www.NapaRoadRanch.com

Aerial and Assessor Parcel
3201 & 3061 Napa Rd
Sonoma, CA 95476

APN 126-102-015 & 017
Building Footprint
Streams (LiDAR)
Roads

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AND ASSOCIATES, INC.
Mapping for a Better World™
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ORTHOPHOTOGRAPHY (2011) & ELEVATIONS (2013) PER SONOMA VEG MAP.

SOIL DATA PER USDA, NATURAL RESOURCES CONSERVATION SERVICE.

THIS MAP IS AN ENLARGEMENT OF SMALLER-SCALE DATASETS.

N
W E

1 inch = 200 feet

0 100 200 400 Feet

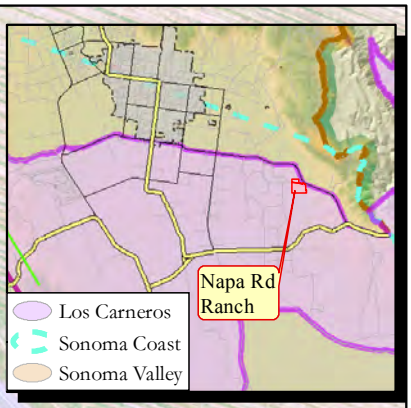
 JOB NO. 2015-016-BundesenC21-Napa Rd

Century 21 Bundesen

eric.frost@bundesen.com
(707) 484-1292

Contours with Aerial
3201 & 3061 Napa Rd
Sonoma, CA 95476

www.3201NapaRoad.com



126-102-015

126-102-017

Napa Rd

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APN 126-102-015 & 017
Building Footprint
Streams (LiDAR)
Roads
Well
Pond
5ft Contour

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N
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1 inch = 200 feet

0 100 200 400 Feet

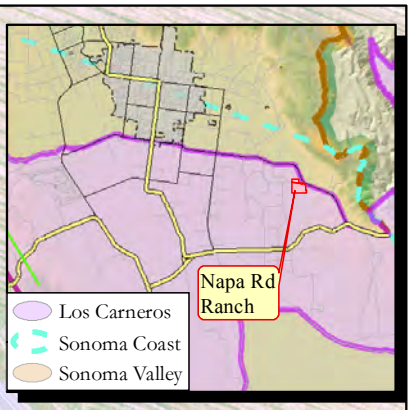
 JOB NO. 2015-016-BundesenC21-NapaRd

Century 21 Bundesen

eric.frost@bundesen.com
(707) 484-1292

Slope and Soil Levels
3201 & 3061 Napa Rd
Sonoma, CA 95476

www.3201NapaRoad.com



Napa Rd

126-102-015

126-102-017

Soil Name,Type & Slope Level
HcC;HAIRE CLAY LOAM, 0 TO 9 PERCENT SLOPES
HcD;HAIRE CLAY LOAM, 9 TO 15 PERCENT SLOPES

APN 126-102-015 & 017
Building Footprint
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ORTHOPHOTOGRAPHY (2011) & ELEVATIONS (2013) PER SONOMA VEG MAP.

SOIL DATA PER USDA, NATURAL RESOURCES CONSERVATION SERVICE.

THIS MAP IS AN ENLARGEMENT OF SMALLER-SCALE DATASETS.

N
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1 inch = 200 feet

0 100 200 400 Feet

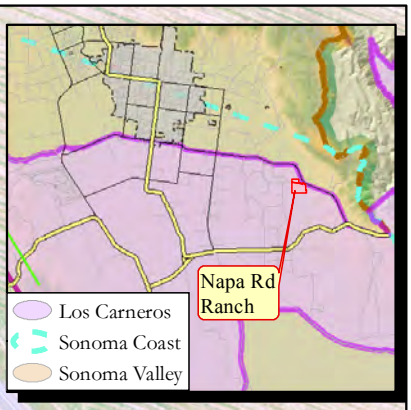
 JOB NO. 2015-016-BundesenC21-NapaRd

Century 21 Bundesen

eric.frost@bundesen.com
(707) 484-1292

LiDAR Slope Levels for Vineyard Development
3201 & 3061 Napa Rd
Sonoma, CA 95476

www.3201NapaRoad.com



Napa Rd

126-102-015

126-102-017

Slope Classes Based on Soil Type and County

Percent Slope = Rise/Run

- <15% Level I
- 15 - 25% Level II
- 25 - 40% Level II
- 40 - 50% Level II
- >50% No Development

APN 126-102-015 & 017
Building Footprint
Streams (LiDAR)
Roads
Well
Pond
5ft Contour

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ORTHOPHOTOGRAPHY (2011) & ELEVATIONS (2013) PER SONOMA VEG MAP.

SOIL DATA PER USDA, NATURAL RESOURCES CONSERVATION SERVICE.

THIS MAP IS AN ENLARGEMENT OF SMALLER-SCALE DATASETS.

