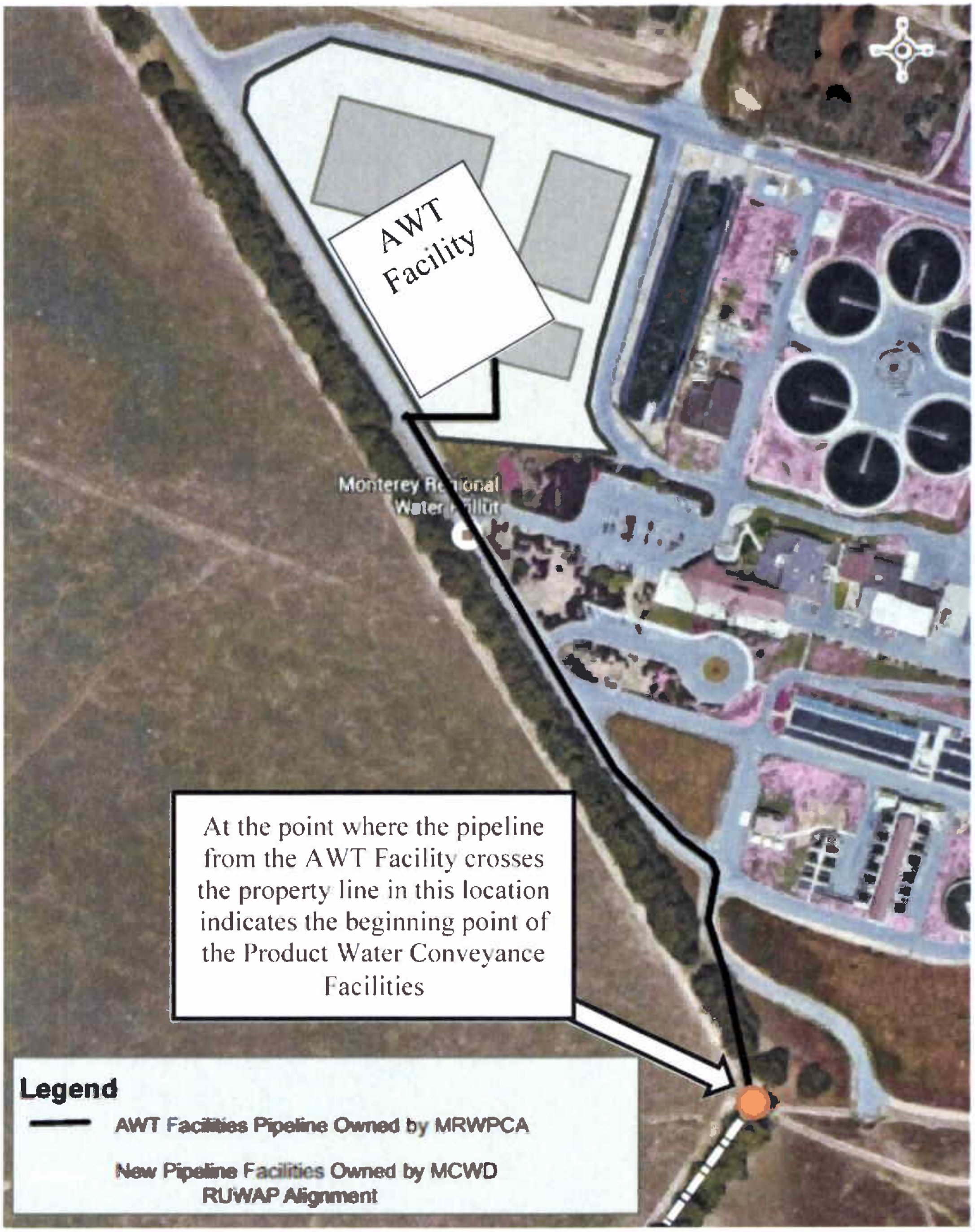


Exhibit B: AWT Facilities



Beginning of Product Water Conveyance Facilities

Exhibit C (page 1 of 2): Product Water Conveyance Facilities

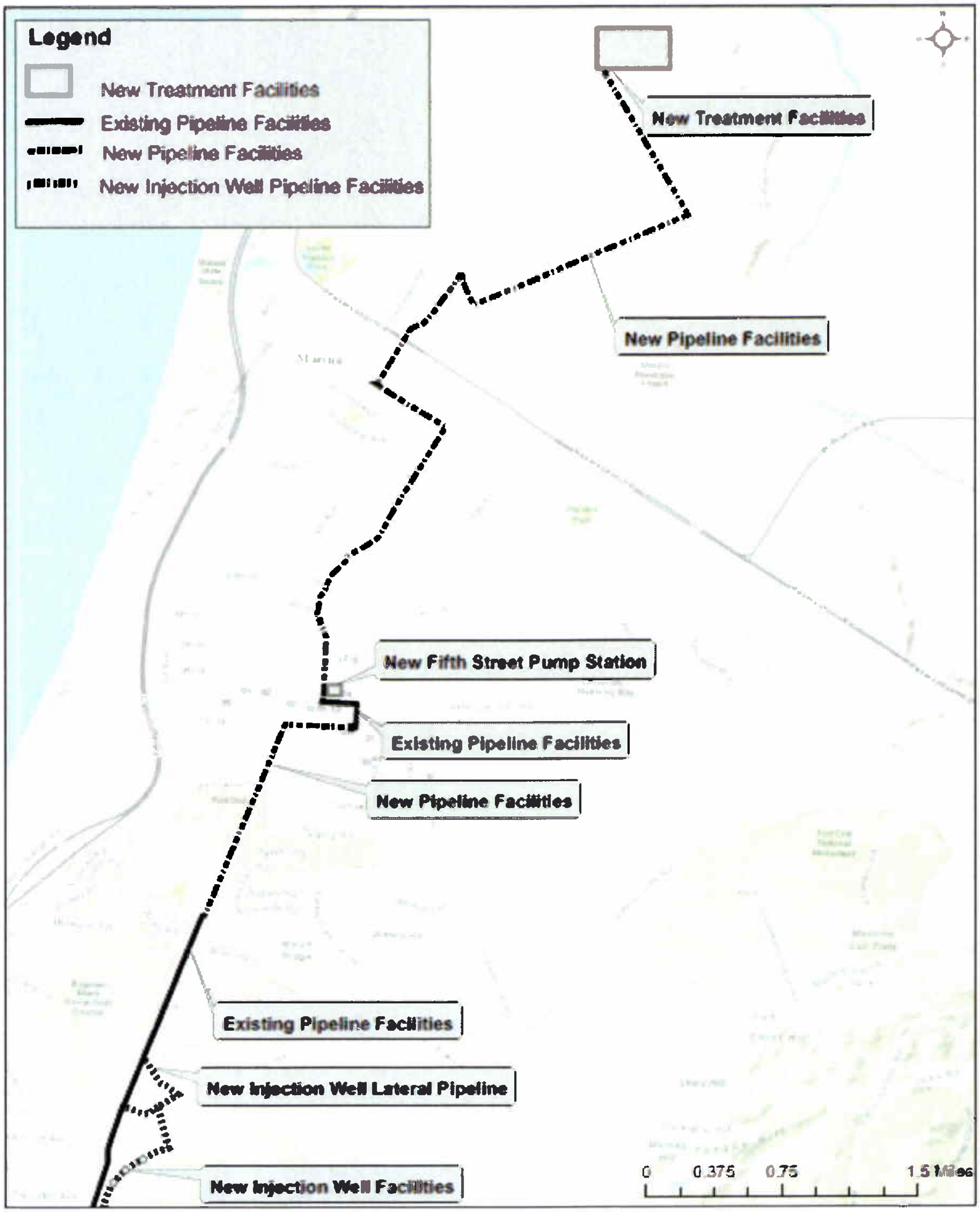
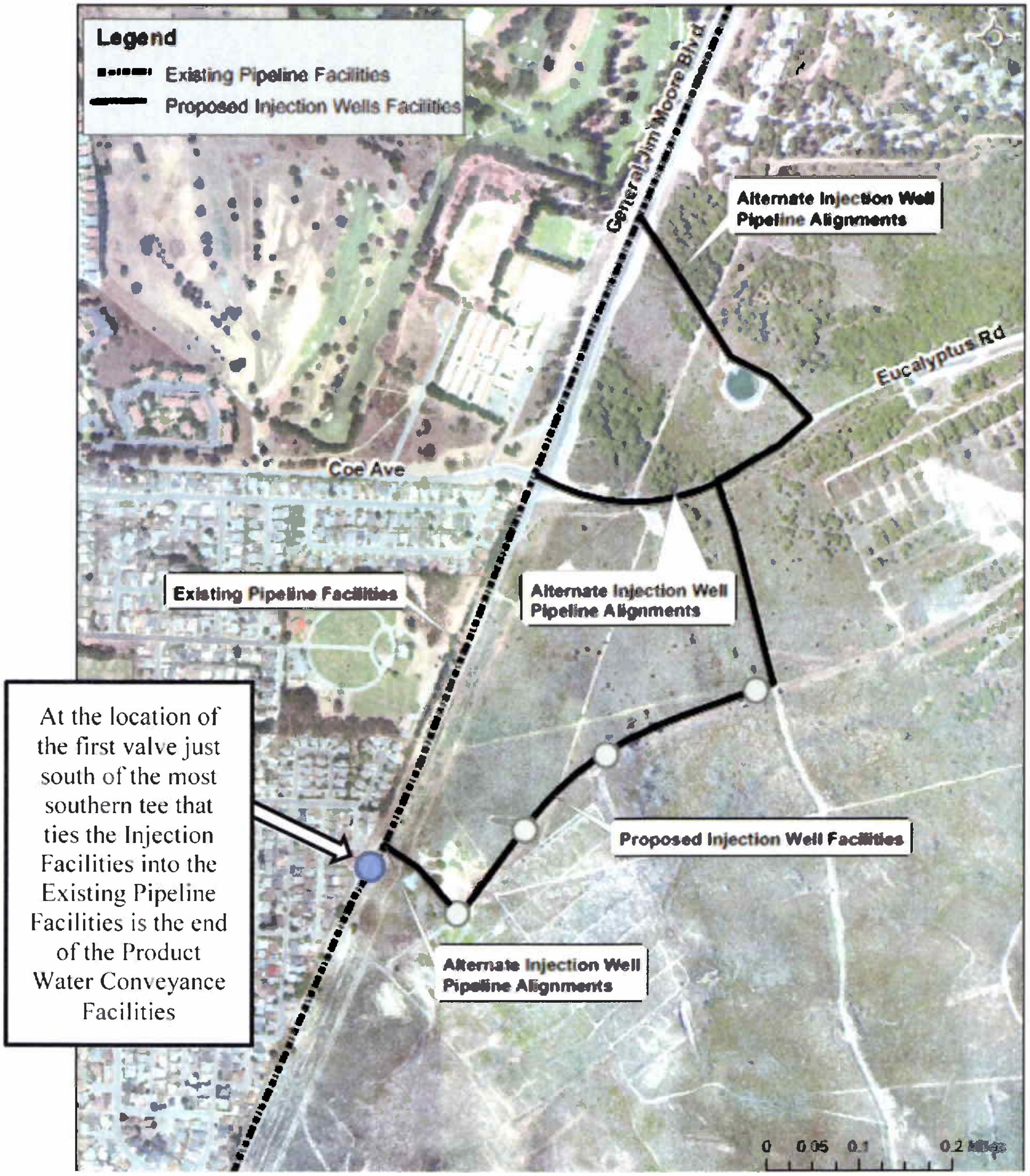


Exhibit C (page 2 of 2): Product Water Conveyance Facilities



● End of Product Water Conveyance Facilities

Exhibit D: Reserved

Exhibit E: Summary of Estimated Costs-Phase 1 Only

(Note: This table does not include potential grant funds or other capital contributions that may be received and applied to the project that would reduce the overall costs for PCA and/or MCWD).

Est. Capital Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Total Amount
New Pipeline Facilities	72.167%	27.833%	$ 16,309,742	$ 6,290,258	$ 22,600,000
AWT Phase 1	86.047%	13.953%	$ 35,438,144	$ 5,746,492	$ 41,184,636
Existing Pipeline Facilities	72.167%	27.833%	$ 1,002,400	$ 386,600	$ 1,389,000
TOTAL	80.938%	19.062%	$ 52,750,285	$ 12,423,351	$ 65,173,636
Est. Annual Debt Service Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities	72.167%	27.833%	$ 631,972	$ 243,736	$ 875,707
AWT Phase 1	86.047%	13.953%	$ 1,373,161	$ 222,666	$ 1,595,827
Existing Pipeline Facilities	72.167%	27.833%	$ 54,502	$ 21,020	$ 75,522
TOTAL	80.863%	19.137%	$ 2,059,635	$ 487,421	$ 2,547,056
Est. Annual OM Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities	86.047%	13.953%	$ 146,054	$ 23,684	$ 169,738
AWT Phase 1	86.047%	13.953%	$ 2,480,409	$ 402,212	$ 2,882,621
Existing Pipeline Facilities	86.047%	13.953%	$ 4,595	$ 745	$ 5,340
TOTAL	86.047%	13.953%	$ 2,631,058	$ 426,641	$ 3,057,699
Est. Annual Renewal Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities	72.167%	27.833%	$ 56,110	$ 21,640	$ 77,750
AWT Phase 1	86.047%	13.953%	$ 620,818	$ 100,669	$ 721,487
Existing Pipeline Facilities	72.167%	27.833%	$ 2,005	$ 773	$ 2,778
TOTAL	84.653%	15.347%	$ 678,933	$ 123,082	$ 802,015
Est Total Annual Costs			PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities			$ 834,136	$ 289,059	$ 1,123,195
AWT Phase 1			$ 4,474,388	$ 725,547	$ 5,199,935
Existing Pipeline Facilities			$ 61,102	$ 22,538	$ 83,640
TOTAL			$ 5,369,626	$ 1,037,145	$ 6,406,770
Est. Total Demands and Cost/AF	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
Phase 1 Demand	86.047%	13.953%	3,700	600	4,300
Total Cost/AF			$ 1,451	$ 1,729	$ 1,490

Note: New Pipeline Facilities includes the piping and pump station facilities.

Exhibit F: Financial and Construction Responsibilities of Project Components

Project Item	Who will perform the work and pay the initial invoices		How will costs be reconciled between MCWD and PCA
	MCWD	PCA	
New Pipeline Facilities CEQA	X		PCA to reimburse MCWD based on Capital Cost Share %
New Pipeline Facilities Design	X		PCA to reimburse MCWD based on Capital Cost Share %
New Pipeline Facilities Permits	X		PCA to reimburse MCWD based on Capital Cost Share %
New Pipeline Facilities Capital	X		PCA to reimburse MCWD based on Capital Cost Share %
New Pipeline Facilities O&M	X		PCA to reimburse MCWD based on OM Cost Share %
New Pipeline Facilities Renewal	X		PCA to reimburse MCWD based on Renewal Cost Share %
Existing Pipeline Facilities O&M	X		PCA to reimburse MCWD based on OM Cost Share %
Existing Pipeline Facilities Renewal	X		PCA to reimburse MCWD based on Renewal Cost Share %
RUWAP Distribution Facilities CEQA, Design, Permits, Capital, O&M, and Renewal	X		Not applicable.
AWT-PHASE 1 CEQA		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 1 Design		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 1 Permits		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT- PHASE 1 Capital		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 1 O&M		X	MCWD to reimburse PCA based on OM Cost Share %
AWT-PHASE 1 Renewal		X	MCWD to reimburse PCA based on Renewal Cost Share %
AWT-PHASE 2 CEQA		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 2 Design		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 2 Permits		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 2 Capital		X	MCWD to reimburse PCA based on Capital Cost Share %
AWT-PHASE 2 O&M		X	MCWD to reimburse PCA based on OM Cost Share %
AWT-PHASE 2 Renewal		X	MCWD to reimburse PCA based on Renewal Cost Share %
Injection Facilities CEQA, Design, Permits, Capital, O&M, and Renewal		X	Not applicable.

Exhibit G: Important Project Agreement Dates

Section 1.01 (a)	Milestone	Party	Key Date	Drop Dead Date
i	CEQA Approval-New Pipeline Facilities	MCWD		October 31, 2016
ii	CEQA Approval-AWT Phase 1 and AWT Phase 2	PCA		October 31, 2016
iii	No CEQA Lawsuits	BOTH		N/A
iv	Regulatory Approvals	PCA		October 31, 2016
v	SRF Funding Agreement	BOTH	October 31, 2016 Initial funding agreement	December 31, 2016 Final funding agreement
vi	Source waters approval	PCA		October 31, 2016
vii	CPUC approval	PCA		October 31, 2016

FIRST AMENDMENT TO

PURE WATER DELIVERY AND SUPPLY PROJECT AGREEMENT
BETWEEN MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY AND
MARINA COAST WATER DISTRICT

WHEREAS, on April 8, 2016, Marina Coast Water District (MCWD) and Monterey Regional Water Pollution Control Agency entered into the Pure Water Delivery and Supply Project Agreement (Agreement).

