Barton Springs
Edwards Aquifer
CONSERVATION DISTRICT

September 1, 2016

David Gunn, Program Manager
Texas Department of Licensing and Regulation, WWD Enforcement Division
P.O. Box 12157
Austin, Texas 78711

RE: Enforcement referral from the Barton Springs/Edwards Aquifer Conservation District (District) for alleged violations associated with a failure to accurately report a State of Texas Well Report and failure to properly cement the annular space of a well by licensed water well drillers Rick Pfeifer and Dean Davenport for a well located in Wimberley, Texas.

Dear Mr. Gunn:

The Barton Springs/Edwards Aquifer Conservation District (District) is formally referring to TDLR for possible enforcement action the following information in support of alleged violations of District Rules and Bylaws, Texas Occupations Code (TOC) §1901 and Title 16 Texas Administrative Code (TAC) §76.70 – Failure of driller to record and maintain an accurate State of Texas Well Report and §76.100(c)(d)(e) – Failure to properly drill, case, and cement the annular space of a well. A summary of the pertinent information and allegations is provided in the following memo. More detailed documentation is provided in the following attachments.

If you need any further information or have any question, please feel free to contact John Dupnik by phone at 512/282-8441 or by e-mail at john@bseacd.org.

Sincerely,

John Dupnik, P.G.
BS/EACD General Manager

Enclosures: Memo with Attachments A-F

***** MEMORANDUM *****

Date: August 30, 2016

To: David Gunn, Program Manager
TDLR, Water Well Driller Enforcement Division

From: John T. Dupnik, P.G., General Manager
Barton Springs/Edwards Aquifer Conservation District

Subject: Enforcement referral from the Barton Springs/Edwards Aquifer Conservation District (District) for alleged violations associated with a failure to accurately report a State of Texas Well Report and failure to properly cement the annular space of a well by licensed water well drillers Rick Pfeifer and Dean Davenport for a well located in Wimberley, Texas.

The Barton Springs/Edwards Aquifer Conservation District (District) is formally referring to TDLR for possible enforcement action the following information in support of alleged violations of District Rules and Bylaws, Texas Occupations Code (TOC) §1901 and Title 16 Texas Administrative Code (TAC) §76.70 – Failure of driller to record and maintain an accurate State of Texas Well Report and §76.100(c)(d)(e) – Failure to properly drill, case, and cement the annular space of a well. A summary of the pertinent information and allegations is provided below:

This complaint references the following well, drillers, and state well report:

State Well Report Tracking #:	317171
Driller Name:	Rick Pfeiffer (License No. 50268)
Driller Name:	Dean Davenport (License No. 2669)
Company Information:	Davenport Drilling and Pump Service (Dean Davenport Licensed Driller) 11844 Bandera Rd PMB 711 Helotes, TX 78023
Owner Well #:	Well D
Well Location:	2400 Little Arkansas Rd, Wimberley, TX 78676
Well Coordinates:	29.970265°, -98.034161° (Attachment A)

Summary:

The Barton Springs/Edwards Aquifer Conservation District (District) submits this complaint and supporting materials to document the following well construction and state well reporting violations.

1) Well Reporting Violation (Rick Pfeiffer). Downhole video documentation indicates that there is no annular seal from 42 to 460 ft bgs. However, the State Well Report #317171 submitted by the licensed driller states that there is annular seal from 0 to 460 ft bgs.

2) Well Reporting Violation (Rick Pfeiffer). Documentation from Edwards Aquifer Authority (EAA) and a documented geophysical log (Geo Cam Log 10/23/12) completed on Well D at the time of well completion indicates that Well D was originally drilled to a total depth of 1000 ft bgs and 850 ft bgs respectively. However, the State Well Report #317171 states that the total depth of the well is 800 ft bgs. The report shows no reflection of any back plugged intervals.

3) Well Construction Violation (Rick Pfeiffer). Downhole video and the submitted State Well Report #317171 indicated the lack of grout in the indicated interval. This is evidence of improper emplacement of the annular seal and potential for compromised annular seal to the surface.

4) Well Reporting Violation (Dean Davenport). Well D was modified in December 2015 which involved a new borehole depth, new casing material, and new annular seal interval. However, the licensed driller performing the modification (Dean Davenport) did not submit a state drilling report to the District or TDLR documenting the modifications.

Background:

According to the State Well Report #317171 (Attachment B), the referenced Well D was drilled and beginning in October 2012 and completed in February 2013. The well was drilled just outside of the Hays Trinity Groundwater Conservation District (HTGCD) boundary and was not subject to EAA's Drill Through permitting requirements (Attachment C) and therefore, was at the time subject only to TDLR regulation for well construction and reporting. Based on the conversations with the well owner and technical consultants during October 2015 the well was operating in working order until the Summer of 2015. In June of 2015 the District's jurisdiction was expanded through a legislative act and passage of H.B. 3405. With the expansion of the District's regulatory authority into Hays County, this referenced Well D was automatically subject to the permitting requirements for nonexempt wells. The well owner submitted a permit application in September 2015 at which time staff learned more details about the condition and completion of Well D.

During an onsite visit on 10/14/15 District staff learned that the pump in Well D was removed on 9/4/15 by a local well water well driller/pump installer. A documented video log (https://vimeo.com/142517941) and site visit notes (Attachment D) provided to the District confirmed that Well D was damaged and in deteriorated condition, and was therefore considered an abandoned well pursuant to State law and District rules. The downhole video footage of Well D documented a lack of casing and significant damage of the PVC casing at approximately 42 ft bgs (Attachment D). The footage further documented no evidence of grout along the borehole wall and the PVC obstruction in Well D at approximately 230 ft bgs. The PVC obstruction appears to be the lower part of the casing string that parted and fell to the bottom of the borehole. This is consistent with lack of grout and an improper annular seal. It's unclear when the damage

occurred but the footage provided to the District confirms the well's deteriorated condition and designation as an abandoned well.

Due to a casing malfunction/obstruction in the well, a pump could not be reinstalled in Well D and the well was incapable of production in that condition. District staff concluded that the annular seal was not emplaced properly and therefore, the well was improperly completed. The District further concluded that the resulting damage to the casing in Well D would need to be repaired before an aquifer test could be performed to support a District application for a Regular Production Permit. The District coordinated with the well owner and driller on the repairs and an approved recompletion well design (Attachment E) that were needed to comply with current TDLR and District well construction standards. The approved well repair and recompletion were designed to remedy the well damage and the clear evidence indicating the lack of grout or cement throughout the remaining borehole beginning at 42 ft bgs. As mentioned, the submitted drillers report, State Well Report #317171, indicated that the annular seal interval was emplaced from 0-460 ft bgs in Well D which was inconsistent with the actual completion of the well and information documented in the video log.

As part of the District's investigation, the District staff contacted Mr. Davenport of Davenport Drilling and informed him of the lack of grout and the parted/damaged casing. Mr. Davenport opined that the grout must have been washed out as of a result of the flooding on the Blanco River that occurred in late May of 2015 (approximately two years after the well was completed). Based on the proximity of the well to the Blanco River, the formation attributes governing subsurface movement of groundwater in the Trinity Aquifer, groundwater elevations, river flood water elevations relative to the impacted well interval, among other factors, it is the District's professional opinion is that it is not physically possible that Blanco River flood water could move through the subsurface at velocities that could erode set annular cement in a properly completed well. Rather, the damage documented with logs and video can be attributed to improper well construction.