N
W E
S

1 inch = 200 feet

0 100 200 400 Feet

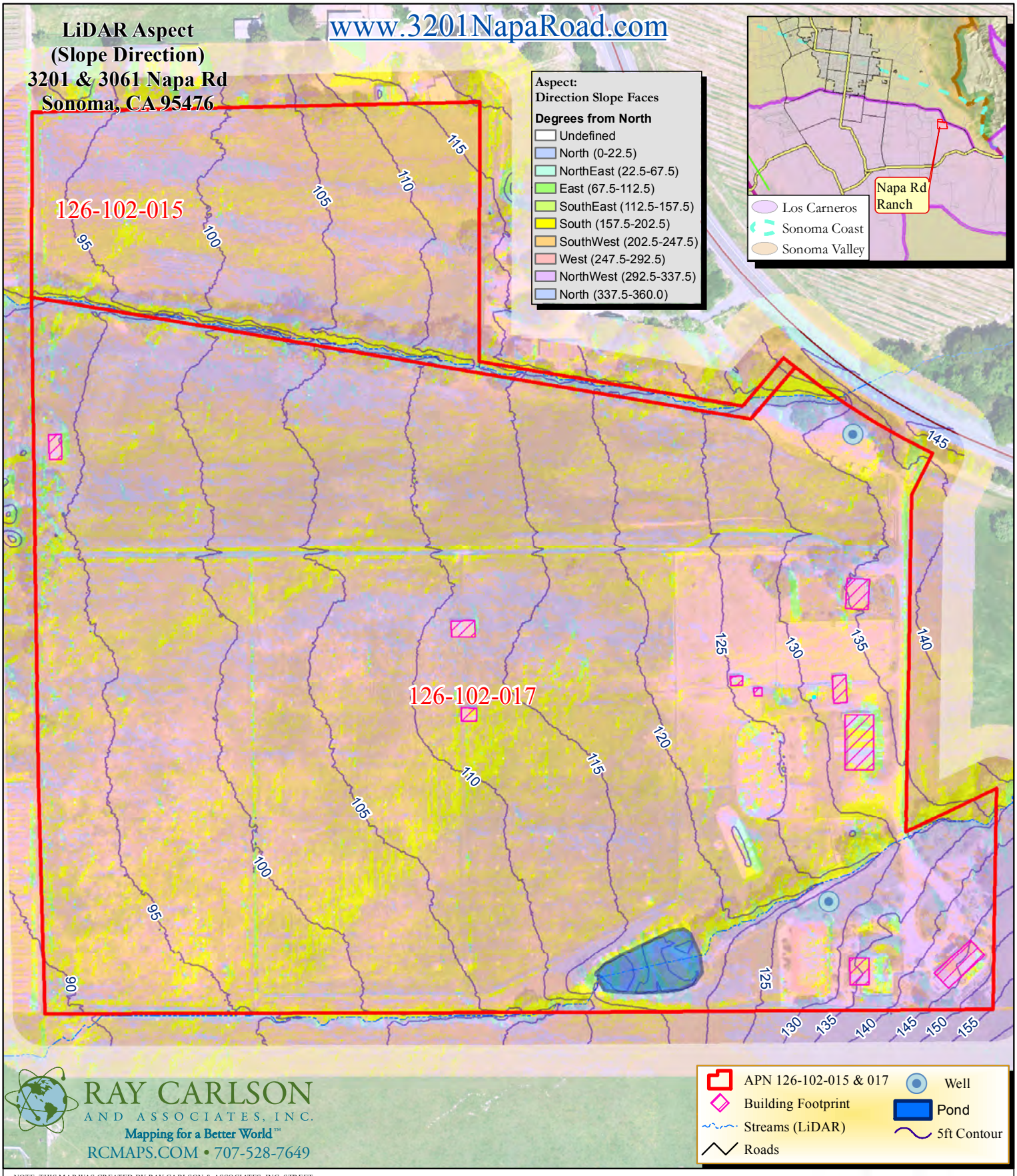
 JOB NO. 2015-016-BundesenC21-NapaRd

Century 21 Bundesen

eric.frost@bundesen.com
(707) 484-1292

LiDAR Aspect (Slope Direction)
3201 & 3061 Napa Rd
Sonoma, CA 95476

www.3201NapaRoad.com



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ORTHOPHOTOGRAPHY (2011) & ELEVATIONS (2013) PER SONOMA VEG MAP.

SOIL DATA PER USDA, NATURAL RESOURCES CONSERVATION SERVICE.

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N
W E
S

1 inch = 200 feet

0 100 200 400 Feet

 JOB NO. 2015-016-BundesenC21-NapaRd

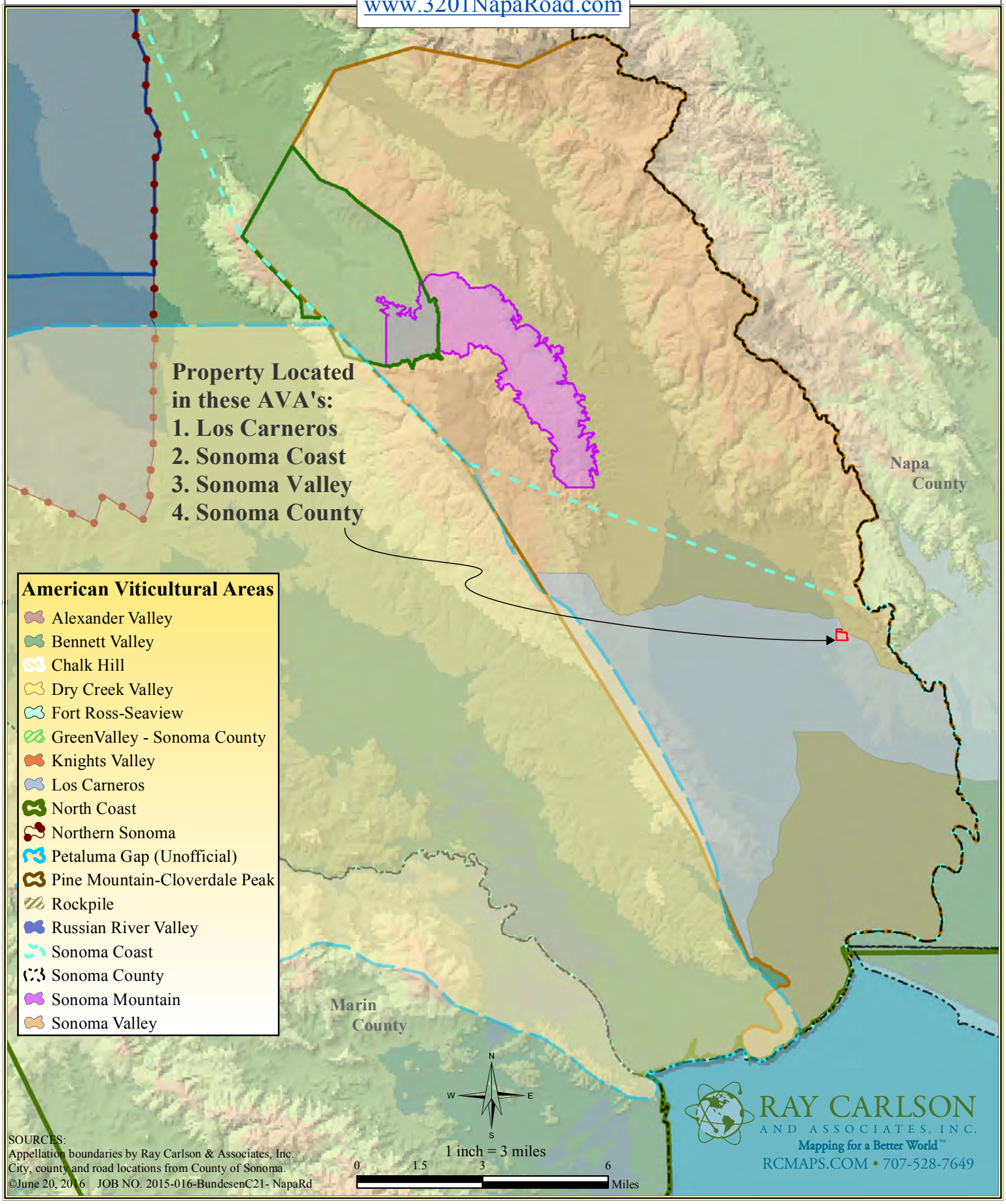
Century 21 Bundesen
eric.frost@bundesen.com
(707) 484-1292