The parties agree to amend the Pure Water Delivery and Supply Project Agreement as follows:

1. Everywhere the term "Monterey Regional Water Pollution Control Agency" or "PCA" is used, substitute the term "Monterey One Water" and "M1W," respectively.

2. Delete Section 1.01 in its entirety. The Parties agree that this Amendment addresses all of the matters previously listed in Section 1.01.

3. Amend Section 1.03(a) as follows:

M1W has already completed the necessary CEQA review for the use of AWT Phase 1 water for irrigation. MCWD intends to use its AWT Phase 1 water for irrigation; however, to the extent that any portion of MCWD's AWT Phase 1 water is to be used for injection, then any additional CEQA review necessary to address the use of that water for injection will be the responsibility of MCWD as described in Section 1.03(g) below.

Because of the uncertainty resulting from the possibility that a portion of MCWD's AWT Phase 2 will be used for injection, details regarding Phase 2 implementation of MCWD's AWT Phase 2 water for injection will require a separate agreement or an amendment to this agreement based upon the existing terms of this agreement.

4. Add as a new Section 1.03(g) to read: M1W agrees that MCWD may use water delivered by this project, subject to the following conditions:

1. The CEQA work completed and approved by the M1W Board in October, 2017 describes a MCWD project that applies this water for irrigation. Any change to that CEQA work, from irrigation to injection and sale shall be at the sole expense of MCWD and M1W shall not be responsible for any delays that any such change might cause in the timing of delivery of water for injection to MCWD.

2. If MCWD elects to inject, it will be responsible for permitting at its injection site but M1W agrees to help by providing all of the work product it completed for its injection well project, e.g., engineering report for the drinking water permit, to MCWD for its use.

3. M1W injection well field and infrastructure will not be used for MCWD injection unless and until there is a future separate agreement between the parties hereto.

4. Any costs for a change from irrigation to injection, e.g. CEQA, engineering, permitting, test well construction, modeling, etc. shall be the sole responsibility of MCWD. To the extent that M1W agrees to do work to assist MCWD, MCWD agrees

to pay any such invoices to M1W within the time period for payment specified by the service provider.

5. FORA agrees to any such change in use from irrigation to injection and agrees to continue to fund the project as agreed to in 7 (d) (ii) of this amendment.

6. The portion of the 650 acre feet of summer delivery water that is not used by MCWD for AWT Phase 1 will be available for use by M1W. For AWT Phase 2, the entire amount of the 650 acre feet of summer delivery will be needed and used by MCWD and will no longer be available to M1W.

5. In Section 2.05(a), delete the words "Subject to Section 1.01(a) conditions" and substitute the following words, "Subject to Section 1.03(a)".

6. In Section 3.01(b), delete "January 31, 2017" and substitute "December 31, 2018".

7. Delete existing Section 4.01 in its entirety and replace with the following:

(a) Reserved.

(b) The estimated construction costs and proportional share of the New Pipeline Facilities and AWT Phase 1 are presented below (which also includes the Distribution, Diversion, and Injection Facilities to provide a total project cost perspective even though those are not part of the cost sharing). The cost allocations for the Pipeline Facilities are based upon a MCWD maximum use of 1,427 AFY and a M1W maximum use of 3,700 AFY. If any maximum use amount is exceeded, then the Parties agree to recalculate the allocations for the Pipeline Facilities, to true up those capital costs back to the date of this Agreement, and to agree on a true up amount and payment schedule.

	Costs (Millions)		
Capital Facility	M1W Share	MCWD Share	TOTAL
AWT Phase 1	$ 56.79	$ 9.21	$ 66.00
New Pipeline Facilities	$ 17.52	$ 10.28	$ 27.80
Existing Pipeline Facilities	$ 1.00	$ 0.39	$ 1.39
Diversion Facilities	$ 6.60	$ -	$ 6.60
Injection Facilities	$ 10.67	$ -	$ 10.67
Distribution Facilities	$ -	$ 11.50	$ 11.50
TOTAL	$ 92.58	$ 31.38	$ 123.96

(c) Except for the $1.39 million in Section 4.01(b) for the Existing Pipeline Facilities, the Parties agree that all dollar amounts in this Agreement, including exhibits, are estimates.

(d) Grants and Capital Contributions from Third Parties.

i. Unless otherwise agreed in writing by the Parties, each Party is only required to apply grant funds and capital contributions from third parties to cover that Party's cost share of the Pure Water Delivery and Supply Project Facilities.

ii. FORA Capital Contribution. FORA and MCWD entered into the Reimbursement Agreement for Advanced Water Treatment Phase 1 and Product Water Conveyance Facilities of the RUWAP Recycled Project dated September 6, 2016 (the FORA-MCWD Reimbursement Agreement"), pursuant to Sections 3.2.2 and 7.1.2 of the 1998 Water/Wastewater Facilities Agreement (the "1998 Agreement). If the FORA Board of Directors independently determines to provide $2.3 million to M1W for M1W's share of costs for the Project, then MCWD agrees to not object. M1W agrees to enter into a separate reimbursement agreement with FORA. M1W acknowledges FORA's obligations to MCWD under Section 7.1.2 of the 1998 Agreement. M1W agrees that it shall not be entitled to any additional funds allocated to MCWD by FORA for RUWAP and/or for Water Augmentation under the Base Reuse Plan; however, nothing herein is intended to prevent M1W from seeking additional funds directly from FORA.

8. Add the following new Subsections iv, v, and vi to Section 4.02(a):

iv. The transmission main turnouts, any other expense shown to be exclusively for the MCWD distribution system, and the potable water facility included in MCWD's transmission pipeline construction contract are considered to be a part of the Distribution System for cost sharing purposes (e.g. MCWD pays for 100% of the Distribution System costs).

v. The 2.0 million gallon recycled water reservoir included in MCWD's transmission pipeline construction contract is considered to be 25% for Injection Facilities (M1W) and 75% for Distribution Facilities (MCWD) and therefore the parties will split the cost of the recycled water reservoir along these percentages.

9. Substitute the following for Sections 4.04(b):

(b) MCWD applied for a Clean Water SRF loan to pay for its cost share of the Project Facilities except for its cost share of the AWT Phase 1 treatment plant facilities. MCWD AWT costs for Phase 1 will be included in the SRF loan referenced in Section 4.04(a) (included within M1W's SRF loan).

10. Section 5.01 has two subsections "(a)." The second subsection (a) should be re-lettered subsection (b) and the following subsections (b), (c), (d), and (e) shall be re-lettered (c), (d), (e), and (f), respectively. Subsection 5.01(b)(i) shall be deleted because M1W's SRF loan includes M1W's share of the New Pipeline Facilities.

11. Subsection 5.02(b) shall be deleted because M1W's SRF loan includes M1W's share of the New Pipeline Facilities.

12. In Section 5.10, Claims for Stranded Costs, delete "March 31, 2017" and substitute "December 31, 2018".

13. Delete the existing Exhibit A and substitute the attached new Exhibit A.

14. Delete the existing Exhibit B and substitute the attached new Exhibit B.

15. Delete the existing Exhibit C (2 pages) and substitute the attached new Exhibit C (2 pages).

16. Delete the existing Exhibit E and substitute the attached Exhibit E.

17. Delete the existing Exhibit G.

18. Except as set forth in this First Amendment, all the provisions of the Agreement shall remain unchanged and in full force and effect.

In witness whereof, the parties execute this First Amendment as follows:

M1W

Dated: 11/29/2017

Rudy Fischer

Board Chair, Board of Directors

MCWD

Dated: 12.18.17

President, Board of Directors

Approved as to form:

Dated: 11/30/17

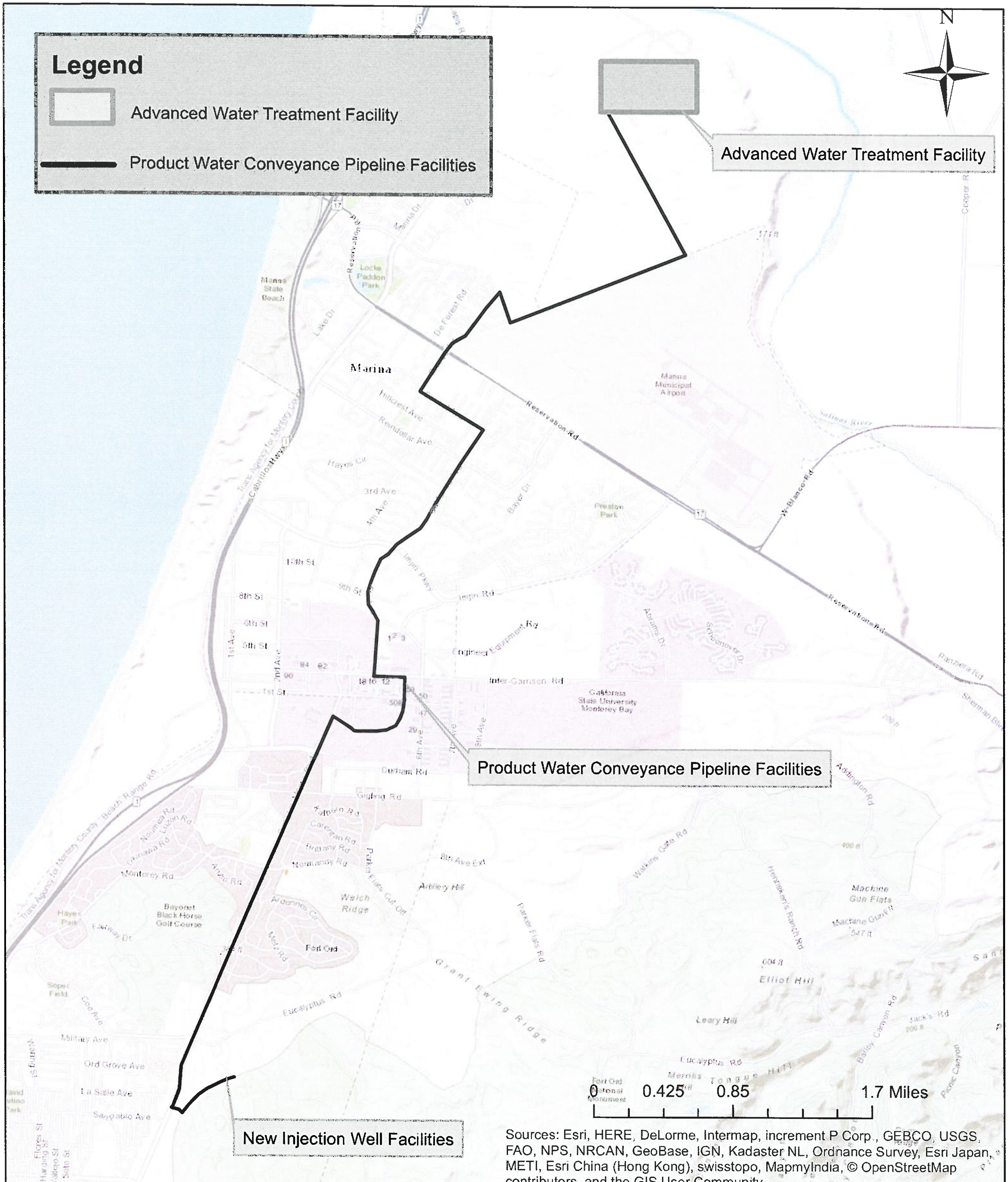
Robert R. Wellington

Counsel, M1W

Dated: 12/18/17

Roger K. Masuda

Legal Counsel, MCWD



Marina Coast Water District 11 Reservation Road Marina, CA 93933 mcwd.org	**Exhibit A** **Pure Water Delivery and Supply Facility**	*Drawn By:* J.Hollida *Date:* 10/16/2017

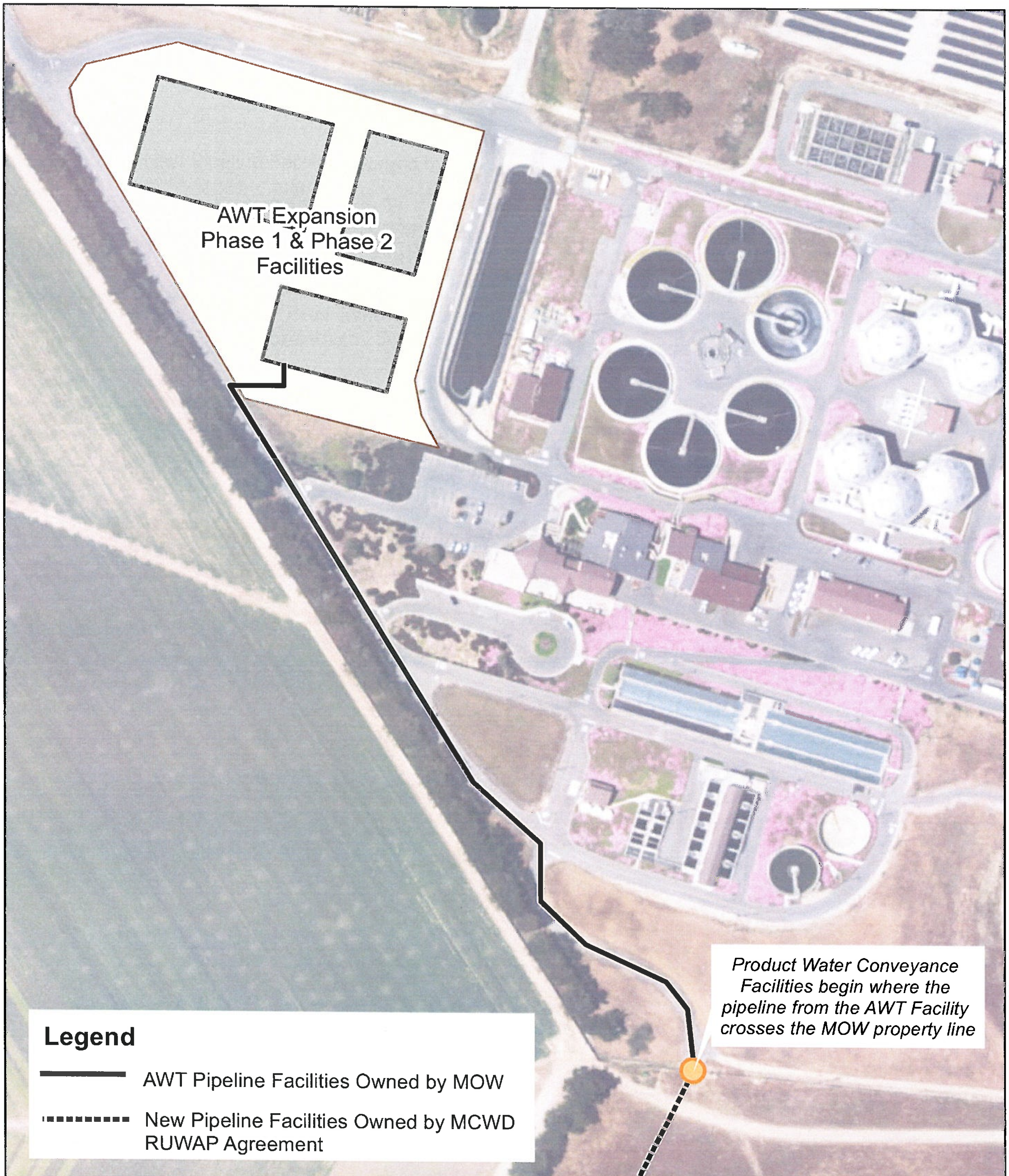


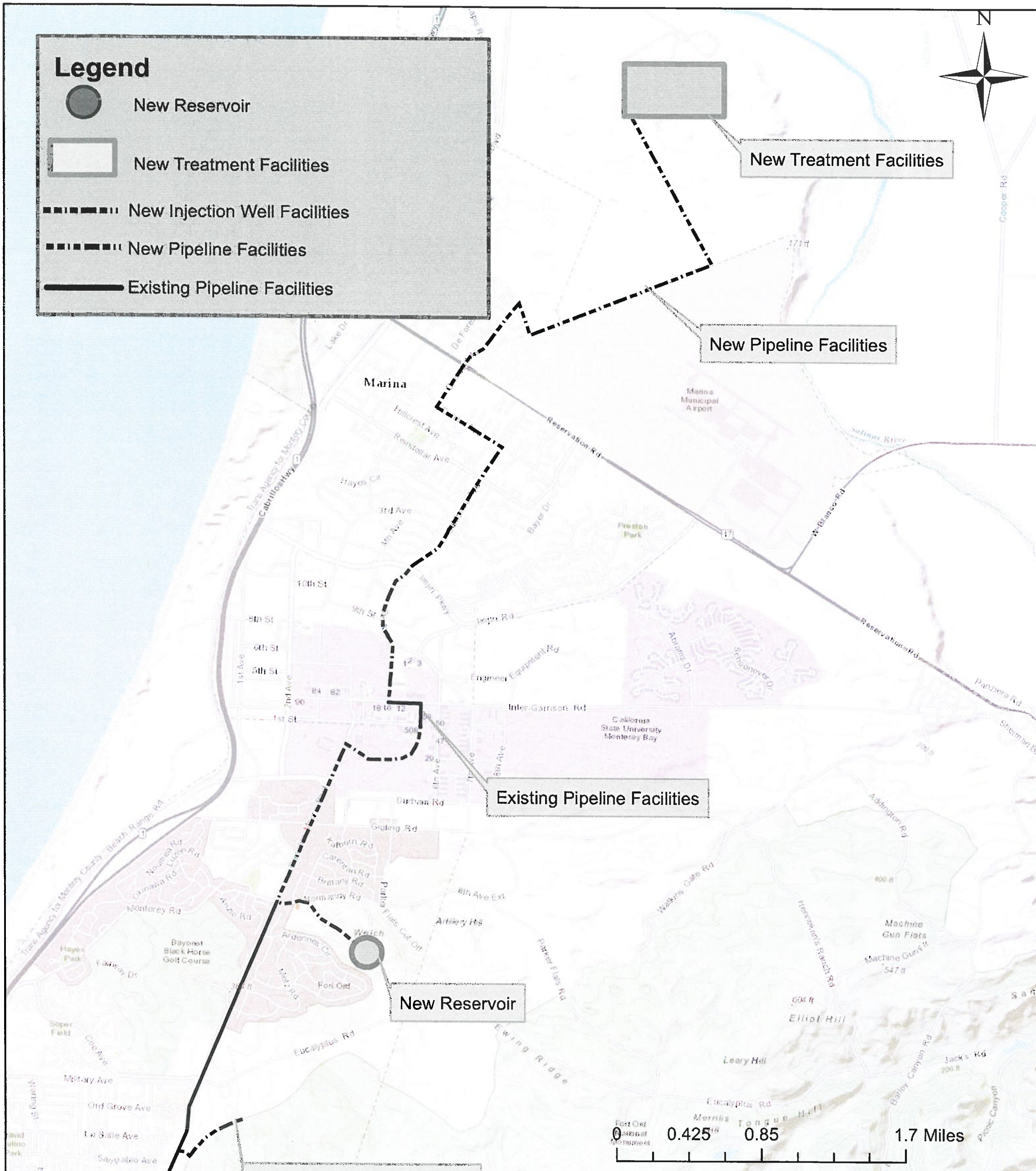
Exhibit B

Advanced Water Treatment Facility
(Pure Water Monterey Project)
Recycled Water Delivery and Supply Project