Data from a documented geophysical log (Geo Cam Log 10/23/12) of Well D at the time of well completion (Attachment F) provided additional evidence of well report discrepancies and false reporting. The geophysical log shows that the well was logged to a depth of 850 ft below ground surface. However, the State Well Report #317171 states that the total depth of the well is 800 ft bgs. The report shows no reflection of any back plugged intervals from 850 up to 800 ft bgs. Additionally, there appears to be a discrepancy with the State Well Report #317171 based on supporting documentation (Attachment C) from Edwards Aquifer Authority and a documented geophysical log (Geo Cam Log 10/23/12) of Well D at the time of well completion (Attachment F). These documents indicate that Well D was originally drilled to a total depth of 1000 ft bgs. However, the State Well Report #317171 states that the total depth of the well is 800 ft bgs. The report shows no reflection of any back plugged interval from 1000 up to 800 ft bgs.

During the time period of October 2015 through February 2016, the District coordinated with the hydrogeologist, Wet Rock Consulting, and Dean Davenport of Davenport Drilling on a well recompletion design. A well design was approved and the District was onsite during some of the drilling and grouting phases of the recompletion project. Upon recent review of our correspondence records, it appears that Davenport Drilling failed to submit a State of Texas

Drilling Report to the District or TDLR documenting the modifications to Well D. The modifications involved a new borehole depth, new casing material, and new annular seal interval.

Chronology of Events:

August 2012 Wet Rock Consulting submitted application materials including a proposed well design to Edwards Aquifer Authority for the proposed Well D Trinity Well.

October 2012 On 10/23/12 Geo Cam performed a geophysical log run on Well D. The log documents that the well was drilled to total depth of 1000' and that the log was only run to 850'.

February 2013 Well D was Drilled and Completed by Davenport Drilling

May 2015 Memorial Day flood on the Blanco River

June 2015 District (BS/EACD) expands regulatory jurisdiction into new area and requires Well D to be permitted

September 2015 Well owner contracts with local driller to remove pump from Well D and run a downhole video survey. Video footage documents Well D in a deteriorated non- operational condition. Video footage also documents discrepancies between actual well completion and information on the driller's state well report.

October 2015 District issues a Temporary Permit authorizing production contingent on the recompletion and repair of Well D.

November 2015 District approval of a well recompletion design.

Dec 2015- Jan 2016 Davenport Drilling commences drilling and recompletion of Well D.

Allegations:

Violations of District Rules:
District Rule 5-9 – failure to submit a state well report within 60 days; well report should be an accurate reflection of actual well completion.

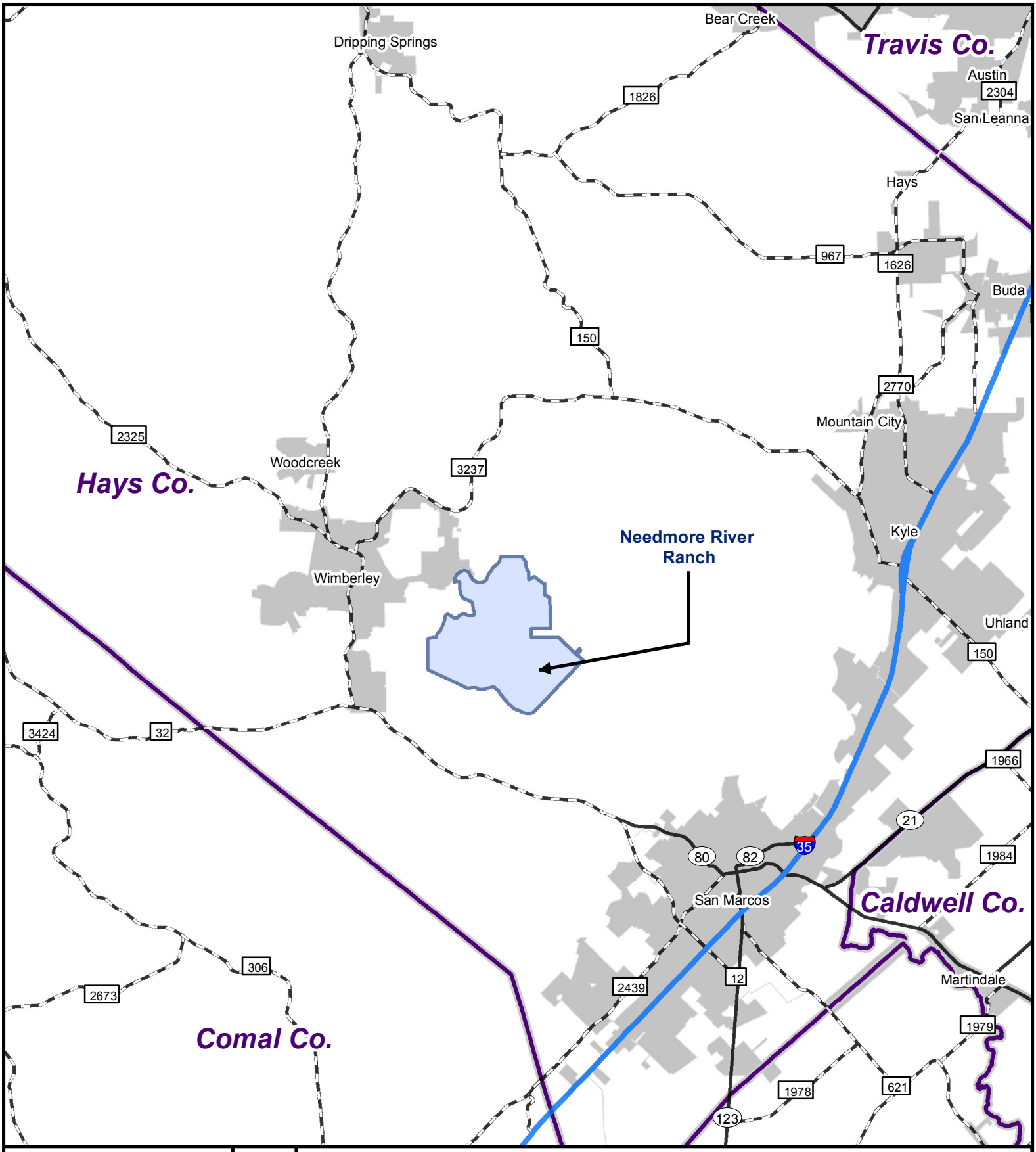
Violations State Rules 16 TAC §76.1000(a):
16 TAC 76.1004 - Failure of driller to record and maintain an accurate State of Texas Well Report.
16 TAC 76.100(c)(d)(e) – Failure to properly drill, case, and cement the annular space of a well.

The District requests that TDLR further investigate these discrepancies.