Viticultural Areas for Sonoma County, CA

3201 & 3601 Napa Road, Sonoma, CA 95476

www.3201NapaRoad.com

Century 21 Bundesen
eric.frost@bundesen.com
707-484-1292



SOURCES:
Appellation boundaries by Ray Carlson & Associates, Inc.
City, county and road locations from County of Sonoma.
©June 20, 2016 JOB NO. 2015-016-BundesenC21- NapaRd

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Ray's Well Testing Service Inc.
4853 Vine Hill Rd, Sebastopol Ca 95472
Phone 707 823 3191 **Fax** 707 317 0057 **Lic#** 903708

CUSTOMER INFORMATION

REPORT #: 7797-2 By: Matt Owens	DATE OF TEST: 12/28/15
CUSTOMER NAME: Black Trust	CONTACT: Kyle Orth - 559 437 7648
AGENT NAME: Eric Frost - Century 21 Bundesen	CONTACT: 707 484 1292
PROPERTY ADDRESS: 3201 Napa Rd, Sonoma CA 95476	SENT TO: eric.frost@bundesen.com

WELL DATA

LOCATION OF WELL:	Pond Well - Between creek and tennis courts
TYPE OF WELL:	Drilled
DEPTH OF COMPLETED WELL:	765 Feet - as indicated by provided drill log
DIAMETER OF WELL CASING:	10 -1/2" O.D. Steel at surface, drill log not legible
SANITARY WELL SEAL (PLATE SEAL AT OPENING OF WELL CASING):	Yes
ANNULAR SEAL (IN-GROUND SEAL OF BOREHOLE):	35' cement seal
PUMP HP AND TYPE:	10 HP 460V 3PH Submersible, 4" Tee, #10-3 cable
DEPTH OF PUMP SUCTION:	Unknown, could not probe drop pipe

WATER PRODUCTION RESULTS

WATER LEVEL AT START (STATIC LEVEL):	111.7 Feet	FLOW RATE AT START:	53 GPM
FINAL PUMPING LEVEL:	182 Feet	FINAL FLOW RATE:	**45 GPM**
WATER LEVEL DRAWDOWN:	70.3 Feet	TOTAL LENGTH OF TEST:	4 Hours

CONSTANT PUMPING LEVEL INFORMATION

STABILIZED PUMPING LEVEL:	182 Feet	STABILIZED FLOW RATE (YIELD):	**45 GPM**
DURATION OF CONSTANT PUMPING LEVEL:	See pumping log	TOTAL YIELD:	See pumping log

WATER SYSTEM INSPECTION

WELL PUMP	Functional	TECHNICAL INFO: Control panel dated 1985, 12.4 amps
ELECTRICAL	Functional	TECHNICAL INFO: 70 amp fuse disconnect in control panel
PRESSURE TANK	See Comments	TECHNICAL INFO: See Comments
STORAGE TANK	None	TECHNICAL INFO: Pond is used as reservoir
BOOSTER PUMP	Deficient	TECHNICAL INFO: 20 HP 460V 3PH Cornell 2 1/2 W20-2 booster pump, 135 amps

WATER QUALITY TESTING

THE FOLLOWING SAMPLES ARE BEING ANALYZED. PLEASE REFER TO FOLLOW-UP REPORT FOR RESULTS.		
Residential + Irrigation Package	DATED: 12/28/15	TURNAROUND: Standard - Due 1/13/16
	DATED:	TURNAROUND:
	DATED:	TURNAROUND:
	DATED:	TURNAROUND:

SEE NEXT PAGE FOR FURTHER INFORMATION...

DATE: 12/28/15

ADDRESS: 3201 Napa Rd, Sonoma CA 95476

COMMENTS:

1. The recharge rate at the end of the test was 45 gallons per minute. This test may not represent the long term or seasonal yield.
2. This well is only used to fill the pond located on the property. There is a pipe protruding from the creek bank adjacent to the well and this is the only outlet pipe from the well. The pump is operated manually when needed.
3. There is a 20 HP 460V 3 Phase booster pump that draws water from the pond and pressurizes 2 - WX-350 pressure tanks dated 1989 with 0 and 42 psi air charges. The operating pressure range could not be determined as the pump was not functional. This system (when functional) pressurizes water for sprinklers at the various arenas on the property. The pump drew 135 amps, indicating a locked rotor.
4. There is a 4" Morrill 1000 series model 1010 horizontal filter installed on the main line leaving the booster pump.