N

0 100 200
Feet
1 inch = 200 feet

November 2017
Author: A. Racz



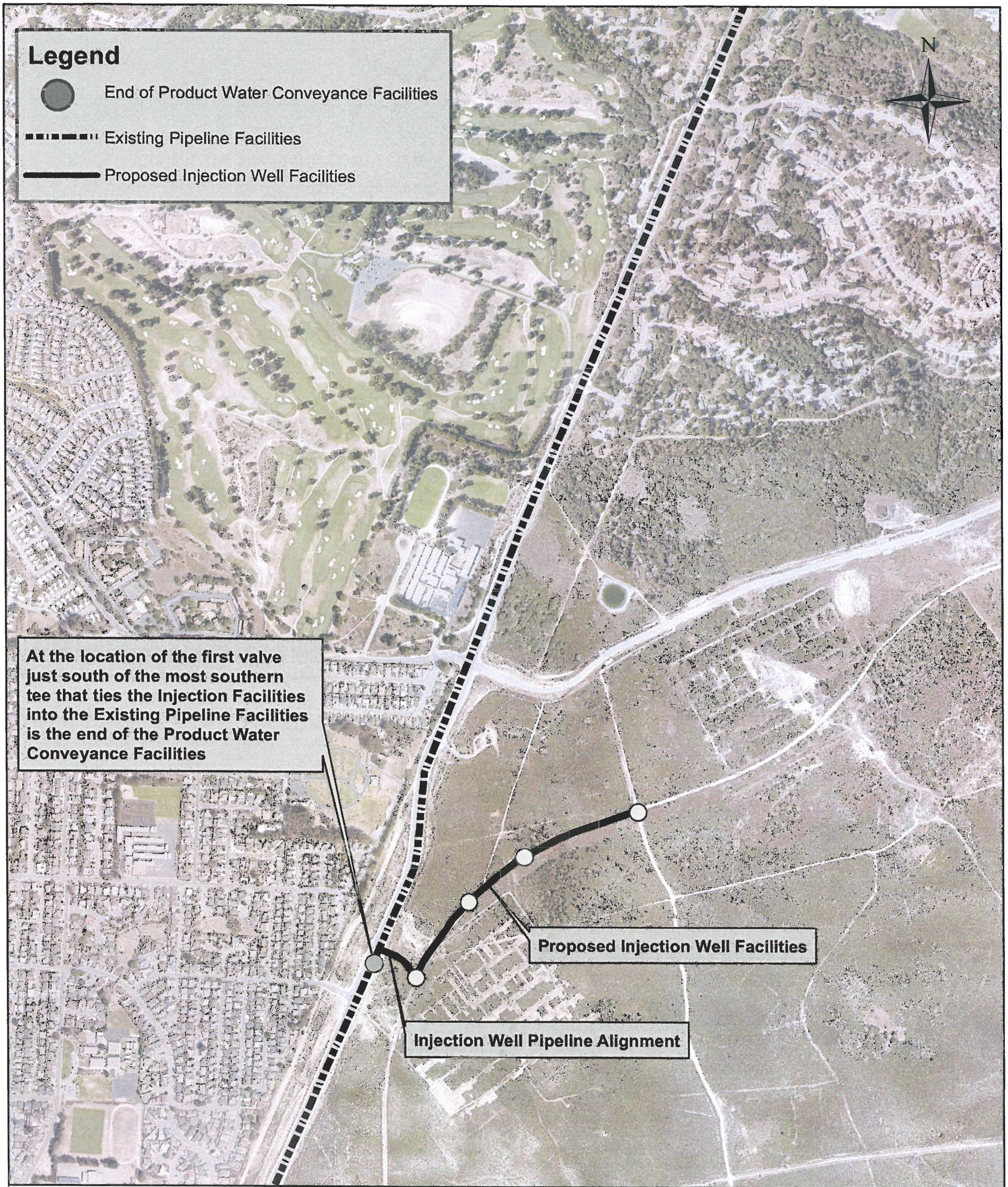
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Marina Coast Water District
11 Reservation Road
Marina, CA 93933
mcwd.org

Exhibit C
Product Water Conveyance Facilities

Drawn By: J.Hollida

Date: 10/16/2017



Marina Coast Water District
11 Reservation Road
Marina, CA 93933
mcwd.org

Exhibit C
Product Water Conveyance Facilities

Drawn By:
J.Hollida

Date:
10/16/2017

Exhibit E: Summary of Estimated Costs-Phase 1 Only

Note: This table is only cost estimates, and does not include financing reductions from either grant funds or capital contributions.

Est. Capital Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Total Amount
New Pipeline Facilities	72.167%	27.833%	$ 16,537,790	$ 6,378,210	$ 22,916,000
RUWAP Distribution Facilities	0.000%	100.000%	$ -	$ 12,464,000	$ 12,464,000
Blackhorse Reservoir	25.000%	75.000%	$ 980,000	$ 2,940,000	$ 3,920,000
AWT Phase 1	86.047%	13.953%	$ 56,790,698	$ 9,209,302	$ 66,000,000
Diversion Facilities	100.000%	0.000%	$ 6,600,000	$ -	$ 6,600,000
Existing Pipeline Facilities	72.167%	27.833%	$ 1,002,400	$ 386,600	$ 1,389,000
Injection Well Facilities	100.000%	0.000%	$ 10,670,000	$ -	$ 10,670,000
TOTAL	74.687%	25.313%	$ 92,580,887	$ 31,378,113	$ 123,959,000

Est. Annual Debt Service Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities	72.167%	27.833%	$ (640,808)	$ (277,015)	$ (917,823)
RUWAP Distribution Facilities	0.000%	100.000%	$ -	$ (541,329)	$ (541,329)
Blackhorse Reservoir	25.000%	75.000%	$ (37,973)	$ (127,688)	$ (165,662)
AWT Phase 1	86.047%	13.953%	$ (2,200,532)	$ (356,843)	$ (2,557,375)
Diversion Facilities	100.000%	0.000%	$ (255,738)	$ -	$ (255,738)
Existing Pipeline Facilities	72.167%	27.833%	$ (38,841)	$ (16,791)	$ (55,632)
Injection Well Facilities	100.000%	0.000%	$ (413,442)	$ -	$ (413,442)
TOTAL	73.106%	26.894%	$ (3,587,335)	$ (1,319,666)	$ (4,907,001)

Est. Annual OM Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities	86.047%	13.953%	$ (146,054)	$ (23,684)	$ (169,738)
RUWAP Distribution Facilities	0.000%	100.000%	$ -	$ (75,000)	$ (75,000)
Blackhorse Reservoir	25.000%	75.000%	$ (6,250)	$ (18,750)	$ (25,000)
AWT Phase 1	86.047%	13.953%	$ (2,480,395)	$ (402,000)	$ (2,882,621)
Diversion Facilities	100.000%	0.000%	$ -	$ -	$ -
Existing Pipeline Facilities	86.047%	13.953%	$ (4,595)	$ (745)	$ (5,340)
Injection Well Facilities	100.000%	0.000%	$ -	$ -	$ -
TOTAL			$ (2,637,293)	$ (520,179)	$ (3,157,699)

Est. Annual Renewal Costs	PCA Share	MCWD Share	PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities	72.167%	27.833%	$ (165,378)	$ (63,782)	$ (229,160)
RUWAP Distribution Facilities	0.000%	100.000%	$ -	$ (124,640)	$ (124,640)
Blackhorse Reservoir	25.000%	75.000%	$ (9,800)	$ (29,400)	$ (39,200)
AWT Phase 1	86.047%	13.953%	$ (567,907)	$ (92,093)	$ (660,000)
Diversion Facilities	100.000%	0.000%	$ (66,000)	$ -	$ (66,000)
Existing Pipeline Facilities	72.167%	27.833%	$ (10,024)	$ (3,866)	$ (13,890)
Injection Well Facilities	100.000%	0.000%	$ (106,700)	$ -	$ (106,700)
TOTAL			$ (925,809)	$ (313,781)	$ (1,239,590)

Est Total Annual Costs		PCA Share	MCWD Share	Annual Amount
New Pipeline Facilities		$ (952,240)	$ (364,481)	$ (1,316,721)
RUWAP Distribution Facilities		$ -	$ (740,969)	$ (740,969)
Blackhorse Reservoir		$ (54,023)	$ (175,838)	$ (229,862)
AWT Phase 1		$ (5,248,834)	$ (850,936)	$ (6,099,996)
Diversion Facilities		$ (321,738)	$ -	$ (321,738)
Existing Pipeline Facilities		$ (53,460)	$ (21,402)	$ (74,862)
Injection Well Facilities		$ (520,142)	$ -	$ (520,142)
TOTAL		$ (7,150,437)	$ (2,153,627)	$ (9,304,290)

Key

Item in cost share agreement
Item not in cost share agreement

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-D | Meeting Date: February 25, 2020

Prepared By: Paula Riso | Approved By: Keith Van Der Maaten

Agenda Title: Consider Providing Direction Regarding the Nomination to the Coastal Network, Seat B, of the California Special Districts Association Board

Staff Recommendation: The Board of Directors discuss whether to select a Board member, or the General Manager, to run for nomination to the Coastal Network, Seat B, of the California Special Districts Association (CSDA) Board.

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

CSDA is asking for nominations to serve as a Director in Seat B of the Coastal Network for the remainder of the 2020-2022 term. There are certain commitments and expectations for that Board seat. Those expectations are defined in the letter received on January 27, 2020. The deadline for nominations is March 6, 2020.

Discussion/Analysis: CSDA states that the District is eligible to nominate one person, a Board member or managerial employee, for election to their Board of Directors. Each network has three seats on the Board with staggered 3-year terms. If the MCWD Board decides to select a member to run for nomination, that nominee will receive a Candidate Letter in the mail and interviews will be conducted the week of March 9-13th. When appointed, the candidate will take office April 1, 2020.

Environmental Review Compliance: None required.

Financial Impact: _____Yes ___X___No Funding Source/Recap: None.

Other Considerations: The Board can decide to not select any member to run for nomination.

Material Included for Information/Consideration: CSDA letter, Nomination Form, and Network Map.

Action Required: ______Resolution ___X___Motion ______Review

Board Action

Motion By________________ Seconded By_____________ No Action Taken______________

Ayes___________________________ Abstained______________________________

Noes___________________________ Absent________________________________

California Special
Districts Association
Districts Stronger Together

DATE: January 22, 2020

TO: CSDA Voting Member Presidents and General Managers – Coastal Network

FROM: CSDA Elections and Bylaws Committee

SUBJECT: **CSDA BOARD OF DIRECTORS VACANCY – CALL FOR NOMINATIONS: SEAT B – COASTAL NETWORK**

The California Special Districts Association Elections and Bylaws Committee is looking for independent special district Board Members or their General Managers from the Coastal Network who are interested in leading the direction of CSDA by serving as a Director in Seat B, which is currently vacant, for the remainder of the 2020 - 2022 term.

The leadership of CSDA is elected from its six geographical networks. Each of the six networks has three seats on the Board with staggered 3-year terms. Candidates must be affiliated with an independent special district that is a CSDA Regular Member in good standing and located within the Coastal Network (see attached CSDA Network Map).

The CSDA Board of Directors is the governing body responsible for all policy decisions related to CSDA's member services, legislative advocacy, education and resources. The Board of Directors is crucial to the operation of the Association and to the representation of the common interests of all California's special districts before the Legislature and the State Administration. Serving on the Board requires one's interest in the issues confronting special districts statewide.

Commitment and Expectations:

- Attend all Board meetings, usually 4-5 meetings annually, at the CSDA office in Sacramento.
- Participate on at least one committee, meets 3-5 times a year at the CSDA office in Sacramento.
  (CSDA reimburses Directors for their related expenses for Board and committee meetings as outlined in Board policy).
- Attend, at minimum, the following CSDA annual events: Special Districts Legislative Days - held in the spring, and the CSDA Annual Conference - held in the summer/fall.
  *(CSDA does **not** reimburse travel related expenses for the two conferences even if a Board or committee meeting is held in conjunction with the event, however registration fees are covered)*
- Complete all four modules of CSDA's Special District Leadership Academy within 2 years of being elected.
  *(CSDA does **not** reimburse expenses for the Academy classes even if a Board or committee meeting is held in conjunction with the event).*

- Complete Annual Chief Executive Officer Evaluation.

Nomination Procedures: Any Regular Member in good standing is eligible to nominate one person, a board member or managerial employee (as defined by that district's Board of Directors), for election to the CSDA Board of Directors. **A copy of the member district's resolution or minute action and Candidate Information Sheet must accompany the nomination. The deadline for receiving nominations is March 6, 2020. Nominations and supporting documentation may be mailed or emailed.**

Mail: 1112 I Street, Suite 200, Sacramento, CA 95814
E-mail: amberp@csda.net

Once received, nominees will receive a candidate's letter in the mail. The letter will serve as confirmation that CSDA has received the nomination.

CSDA Coastal Network Board Members will conduct interviews of candidates that submitted nominations on March 9 – 13, 2020.

A Board appointment recommendation will be submitted by CSDA Coastal Network Board Members for consideration by the full Board on March 27, 2020.

The newly appointed Board Member for the Coastal Network Seat B will take office April 1, 2020.

If you have any questions, please contact Amber Phelen at amberp@csda.net.