Attached Documents:

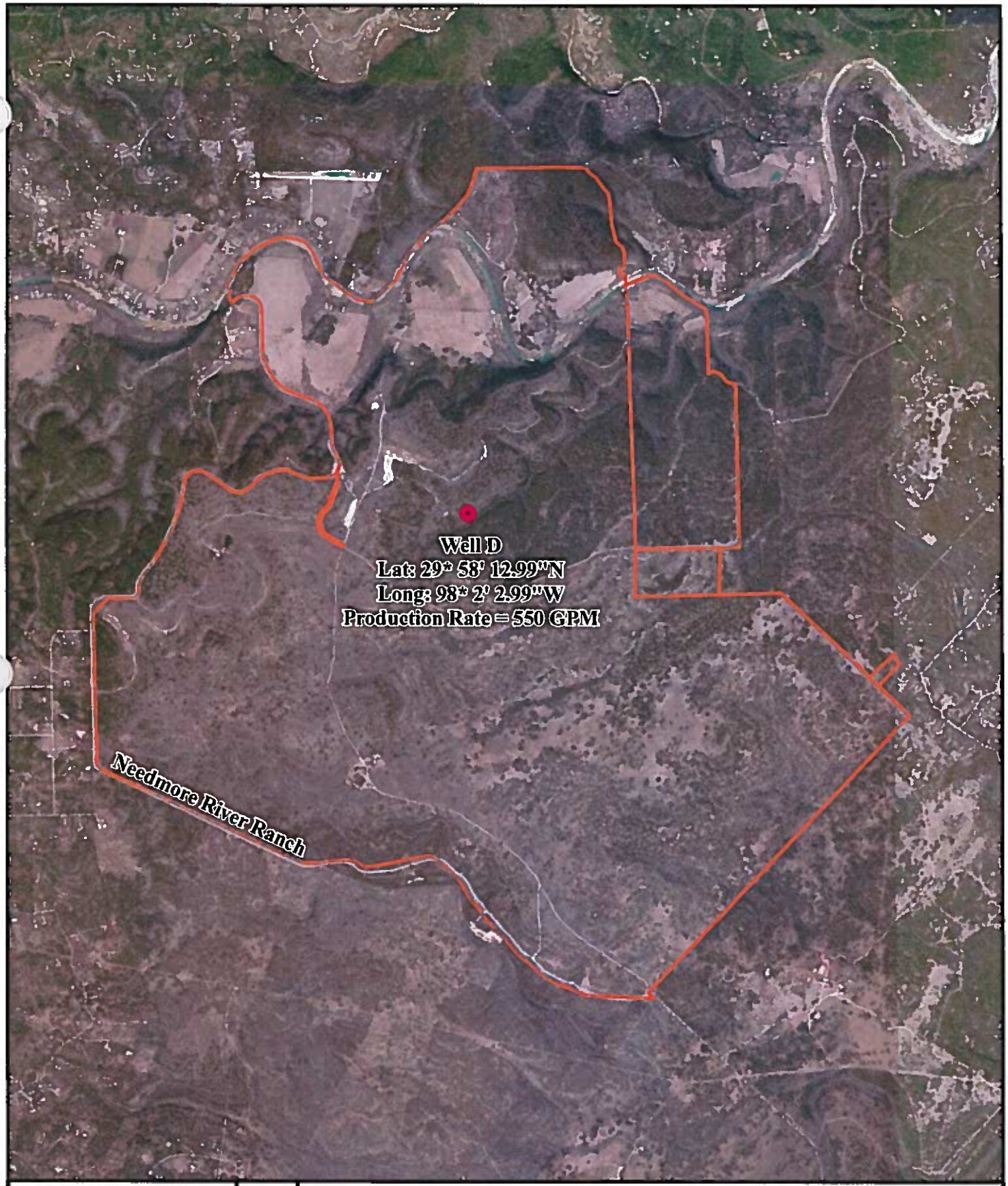
Attachment A – Well Location Maps
Attachment B – State of Texas Well Report # 317171
Attachment C – Edwards Aquifer Authority Drill Through Application Materials (August 2012)
Attachment D – Downhole Video Footage of Well D (September 2015)
Attachment E – Well Recompletion Design Approved by BSEACD (November 2015)
Attachment F – Well D Geophysical Log by Geo Cam (October 2012)

Attachment A –
Well Location Maps



Scale: 1 inch = 3 miles		Needmore River Ranch: Road Map
Drawn By: BB Date: 8-12		Needmore River Ranch Hays County, Texas
Quad Name and No: Wimberley, Texas 29098-H-1 San Marcos North, Texas 29097-H-8		
Projection: UTM NAD 83 Zone 14		

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
311 Ranch Road 620 South, Ste. 103
Austin, Texas 78734
Ph: 512.773.3226 Fax: 512.879.6809
www.wetrockgs.com