PUMPING LOG:

TIME	WATER LEVEL	COLOR	SEDIMENT	ODOR	GPM
10:05 AM	111.7'	CLEAR	NO	NO	53
10:20 AM	174.6'	CLEAR	NO	NO	51.5
10:35 AM	177.1'	CLEAR	NO	NO	51.5
10:50 AM	180.1'	CLEAR	NO	NO	51
11:05 AM	182'	CLEAR	NO	NO	45
11:35 AM	182'	CLEAR	NO	NO	45
12:05 PM	182'	CLEAR	NO	NO	45
12:35 PM	182'	CLEAR	NO	NO	45
1:05 PM	182'	CLEAR	NO	NO	45
1:35 PM	182'	CLEAR	NO	NO	45
2:05 PM	182'	CLEAR	NO	NO	45

Thank you for allowing us to do your well inspection!

APPROVED BY: NICK BRASESCO

Water levels and well depth are measured as feet below top of well casing unless otherwise noted.

All wells and springs are subject to seasonal and yearly changes in regards to water yield, production and quality. Wells may be influenced by creeks or other water sources and are likely to yield less water during dry months of the year; typically August, September, & October. We make no predictions of future water production or water quality.

RECOMMENDATIONS:

1. There is a broken pipe joint underground near the well. Recommend repair.

2. The pond booster pump is drawing locked rotor amps and is not functional at this time so the system could not be operated for further testing. Recommend repair. (254JP frame)

3. The pond pump pressure switch is worn and charred. Recommend replacement.

4. One of the pressure tanks is not holding an air charge. Recommend replacement.

5. A pressure test on the well pump could not be performed due to the underground leak. Recommend referring to installer records for the pump model to cross reference output of the pump to the manufacturers performance curve.

Well Head

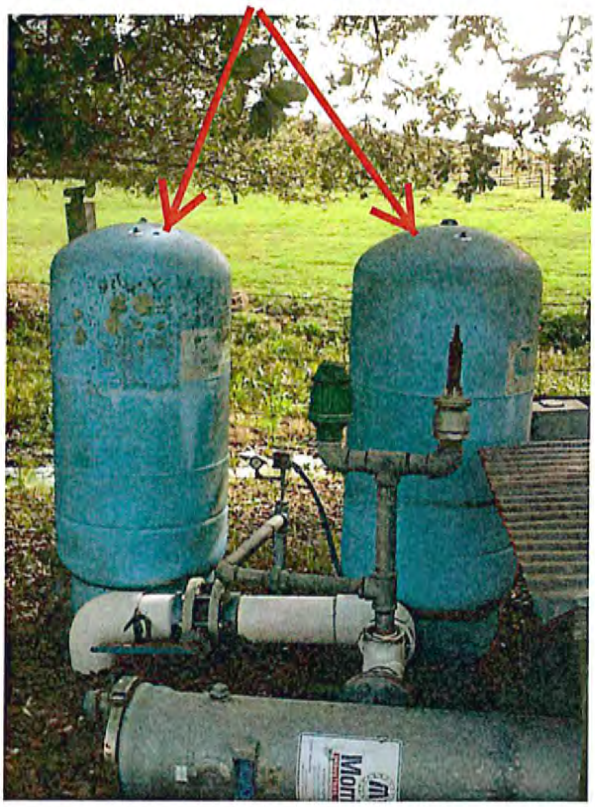
Well Pump Control Panel

Pond / Pond Fill Pipe

Pond Booster Pump

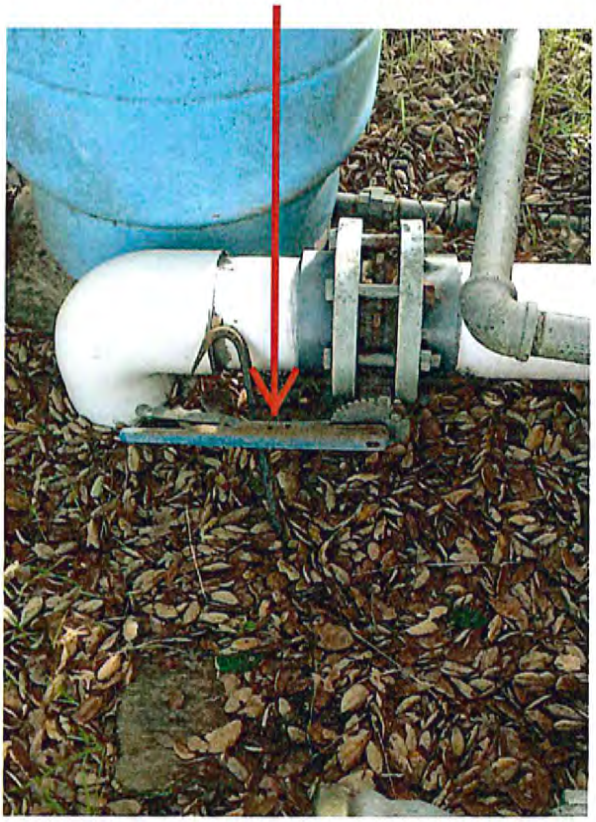
Pond Pump Disconnect

Pressure Tanks



Morrill Filter

Main Shut Off Valve



Analytical Sciences

Report Date: January 06, 2016

Laboratory Report

POND WELL

Nick Brasesco
Ray's Well Testing Service
4853 Vine Hill Rd
Sebastopol, CA 95472

Project Name: **3201 Napa Rd.**

Lab Project Number: **5122902**

This 5 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini

Mark A. Valentini, Ph.D.
Laboratory Director

P.O. Box 750336
Petaluma, CA 94975-0336
Telephone: (707) 769-3128

110 Liberty Street
Petaluma, CA
94952

Total Coliform & E. Coli

Lab#	Sample ID	Compound Name	Result (MPN/100 mL)		RDL (MPN/100 mL)
5122902-01	**Pond Well - Raw**	Total Coliform	6		1
		E. Coli	<1	QT	1