California Special
Districts Association
CSDA
Districts Stronger Together

2020-2022 BOARD APPOINTMENT
FOR SEAT B COASTAL NETWORK
NOMINATION FORM

Name of Candidate: ____________________

District: ____________________

Mailing Address: ____________________

____

Network: __________

District Telephone: ____________________

Candidate Direct Telephone: ____________________

Best Time to Arrange a Call: AM☐ PM☐
Monday ☐ Tuesday☐ Wednesday☐ Thursday☐ Friday☐ Saturday☐

E-mail: ____________________

Nominated by (optional): ____________________

Return this form and a Board resolution/minute action supporting the candidate and Candidate Information Sheet by mail, or email to:

CSDA
Attn: Amber Phelen
1112 I Street, Suite 200
Sacramento, CA 95814
(877) 924-2732 (916) 442-7889 fax
amberp@csda.net

DEADLINE FOR RECEIVING NOMINATIONS – March 6, 2020

California Special
Districts Association
CSDA
Districts Stronger Together

2020-2022 CSDA BOARD APPOINTMENT
SEAT B COASTAL NETWORK
CANDIDATE INFORMATION SHEET

The following information MUST accompany your nomination form and Resolution/Minutes:

Name: ______________________________

District/Company: ______________________________

Title: ______________________________

Elected/Appointed/Staff: ______________________________

Length of Service with District: ______________________________

1. **Do you have current involvement with CSDA (such as committees, events, workshops, conferences, Governance Academy, etc.):**

____

____

2. **Have you ever been associated with any other state-wide associations (CSAC, ACWA, League, etc.):**

____

____

3. **List local government involvement (such as LAFCo, Association of Governments, etc.):**

____

____

4. **List civic organization involvement:**

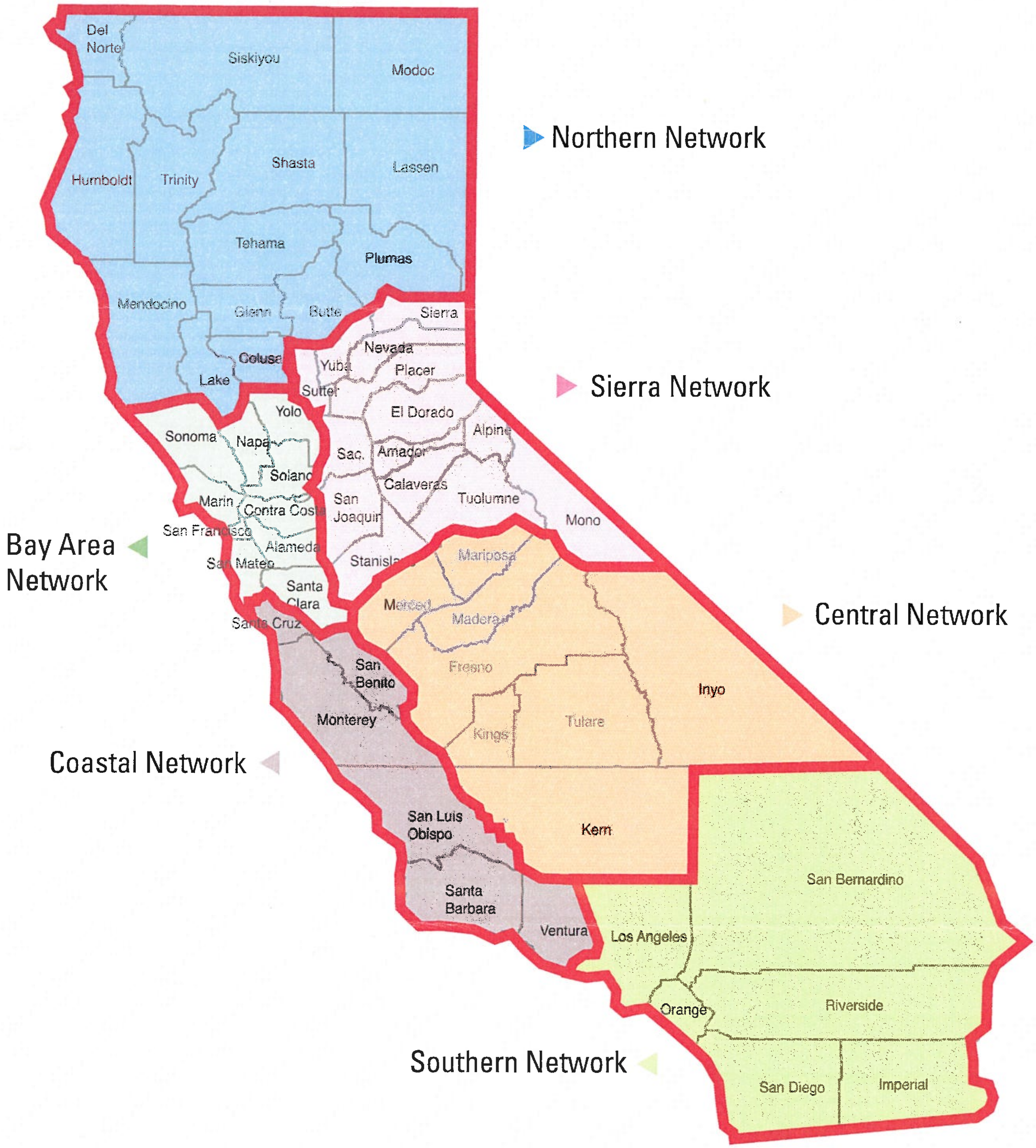
____

____

****Additional Candidate Statement** – Please provide an additional statement that includes any personal or professional information that will assist the Board of Directors in making their selections. The preferred formatting for the statement is to be typed with 1-inch margins, 1.5 spacing, 12 pt. Times New Roman font, and no more than 2 pages.

California Special Districts Association

DISTRICT NETWORKS



LAST UPATED NOV. 1, 2019

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-E Meeting Date: February 25, 2020

Prepared By: Paula Riso Approved By: Keith Van Der Maaten

Agenda Title: Consider Providing Direction Regarding the Nomination to the Coastal Network, Seat C, of the California Special Districts Association Board

Staff Recommendation: The Board of Directors discuss whether to select a Board member, or the General Manager, to run for nomination to the Coastal Network, Seat C, of the California Special Districts Association (CSDA) Board.

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Seat C of the Coastal Network to CSDA's Board is up for election for the 2021-2023 term. CSDA is asking for nominations to Seat C of the Coastal Network on their Board and has certain commitments and expectations for that Board seat. Those expectations are defined in the letter dated January 27, 2020. The deadline for nominations is March 26, 2020. Electronic voting will take place between May 25 and July 10, 2020.

Discussion/Analysis: CSDA states that the District is eligible to nominate one person, a Board member or managerial employee, for election to their Board of Directors. Each network has three seats on the Board with staggered 3-year terms. If the Board decides to select a member to run for nomination, that nominee will receive a Candidate Letter to serve as confirmation that the nomination was received. When appointed, the candidate will be introduced at the Annual COnfernce in Palm Desert, CA in August 2020.

Environmental Review Compliance: None required.

Financial Impact: _____Yes __X__No Funding Source/Recap: None.

Other Considerations: The Board can decide to not select any member to run for nomination.

Material Included for Information/Consideration: CSDA letter; Nomination Form; Information sheet; and, Network Map.

Action Required: ______Resolution __X__Motion ______Review

Board Action

Motion By______________ Seconded By____________ No Action Taken______________

Ayes__________________________ Abstained______________________________

Noes__________________________ Absent_______________________________

California Special
Districts Association
CSDA
Districts Stronger Together

DATE: January 27, 2020

TO: CSDA Voting Member Presidents and General Managers

FROM: CSDA Elections and Bylaws Committee

SUBJECT: **CSDA BOARD OF DIRECTORS CALL FOR NOMINATIONS SEAT C**

The Elections and Bylaws Committee is looking for Independent Special District Board Members or their General Managers who are interested in leading the direction of the California Special Districts Association for the 2021 - 2023 term.

The leadership of CSDA is elected from its six geographical networks. Each of the six networks has three seats on the Board with staggered 3-year terms. Candidates must be affiliated with an independent special district that is a CSDA Regular Member in good standing and located within the geographic network that they seek to represent. (See attached CSDA Network Map)

The CSDA Board of Directors is the governing body responsible for all policy decisions related to CSDA's member services, legislative advocacy, education and resources. The Board of Directors is crucial to the operation of the Association and to the representation of the common interests of all California's special districts before the Legislature and the State Administration. Serving on the Board requires one's interest in the issues confronting special districts statewide.

Commitment and Expectations:

- Attend all Board meetings, usually 4-5 meetings annually, at the CSDA office in Sacramento.
- Participate on at least one committee, meets 3-5 times a year at the CSDA office in Sacramento.
  (CSDA reimburses Directors for their related expenses for Board and committee meetings as outlined in Board policy).
- Attend, at minimum, the following CSDA annual events: Special Districts Legislative Days - held in the spring, and the CSDA Annual Conference - held in the fall.
  *(CSDA does **not** reimburse expenses for the two conferences even if a Board or committee meeting is held in conjunction with the event, however does comp registration for the two events)*
- Complete all four modules of CSDA's Special District Leadership Academy within 2 years of being elected.
  *(CSDA does **not** reimburse expenses for the Academy classes even if a Board or committee meeting is held in conjunction with the event).*

- Complete Annual Chief Executive Officer Evaluation.

Nomination Procedures: Any Regular Member in good standing is eligible to nominate one person, a board member or managerial employee (as defined by that district's Board of Directors), for election to the CSDA Board of Directors. **A copy of the member district's resolution or minute action and Candidate Information Sheet must accompany the nomination. The deadline for receiving nominations is March 26, 2020. Nominations and supporting documentation may be mailed, faxed, or emailed.**

Mail: 1112 I Street, Suite 200, Sacramento, CA 95814
Fax: 916.442.7889
E-mail: amberp@csda.net

Once received, nominees will receive a candidate's letter in the mail. The letter will serve as confirmation that CSDA has received the nomination and will also include campaign guidelines.

CSDA will begin electronic voting on May 25, 2020. All votes must be received through the system no later than 5:00 p.m. July 10, 2020. The successful candidates will be notified no later than July 14, 2020. All selected Board Members will be introduced at the Annual Conference in Palm Desert, CA in August 2020.

Expiring Terms
(See enclosed map for Network breakdown)

Northern Network	Seat C-Fred Ryness, Director, Burney Water District*
Sierra Network	Seat C-Pete Kampa, GM, Saddle Creek Community Services District*
Bay Area Network	Seat C-Stanley Caldwell, Director, Mt. View Sanitary District*
Central Network	Seat C-Sandi Miller, GM, Selma Cemetery District*
Coastal Network	Seat C-Vincent Ferrante, Director, Moss Landing Harbor District*
Southern Network	Seat C-Arlene Schafer, Director, Costa Mesa Sanitary District*

(* = Incumbent is running for re-election)

If you have any questions, please contact Amber Phelen at amberp@csda.net.

AGAIN, THIS YEAR!

This year we will be using a web-based online voting system, allowing your district to cast your vote easily and securely. *Electronic Ballots will be emailed to the main contact in your district* May 25, 2020. All votes must be received through the system no later than 5:00 p.m. July 10, 2020.

Districts can opt to cast a paper ballot instead; but you must contact Amber Phelen by e-mail Amberp@csda.net ***by March 26, 2020*** *in order to ensure that you will receive a paper ballot on time.*

<u>CSDA will mail paper ballots on May 25, 2020 per district request only.</u> ALL ballots must be received by CSDA no later than 5:00 p.m. July 10, 2020.

The successful candidates will be notified no later than July 14, 2020. All selected Board Members will be introduced at the Annual Conference in Palm Desert, CA in August 2020.

California Special
Districts Association
Districts Stronger Together

2021-2023 BOARD OF DIRECTORS NOMINATION FORM

Name of Candidate: ____

District: ____

Mailing Address: ____

____

Network: ______________________________ **(see map)**

Telephone:____
(PLEASE BE SURE THE PHONE NUMBER IS ONE WHERE WE CAN REACH THE CANDIDATE DIRECTLY)

Fax:____

E-mail: ____

Nominated by (optional): ____

Return this <u>form and a Board resolution/minute action supporting the candidate and Candidate Information Sheet</u> by mail, or email to:

CSDA
Attn: Amber Phelen
1112 I Street, Suite 200
Sacramento, CA 95814
(877) 924-2732 (916) 442-7889 fax
amberp@csda.net

DEADLINE FOR RECEIVING NOMINATIONS – <u>March 26, 2020</u>

California Special
Districts Association
CSDA
Districts Stronger Together

2021-2023 CSDA BOARD CANDIDATE INFORMATION SHEET

The following information MUST accompany your nomination form and Resolution/minute order:

Name: ____

District/Company: ________________________________

Title: ____

Elected/Appointed/Staff: ____________________________

Length of Service with District: _______________________

1. **Do you have current involvement with CSDA (such as committees, events, workshops, conferences, Governance Academy, etc.):**

____

____

2. **Have you ever been associated with any other state-wide associations (CSAC, ACWA, League, etc.):**

____

____

3. **List local government involvement (such as LAFCo, Association of Governments, etc.):**

____

____

4. **List civic organization involvement:**

____

____

****Candidate Statement –** Although it is not required, each candidate is requested to submit a candidate statement of no more than 300 words in length. **Any statements received in the CSDA office after March 26, 2020 will not be included with the ballot.**

California Special Districts Association

DISTRICT NETWORKS

LAST UPATED NOV. 1, 2019

Return to Agenda

Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-F | Meeting Date: February 25, 2020

Prepared By: Kelly Cadiente | Approved By: Keith Van Der Maaten

Agenda Title: Receive the Marina Coast Water District FY 2019-2020 Mid-Year Report

Staff Recommendation: The Board receives the Marina Coast Water District Mid-Year Report for FY 2019-2020.

Background: *Strategic Plan, Goal No. 4 – To manage the District's finances in the most effective and fiscally responsible manner.*

On June 15, 2019, the Board passed and adopted Resolution 2019-44 adopting the Marina Coast Water District Budget for FY 2019-2020.

Discussion/Analysis: The FY 2019-2020 Mid-Year Report reflects the consolidated financial activity of the District through December 31, 2019 and compares the activity with the approved budget. This comparison will serve as indication of whether or not the District will need to do a budget adjustment.

The District's Mid-Year Report includes revenues and other funding sources of $11.980 million and expenses, including CIP/Capitalized Equipment of $9.373 million, resulting in net gain of $2.607 million. The net gain, in part, will be used to offset the annual principal debt service which is due and payable in May, 2020.

Some of the individual line-items may have substantial variances from the approved budget however staff has worked diligently to keep the total activity within the total approved budget.

Environmental Review Compliance: None required.

Financial Impact: ______Yes ___X___No

Funding Source/Recap: N/A

Material Included for Information/Consideration: Mid-year Report for FY 2019-2020 as of December 31, 2019.

Action Required: ______Resolution _______Motion ___X___Review

Board Action

Motion By___________ Seconded By___________ No Action Taken_________________

Ayes___________________________ Abstained_____________________________

Noes___________________________ Absent________________________________

Marina Coast Water District
Mid-Year Summary
JULY - DECEMBER 2019

1	2	3	4	5	6	7	8	9	10
Ln		MARINA		ORD COMMUNITY		RECYCLED	REGIONAL		Ln
#	REVENUE	WATER	SEWER	WATER	SEWER	WATER	PROJECT	TOTAL	#
1	WATER SALES	1,964,374	-	4,017,248	-	-	-	5,981,622	1
2	FLAT RATE ACCOUNTS	-	-	17,354	-	-	-	17,354	2
3	OTHER WATER SALES	-	-	5,101	-	-	-	5,101	3
4	SEWER SALES	-	684,521	-	1,506,249	-	-	2,190,770	4
5	FIRE SYSTEM CHARGE	48,014	-	125,194	-	-	-	173,208	5
6	BACKFLOW PREVENTION	-	-	17	-	-	-	17	6
7	LATE CHARGES	12,141	-	176,970	-	-	-	189,111	7
8	PERMITS/PLAN CHECK	2,190	2,160	5,440	5,320	-	-	15,110	8
9	WHEELING CHARGE	-	-	12,000	-	-	-	12,000	9
10	METER FEES	2,757	-	54,336	-	-	-	57,093	10
11	CAPACITY FEES/CAPITAL SURCHARGE	132,567	115,833	1,090,413	502,436	-	-	1,841,249	11
12	OTHER INCOME	15,017	31	745	8,582	-	-	24,375	12
13	INTEREST INCOME	34,248	19,793	92,831	15,125	105	-	162,102	13
14	RENTAL REVENUE	69,742	19,926	124,539	34,871	-	-	249,079	14
15	DEVELOPER FEES	26,499	4,160	89,870	62,585	-	-	183,114	15
16	FORA RUWAP REIMBURSEMENT	-	-	-	-	617,545	-	617,545	16
17	M1W RUWAP REIMBURSEMENT	-	-	-	-	261,627	-	261,627	17
18	OTHER FUNDING SOURCE	-	-	-	-	-	-	-	18
19	GRANT FUNDING	-	-	-	-	-	-	-	19
20	TOTAL REVENUE	2,307,549	846,424	5,812,056	2,135,169	879,278	-	11,980,476	20
21	**EXPENSES**								21
22	SALARIES & BENEFITS	715,240	260,421	1,574,382	438,696	-	-	2,988,739	22
23	DEPT. EXPENSE	813,107	90,948	1,975,191	352,481	97	-	3,231,825	23
24	INTEREST EXPENSE	54,082	29,636	272,754	89,749	197,242	-	643,462	24
25	FRANCHISE & ADMIN FEES	-	-	282,706	94,317	-	-	377,023	25
26									26
27	TOTAL CIP/ CAPITALIZED EQUIPMENT	192,227	105,801	404,938	363,489	802,023	263,117	2,131,596	27
28									28
29	PRINCIPAL DEBT SERVICE [1]	-	-	-	-	-	-	-	29
30									30
31	TRANSFER TO CAP REPLACEMENT FUND	200,000	100,000	200,000	100,000	-	-	600,000	31
32									32
33	TRANSFER (FROM)/TO RESERVES [2]	-	-	-	-	-	-	-	33
34									34
35	TOTAL EXPENSES	1,974,656	586,806	4,709,971	1,438,733	999,362	263,117	9,972,644	35
36	**BALANCE**	**332,893**	**259,618**	**1,102,085**	**696,436**	**(120,084)**	**(263,117)**	**2,007,832**	36

[1]Principal debt service payments are made in the 4th quarter of the fiscal year.
[2]Transfers are made in the 4th quarter of the fiscal year.