0 1,500 3,000 Feet

Drawn By: BB Date: 9-1-2015

Quad Name and No:
Wimberley, Texas 29098-H-1
San Marcos North, Texas 29097-H-8

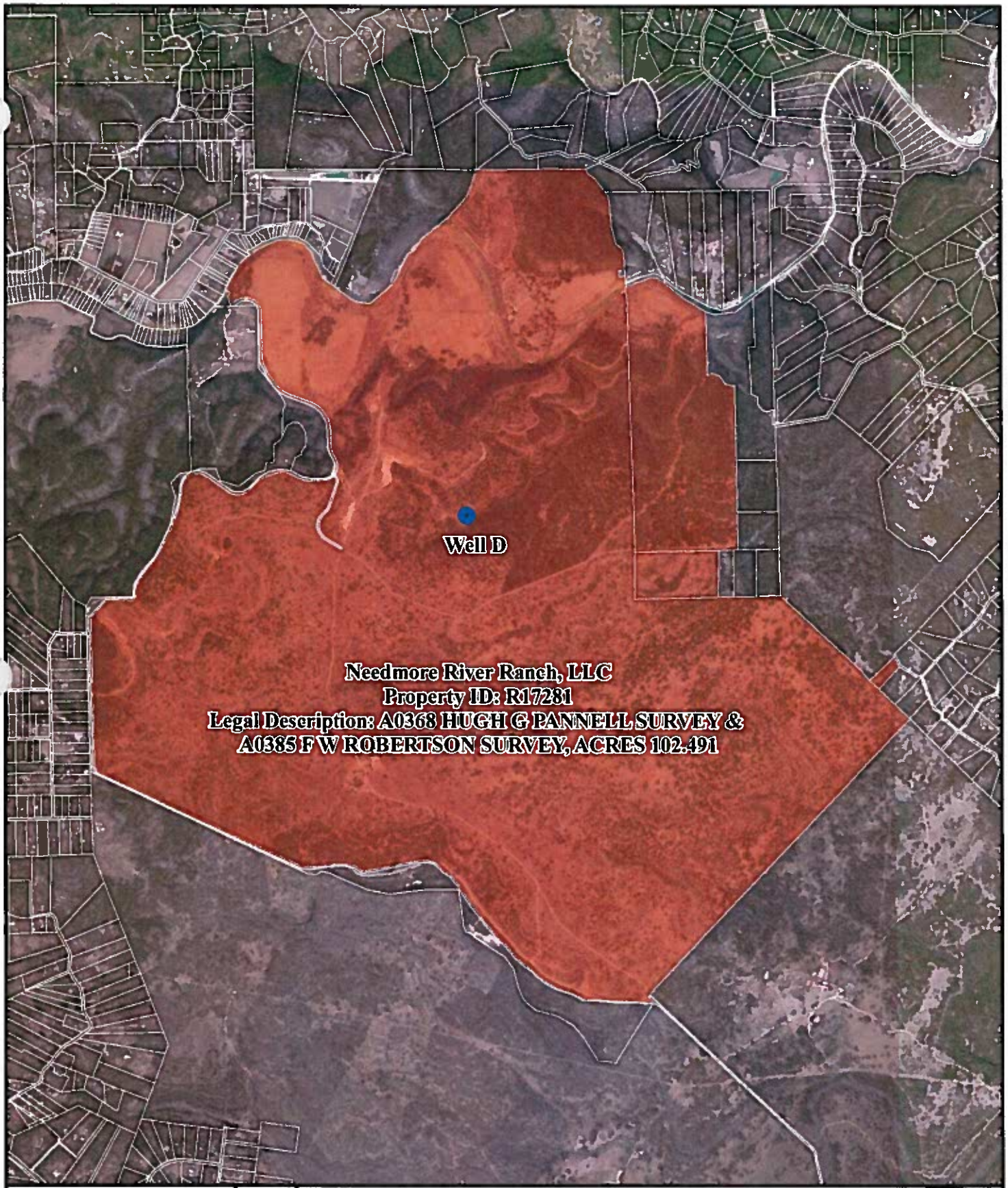
Projection:
UTM NAD 83 Zone 14

Well Location and Estimated Production Rate Map

Needmore River Ranch

Hays County, Texas

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
317 Ranch Road 620 South, Ste. 203
Austin, Texas 78734 Ph: 512.773.3226
www.wetrockgs.com



0 1,500 3,000 Feet

Drawn By: BB Date: 9-1-2015

Quad Name and No:
Wimberley, Texas 29098-H-1
San Marcos North, Texas 29097-H-8

Projection:
UTM NAD 83 Zone 14

Plat/Ownership Map

Needmore River Ranch

Hays County, Texas

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
317 Ranch Road 620 South, Ste. 203
Austin, Texas 78734 Ph: 512.773.3226
www.wetrockgs.com

Attachment B –
State of Texas Well Report # 317171

STATE OF TEXAS WELL REPORT for Tracking #317171

Owner:	**GREG LAMANTIA**	Owner Well #:	**WELL D**
Address:	**3900 N. MCCOLL RD. MCALLEN, TX 78501**	Grid #:	**68-08-3**
Well Location:	**2400 LITTLE ARKANSAS RD. WIMBERLY, TX 78676**	Latitude:	**29° 58' 15" N**
		Longitude:	**098° 02' 04" W**
Well County:	**Hays**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **10/16/2012** Drilling End Date: **2/25/2013**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
12.25	**0**	**460**
9.875	**460**	**800**

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**460**	**242**

Seal Method: **TREMMIE**

Sealed By: **DAVENPORT DRILLING**

Distance to Property Line (ft.): **150+**

Distance to Septic Field or other concentrated contamination (ft.): **150+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **ESTIMATE**

Surface Completion: **Surface Slab Installed**

Water Level: **290 ft.** below land surface on **2013-02-25** Measurement Method: **Unknown**

Packers: **SHALE 460'**

Type of Pump: **Submersible**

Well Tests: **Pump** **Yield: 400 GPM with 30 ft. drawdown after 24 hours**

Water Quality:

Strata Depth (ft.)	Water Type
740	**TRINITY**

Chemical Analysis Made: **Yes**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **DAVENPORT DRILLING AND PUMP SERVICE**

11844 BANDERA RD. PMB 711
HELOTES, TX 78023

Driller Name: **RICK PFEIFFER** License Number: **50268**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
ELOG ON FILE		

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
8"	**NEW**	**SDR17PVC**	**FROM 0 TO 460'**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

Attachment C –
Edwards Aquifer Authority Drill Through Application Materials (August 2012)

Vanessa Escobar

From: Bryan Boyd <b.boyd@wetrockgs.com>
Sent: Monday, August 27, 2012 2:28 PM
To: Roger Andrade
Subject: Needmore River Ranch - Drill Through Application Attachments
Attachments: Needmore Road Map.pdf; Needmore Well D Profile.pdf

Roger,

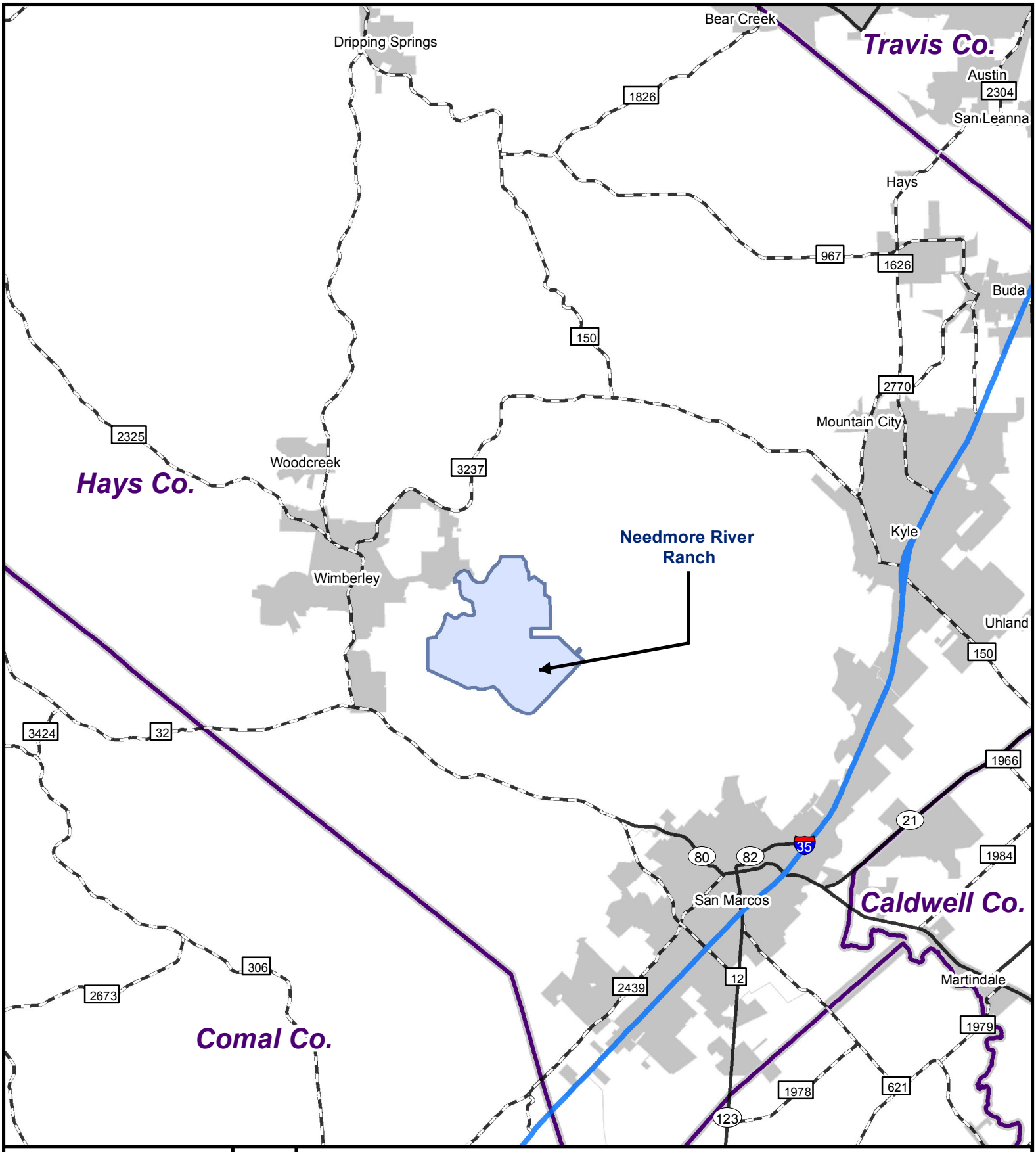
We spoke on the phone early today regarding a Drill Through Permit Application for the Needmore River Ranch. The application was lacking the necessary location maps, well construction/profile information, and recorded deed.