Date Sampled:	12/28/15	Date Analyzed:	12/30/15	QC Batch: B015329
Date Received:	12/29/15	Method:	SM 9223 B-2004	

Metals by Graphite Furnace

Lab#	Sample ID	Compound Name	Result (µg/L)	RDL (µg/L)
5122902-01	**Pond Well - Raw**	Arsenic (As)	14	2.0

Date Sampled:	12/28/15	Date Analyzed:	01/04/16	QC Batch: B015322
Date Received:	12/29/15	Method:	EPA 200.9	

Metals (ug/L)

Lab#	Sample ID	Compound Name	Result (µg/L)	RDL (µg/L)
5122902-01	**Pond Well - Raw**	Zinc (Zn)	ND	50

Date Sampled:	12/28/15	Date Analyzed:	01/05/16	QC Batch: B015344
Date Received:	12/29/15	Method:	EPA 200.7	

Metals (mg/L)

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122902-01	**Pond Well - Raw**	Boron (B)	1.2	0.050
		Sodium (Na)	110	2.0

Date Sampled:	12/28/15	Date Analyzed:	01/05/16	QC Batch: B015344
Date Received:	12/29/15	Method:	EPA 200.7	

Hardness

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122902-01	**Pond Well - Raw**	Calcium (Ca)	4.0	0.25
		Magnesium (Mg)	1.3	0.10
		Hardness	16	1.0

Date Sampled:	12/28/15	Date Analyzed:	01/05/16	QC Batch: B015344
Date Received:	12/29/15	Method:	SM 2340 B-2011	

Alkalinity

Lab#	Sample ID	Compound Name	Result (mg CaC03/L)	RDL (mg CaC03/L)
5122902-01	**Pond Well - Raw**	Total Alkalinity	180	5.0
		Bicarbonate Alkalinity	180	5.0
		Carbonate Alkalinity	ND	5.0
		Hydroxide Alkalinity	ND	5.0

Date Sampled:	12/28/15	Date Analyzed:	12/29/15	QC Batch: B015316
Date Received:	12/29/15	Method:	SM 2320 B-2011	

Anions

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122902-01	**Pond Well - Raw**	Chloride	45	1.0
		Sulfate as SO4	23	2.5

Date Sampled:	12/28/15	Date Analyzed:	12/31/15	QC Batch: B015334
Date Received:	12/29/15	Method:	EPA 300.0	

Total Dissolved Solids

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122902-01	**Pond Well - Raw**	Total Dissolved Solids	370	10

Date Sampled:	12/28/15	Date Analyzed:	01/04/16	QC Batch: B015338
Date Received:	12/29/15	Method:	SM 2540 C-2011	

Sodium Absorption Ratio

Lab#	Sample ID	Compound Name	Result (SAR)	RDL (SAR)
5122902-01	**Pond Well - Raw**	Sodium Absorption Ratio (SAR)	12.6	0.00

Date Sampled:	12/28/15	Date Analyzed:	01/05/16	QC Batch: B015344
Date Received:	12/29/15	Method:	SAR by Calculation	

Notes and Definitions

QT	The bacterial test utilized is a quantitative test. A result of less than 1 (<1) is indicating bacteria are "absent" in 100 milliliters of sample water.
RDL	Reporting Detection Limit
ND	Analyte NOT DETECTED at or above the reporting detection limit (RDL)
RPD	Relative Percent Difference
NR	Not Reported

Please Note: The drinking water Maximum Contamination Limits (MCL) set by the California Department of Health Services are as follows:

Arsenic (10 ug/L)
Iron (300 ug/L)
Manganese (50 ug/L)
Nitrate (45 mg/L)
Lead (15 ug/L)
Total Coliform (<1 MPN/100 mL)

WELL TESTING SERVICE

Phone: (707) 823-3191 **Fax:** (707) 317-0057 **Email:** rayswelltesting@gmail.com
Address: 4853 Vine Hill Rd, Sebastopol Ca 95472 **CA Lic. #:** 903708

Report of Water Analysis

DATE: 12/21/15

CUSTOMER NAME: Black Trust

PROPERTY ADDRESS: 3201 Napa Rd Sonoma CA 95476

PARAMETER	RESULT		RESIDENTIAL STANDARDS
	Raw - Well	-	
PH	7.72		< 7 Increasingly acidic - may be corrosive 6.8 to 8.5 - Recommended Range >7 Increasingly alkaline - scaling may occur
TOTAL IRON	ND		0.3 mg/l - MCL
TOTAL MANGANESE	0.05 mg/l		0.05 mg/l – MCL
CONDUCTIVITY	554 us/cm		1600 us/cm– MCL
NITRATES	3.8 mg/l		45 mg/l (as N03)– MCL
SILICA	59 mg/l		*There is no drinking water MCL
VISUAL APPEARANCE	Clear		

*Silica is increasingly reported as a nuisance at levels above 50 mg/l. 30 mg/l to 70 mg/l is common.

Abbreviations: MCL = Maximum Contaminant Level
mg/l = Milligrams Per Liter
us/cm = Microsiemens per centimeter
< = Less Than
> = Greater Than

NT = Not Tested

ND = Not Detected

IMPORTANT INFORMATION ON THE LIMITATIONS OF THIS REPORT:
The purpose of this report is to provide information regarding the general mineralogical character of a water supply. Unless specifically noted, this report does not include analysis for bacteria or any other health related contaminants. This analysis alone is therefore not suitable for determining the safety of a drinking water supply. This report is intended for the sole and exclusive use of our client named above. Our liability for error or omissions is expressly limited to the amount paid for the analysis.