MARINA COAST WATER DISTRICT
REVENUE BUDGET ANALYSIS
JULY - DECEMBER 2019

ACCOUNT NAME	ANNUAL BUDGET	JUL - DEC BUDGET	TOTAL JUL - DEC ACTUALS	BUD vs ACTUALS $ CHANGE	BUD vs ACTUALS % CHANGE
WATER SALES RESIDENTIAL	6,563,441	3,281,721	3,391,254	109,533	3.3%
WATER SALES BUSINESS	2,788,174	1,394,087	1,039,131	(354,956)	-25.5%
WATER SALES SCHOOLS	385,008	192,504	181,257	(11,247)	-5.8%
WATER SALES MULTIPLES	1,593,082	796,541	1,204,490	407,949	51.2%
WATER SALES GOVERMENT	365,209	182,605	73,327	(109,277)	-59.8%
FIRE SYSTEM CHARGE	340,653	170,327	173,208	2,881	1.7%
HYDRANT METER	243,613	121,807	92,163	(29,643)	-24.3%
OTHER WATER SALES	9,756	4,878	5,101	223	4.6%
LATE CHARGE FEES	118,000	59,000	189,111	130,111	220.5%
BACKFLOW REVENUE	52,000	26,000	17	(25,984)	-99.9%
FLAT RATE ACCOUNTS	50,000	25,000	17,354	(7,646)	-30.6%
PLAN CHECK/PERMIT FEES	40,500	20,250	15,110	(5,140)	-25.4%
METER FEES	301,500	150,750	57,093	(93,657)	-62.1%
WHEELING CHARGE	24,000	12,000	12,000	-	-
DEVELOPER FEES	505,000	252,500	183,114	(69,386)	-27.5%
SEWER SALES BUSINESS	760,620	380,310	1,606,108	1,225,798	322.3%
SEWER SALES RESIDENTIAL	3,644,241	1,822,121	584,662	(1,237,459)	-67.9%
TOTAL OPERATING REVENUES	**17,784,797**	**8,892,399**	**8,824,499**	**(67,900)**	**-0.76%**
CAPITAL SURCHARGE	204,900	102,450	103,793	1,343	1.3%
CAPACITY CHARGES	3,213,633	1,606,817	1,737,456	130,640	8.1%
INTEREST INCOME	179,900	89,950	153,069	63,119	70.2%
INTEREST INCOME - 2010 BOND	16,152	8,076	8,578	502	6.2%
INTEREST INCOME - 2015 BONDS	841	421	456	36	8.5%
OTHER INCOME	20,000	10,000	24,375	14,375	143.8%
DEFD REVENUE -2010 SERIES BOND	11,304	5,652	-	(5,652)	-100.0%
DEFD REVENUE -2015 SERIES BOND	136,325	68,163	-	(68,163)	-100.0%
IOP RENTAL REVENUE	183,938	91,969	92,419	450	0.5%
BLM RENTAL REVENUE	343,136	171,568	154,699	(16,869)	-9.8%
ARMSTRONG RANCH RENTAL REVENUE	-	-	1,960	1,960	100.0%
GAIN/LOSS ON ASSET SALES	16,200	8,100	-	(8,100)	-100.0%
FORA RUWAP REIMBURSEMENT	1,000,000	500,000	617,545	117,545	23.5%
M1W RUWAP REIMBURSEMENT	-	-	261,627	261,627	100.0%
GRANT FUNDING	456,890	228,445	-	(228,445)	-100.0%
TOTAL NON OPERATING REVENUES	**5,783,219**	**2,891,610**	**3,155,977**	**264,368**	**9.1%**
TOTAL REVENUE	**23,568,016**	**11,784,008**	**11,980,476**	**196,468**	**1.7%**

MARINA COAST WATER DISTRICT
BUDGET ANALYSIS - ALL DEPARTMENTS
JULY - DECEMBER 2019

ACCOUNT NAME	ANNUAL BUDGET	JUL - DEC BUDGET	TOTAL JUL - DEC ACTUALS	BUD vs ACTUALS $ CHANGE	BUD vs ACTUALS % CHANGE
WAGES	4,349,230	2,174,615	2,021,563	(153,052)	-7.0%
WAGES/BENEFITS ALLOCATED TO CAPITAL	(45,000)	(22,500)	(155,348)	(132,848)	590.4%
OVERTIME	115,655	57,828	66,819	8,991	15.5%
STANDBY WAGES	50,960	25,480	21,084	(4,396)	-17.3%
FICA EXPENSE	267,579	133,790	111,008	(22,781)	-17.0%
MEDI EXPENSE	65,480	32,740	29,724	(3,016)	-9.2%
MEDICAL INSURANCE	951,227	475,614	378,981	(96,632)	-20.3%
DENTAL INSURANCE	39,903	19,952	16,056	(3,895)	-19.5%
VISION INSURANCE	10,181	5,091	4,130	(960)	-18.9%
WORKERS COMP. INSURANCE	104,407	52,204	38,127	(14,077)	-27.0%
LIFE INSURANCE	16,017	8,009	8,313	305	3.8%
UNIFORM BENEFIT	16,401	8,201	3,684	(4,516)	-55.1%
BOOT BENEFIT	5,199	2,600	1,524	(1,075)	-41.4%
SUI EXPENSE	10,395	5,198	1,292	(3,905)	-75.1%
ETT EXPENSE	318	159	59	(100)	-63.0%
CAR ALLOWANCE EXPENSE	5,400	2,700	2,700	-	-
TUITION REIMBURSEMENT	-	-	4,142	4,142	100.0%
DISABILITY PLAN	11,496	5,748	6,110	362	6.3%
CALPERS RETIREMENT (ER)	571,541	285,771	263,058	(22,713)	-7.9%
CALPERS RETIREMENT (EE)	243,085	121,543	107,516	(14,026)	-11.5%
DEFERRED COMP (ER)	-	-	56,345	56,345	100.0%
OPEB EXPENSE	80,000	40,000	-	(40,000)	-100.0%
BOARD COMPENSATION	4,500	2,250	1,850	(400)	-17.8%
TOTAL SALARY & BENEFIT	**6,873,974**	**3,436,987**	**2,988,739**	**(448,248)**	**-13.0%**
PROPERTY & LIABILITY INSURANCE	127,000	63,500	65,041	1,541	2.4%
REGULATORY FEES	29,300	14,650	8,406	(6,244)	-42.6%
PROPERTY TAXES	-	-	3,715	3,715	100.0%
MAINTENANCE & EQUIPMENT	1,020,662	510,331	338,444	(171,887)	-33.7%
POWER/GAS	955,545	477,773	477,100	(673)	-0.1%
BUILDING SECURITY & OTHER SERVICES	15,200	7,600	10,044	2,444	32.2%
PHONE/ANSWERING SERVICE	47,500	23,750	23,824	74	0.3%
RENT/LEASE EQUIPMENT	29,700	14,850	10,468	(4,382)	-29.5%
RENT/LEASE EQUIPMENT	-	-	4,462	4,462	100.0%
CONTRACT TESTING/ QUALITY CONTROL	64,778	32,389	43,776	11,387	35.2%
BOOKS & REF MATERIALS	5,000	2,500	-	(2,500)	-100.0%
POSTAGE	48,354	24,177	23,492	(685)	-2.8%
PRINTING	49,384	24,692	11,670	(13,022)	-52.7%
OFFICE & GENERAL SUPPLY	39,682	19,841	20,660	819	4.1%
COMPUTER & SOFTWARE EXPENSES	131,751	65,876	54,595	(11,280)	-17.1%
ADVERTISEMENT	20,000	10,000	11,167	1,167	11.7%
MAINTENANCE AGREEMENTS	45,851	22,926	21,457	(1,468)	-6.4%
HOSPITALITY & AWARDS	4,000	2,000	1,537	(463)	-23.1%
BOARD MEETING VIDEO RECORDING	6,000	3,000	3,220	220	7.3%
ACCOUNTING SERVICES	37,000	18,500	26,000	7,500	40.5%
CONSULTING SERVICES	1,978,156	989,078	436,893	(552,185)	-55.8%
LEGAL FEES	914,500	457,250	952,706	495,456	108.4%
RW-0156 RECYCLED WATER EXPENSE	1,000	500	97	(403)	-80.6%
CONFERENCES/EDUCATION	34,438	17,219	9,624	(7,596)	-44.1%
TRAVEL	20,300	10,150	6,179	(3,971)	-39.1%
SAFETY	9,000	4,500	2,221	(2,279)	-50.6%
MEMBERSHIPS & DUES	48,264	24,132	8,794	(15,338)	-63.6%
PERMITS	104,454	52,227	6,185	(46,042)	-88.2%
BANK & ADMINISTRATION FEES	136,400	68,200	303,487	235,287	345.0%
INTEREST EXPENSE	1,589,612	794,806	643,462	(151,344)	-19.0%
MISCELLANEOUS	-	-	1,328	1,328	100.0%
REBATE PROGRAMS	161,250	80,625	74,469	(6,156)	-7.6%
CONSERVATION EDUCATION	48,250	24,125	18,024	(6,101)	-25.3%
IOP EXPENSES	15,375	7,688	2,387	(5,300)	-68.9%
BLM EXPENSES	60,700	30,350	26,977	(3,373)	-11.1%
FRANCHISE FEE	544,351	272,176	364,523	92,347	33.9%
FORA ADMIN./LIAISON FEES	25,000	12,500	12,500	-	-
MEMBERSHIP ON FORA BOARD	92,213	46,107	46,107	-	-
BAD DEBT EXPENSE	25,000	12,500	-	(12,500)	-100.0%
DEVELOPER EXPENSES (REIMBURSABLE)	488,700	244,350	177,272	(67,078)	-27.5%
TOTAL DEPARTMENT EXPENSE	**8,973,670**	**4,486,835**	**4,252,309**	**(234,526)**	**-5.2%**
TOTAL EXPENSE	**15,847,644**	**7,923,822**	**7,241,048**	**(682,774)**	**-8.6%**

MARINA COAST WATER DISTRICT
GENERAL CIP BUDGET ANALYSIS
JULY - DECEMBER 2019

ACCOUNT NAME	TOTAL ANNUAL BUDGET	JUL - DEC BUDGET	JUL - DEC ACTUALS	BUD vs ACTUALS $ CHANGE	BUD vs ACTUALS % CHANGE
NETWORK COMPUTER SYSTEM	32,000	16,000	29,917	13,917	87.0%
VEHICLES	50,000	25,000	-	(25,000)	-100.0%
O&M EQUIPMENT	925,000	462,500	-	(462,500)	-100.0%
TOTAL	**1,007,000**	**503,500**	**29,917**	**(473,583)**	**-94.1%**
	-	-	-	-	

MARINA COAST WATER DISTRICT
CAPITAL IMPROVEMENT PROJECT BUDGET ANALYSIS
JULY - DECEMBER 2019

	TOTAL				
ACCOUNT NAME	**ANNUAL BUDGET**	**JUL - DEC BUDGET**	**JUL - DEC ACTUALS**	**BUD vs ACTUALS $ CHANGE**	**BUD vs ACTUALS % CHANGE**
MW - 0111 BEACH RD PIPELINE	494,815	247,408	18,292	(229,116)	-92.6%
MW - 0163 RESERVOIR 2 RECOAT	-	-	61,970	61,970	100.0%
MW - 0302 CRESCENT AVE CONNECTOR	216,000	108,000	6,653	(101,347)	-93.8%
MS - 0143 REPLACE LIFT STATION NO. 6 (CRESCENT)	700,000	350,000	-	(350,000)	-100.0%
OW - 0193 IMJIN PKWY PIPELINE	800,000	400,000	23,523	(376,477)	-94.1%
OW - 0202 S BOUNDARY RD PIPE	2,660,000	1,330,000	7,605	(1,322,395)	-99.4%
OW - 0206 INTER-GARRISON PIPELINE	650,000	325,000	37,641	(287,359)	-88.4%
OW - 0306 D-ZONE BOOSTER PUMP REPLACEMENT	80,000	40,000	-	(40,000)	-100.0%
OS - 0147 ORD VILLAGE LS/ FM IMP	2,500,000	1,250,000	76,367	(1,173,633)	-93.9%
OS - 0241 ORD VILLAGE LS	-	-	6,000	6,000	100.0%
OS - 0152 HATTEN LS IMP	525,000	262,500	129,358	(133,142)	-50.7%
OS - 0205 IMJIN LS/ FORCE MAIN	675,000	337,500	35,069	(302,431)	-89.6%
GS - 0200 ODOR CONTROL PROJECT	120,000	60,000	-	(60,000)	-100.0%
GW - 0112 A1/A2 TANK B/C BSTR	3,644,720	1,822,360	219,353	(1,603,007)	-88.0%
GW - 0305 CALIFORNIA AVE/ IMJIN PKWY PIPELINE	200,000	100,000	-	(100,000)	-100.0%
GW - 0307 INTERTIE METER REPLACEMENT	81,000	40,500	-	(40,500)	-100.0%
RW - 0156 RUWAP - TRANSMISSION MAIN	-	-	644,258	644,258	100.0%
RW - 0174 RUWAP - DISTRIBUTION SYSTEM	11,239,582	5,619,791	157,765	(5,462,026)	-97.2%
RW - 0306 RUWAP - IMJIN PARKWAY PIPELINE	885,000	442,500	-	(442,500)	-100.0%
GW - 0157 DESAL DESIGN/CONST	-	-	142,612	142,612	100.0%
REGIONAL PROJECT(PTL FUND CST)	-	-	120,505	120,505	100.0%
WD - 0106 CORP YARD DEMOLITION AND REHAB	520,000	260,000	2,054	(257,946)	-99.2%
WD - 0308 GENERATOR PROJECT	-	-	407,553	407,553	100.0%
SEASIDE LAND TRANSFER	-	-	5,101	5,101	100.0%
TOTAL	**25,991,117**	**12,995,559**	**2,101,679**	**(10,893,880)**	**-83.8%**

MARINA COAST WATER DISTRICT
SCHEDULE OF INVESTMENTS SUMMARY
JULY - DECEMBER 2019
(UNAUDITED)

PURCHASE DATE	MATURITY DATE	ACCT TYPE	YIELD APR	6/30/2019 BALANCE	QUARTERLY ACTIVITIES TRANSACTION TYPE	AMOUNT	12/31/2019 BALANCE
LAIF ACCOUNT			2.29%	12,384,178	INTEREST 07/15/2019	51,921	12,436,099
					INTEREST 10/15/2019	76,628	12,512,727
SAVINGS ACCOUNT		MM	0.20%	274,309	INTEREST 07/01/19 - 09/30/19	141	274,450
					INTEREST 10/01/19 - 12/31/19	139	274,589
CPFCA DEPOSIT ACCOUNT		MM	0.05%	100,494	INTEREST 07/01/19 - 09/30/19	13	100,507
					INTEREST 10/01/19 - 12/31/19	12	100,519
RESTRICTED FUNDS		MM	0.16%	5,214,436	INTEREST 07/01/19 - 09/30/19	2,149	5,216,585
					INTEREST 10/01/19 - 12/31/19	2,104	5,218,689
RUWAP LOC PROCEEDS		CK		4,810	DEPOSITS	-	4,810
					WITHDRAWALS	-	4,810
CHECKING ACCOUNT		CK		2,561,866	QUARTERLY DEPOSITS & CREDITS	13,875,649	16,437,515
					QUARTERLY CHECKS & DEBITS	(9,561,720)	6,875,795

SUMMARY	As of December 31 2018	2019
LAIF ACCOUNT	7,689,190	12,512,727
SAVINGS ACCOUNT	973,358	274,589
CPFCA DEPOSIT ACCOUNT	100,469	100,519
RESTRICTED FUNDS	6,330,052	5,218,689
RUWAP LOC PROCEEDS	4,825	4,810
CHECKING ACCOUNT	5,468,058	6,875,795
TOTAL INVESTMENT	**20,565,952**	**24,987,129**

RESERVES DETAIL (LAIF ACCOUNT)	As of December 31 2018	2019
MW GEN OP RESERVE	513,868	961,740
MW CAPACITY REVENUE FUND	571,185	616,389
MW CAP REPL RESERVE FUND	1,288,044	1,056,442
MS GEN OP RESERVE	1,349,561	1,394,497
MS CAPACITY REVENUE FUND	113,216	108,044
MS CAP REPL RESERVE FUND	1,965	100,000
OW GEN OP RESERVE	82,664	65,493
OW CAPITAL/CAPACITY REVENUE FUND	2,784,292	6,971,993
OW CAP REPL RESERVE FUND	70,092	200,000
OS GEN OP RESERVE	17,648	47,813
OS CAPITAL/CAPACITY REVENUE FUND	894,967	890,317
OS CAP REPL RESERVE FUND	1,689	100,000
TOTAL	**7,689,191**	**12,512,727**

MARINA COAST WATER DISTRICT
SCHEDULE OF DEBT SUMMARY
AS OF DECEMBER 31, 2019
(UNAUDITED)

PRINCIPAL AMOUNT	FIRST PAYMENT	FINAL PAYMENT	RATE	6/30/2019 BALANCE	QUARTERLY ACTIVITIES TRANSACTION TYPE	AMOUNT	12/31/2019 BALANCE
HCC - BLM INSTALLMENT LOAN							
2,799,880	07/20/2017	01/20/2037	5.750%	2,640,374	PAYMENT - PRINCIPAL	(42,783)	2,597,591
					INTEREST PAYMENT	(75,911)	
2010 REFUNDING BOND - CLOSING DATE 12/23/2010							
8,495,000	06/01/2011	06/01/2020	4.340%	1,735,000	PAYMENT - PRINCIPAL	-	1,735,000
					PAYMENT - INTEREST ONLY	(43,375)	
2015 REFUNDING BOND - CLOSING DATE 07/15/2015							
TAX-EXEMPT SERIES A							
29,840,000	12/01/2015	06/01/2037	3.712%	27,045,000	PAYMENT - PRINCIPAL	-	27,045,000
					PAYMENT - INTEREST ONLY	(627,075)	
2019 SERIES REVENUE BOND - CLOSING DATE 12/19/2019							
17,725,000	06/01/2020	06/01/2049	2.990%	-	PAYMENT - PRINCIPAL	-	17,725,000
					INTEREST PAYMENT	-	17,725,000
BVAA COMPASS RUWAP LOC							
55,000	-	08/01/2020	2.599% *	5,423,325	ADVANCES	-	5,423,325
					PAYMENT - PRINCIPAL	-	5,423,325
					INTEREST PAYMENT	(77,052)	

*Line of Credit interest calculated on a variable basis (65.01% of the 30-Day Monthly LIBOR plus 1.50%). Amount represents interest rate at 12/02/2019.