I have attached 2 of the documents and will send the others in follow up emails. My first attempt of sending all at once was rejected due to the attachment size.

Please let me know if you need anything else from me.

Thank you,

Bryan Boyd
Wet Rock Groundwater Services, LLC
Groundwater Specialists
311 Ranch Road 620 South, Suite 103
Austin, TX 78734
Phone: (512) 799-5875
Fax: (512) 879-6809



Scale: 1 inch = 3 miles		Needmore River Ranch: Road Map
Drawn By: BB Date: 8-12		Needmore River Ranch Hays County, Texas
Quad Name and No: Wimberley, Texas 29098-H-1 San Marcos North, Texas 29097-H-8		
Projection: UTM NAD 83 Zone 14		

Wet Rock Groundwater Services, L.L.C.
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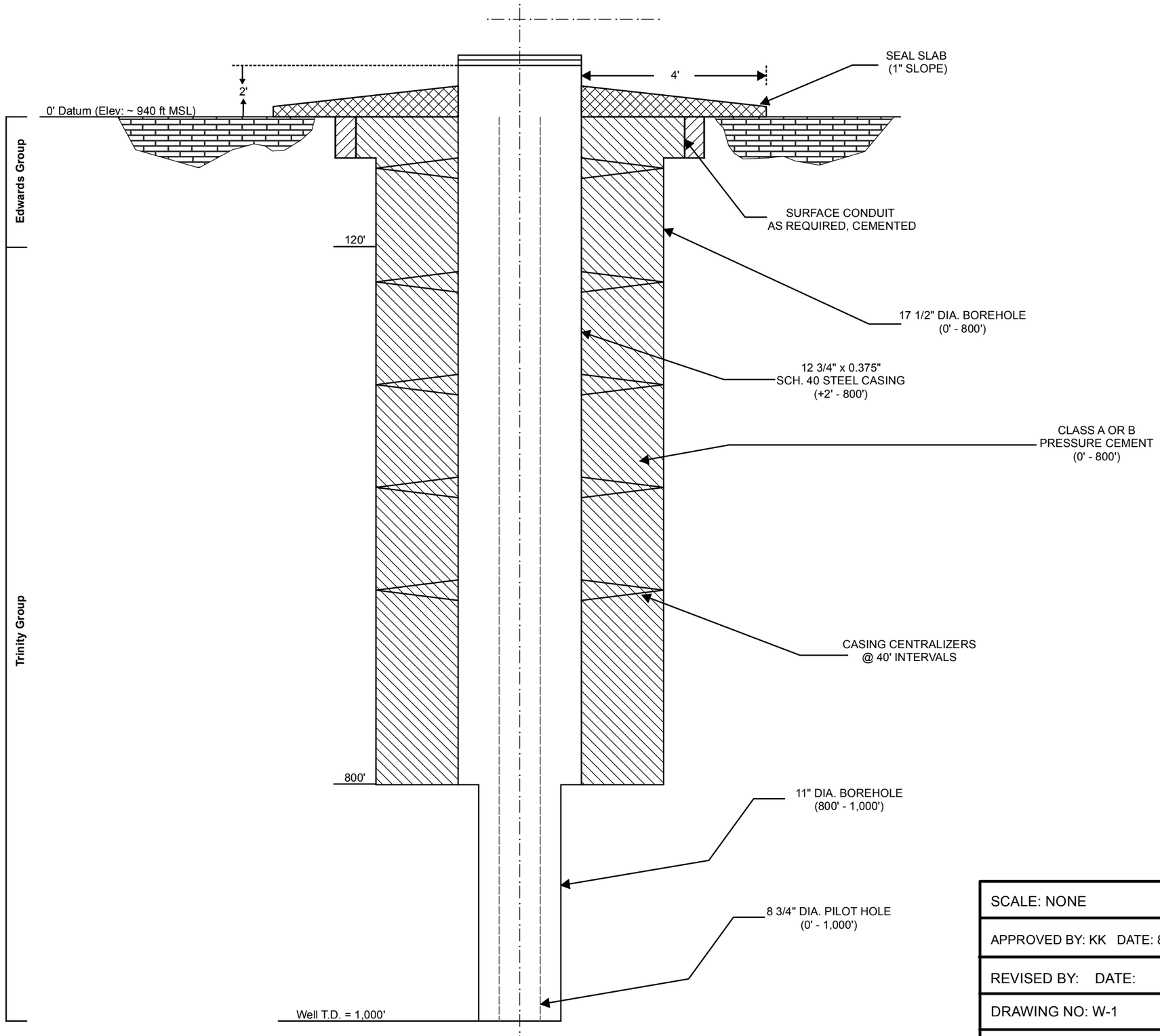

Well Profile: Well D

Needmore River Ranch

Hays County, Texas

SCALE: NONE
APPROVED BY: KK DATE: 8-12
REVISED BY: DATE:
DRAWING NO: W-1
SHEET:

Wet Rock Groundwater Services, LLC
Groundwater Specialists
TBPG Firm No: 50038
311 Ranch Road 620 South, Suite 103
Austin, Texas 78734
Ph: 512.773.3226 Fax: 512.879.6809
www.wetrockgs.com

EDWARDS AQUIFER
AUTHORITY

AMT-EM/13

August 29, 2012

Mr. Greg LaMantia
Needmore Ranch II, Ltd.
3900 N. McColl Rd.
McAllen, TX 78501

Re: Well Construction Permit Application No. C103-878

Dear Mr. LaMantia:

Edwards Aquifer Authority (EAA) staff received your well construction permit application and supporting documentation on August 22, 2012. Staff reviewed your application and, according to the information you submitted, determined the proposed well site in Wimberley, Comal Co., TX (latitude N. 29° 58' 12.83"; longitude W. -98° 02' 03.56") although located within the Authority's jurisdictional boundary, does not transect any of the formations or groups members that comprise the Aquifer. Based on our finding, the proposed well does not require an Authority well construction permit.

If you have any questions concerning this matter or the Authority's well construction program, please contact Mr. Jeff Robinson, Program Supervisor, at (210) 477-5145 or by e-mail at jrobinson@edwardsaquifer.org.