Ray's Well Testing Service Inc.
4853 Vine Hill Rd, Sebastopol Ca 95472
Phone 707 823 3191 **Fax** 707 317 0057 **Lic#** 903708

CUSTOMER INFORMATION

REPORT #: 7797-1 By: Matt Owens	DATE OF TEST: 12/21/15
CUSTOMER NAME: Black Trust	CONTACT: Kyle Orth - 559 437 7648
AGENT NAME: Eric Frost - Century 21 Bundesen	CONTACT: 707 484 1292
PROPERTY ADDRESS: 3201 Napa Rd, Sonoma CA 95476	SENT TO: eric.frost@bundesen.com

WELL DATA

LOCATION OF WELL:	Main Well - To right of driveway in field near gate entrance
TYPE OF WELL:	Drilled
DEPTH OF COMPLETED WELL:	785 Feet - as indicated by provided drill log
DIAMETER OF WELL CASING:	6" PVC with 8" PVC stub at surface
SANITARY WELL SEAL (PLATE SEAL AT OPENING OF WELL CASING):	Yes
ANNULAR SEAL (IN-GROUND SEAL OF BOREHOLE):	38' cement seal
PUMP HP AND TYPE:	10 HP 230V 3PH Submersible, 2.5" tee, #4-3 cable
DEPTH OF PUMP SUCTION:	Unknown - please refer to installer records

WATER PRODUCTION RESULTS

WATER LEVEL AT START (STATIC LEVEL):	117 Feet	FLOW RATE AT START:	84 GPM
FINAL PUMPING LEVEL:	457 Feet	FINAL FLOW RATE:	**50.9 GPM**
WATER LEVEL DRAWDOWN:	340 Feet	TOTAL LENGTH OF TEST:	2 Hours

CONSTANT PUMPING LEVEL INFORMATION

STABILIZED PUMPING LEVEL:	457 Feet	STABILIZED FLOW RATE (YIELD):	**50.9 GPM**
DURATION OF CONSTANT PUMPING LEVEL:	1 Hour	TOTAL YIELD:	3,054 gallons

WATER SYSTEM INSPECTION

WELL PUMP	Functional	TECHNICAL INFO: 50.7 GPM @ 100 PSI @ 266', 32.2 amps, sticker dated 1986
ELECTRICAL	Functional	TECHNICAL INFO: 50 amp 3 pole breaker in pump control panel
PRESSURE TANK	Functional	TECHNICAL INFO: see comments
STORAGE TANK	Functional	TECHNICAL INFO: 2500 gallon poly tank - fire protection only.
BOOSTER PUMP	None	TECHNICAL INFO:

WATER QUALITY TESTING

THE FOLLOWING SAMPLES ARE BEING ANALYZED. PLEASE REFER TO FOLLOW-UP REPORT FOR RESULTS.		
Residential + Irrigation Package	DATED: 12/21/15	TURNAROUND: Standard - Due 1/8/16
Treated Arsenic (main house only)	DATED: 12/21/15	TURNAROUND: Standard - Due 1/8/16
	DATED:	TURNAROUND:
	DATED:	TURNAROUND:

SEE NEXT PAGE FOR FURTHER INFORMATION...

DATE: 12/21/15

ADDRESS: 3201 Napa Rd, Sonoma CA 95476

COMMENTS: Main Well
1. The recharge rate at the end of the test was 50.9 gallons per minute. This test may not represent the long term or seasonal yield.
2. The water had a tan haze for first hour and fifteen minutes of the test and was visibly clear for the remainder.
3. The well discharged a pinch of fine tan sand per 5 gallons for the first hour of the test.
4. The water was odor free for the duration of the test.
5. The well pump pressurizes 3- 86 gallon WX-302 pressure tanks dated 1990, 1987, and 1988 with 27, 30, and 30 psi air charges and 1-86 gallon WX-252 pressure tank dated 1977 with a 28 psi air charge. The operating pressure range is set 42 to 65 psi. This system pressurizes water for domestic use at the caretaker unit, pool house and main house. It also fills the fire storage tank and serves all landscape irrigation.
6. The caretaker unit treatment system includes a 10" x 54" Culligan Medallist media filter (media unknown, no plug to check level), a 10" x 54" Culligan Medallist water softener (brine tank 1/2 full), and a 12" x 42" media filter (no backwash valve).
7. The pool house treatment system includes a 10" x 42" Culligan medallist plus media filter (media unknown, no plug to check level), a 10" x 54" Culligan medallist plus water softener (brine tank 1/2 full), and a 12" x 42" media filter (no backwash valve).
8. The main house water treatment system includes a 10" x 54" Culligan media filter (media unknown, level not visible), a 10" x 54" Culligan water softener (brine 1/2 full), and a 12" x 42" media filter (no backwash valve).
9. There is a 1" Watts RP check valve on the landscape irrigation main to prevent siphoning of irrigation water.
Recommendations:
1. There is a valve that isolates the well pump from the pressure tank manifold. Recommend removing valve or locking handle to prevent accidental damage to pump.
2. The treated water at the main house tested acidic. Recommend contacting installer for repairs or additional equipment.
3. Arsenic was detected above the drinking water from the sample take direct from the well. Another sample was drawn post treatment at the main house indicates it was not detected. Recommend routine testing downstream of the equipment to determine when service is necessary to maintain a safe level. Recommend testing downstream of the other units at the poolhouse and caretaker house.

Thank you for allowing us to do your well inspection!

APPROVED BY: NICK BRASESCO

Water levels and well depth are measured as feet below top of well casing unless otherwise noted.

All wells and springs are subject to seasonal and yearly changes in regards to water yield, production and quality. Wells may be influenced by creeks or other water sources and are likely to yield less water during dry months of the year; typically August, September, & October. We make no predictions of future water production or water quality.