SUMMARY	
HCC - BLM INSTALLMENT LOAN	2,597,591
2010 REFUNDING BOND	1,735,000
2015 REFUNDING BOND SERIES A	27,045,000
2019 SERIES REVENUE BOND	17,725,000
BVAA COMPASS RUWAP LOC	5,423,325
TOTAL DEBT	**54,525,916**

MARINA COAST WATER DISTRICT
SCHEDULE OF INVESTMENTS SUMMARY - BOND PROCEEDS
AS OF DECEMBER 31, 2019
(UNAUDITED)

PURCHASE DATE	MATURITY DATE	ACCT TYPE	YIELD APR	6/30/2019 BALANCE	QUARTERLY ACTIVITIES TRANSACTION TYPE	AMOUNT	12/31/2019 BALANCE
RESERVE FUND		TFUND	1.60%	852,793	INTEREST	8,444	861,237
2010 REFUNDING BOND					FUNDS TRANFER	(9,361)	851,876
PROJECT FUND		MM	1.64%	-	FUNDS TRANFER	19,500,000	19,500,000
2019 SERIES BOND							

MARINA COAST WATER DISTRICT
RESERVE DETAIL
PROJECTED AS OF DECEMBER 31, 2019

Description	MW	MS	OW	OS	RW	RP	TOTAL
Debt Reserve Fund (2010 Bond)*	238,525	68,150	425,938	119,263	-	-	851,876
CPCFA*	-	-	-	-	-	100,519	100,519
RUWAP LOC Proceeds*	-	-	-	-	4,810	-	4,810
Sub-total	238,525	68,150	425,938	119,263	4,810	100,519	957,205
Capacity Charge/Capital Surcharge Reserve							
Capacity Charge/Capital Surcharge - LAIF**	616,389	108,044	6,971,993	890,317	-	-	8,586,743
Capacity Charge/Capital Surcharge - Checking**	132,567	115,833	838,141	454,864	-	-	1,541,405
Capacity Charge/Capital Surcharge - MM**	559,263	-	2,897,077	1,762,348	-	-	5,218,688
Capacity Charge/Capital Surcharge Reserve Sub-total	1,308,219	223,877	10,707,211	3,107,529	-	-	15,346,836
Capital Replacement Reserve							
2019 Bond Project Fund**	5,070,000	1,950,000	5,460,000	7,020,000	-	-	19,500,000
Capital Replacement - LAIF**	1,056,442	100,000	200,000	100,000	-	-	1,456,442
Capital Replacement Reserve Sub-total	6,126,442	2,050,000	5,660,000	7,120,000	-	-	20,956,442
Administrative Reserve Fund	50,000	50,000	50,000	50,000	-	-	200,000
General Operating Reserve							
General Business Checking	13,382,759	1,076,162	6,350,277	10,015,273	(6,910,126)	(18,789,153)	5,125,192
General Fund - LAIF	961,740	1,394,497	65,493	47,813	-	-	2,469,543
Savings	69,901	64,480	58,643	81,565	-	-	274,589
Sub-total	14,414,400	2,535,139	6,474,413	10,144,651	(6,910,126)	(18,789,153)	7,869,324
(Due From)/ Due To Other Funds	(14,000,000)	-	(4,789,153)	(6,910,126)	6,910,126	18,789,153	-
General Operating Reserve Sub-total	414,400	2,535,139	1,685,260	3,234,525	-	-	7,869,324
Total Reserves as of 12-31-2019	**8,137,586**	**4,927,166**	**18,528,409**	**13,631,317**	**4,810**	**100,519**	**45,329,807**
Capital Replacement Reserves as of 12-31-2019	6,126,442	2,050,000	5,660,000	7,120,000	-	-	20,956,442
Minimum balance required by Board***	1,000,000	1,000,000	1,000,000	1,000,000	-	-	4,000,000
Available Capital Replacement Reserve as of 12-31-2019	**5,126,442**	**1,050,000**	**4,660,000**	**6,120,000**	**-**	**-**	**16,956,442**
General Operating Reserves as of 12-31-2019	414,400	2,535,139	1,685,260	3,234,525	-	-	7,869,324
6 mos. Avg operating expenses required by Board***	1,849,112	414,681	4,447,601	1,017,602	-	-	7,728,995
Available Operating Reserve as of 12-31-2019	**(1,434,712)**	**2,120,458**	**(2,762,341)**	**2,216,923**	**-**	**-**	**140,329**
Operating Expenses plus Interest & Bond Amortization	3,698,224	829,362	8,895,201	2,035,203	389,654	-	15,847,644

* Held by external Agencies

** Restricted to capital spending

***Per Board Policy

Return to Agenda

Marina Coast Water District
Staff Report

Agenda Item: 9-G | Meeting Date: February 25, 2020

Prepared By: Rose Gill | Approved By: Keith Van Der Maaten

Agenda Title: Consider Approving the 2019 Year in Review Report

Staff Recommendation: The Board of Directors approve the 2019 Year in Review Report.

Background: *Strategic Plan Mission Statement – To provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner*.

Staff has finalized the draft 2019 Year in Review Report highlighting the progress we made during the last year. Once approved, the report will then be available on the District's website and distributed through our social media channels. Staff is not moving ahead at this time with printing any hard copies, as was done in previous years. At the January 29, 2020 Board meeting, the Board proposed some changes and asked staff to bring back a revised Year in Review Report.

Discussion/Analysis: Staff has incorporated the suggested changes and is bringng the Report back for Board approval.

Environmental Review Compliance: None required.

Financial Impact: _______Yes ____X____No Funding Source/Recap: None.

Other Considerations: None.

Material Included for Information/Consideration: 2019 Year in Review Report.

Action Required: _______Resolution ____X____Motion _______Review

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Board Action

Motion By________________ Seconded By_____________ No Action Taken_______________

Ayes____________________________ Abstained______________________________

Noes____________________________ Absent________________________________

2019 Year in Review

MARINA COAST WATER DISTRICT

MISSION STATMENT

The Marina Coast Water District provides our customers with high quality water, wastewater collection and conservation services thar are safe, affordable, reliable and sustainable, through planning, management and the development of water resources in an environmentally sensitive manner.

CORE VALUES

- **Customer Service**
- **Integrity**
- **Teamwork**
- **Innovation**
- **Transparency**

Ord Annexation and A New Day

In the history of Marina Coast Water District, one could look back at Oct 24, 2001 as maybe the most inconspicuous defining day for the District, one that put into place many significant stories that continue to unfold today. It was on that day that MCWD was deeded all of the Former Fort Ord water and wastewater systems, making official that MCWD would be the water and wastewater service provider for the redevelopment of the former Fort Ord, a decision that was originally put into place by the 1998 Facilities Agreement between FORA and MCWD.

That decision to be the water service provider for the redevelopment of Fort Ord eventually led to the approval of the Regional Urban Water Augmentation Program (RUWAP) in 2006, a hybrid project to develop both recycled water and an ocean desal plant to meet the ultimate needs of Fort Ord. The ocean desal plant portion of the RUWAP eventually became the “Regional Desalination Project”, a partnership with Cal Am, Marina Coast, and the County Water Resources Agency that fell apart in 2011 resulting in years of mired litigation (yes, we are still in litigation). But the recycled water portion of the RUWAP became a separate, collaborative, project between M1W and Marina Coast that has allowed both agencies to move forward on important water supply projects with construction nearing completion following a lot of hard work over the past couple years. While the apparent ending to the story from the recycled water and desal project are very different, it is clear that both have monumentally changed the District. As a result of these two, the District has grown through challenge and is now defined by the one common thread between the two stories: MCWD must be and will be a part of providing solutions to the regions water supply challenges.

Equal to the challenges of building the “RUWAP” augmented water supply to meet Fort Ord, on Oct 24, 2001, MCWD was given the groundwater rights to serve Ord, and with it, the responsibility to protect those groundwater supplies. In 2016, the District formed a Groundwater Sustainability Agency to do exactly that and began actively increasing its understanding of the basin. Over the last few years, MCWD has had to fight to protect our groundwater supply while simultaneously advocating for alternate solutions, especially in light of the proposed Cal Am “desal” project that is targeting to pump a massive amount of groundwater right in our own backyard. While this new, additional, chapter in the Regional Desalination Project story unfolds before us, the District once again has needed to change and grow to meet the challenge. With our new official title as a state recognized “Groundwater Sustainability Agency” MCWD has been defined as an indispensable agency in the protection of the Salinas Groundwater Basin.

For nearly 18 years now, the District has been growing and changing as a result of that fateful day in Oct 2001 when we officially became the provider for Fort Ord. This past summer, as a result of many years of work, MCWD officially annexed the Ord Community into the District. Residents of Ord will be able to both vote for and run for the Board for the first time ever. As much as the last 18 years have defined much of our character and who we are today, the annexation of the Ord Community presents a new challenge, a new story line, and likely new board members from new areas of the District that will change how we are defined in the years to come. Undoubtedly, we are, and have been, more than just the “Marina” Coast Water District for many years. With this annexation, we can now officially move as one, both Ord and Marina, as one story that is yet to be written, but I’m certain the next 18 years will be just as interesting as the last 18, and we will be ready for whatever comes our way.

In 2019 the Water Resources Department which includes Conservation continued its efforts which are highlighted below:

- Worked closely with the Salinas Valley Groundwater Sustainability Agency (SVBGSA) in compiling a Groundwater Sustainability Plan for the 180/400 Foot Aquifer. The Marina Coast Water District Groundwater Sustainability Agency overlies a portion of the 180/400 Foot aquifer in the northernmost portion of the MCWD Service area. Water Resources worked with the SVBGSA Staff and Consultants in development of the 11 Chapter, 50 year plan to reach sustainability within 20 years and to maintain sustainability for another 30 years.
- Conservation continued its customer service focus; conducting over a hundred Water Conservation Certification visits, high water use investigations, and continued counsel and assistance with large landscape management while continuing to seamlessly manage all Water Conservation Incentive programs. Specific Water Conservation Highlights include:
- New, revised High Efficiency Toilet (HET) and Ultra High Efficiency Toilet (UHET) and urinal rebates approved
- Record year for support of large scale HET and UHET toilet, showerhead and faucet aerator retrofits:
    - CSUMB Frederick Park II, 120 apartments
    - Army Housing, Fitch Park Phase A, 213 homes
    - City Of Marina Housing, Abrams Park, 194 apartments
    - Owen Ave (Marina) Multifamily Complex, 110 toilets
    - Improved score on 2018 Water Loss Audit (conducted in 2019)
    - Successful large meter testing project completed in November 2019
- Water Conservation Commission (WCC) reorganization and reconstitution. The WCC was reorganized in late 2018 into 2019 and made a lot of progress. The commission reviewed and recommended changes to the various Water Conservation Incentive programs, recommended changes to the Conservation Ordinances, and began formulating recommendations on future water conserving programs.

In 2020 Water Resources will turn to the development of the Monterey Sub basin Groundwater Sustainability Planning process and continue to develop programs and projects that ensure the continued reliable safe delivery of water to the District's customers while simultaneously developing plans to augment, protect, and sustain the sources of water necessary to meet our customers needs.

2019 was a big year for the MCWD: improvements were made to our infrastructure and system, making things safer, and more reliable. Several lift stations were rehabilitated in house by the Operations and Maintenance staff with new pumps, piping and motor control centers to provide a more reliable sewer system. Updates were made to our SCADA platform system which allowed for real-time notifications and monitoring of all wells and lift stations. Reservoir 2 underwent a recoating of the interior surface and new motors and PLC programs were installed to provide more redundancy to the system and reduce the use of pumping from the groundwater wells during PG&E peak hours. The Operations and Maintenance Department hired 5 new System Operators and celebrated 6 crew members who earned higher certifications in water and wastewater. The Electrical/ Mechanical Field Supervisor, and Operations and Maintenance Supervisor were promoted from within, and a System Operator for the department, received his 40-year anniversary with the District. Towards the end 2019, the District began immediate design, procurement, and installation of 7 permanent generator sets for the water and wastewater systems to keep sites online, even in times of extended power outages as part of the PG&E Public Safety Shutoff Program. Lastly, MCWD's laboratory performed special sampling for PFOA, PFAS, and TCP-123, as well as for triennial lead and copper testing to ensure safe drinking water for our customers.

Three new engineers joined the engineering department this year and one left for a net gain of 2 engineers. The new engineers are Don Wilcox - Senior Engineer, Elise Ramirez – Associated Engineer, and Alec Irwin – Engineering Technician.

Two major accomplishments for engineering were:

- Municipal Service Review and Annexation of the Ord Community Service Area
- Construction Completion of the Regional Urban Water Augmentation Project (RUWAP) conveyance pipeline and reservoir

The Municipal Service Review (MSR) provided a comprehensive assessment of the ability of MCWD to effectively and efficiently provide water and wastewater services to residents and other users. The MSR was prepared by LAFCO in response to the District's annexation application.

With favorable findings and conclusions of the MSR, LAFCo approved annexation of properties already served by MCWD or fully approved for development. This increased the District area from 3,116 acres to 8,023 acres. The annexation was completed in July 2019.

Construction of the RUWAP conveyance pipeline was substantially completed in January 2019 and the reservoir construction was completed in July 2019. The capital construction cost for the 40,000 LF 24" diameter pipeline and 2 MG Reservoir was $23.64 M. Monterey 1 Water is close to producing advance treated water as completion of their treatment facilities leads to startup testing and production for delivery through the RUWAP conveyance facilities to the groundwater recharge wells in Seaside. Design of the RUWAP distribution mains was completed and advertised for bid with construction taking place in 2020.

Design commenced on the A1 & A2 Reservoirs and B/C Booster Pump Station Project this year. The reservoirs are critical to the fire protection water supply for the City of Marina. Other notable capital improvement projects in various stages of design and construction include the Imjin Lift Station, Ord Village Lift Station and Force Main, Imjin Parkway Water Main and Recycled Water Main, and Inter-Garrison Road Water Main.

Development was brisk with three major developments, The Dunes, Sea Haven and East Garrison producing upwards of 300 homes for the year. The District received ownership of the Dunes Phase 1B infrastructure and East Garrison 3 infrastructure. Central Marina infill development was active with residential additions, apartment buildings and new businesses bringing in project reviews and inspections.

Proposed new capacity fees based on new Sewer, Water and Recycled Water Master Plans wound their way through stakeholder meetings and the Fort Ord Reuse Authority (FORA) Water and Wastewater Oversight Committee (WWOC). The FORA Board will be considering the capacity fee changes before the MCWD Board considers them in the new year.

03: FISCAL PLANNING

The Finance Department was awarded the Certificate of Achievement for Excellence in Financial Reporting for the Districts' Comprehensive Annual Financial Report (CAFR) for FY 2017-2018 from the Government Finance Officer's Association (GFOA). This marks the eleventh straight year that the District has earned this award.