Sincerely,

Ronald H. Vaughn, P.G.
Environmental Management Officer

RV:RA/eb

cc: Davenport Drilling and Pump Service c/o Mr. Dean Davenport
Wet Rock Groundwater Services, LLC. c/o Mr. Bryan Boyd

C103-878 Test Well

STATE OF TEXAS WELL REPORT for Tracking #308119

Owner:	**Greg LaMantia**	Owner Well #:	**No Data**
Address:	**3900 N. McColl Rd McAllen , TX 78501**	Grid #:	**68-08-3**
Well Location:	**2400 Little Arkansas Rd. Wimberley , TX 78676**	Latitude:	**29° 58' 13" N**
Well County:	**Hays**	Longitude:	**098° 02' 04" W**
Elevation:	**No Data**	GPS Brand Used:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Test Well**

Drilling Date: Started: **10/16/2012**
Completed: **11/13/2012**

Diameter of Hole: Diameter: **9 7/8" in From Surface To 850 ft**

Drilling Method: **No Data**

Borehole Completion: **No Data**

Annular Seal Data: 1st Interval: **From 0 ft to 5 ft with 2 bentonite (#sacks and material)**
2nd Interval: **No Data**
3rd Interval: **No Data**
Method Used: **Gravity**
Cemented By: **Davenport DRilling**
Distance to Septic Field or other Concentrated Contamination: **150+ ft**
Distance to Property Line: **150+ ft**
Method of Verification: **estimated**
Approved by Variance: **No Data**

Surface Completion: **No Data**

Water Level: Static level: **290 ft. below land surface on 11/15/2012**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **Pump**
Yield: **400 GPM with 30 ft drawdown after 24 hours**

Water Quality: Type of Water: **good-Trinity**
Depth of Strata: **740 ft.**
Chemical Analysis Made: **Yes**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information: **Davenport Drilling & Pump Service**
11844 Bandera Rd PMB 711
Helotes , TX 78023

Driller License Number: **50268**

Licensed Well Driller Signature:	**Rick Pfieffer**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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Please include the report's Tracking number (Tracking **#308119**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0-320'		**KGRU**
320'-730'		**KGRL**
730'-850'		**KCC**

CASING, BLANK PIPE & WELL SCREEN DATA

Dia.	New/Used	Type	Setting From/To
10"	**New**	**Steel**	**0-5'**

C103-878 completion well

STATE OF TEXAS WELL REPORT for Tracking #317171

Owner:	GREG LAMANTIA	Owner Well #:	WELL D
Address:	3900 N. MCCOLL RD. MCALLEN , TX 78501	Grid #:	68-08-3
Well Location:	2400 LITTLE ARKANSAS RD. WIMBERLY , TX 78676	Latitude:	29° 58' 15" N
Well County:	Hays	Longitude:	098° 02' 04" W
Elevation:	No Data	GPS Brand Used:	GARMIN
Type of Work:	New Well	Proposed Use:	Irrigation

Drilling Date:
Started: **10/16/2012**
Completed: **2/25/2013**

Diameter of Hole:
Diameter: **12 1/4 in From Surface To 460 ft**
Diameter: **9 7/8 in From 460 ft To 800 ft**

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data:
1st Interval: **From 460 ft to 0 ft with 242 (#sacks and material)**
2nd Interval: **No Data**
3rd Interval: **No Data**
Method Used: **TREMMIE**
Cemented By: **DAVENPORT DRILLING**
Distance to Septic Field or other Concentrated Contamination: **150+ ft**
Distance to Property Line: **150+ ft**
Method of Verification: **ESTIMATE**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level:
Static level: **290 ft. below land surface on 2/25/2013**
Artesian flow: **No Data**

Packers: **SHALE 460'**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump:
Submersible
Depth to pump bowl: **(No Data) ft**

Well Tests:
Pump
Yield: **400 GPM with 30 ft drawdown after 24 hours**

Water Quality:
Type of Water: **TRINITY**
Depth of Strata: **740 ft.**
Chemical Analysis Made: **Yes**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:

DAVENPORT DRILLING AND PUMP SERVICE
11844 BANDERA RD. PMB 711
HELOTES , TX 78023

Driller License Number:	**50268**
Licensed Well Driller Signature:	**RICK PFEIFFER**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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Please include the report's Tracking number (Tracking **#317171**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
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DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
ELOG ON FILE

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
8" NEW SDR17PVC FROM 0 TO 460'

Attachment D –
Downhole Video Footage of Well D (September 2015)

Downhole Video Footage:

https://vimeo.com/142517941

Kutscher Drilling, LTD
Family Owned & Operated Since 1925
3810 Hunter Rd
San Marcos, TX 78666
Phone: 512-353-0075 830-620-0064

Date	Invoice #
9/9/2015	0324009
Due Date	9/9/2015

Bill To:

Needmore Ranch II, LTD
LaMantia & Diana Garza
3900 North McColl Road
McAllen, TX 78501

Site Address

Needmore Ranch
Wimberely
The New Main House

Regulated by: Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 787111 1-800-803-9202/1-512-463-7880

P.O. No.

Quantity	Description	Rate	Amount
6	Labor (HH, PM 9-4-15)	220.00	1,320.00

All accounts due upon receipt. Interest charged at 1.5% after 30 days.

As of 3/1/2012 we will be adding a 3% credit card transaction fee to use your credit card.

Kutscher Drilling, LTD is not responsible for damages related to freezes. Please cover your pipes and pumps. If you need us to help please let us know.