Well Head

Well Pump Control Panel

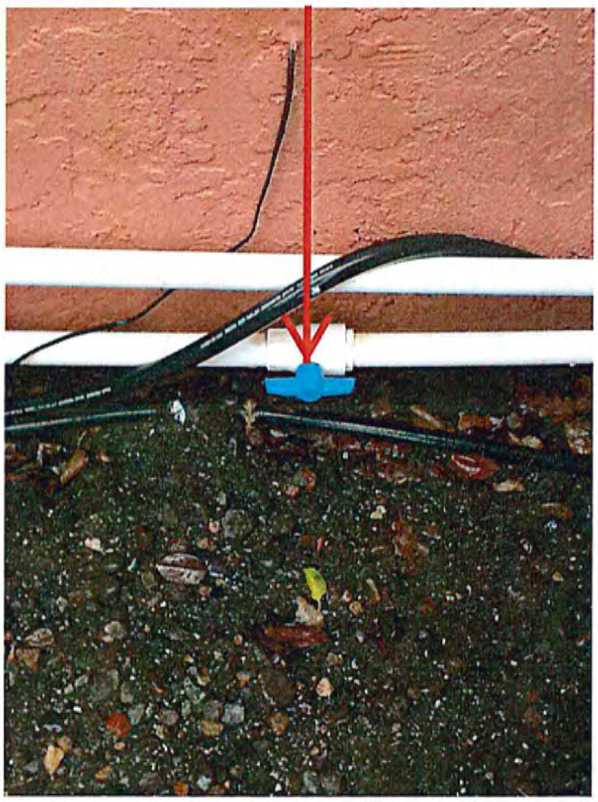
Pressure Tanks

Caretaker Unit Treatment System

Caretaker Unit Shut Off Valve

Poolhouse Treatment System

Poolhouse Shut Off Valve

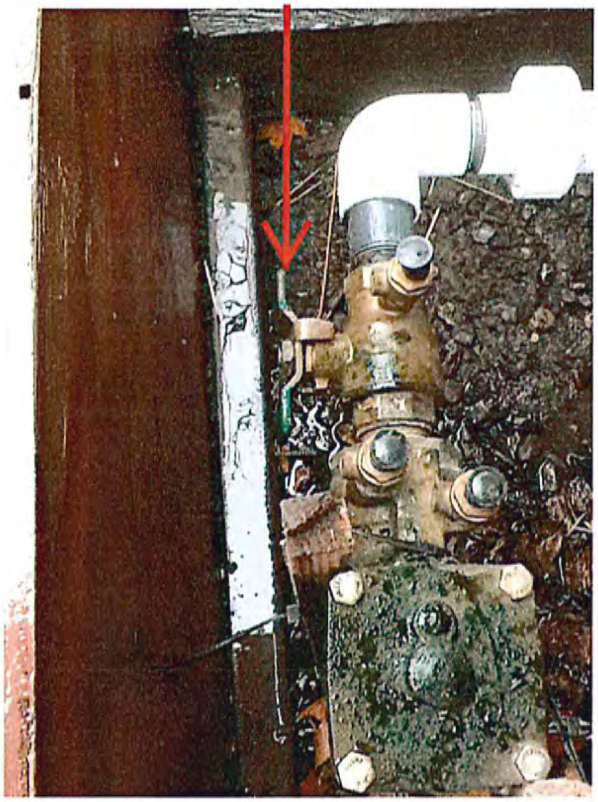


Main House Treatment System

Main House Shut Off Valve

Irrigation RP Check Valve

Irrigation Shut Off Valve



Fire Storage Tank

Wet Draft Hydrant

Old Well (not tested or inspected)

Analytical Sciences

Report Date: January 04, 2016

Laboratory Report

Nick Brasesco
Ray's Well Testing Service
4853 Vine Hill Rd
Sebastopol, CA 95472

Project Name: **3201 Napa Rd.**

Lab Project Number: **5122214**

This 5 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini

Mark A. Valentini, Ph.D.

Laboratory Director

P.O. Box 750336
Petaluma, CA 94975-0336
Telephone: (707) 769-3128

110 Liberty Street
Petaluma, CA
94952

Total Coliform & E. Coli

Lab#	Sample ID	Compound Name	Result (MPN/100 mL)		RDL (MPN/100 mL)
5122214-01	**Main Well- Treated**	Total Coliform	<1	QT	1
		E. Coli	<1	QT	1

Date Sampled:	12/21/15	Date Analyzed:	12/23/15	QC Batch: B015329
Date Received:	12/22/15	Method:	SM 9223 B-2004	

Metals by Graphite Furnace

Lab#	Sample ID	Compound Name	Result (µg/L)	RDL (µg/L)
5122214-01	**Main Well- Treated**	Arsenic (As)	ND	2.0

Date Sampled:	12/21/15	Date Analyzed:	12/29/15	QC Batch: B015298
Date Received:	12/22/15	Method:	EPA 200.9	

Metals by Graphite Furnace

Lab#	Sample ID	Compound Name	Result (µg/L)	RDL (µg/L)
5122214-02	**Main Well - Raw**	Arsenic (As)	34	10

Date Sampled:	12/21/15	Date Analyzed:	12/29/15	QC Batch: B015298
Date Received:	12/22/15	Method:	EPA 200.9	

Metals (ug/L)

Lab#	Sample ID	Compound Name	Result (µg/L)	RDL (µg/L)
5122214-02	**Main Well - Raw**	Zinc (Zn)	170	50

Date Sampled:	12/21/15	Date Analyzed:	12/30/15	QC Batch: B015315
Date Received:	12/22/15	Method:	EPA 200.7	

Metals (mg/L)

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122214-02	**Main Well - Raw**	Boron (B)	0.63	0.050
		Sodium (Na)	63	2.0

Date Sampled:	12/21/15	Date Analyzed:	12/30/15	QC Batch: B015315
Date Received:	12/22/15	Method:	EPA 200.7	

Hardness

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122214-02	**Main Well - Raw**	Calcium (Ca)	2.2	0.25
		Magnesium (Mg)	0.73	0.10
		Hardness	36	1.0