04: STRATEGIC PARTNERS AND PUBLIC AFFAIRS

- Made presentations to the California Coastal Commission, Central Coast Regional Water Quality Control Board, State Water Resources Control Board, State Lands Commission, the Governor's office, and Lt. Governor's office in an ongoing effort to promote collaborative solutions to water supply challenges for the entire Monterey Bay Region.
- Coordinated with the SVBGSA to complete the GSP for the 180/400 Subbasin
- Coordinated with M1W to jointly complete the District's Regional Urban Water Augmentation Project and M1W's Pure Water Monterey Project
- Continue to work with CSUMB on developing an agreement to improve long term coordination between MCWD and CSUMB on master planning, development projects, service, and operations
- Working with the City of Seaside on their In-Lieu Water Storage project and long-term water supply needs for the Golf Course and proposed developments
- Working with the City of Marina, Del Rey Oaks, Seaside, Monterey, and the County of Monterey to make arrangements for FORA closing in 2020 and to secure long-term service to these jurisdictions within the Former Fort Ord in accordance with the Base Reuse Plan
- Working with citizen groups "Citizens for Just Water" and "Public Water Now" to support efforts that promote water supply sustainability, affordability, transparency, and collaborative solutions to water supply challenges for the entire Monterey Bay Region

05: ORGANIZATIONAL HEALTH & PERSONNEL

2019 was an eventful year! MCWD welcomed 12 new hires during the year. We also celebrated long term employee anniversaries:

Thomas Barkhurst

Lab Supervisor

20 Years

Kurt Gonzalez

Maintenance Worker

10 Years

Tony Kelsey

System Operator II

40 Years

05: ORGANIZATIONAL HEALTH & PERSONNEL (Continued)

Susan Kiefert

CS/Billing Tech

35 Years

Barbara Montanti

Customer Service Supervisor

20 Years

06: ADMINISTRATION MANAGEMENT

The Information and Technology (IT) Department concentrated its efforts in IT infrastructure security through the migration to new network security devices that provide both intrusion detection and intrusion prevention to the District's network. In addition, the IT Department fully migrated endpoint (local computer) security to a centrally managed system.

During FY 2018-2019, the Customer Service Department diligently worked at being more green and reducing the need for paper by using electronic reports to process billing and by attaching customer related documents to their accounts within the utility billing system. This not only saves paper, but also provides efficiency in addressing customer inquiries.

LEADERSHIP

2019 Board of Directors

Dr. Thomas P. Moore
President
Directormoore@mcwd.org

Jan Shriner
Vice-President
Directorshriner@mcwd.org

Herbert Cortez
Director
Directorcortez@mcwd.org

Peter Le
Director
Directorle@mcwd.org

Dr. Matt Zefferman
Director
Directorzefferman@mcwd.org

MCWD Management Team

Keith Van Der Maaten
General Manager

Patrick Breen
Water Resources Manager

Kelly Cadiente
Director of Administrative Services

Derek Cray
Operations and Maintenance Manager

Rose Gill
HR/Risk Administrator

Mike Wegley
District Engineer

MARINA COAST WATER DISTRICT

Administration and Customer Service

11 Reservation Road
Marina, CA 93933
(831) 384-6131 - (831) 883-5995 (fax)
Hours: Monday—Friday, 8 a.m. to 5:30 p.m.
WWW.MCWD.ORG

Engineering, Operations & Maintenance

2840 4th Avenue
Marina, CA 93933
(831) 384-6131
Hours: Monday—Friday, 8 a.m. to 5:00 p.m.
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Return to Agenda

Marina Coast Water District
Staff Report

Agenda Item: 10-A Meeting Date: February 25, 2020

Prepared By: Kelly Cadiente Approved By: Keith Van Der Maaten

Agenda Title: Receive a Capacity/Capital Surcharge Reserve Fund Activity Report

Summary: At a previous Board meeting, the Board of Directors requested a report on what capital projects were being funded through capacity fees. While the attached reports include the specific projects that are being funded with the capacity fees, staff has also provided reports of all of the activity for the Capacity/Capital Surcharge Reserve Fund for FY 2018, FY 2019 and FY 2020 as of December 31, 2019. If the Board desires, this report would be included in the quarterly financials going forward.

The Capacity/Capital Surcharge Reserve Fund Report ("Report") provides lists the sources of funds, the uses of funds and the balance as of the Report date. Sources include Capacity Fees, Capital Surcharges and interest earned on the accounts. Uses include the Future Users share of the District's Debt Service Payments, the Buy-In Portion to the existing system of Capacity Fees and the Future Users share of Capital Projects. A breakdown of the specific projects is also included in the report and highlighted.

MARINA COST WATER DISTRICT
CAPACITY FEE RESERVE FUND
FISCAL YEAR 2017-2018

ACCOUNT	DESCRIPTION	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
0X-00-100-008	Restricted Cash	-	-	-	-	
0X-00-105-010	MMF Restricted Cash	557,894.15	-	4,887,026.16	880,000.00	6,324,920.31
0X-00-120-010	LAIF Capacity Fees	565,760.48	111,903.20	2,762,116.99	887,193.66	4,326,974.33
	06/30/2018 Balances	**1,123,654.63**	**111,903.20**	**7,649,143.15**	**1,767,193.66**	**10,651,894.64**
	Check	-	-	0.00	-	0.00

DESCRIPTION	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
Beginning Balances - 07/01/2017	1,144,088.16	145,933.99	8,018,751.53	613,067.10	9,921,840.78
Interest Earned	6,469.61	1,687.49	34,822.18	5,819.69	48,798.97
Capacity Fees/Capital Surcharges	14,505.14	8,165.50	3,597,753.16	1,531,424.30	5,151,848.10
Less: Buy-In Portion of Capacity Fees	-	-	(730,200.56)	(147,216.70)	(877,417.26)
Less: 2015 Bond Payment-Future Users Share #5 & #6	(41,408.28)	(43,883.78)	(442,888.56)	(277,255.44)	(805,436.06)
Less: CIP Costs-Future Useres Share[(1)]	-	-	(101,519.78)	-	(101,519.78)
Less: Project Related Litigation Costs	-	-	(2,903,944.28)	-	(2,903,944.28)
Transfers Surcharge Cash to LAIF	-	-	176,369.46	41,354.71	217,724.17
Balances - 06/30/2018	**1,123,654.63**	**111,903.20**	**7,649,143.15**	**1,767,193.66**	**10,651,894.64**
	-	-	0.00	-	0.00

[(1)]**Breakdown of Future Users Share of CIP Costs**	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
OW - 0128 LIGHTFIGHTER B ZONE PIPELINE	-	-	83,095.41	-	83,095.41
OW - 0206 INTER-GARRISON ROAD PIPELINE	-	-	18,424.37	-	18,424.37
Totals	**-**	**-**	**101,519.78**	**-**	**101,519.78**

MARINA COST WATER DISTRICT
CAPACITY FEE RESERVE FUND
FISCAL YEAR 2018-2019

ACCOUNT	DESCRIPTION	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
0X-00-100-008	Restricted Cash	-	-	-	-	
0X-00-105-010	MMF Restricted Cash	558,795.59	-	2,894,738.31	1,760,902.21	5,214,436.11
0X-00-120-010	LAIF Capacity Fees	608,757.51	106,617.58	6,910,495.75	878,821.50	8,504,692.34
	06/30/2019 Balances	**1,167,553.10**	**106,617.58**	**9,805,234.06**	**2,639,723.71**	**13,719,128.45**

DESCRIPTION	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
Beginning Balances - 07/01/2018	1,123,654.63	111,903.20	7,649,143.15	1,767,193.66	10,651,894.64
Interest Earned	13,381.99	2,710.91	64,282.50	20,231.25	100,606.65
Capacity Fees/Capital Surcharges	71,963.40	35,928.20	2,991,540.82	1,206,800.51	4,306,232.93
Less: Buy-In Portion of Capacity Fees	-	-	(601,653.38)	(115,167.98)	(716,821.36)
Less: 2015 Bond Payment-Future Users Share #7 & #8	(41,446.92)	(43,924.73)	(443,301.84)	(277,514.16)	(806,187.65)
Less: CIP Costs-Future Useres Share[(1)]	-	-	(23,257.04)	-	(23,257.04)
Transfers Surcharge Cash to LAIF	-	-	168,479.85	38,180.43	206,660.28
Balances - 06/30/2019	**1,167,553.10**	**106,617.58**	**9,805,234.06**	**2,639,723.71**	**13,719,128.45**

[(1)]**Breakdown of Future Users Share of CIP Costs**	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
OW - 0202 SOUTH BOUNDARY ROAD PIPELINE	-	-	1,554.76	-	1,554.76
OW - 0206 INTER-GARRISON ROAD PIPELINE	-	-	21,702.28	-	21,702.28
Totals	**-**	**-**	**23,257.04**	**-**	**23,257.04**

MARINA COST WATER DISTRICT
CAPACITY FEE RESERVE FUND
FISCAL YEAR 2019-2020 As of December 31, 2020

	DESCRIPTION	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
0X-00-100-008	Restricted Cash	132,567.00	115,833.00	838,140.60	454,864.07	1,541,404.67
0X-00-105-010	MMF Restricted Cash	559,263.42	-	2,897,077.48	1,762,348.24	5,218,689.14
0X-00-120-010	LAIF Capacity Fees	616,389.15	108,043.72	6,971,992.97	890,316.98	8,586,742.82
	06/30/2019 Balances	**1,308,219.57**	**223,876.72**	**10,707,211.05**	**3,107,529.29**	**15,346,836.63**
	Check	-	-	-	-	-

DESCRIPTION	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
Beginning Balances - 07/01/2019	1,167,553.10	106,617.58	9,805,234.06	2,639,723.71	13,719,128.45
Interest Earned	8,099.47	1,426.14	63,836.39	12,941.51	86,303.51
Capacity Fees/Capital Surcharges	132,567.00	115,833.00	1,090,412.52	502,491.12	1,841,303.64
Less: Buy-In Portion of Capacity Fees	-	-	(214,286.51)	(47,627.05)	(261,913.56)
Less: 2015 Bond Payment-Future Users Share #8 & #9	-	-	-	-	-
Less: CIP Costs-Future Useres Share[(1)]	-	-	(37,985.41)	-	(37,985.41)
Transfers Surcharge Cash to LAIF	-	-	-	-	-
Balances - 12/31/2019	**1,308,219.57**	**223,876.72**	**10,707,211.05**	**3,107,529.29**	**15,346,836.63**

[(1)]**Breakdown of Future Users Share of CIP Costs**	MARINA WATER	MARINA SEWER	ORD WATER	ORD SEWER	TOTALS
OW - 0202 SOUTH BOUNDARY ROAD PIPELINE	-	-	7,605.38	-	7,605.38
OW - 0206 INTER-GARRISON ROAD PIPELINE	-	-	30,380.03	-	30,380.03
Totals	**-**	**-**	**37,985.41**	**-**	**37,985.41**

Return to Agenda

Marina Coast Water District
Staff Report

Agenda Item: 11-A | Meeting Date: February 25, 2020

Prepared By: Keith Van Der Maaten | Approved By: Keith Van Der Maaten

Agenda Title: Strategic Plan and Goal Setting Workshop

Staff Recommendation: The Board will participate in a Strategic Plan and Goal setting workshop.

Background: *Strategic Plan Mission Statement – We provide our customers with high quality water, wastewater collection and conservation services at a reasonable cost, through planning, management and the development of water resources in an environmentally sensitive manner.*

Discussion/Analysis: The Board requested to hold a workshop to work on a Strategic Plan and setting goals for the future.

Environmental Review Compliance: None required.

Financial Impact: _____Yes __X__No Funding Source/Recap: None.

Other Considerations: None.

Material Included for Information/Consideration: Redlined Strategic Plan.

Action Required: ______Resolution ______Motion ______Review __X__Workshop

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Board Action

Motion By________________ Seconded By_____________ No Action Taken______________

Ayes__________________________ Abstained_____________________________

Noes__________________________ Absent_______________________________

We provide our customers with high quality water, wastewater collection and conservation services that are safe, affordable, reliable and sustainable, through planning, management and the development of water resources in an environmentally sensitive manner.

Marina Coast Water District Strategic Plan

~~January 29, 2020~~February 25, 2020 Workshop Version

Contents

Mission Statement

We provide our customers with high quality potable and recycled water, wastewater collection and conservation services that are safe, affordable, reliable and sustainable, through planning, management and the development of water resources in an environmentally sensitive manner.

Vision Statements

In 5 years, we would like to be able to say…

- We have Board policies and procedures with the aim to receive a California Special District Association's (CSDA) "District of Distinction" Award.
- We have an engaged, reliable and productive workforce that is robust and enjoys high morale with low turnover.
- We are leaders in the region in water quality, communications, water resources, conservation and workforce development.
- We enjoy a positive reputation with the Public and other governmental agencies.
- We have evaluated and have taken steps to fund, all real and likely District liabilities, infrastructure needs, water supply augmentation needs, and necessary groundwater sustainability plan projects and actions.
- We are managing our existing assets through a capital improvement program and through a maintenance management plan that optimizes useful life, minimized operational issues, and maximizes the value of our assets.
- Our office buildings are professional and sufficiently sized to support a productive staff and we now have our own Board room that is sufficiently sized and properly outfitted for the District to conduct effective public meetings.
- Our District facilities are models of energy efficiency (limit carbon emissions), are well taken care of, and support the Districts' "Green" policies.
- We have adequate reserves for repair and replacement of our infrastructure.
- We have adopted a new rate study, Master Plans, and Capacity Fees
- We have a formal workforce development and succession plan in place.
- We have a Water Conservation Commission that focuses on providing input to the Board of Directors on matters pertaining to the preservation of the District's water resource through conservation, technological improvements and policy.
- We have strong and robust water conservation programs, meeting State mandates.
- We have taken steps to protect the Salinas Valley groundwater basin from seawater intrusion, have an approved Groundwater Sustainability Plan, and have implemented projects and actions to secure a long term sustainable water supply.
- We have enhanced our Public Relations efforts in community outreach.
- We have established key performance indicators and level of service targets.

Core Values

- ***Customer Service:*** We will demonstrate outstanding customer service and respect for customers and one another.
- ***Integrity:*** We will provide our services in an honest, ethical and responsible manner.
- ***Teamwork:*** We will work together to share and achieve resources for a common goal and collaborate with one another.
- ***Innovation:*** We will share ideas and apply them to the District in order to further satisfy the needs and expectations of the customers.
- ***Transparency:*** We listen to our customers and communicate openly about our policies, processes, and plans for the future.

Board of Directors

Thomas P. Moore, President
Jan Shriner, Vice President
Herbert Cortez, Director
Peter Le, Director
Matt Zefferman, Director

District Management

Keith Van Der Maaten, General Manager
Michael Wegley, District Engineer
Rose Gill, Human Resources/Risk Administrator
Derek Cray, Operations and Maintenance Manager
Kelly Cadiente, Director of Administrative Services
Patrick Breen, Water Resources Manager

Strategic Elements

Strategic Elements represent the vital areas of the District's operation and management. They assure that the implementation of work to be performed in support of the Mission and Vision are comprehensive in nature and properly cover the District in all areas. Strategic elements are derived from the foundational Mission and Vision statements of the District. They are linked to action and results through the Strategic Goals written in each area and the Strategic Action Plan. Within the five-year period covered by this Strategic Plan, these Elements assure that all aspects of District operations are well supported and moving forward in a way that reflects Board priorities and creates balanced implementation. The Strategic Action Plan that contains the supportive actions is presented along with each Strategic Goal within this Strategic Plan. Business Plans and Employee Goals are not a part of the Strategic Plan; these are developed on a one to two-year timeframe with tasks and are handled within the management structure of the District. The Strategic Elements are as follows:

1.0 Water Sources
2.0 Infrastructure
3.0 Fiscal Planning
4.0 Strategic Partners and Public Affairs
5.0 Organizational Health/Personnel
6.0 Administrative Management

1.0 Water Sources

Our objective is to manage and protect our current water sources (recycled water, groundwater, and the groundwater basin) and find alternative water sources. We will secure and protect our developed potable and recycled water sources sufficiently to supply current and future customers. Our water sources strategy is to work with local land use jurisdictions to determine what their ultimate and interim projected demands will be and explore alternative water sources such as desalination, surface water treatment and expanded recycled water use, to find the most efficient, and to secure cost effective water source portfolio. The following is a summary of the 5-Year strategic goals for this strategic element:

1.1 Work with local land use jurisdictions to clearly establish and determine current and future water use.
1.2 Establish the difference between available groundwater and ultimate water demands.
1.3 Determine the growth rate or timeline of when additional water sources will be needed.
1.4 Establish a prioritized list of available alternative water sources.
1.5 Develop an alternative water sources work plan that will carry us from inception to development.
1.6 Establish goals and objectives that promote protecting our current groundwater sources from seawater intrusion and other forms of contamination.
1.7 Review and update our water conservation program.

2.0 Infrastructure

Our objective is to provide ~~a~~ high-quality water (potable water and recycled water) distribution systems and an efficiently operating wastewater collection system to serve existing and future customers. Through the master planning process, our infrastructure strategy is to carefully maintain our existing systems and ensure future additions and replacements will meet District standards. The following is a summary of the 5-Year strategic goals for this strategic element:

2.1 Improvements and expansion plans for existing water (potable water and recycled water) delivery and wastewater collection systems.

2.2 Develop an office/corporation yard Facilities Master Plan.
2.3 Develop and implement an Asset Management Plan.
2.4 Continue the development of the District's Geographic Information System.
2.5 Continue the development of the District's Computer Maintenance Management System (CMMS).
2.6 Leak audit and detection.

3.0 Fiscal Planning

Our objective is to manage public funds to assure financial stability, prudent rate management and demonstrate responsible stewardship. Our fiscal strategy is to forecast, control and optimize income and expenditures in an open and transparent manner. We will efficiently use our financial resources to assure availability to fund current and future demands. The following is a summary of the 5-Year strategic goals for this strategic element:

3.1 Five-year Financial Plan and Rate Study.
3.2 Regular financial updates to policymakers and managers.
3.3 Best Accounting Practices.
3.4 Close and audit financial statements in a timely manner.
3.5 Obtain the Comprehensive Annual Financial Report (CAFR) Certificate of Achievement for Excellence in Financial Reporting Program annually from the Government Finance Officers Association.
3.6 Fiscal reserves management for the maintenance/replacement/expansion of the District's infrastructure.

4.0 Strategic Partners and Public Affairs

Our objective is to build our relationship with the State, Federal, Regional, and Local public and ~~local~~ non-profit agencies. Our strategy in the areas of strategic partners and public affairs is to communicate in a positive way, including active listening and encouraging open discussions. The following is a summary of the 5-Year strategic goals for this strategic element:

4.1 Develop a Strategic Communications Plan and Communicate with the Public.
4.2 Develop a Strategic Communications Plan and Communicate with our Strategic Partners.
4.3 Adopt a plan for technology use in public affairs.
4.4 Establish clear standards for the construction process.

5.0 Organizational Health & Personnel

Our objective is to recruit and retain a highly qualified, diverse and inspired workforce that delivers the essential services of our mission statement to the public while providing outstanding customer service. Our strategy is to utilize sound policies and personnel practices, offer competitive compensation and benefits, employee tenure recognition, and provide opportunities for training, development, and professional growth while ensuring a safe and secure workplace. The following is a summary of the 5-Year strategic goals for this strategic element:

5.1 Recruit and retain high-performing, engaged personnel.
5.2 Establish a workforce succession plan.
5.3 Develop a knowledge transfer program.
5.4 Conduct periodic compensation studies.
5.5 Establish and develop an employee professional development plan.
5.6 Revise and update our Employee Handbook
5.7 Revise employee performance evaluations

6.0 Administrative Management

Our objective is to create, maintain and implement policies and procedures to ensure sound management of the District. We will also maintain and use appropriate technology to maintain efficiency and redundancy. Our strategy will be to conduct periodic review, refinement and implementation of policies and procedures and ensure that staff has the direction and tools necessary for successful operations throughout the District. The following is a summary of the 5-Year strategic goals for this strategic element:

6.1 Annexation of the Ord community.
6.2 Routinely review policies and procedures.
6.3 Encourage Board development.
6.4 Conduct new Board member orientation program.
6.5 Digitize District records.
6.6 Achieve the CSDA District of Distinction award.
6.7 Incorporate appropriate technology into District's daily functions.
6.8 Update Strategic Plan Annually.

Strategic Action Plan by Objective

1.0 Water Sources

#	Strategic Objective/Elements	Specific Action(s) to Meet Objective	Status
1.1	Work with local land use jurisdictions to clearly establish and determine current and future water use.	"Post FORA" Service Agreements	In progress
		Water Use and Allocation Reports	In progress
		Routine meetings with MCWD and LUJ staff	Ongoing
1.2, 1.3, 1.4, 1.5, 1.6	(1.2) Establish the difference between available groundwater and ultimate water demands.(1.3) Determine the growth rate or timeline of when additional water sources will be needed. (1.4) Establish a prioritized list of available alternative water sources. (1.5) Develop an alternative water sources work plan that will carry us from conception to development. (1.6) Establish goals and objectives that promote protecting our current groundwater source from seawater intrusion and other forms of contamination.	180/400 Subbasin GS Plan	In progress
		Monterey Subbasin GS Plan	In progress
		Three Party MOU Project	~~In progress~~Cancelled
		Aerial Electromagnetic Survey (AEM) Projects	~~In progress~~Complete
		Resolution Agreement(s) on MCWD wastewater Rights	In progress
		Comprehensive Water Supply Investigations (outside of GS Plan)	In progress
		FY 2019-20 Water, Wastewater, and Recycled Water Master Plans	In progress
1.7	Review and update our water conservation program.	Water Conservation Commission (WCC) Improvements	In progress
		Establish Water Resources Division	Complete
		Water Conservation Programs and Funding Plan from the WCC	In progress
		Recommended Ordinances/Resolutions updates from WCC including updates to Hot Water Recirculation section	In progress

2.0 Infrastructure

#	Strategic Objective/Elements	Specific Action(s) to Meet Objective	Status
2.1, 2.1.1, 2.1.2	(2.1) Improvements and expansion plans for existing water delivery and wastewater collection systems. (2.1.1) Existing Infrastructure Plan. (2.1.2) Future Infrastructure Plan.	Annual Capital Improvement Program Plan (CIP)	Ongoing
		Backup Generator Project Plan (Emergency)	In progress
		Regional Urban Water Augmentation Project (RUWAP) Plans	In progress
		Seaside/MCWD Storage Agreement	In progress
		CSUMB Service Agreement	In progress
		CSUMB Easements	Complete
		FY 2019-20 Water, Wastewater, and Recycled Water Master Plans	In progress
		Develop a plan for expanded use of new Technology to improve efficiency	
2.2	Develop an office/corporation yard facilities master plan.	Office Space Plan	~~Not Started~~In Progress
		Facilities Master Plan which will include a Plan on reducing Carbon Emission	Not Started
2.3	Develop and implement an asset management plan.	Maintenance Management Plan	Ongoing
		Computerized Maintenance Management System (CMMS)/Accounting Asset List Update	Not Started
		Asset Mgmt. Plan Implementation (operations)	Ongoing
		Asset Mgmt. Plan Implementation (engineering)	Ongoing
2.4	Continue the development of District's geographic information system	GIS database and integration enhancement Plan	Not Started
2.5	Continue the development of the CMMS System.	CMMS enhancement Plan	Not Started
		Add Engineering and Development Projects to the CMMS	Not Started

2.6	Leak audit and detection.	Annual Leak Detection Audits	Ongoing
		Water Conservation Commission Plan for Water-Loss reduction solutions	Not Started

3.0 Fiscal Planning

#	Strategic Objective/Elements	Specific Action(s) to Meet Objective	Status
3.1	Five-year financial plan and rate study.	Rate Study	Complete
		Master Plan Capacity Fees	In progress
3.2	Regular financial updates to policymakers and managers.	Quarterly Financial Reports to the Board	Ongoing
		Comprehensive Capacity Fee Report	~~Not Started~~In Progress
		"Non-Developer Paid" Capacity fee Report (Parker Flats, etc.)	In progress
3.3	Best accounting practices.	Procurement Policy	Complete
		Investment Policy	Complete
		Debt Policy	Complete
		Reserve Policy	Complete
3.4	Close and audit financial statements in a timely manner.	Annual Audit	Ongoing
3.5	Obtain the Certificate of Achievement in Financial Reporting annually from the Government Finance Officers Association.	Comprehensive Annual Financial Report (CAFR) Certificate of Achievement for Excellence in Financial Reporting Program Award	Ongoing
3.6	Fiscal reserves management for the maintenance/ replacement/ expansion of the District's infrastructure.	State Revolving Funds (SRF) Financing (grants and loans) for RUWAP	In progress
		Department of Water Resources Grant Funds for Groundwater Sustainability Agency	In progress
		Water Infrastructure Improvements for the Nation (WIIN) Grant Funds	In progress

		State Water Resources Control Board (SWRCB) Injection Project (recycled water) Grant Funds	In progress
		Armstrong Ranch Utilization Plan	Not Started
		Obtain Bond financing for CIP needs	~~In progress~~Complete

4.0 Strategic Partners and Public Affairs

#	Strategic Objective/Elements	Specific Action(s) to Meet Objective	Status
4.1, 4.2	(4.1) Develop a Strategic Communications Plan focused on community outreach (4.2) Develop a Strategic Communications Plan and Communicate with our strategic partners.	Establish Public Outreach Position (or hire firm)	~~In Progress~~Deferred
		Monterey Peninsula Water Supply Project (MPWSP) Outreach (PWM Expansion Outreach); Outreach to promote Regional Solutions to Water Supply issues	In Progress
		Strategic Communications Plan and outreach Update	Not Started
		Provide an Annual Year in Review Report	
4.2b	Adopt a plan for technology use in public affairs.	Technology Use Plan Update	Not Started
		Social Media Policy	In Progress
4.3	Establish clear standards for the construction process.	Procedures, Guidelines, and Design Requirements Document Update	Not Started

5.0 Organization

#	Strategic Objective/Elements	Specific Action(s) to Meet Objective	Status
5.1	Recruit and retain a high performing, engaged workforce.	Hire for Openings as needed	Ongoing
		Employee Contracts	Complete
		Quarterly All Hands Meetings	Ongoing
		Leadership Training Program	In Progress
		Wellness Program	Ongoing
		Employee Newsletters	Ongoing
		Cyber Security Training	Ongoing
		Building Security	Complete
		Internship Program	Ongoing
5.2	Establish a workforce succession plan.	Work Force Succession Plan	In Progress
5.3	Develop a knowledge transfer program.	Cross Training/Shadow Program Plan	Ongoing
5.4	Conduct periodic compensation studies.	Compensation Study	Complete
5.5	Revise and update Employee Handbook	Employee Handbook	~~Complete~~Ongoing
5.6	Establish and develop an employee professional development plan.	Professional Development Plans	In Progress
5.7	Revise employee performance evaluations	Updated Employee Evaluation Forms	~~In Progress~~Complete

6.0 Administration

#	Strategic Objective/Elements	Specific Action(s) to Meet Objective	Status
6.1	Annexation of the Ord community.	LAFCO approved Annexation for existing service areas.	Complete
		Annexation of new development(s) as needed (in a timely manner)	
		Complete FORA transition including Service Agreements (as necessary) and Receiving Payments due to MCWD under the RUWAP Reimbursement Agreement	In Progress
		Seaside County Sanitation District/South Boundary Road Resolution Proposal	In Progress
		Annexation Outreach	~~In Progress~~Deferred
6.2	Routinely review policies and procedures	Develop Comprehensive Policy List	Not Started
		Ordinance and Resolution Process Recommendation	Not Started
6.3	Encourage Board development.	Board Development Plan	Not Started
		Comprehensive Update to the Board Procedures Manual	In Progress
6.4	Conduct new Board member orientation program.	New Board Member Orientation Packet	Ongoing
6.5	Digitize district records.	Document Retention Policy	In Progress
		Laserfiche Scanning Project	In Progress
6.6	Achieve the District of Transparency	Plan to Achieve District of Transparency	Not Started
6.7	Incorporate appropriate technology into the District's daily functions.	Hire IT Administrator to incorporate appropriate technology	Complete
6.8	Update strategic plan annually.	Strategic Plan Update	Ongoing

APPENDIX

Description of Plan Elements

A Strategic Plan is a top-level planning document for an organization to set clear direction over all operational aspects of its mission. It serves as a framework for decision making over a five-year period. It is a disciplined effort to produce fundamental decisions that shape what a District plans to accomplish by selecting a rational and balanced course of action. The District's Mission, Core Values, Vision, and the overall structure of this Strategic Plan were developed by the Board in workshop settings. Within the framework of that structure and the business environment, strategies and goals were developed to sustain and improve the District over the next five years. At its highest level, this Strategic Plan seeks to strengthen and build upon opportunities while addressing areas of concern all aimed toward forecasting an optimized future condition.

This plan also identifies actions, activities, and planning efforts that are currently underway which are needed for continued success in operations and management of the District, and provides for periodic reviews and updates.

Strategic Planning Definitions

Mission Statement: A declaration of the District's purpose, which succinctly describes why the District exists. All activities of the District should be in support of the Mission Statement. The District's Mission statement also reflects the values to which the District Board is dedicated. The Board of Directors adopts the Mission Statement. The Mission Statement is reviewed annually but is intended to be constant over the long term.

Vision Statement: A statement that articulates where the District wants to be over the life of the Strategic Plan. It outlines at the highest level the key changes that must be achieved by the Strategic Plan. The Vision creates and drives strategy and tactics identified elsewhere in the Strategic Plan. The Board of Directors adopts the Vision Statement. The Vision Statement will be reviewed annually and will typically change more frequently than the Mission Statement to reflect the direction the Board wants to take the District over the five-year time horizon of the Strategic Plan.

Core Values**:** These are the values to which the Board of Directors is fiercely dedicated. They are anchored in community values and are used by the Directors as decision filters for the myriad of decisions in the future.

Strategic Elements: The broad and primary areas of District operations, planning, and management that are addressed and supported by the Strategic Plan goals. These essentially serve as the outline and organization of the Strategic Plan. The Board of Directors reviews and endorses the Strategic Elements. The Strategic Elements are reviewed annually but are intended, absent major new issues facing the District, to be relatively constant over the life of the five-year Strategic Plan.

Objective/Strategy statement: A concise statement associated with each Strategic Element that describes what the Objective for that Element is and how it will be achieved.
Strategic Goals: The goal statement is supported by a narrative that more fully explains the nature of the goal and the issues that the goal intends to address. The Strategic

Goals are prepared by District staff and accepted by the Board. The Strategic Goals may change from year-to-year when the annual assessment is made of the progress on each Strategic Element. The Strategic goals define the line between policy (Board responsibility) and implementation (staff responsibility) and as such are a collaborative effort of both the Board and staff.

Glossary of Acronyms

ACWA	Association of California Water Agencies
AWWA	American Water Works Association
BHI	BHI Management Consulting
BMPs	Best Management Practices
CAFR	Comprehensive Annual Financial Report
CDPH	California Department of Public Health
CII	Commercial, Industrial and Institutional
CIP	Capital Improvement Plan
CPA	Certified Public Accountant
CUWCC	California Urban Water Conservation Council
DMM	Demand Management Measures
FY	Fiscal Year
HCF	Hundreds of Cubic Feet
HECW	High Efficiency Clothes Washer
GPS	Global Positioning System
GSP	Groundwater Sustainability Plan
LS	Lift Station
GSA	Groundwater Sustainability Agency
MGD	Millions of Gallons per Day
MOW	Monterey One Water, previously Monterey Regional Water Pollution Control Agency
NIMS	National Incident Management System
OES	Office of Emergency Services
RWQCB	Regional Water Quality Control Board
SGMA	Sustainability Groundwater Management Act
SRF	State Revolving Fund
SCADA	Supervisory Control and Data Acquisition
SEMS	Standardized Emergency Management System
SWRCB	State Water Resources Control Board
WDRs	Waste Discharge Requirements
WIIN	Water Infrastructure Improvements for the Nation
WWTP	Wastewater Treatment Plant

Original Strategic Plan Development

In FY 2013, the District retained the services of BHI Management Consulting (BHI) to facilitate and coordinate the development of the District's five-year Strategic Plan. BHI first gathered input from the Public, through a public workshop, District Board members, staff and employees in a number of meetings to allow direct and "ground level" input to the Board during deliberations in a number of planning workshops. At each meeting the District Mission and 5-year Vision were discussed.

The Board supported this process as a way to allow all to participate in the foundation of the Strategic Plan. A Board strategic planning public workshop was conducted in April 2013. With the Board at this workshop, senior District staff also attended. The Board reviewed all inputs prior to working on Mission, Vision, and Core Values for the District and strategic elements for the strategic plan. The Board developed a new Mission statement of the District and created a new Vision statement for the District. The Board also identified the six strategic elements around and within which to organize implementation actions that will support the Mission and assure success of the Vision. Core Values then must be well understood and respected in the plan for implementing the Vision.

Following the Board workshop, key members of District staff, worked with BHI to develop the Strategic Element objective and strategy statements and Strategic Goals, Actions and Tactics that support each element to make the Board's Vision reality within the 5-year timeframe. Using this process, this Strategic Plan was assembled in a way that provides assurance of success for the Board's Vision and Strategy for the District over the next five years. This Plan was then vetted with the Board in another workshop to assure that the implementation proposed by BHI and staff would indeed meet with their understanding and acceptance regarding the Vision success.

Strategic Plan Maintenance

A key part of the Strategic Planning process is to conduct an annual review to update the Plan. These reviews allow for regular maintenance of the Plan so it reflects the actual progress and conditional needs of the District. The reviews will be documented and followed up with either a Plan supplement or an updated Plan. A five-year planning horizon will be maintained with each review effort developing a new fifth year of actions, projects, and initiatives.