Date Sampled:	12/21/15	Date Analyzed:	12/30/15	QC Batch: B015315
Date Received:	12/22/15	Method:	SM 2340 B-2011	

Alkalinity

Lab#	Sample ID	Compound Name	Result (mg CaC03/L)	RDL (mg CaC03/L)
5122214-02	**Main Well - Raw**	Total Alkalinity	120	5.0
		Bicarbonate Alkalinity	120	5.0
		Carbonate Alkalinity	ND	5.0
		Hydroxide Alkalinity	ND	5.0

Date Sampled:	12/21/15	Date Analyzed:	12/29/15	QC Batch: B015316
Date Received:	12/22/15	Method:	SM 2320 B-2011	

Anions

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122214-02	**Main Well - Raw**	Chloride	21	0.40
		Sulfate as SO4	11	0.50

Date Sampled:	12/21/15	Date Analyzed:	12/29/15	QC Batch: B015334
Date Received:	12/22/15	Method:	EPA 300.0	

Total Dissolved Solids

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5122214-02	**Main Well - Raw**	Total Dissolved Solids	260	10

Date Sampled:	12/21/15	Date Analyzed:	12/29/15	QC Batch: B015338
Date Received:	12/22/15	Method:	SM 2540 C-2011	

Sodium Absorption Ratio

Lab#	Sample ID	Compound Name	Result (SAR)	RDL (SAR)
5122214-02	**Main Well - Raw**	Sodium Absorption Ratio (SAR)	4.62	0.00

Date Sampled:	12/21/15	Date Analyzed:	12/30/15	QC Batch: B015315
Date Received:	12/22/15	Method:	SAR by Calculation	

Notes and Definitions

QT	The bacterial test utilized is a quantitative test. A result of less than 1 (<1) is indicating bacteria are "absent" in 100 milliliters of sample water.
RDL	Reporting Detection Limit
ND	Analyte NOT DETECTED at or above the reporting detection limit (RDL)
RPD	Relative Percent Difference
NR	Not Reported

Please Note: The drinking water Maximum Contamination Limits (MCL) set by the California Department of Health Services are as follows:

Arsenic (10 ug/L)
Iron (300 ug/L)
Manganese (50 ug/L)
Nitrate (45 mg/L)
Lead (15 ug/L)
Total Coliform (<1 MPN/100 mL)

WELL TESTING SERVICE

Phone: (707) 823-3191 **Fax:** (707) 317-0057 **Email:** rayswelltesting@gmail.com
Address: 4853 Vine Hill Rd, Sebastopol Ca 95472 **CA Lic. #:** 903708

Report of Water Analysis

DATE: 12/21/15

CUSTOMER NAME: Black Trust

PROPERTY ADDRESS: 3201 Napa Rd Sonoma CA 95476

PARAMETER	RESULT		RESIDENTIAL STANDARDS
	Raw - Well	Main house	
PH	7.54	6.55	< 7 Increasingly acidic - may be corrosive 6.8 to 8.5 - Recommended Range >7 Increasingly alkaline - scaling may occur
TOTAL IRON	0.39 mg/l	0.08 mg/l	0.3 mg/l - MCL
TOTAL MANGANESE	0.07 mg/l	0.04 mg/l	0.05 mg/l – MCL
CONDUCTIVITY	321 us/cm	496 us/cm	1600 us/cm– MCL
NITRATES	2.1 mg/l	NT	45 mg/l (as N03)– MCL
SILICA	90 mg/l	NT	*There is no drinking water MCL
VISUAL APPEARANCE	Clear	Clear	

*Silica is increasingly reported as a nuisance at levels above 50 mg/l. 30 mg/l to 70 mg/l is common.

Abbreviations: MCL = Maximum Contaminant Level
mg/l = Milligrams Per Liter
us/cm = Microsiemens per centimeter
< = Less Than
> = Greater Than

NT = Not Tested

ND = Not Detected

IMPORTANT INFORMATION ON THE LIMITATIONS OF THIS REPORT:
The purpose of this report is to provide information regarding the general mineralogical character of a water supply. Unless specifically noted, this report does not include analysis for bacteria or any other health related contaminants. This analysis alone is therefore not suitable for determining the safety of a drinking water supply. This report is intended for the sole and exclusive use of our client named above. Our liability for error or omissions is expressly limited to the amount paid for the analysis.

ANALYTICAL SCIENCES
AGRICULTURAL SUITABILITY

Parameter	Ranges
Alkalinity	<100 ppm may be corrosive 100-200 ppm ideal >150 ppm scaling may occur
Boron	<0.5 ppm safe 0.5-1.0 ppm potential problems with sensitive crops 1.0-2.0 ppm semi tolerant crops 2.0-10 ppm tolerant crops
Chloride	<70 ppm generally safe for plants 70-140 ppm Sensitive Plants 140-350 ppm Moderately Tolerant Plants show injury >350 ppm Can cause severe problems >250 ppm Corrosion salty taste
Conductivity	<750 uS/cm suitable 750-2000 uS/cm ok may need soil leaching >2000 uS/cm not suitable
Hardness	150-300 ppm moderate plugging >300 ppm severe plugging
Iron	0.15-0.22 ppm potential hazard for drip systems 0.2-1.5 ppm moderate clogging hazard >0.5 ppm should not be used for drip irrigation without treatment >1.5 ppm severe clogging
Manganese	<0.1 ppm slight 0.1-1.5 ppm moderate clogging >1.5 ppm severe
Nitrate	45 ppm Drinking Water MCL *can use nitrate number for conversion into nitrogen fertilizer requirements for crops*
pH	6.0-7.0 most desirable
SAR	<1 excellent <2 good <3 fair >4 poor
Silica	1-100 ppm common well water ranges scaling can occur at high levels
Sodium	<50 ppm is desirable
TDS	<500 ppm is desirable (MCL = 500)