Subtotal	$1,320.00
Sales Tax	$0.00
Payments/Credits	$0.00
Balance Due	$1,320.00

Needmore Ranch

from **BSEACD** PRO 6 days ago NOT YET RATED

Needmore Ranch

from **BSEACD** PRO 6 days ago NOT YET RATED

Needmore Ranch

from **BSEACD** PRO 6 days ago NOT YET RATED

Needmore Ranch

from **BSEACD** PRO 6 days ago NOT YET RATED

Needmore Ranch

from **BSEACD** PRO 6 days ago NOT YET RATED

Meter (SN) G14G275)9E

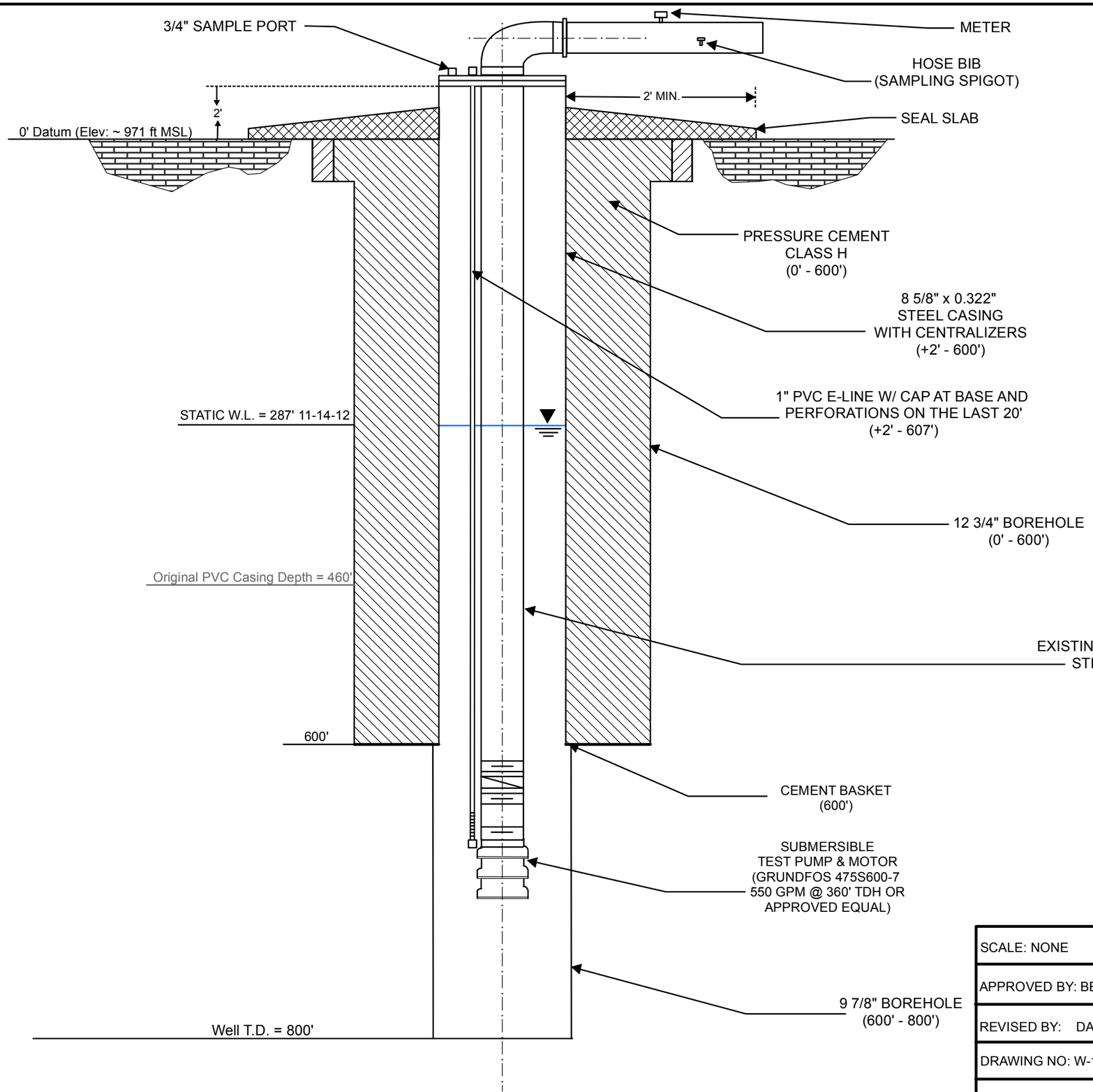
Paul Hunt 1/…

Danny W/Weedmore
RR #12
Sm TX
(512) 461-0014

Gale
G292

(?) his labor - WL around 250-260
- set pump to 265 ft and got stuck
rubbed hole in wire on the way
down (full ground) at Check valve,
(Joint above pump)
- pulled back out and layed down
on ground
- Daniel bringing camera to look in hole
- Was dragging/rubbing around 250 ft
- wire rubbed @ motor + 20 ft up

Attachment E –
Well Recompletion Design Approved by BSEACD (November 2015)



Notes:

1. **Existing completion information was taken from State Well Report No. 317171.**
2. **The well annulus volume was calculated to be 10.69 cu/yds; 150% of the calcualted annulus volume is 16 cu/yds. The contractor shall have a minimum of 16 cu/yds available for pressure cementing.**
3. **The production pump will be a Grundfos 475S600-6A or approved equal.**

Well Profile: Well D

Needmore River Ranch
Hays County, Texas

SCALE: NONE

APPROVED BY: BB DATE: 11-15

REVISED BY: DATE:

DRAWING NO: W-1

SHEET: 1 OF 1

Wet Rock Groundwater Services, LLC
Groundwater Specialists
TBPG Firm No: 50038
317 Ranch Road 620 South, Suite 203
Austin, Texas 78734
Ph: 512.773.3226 www.wetrockgs.com

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
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317 Ranch Road 620 South, Suite 203
Austin, Texas 78734 • Ph: 512-773-3226
www.wetrockgs.com

November 3, 2015

Mr. John Dupnik
Barton Springs/Edwards Aquifer Conservation District
1124 Regal Row
Austin, TX 78748

RE: Needmore River Ranch, LLC Well D - Repair Recommendations

Dear Mr. Dupnik:

Needmore River Ranch, LLC (Needmore) Well D was originally completed in February 2013 (according State Well Report No. 317171), at an unknown time a portion of the existing 8-inch SDR 17 PVC casing slipped and fell into the well. This letter gives our direction for the construction repairs of the Needmore Well D. Attachment 1 provides a well profile figure that shows the recommendations and Attachment 2 provides the State of Texas Well Report.

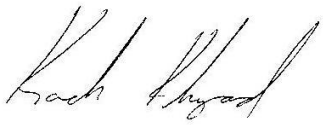
- Ream existing 12 1/4-inch diameter borehole with 12 1/4-inch drill bit from the ground surface to a depth of 460 feet to remove any existing 8-inch PVC casing and grout;
- Ream existing 9 7/8-inch borehole with 12 1/4-inch bit from 460 feet to 470 feet;
- Install 8 5/8" x 0.322" (Sch. 40) steel casing with centralizers at 40-foot intervals and cement baskets at 465 feet and 470 feet from +2 feet to a depth of 470 feet. In lieu of the 8-inch steel casing option if not approved by the District, install 8-inch SDR 17 PVC casing from +2 feet to a depth of 470 feet;
- Pressure cement casing from the ground surface to 470 feet; and
- Clean out existing 9 7/8-inch borehole from 470 feet to 800 feet.

All depths are from the data of the electric log conducted on October 23, 2012 with respect to ground surface. We have recommended deepening the casing depth by 10 feet (from 460 feet to 470 feet) to ensure the Upper Trinity Aquifer is sealed off from the Middle Trinity Aquifer. In addition, we have recommended steel casing to increase the longevity of the well's life span. Neither of the changes will affect the production capabilities of the well, therefore we view the construction recommendations as well repair rather than well modification. If either of the recommended changes will change the status of the well under district rules, the changes can be omitted and the well can be repaired to the original casing depth and material type.

Please call me at 512-773-3226 if you have any questions or require additional information.

Respectfully,

Wet Rock Groundwater Services, L.L.C.



Kaveh Khorzad, P.G.
President/ Senior Hydrogeologist

Cc: Mr. Greg LaMantia

Attachment F –
Well D Geophysical Log by Geo Cam (October 2012)

GEO CAM

Borehole: TEST WELL D

Logs: GAMMA, CALIPER, RESISITIVITY

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: NEEDMORE RANCH
Client: DAVENPORT DRILLING
Location: N29* 58' 12.8" W98* 02' 02.5"

Date: 10-23-12
County: HAYS
State: TX

BOREHOLE DATA

Drilling Contractor: DAVENPORT DRILLING
Elevation: 990' GPS
Depth Ref: G.L.

Driller T.D. (ft) : 1000'
Logger T.D. (ft) : 850'
Date Drilled: 10-22-12

BIT RECORD				CASING RECORD		
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	9 7/8"	0'	1000'	NA		
2						
3						

Drill Method: AIR ROTARY
Hole Medium:
Viscosity:

Weight:
Mud Type:
Rm: at: Deg C

Fluid Level (ft) : 288'
Time Since Circ:

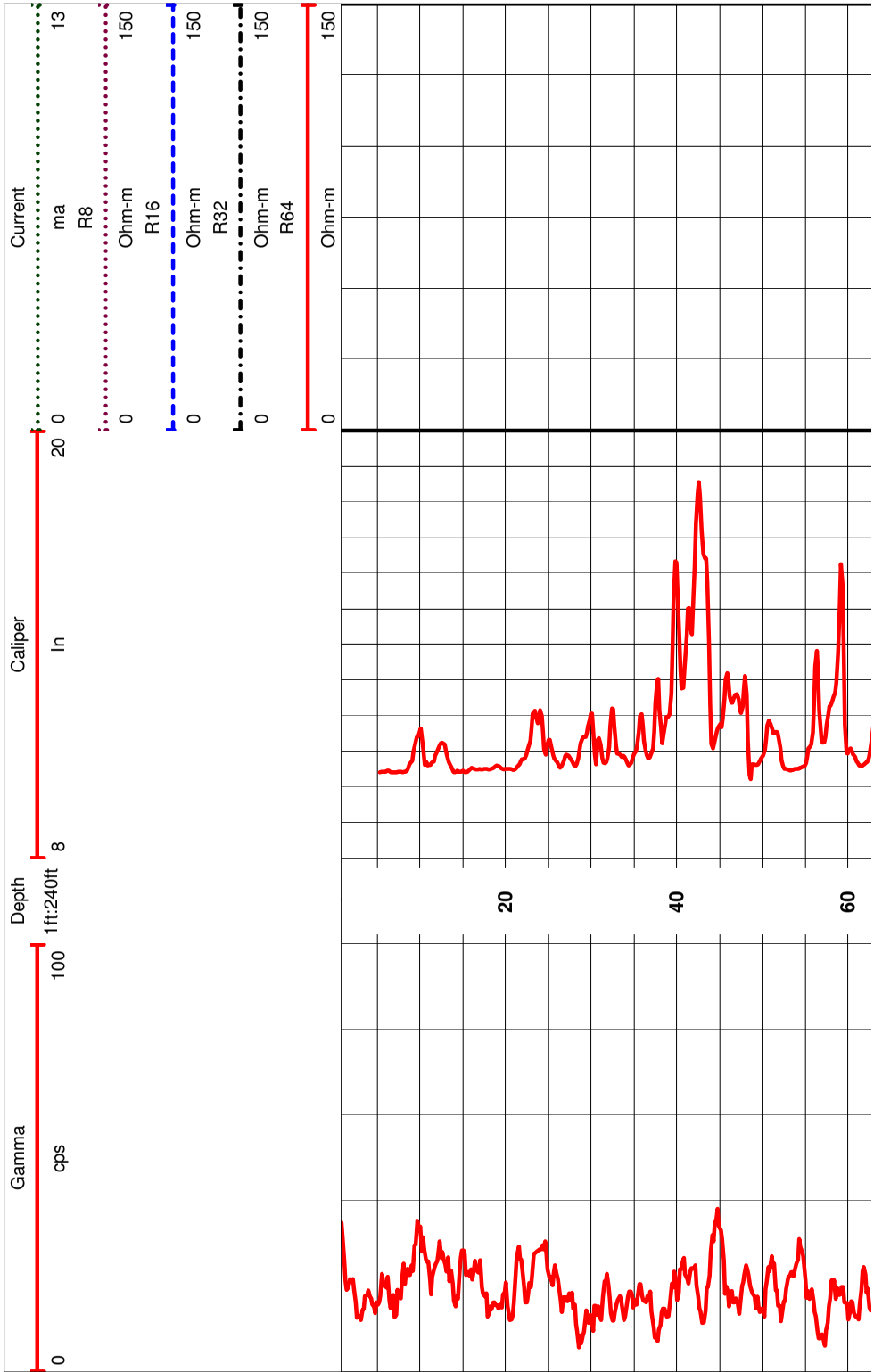
GENERAL DATA

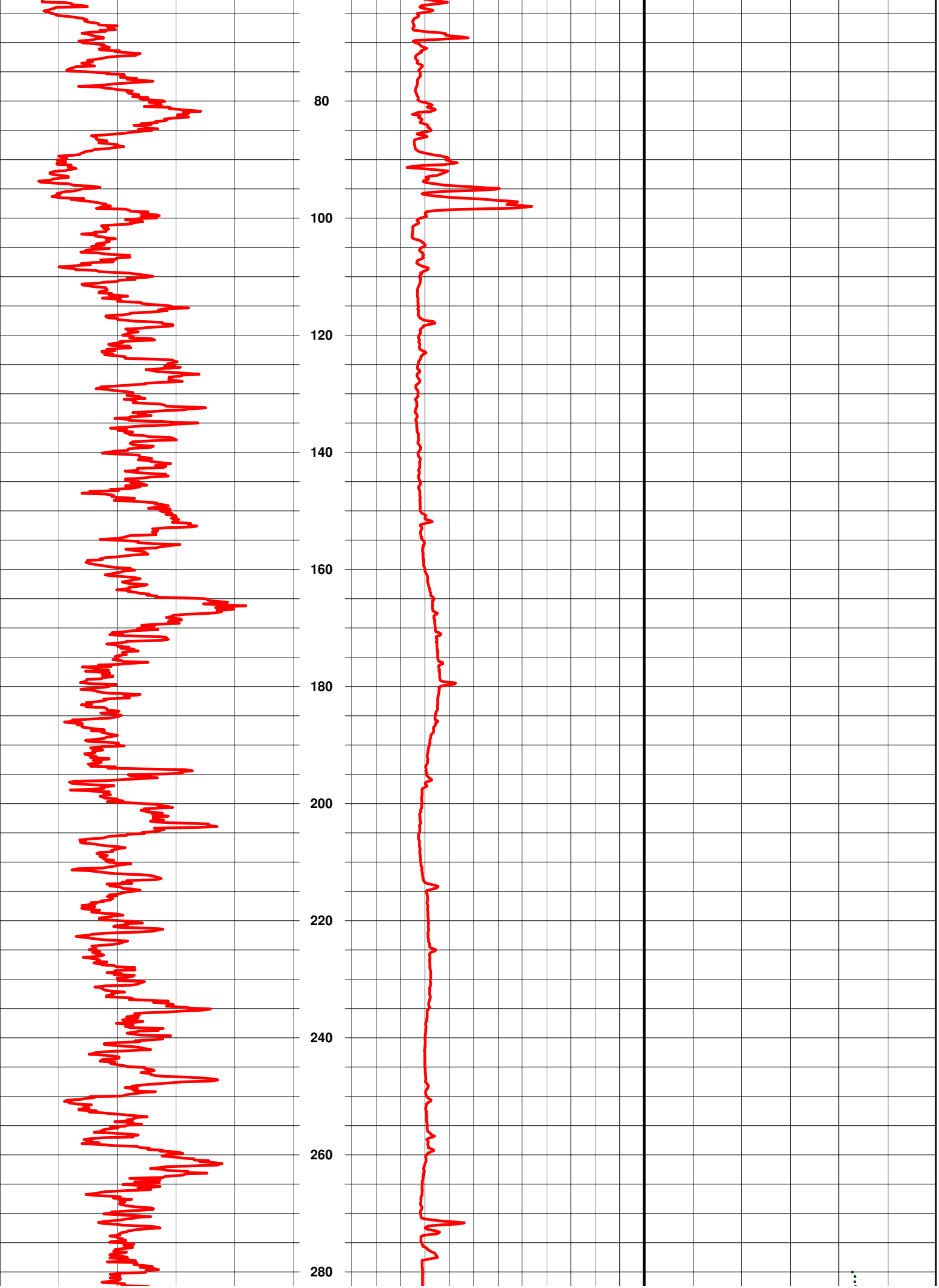
Logged by: Robert Becknal
Witness:

Unit/Truck: 05

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./ IN.
GAMMA	2	35	843'	1'	20
CALIPER	2	35'	848'	5'	20
RESISITIVITY	2	35'	290'	850'	20

Comments:

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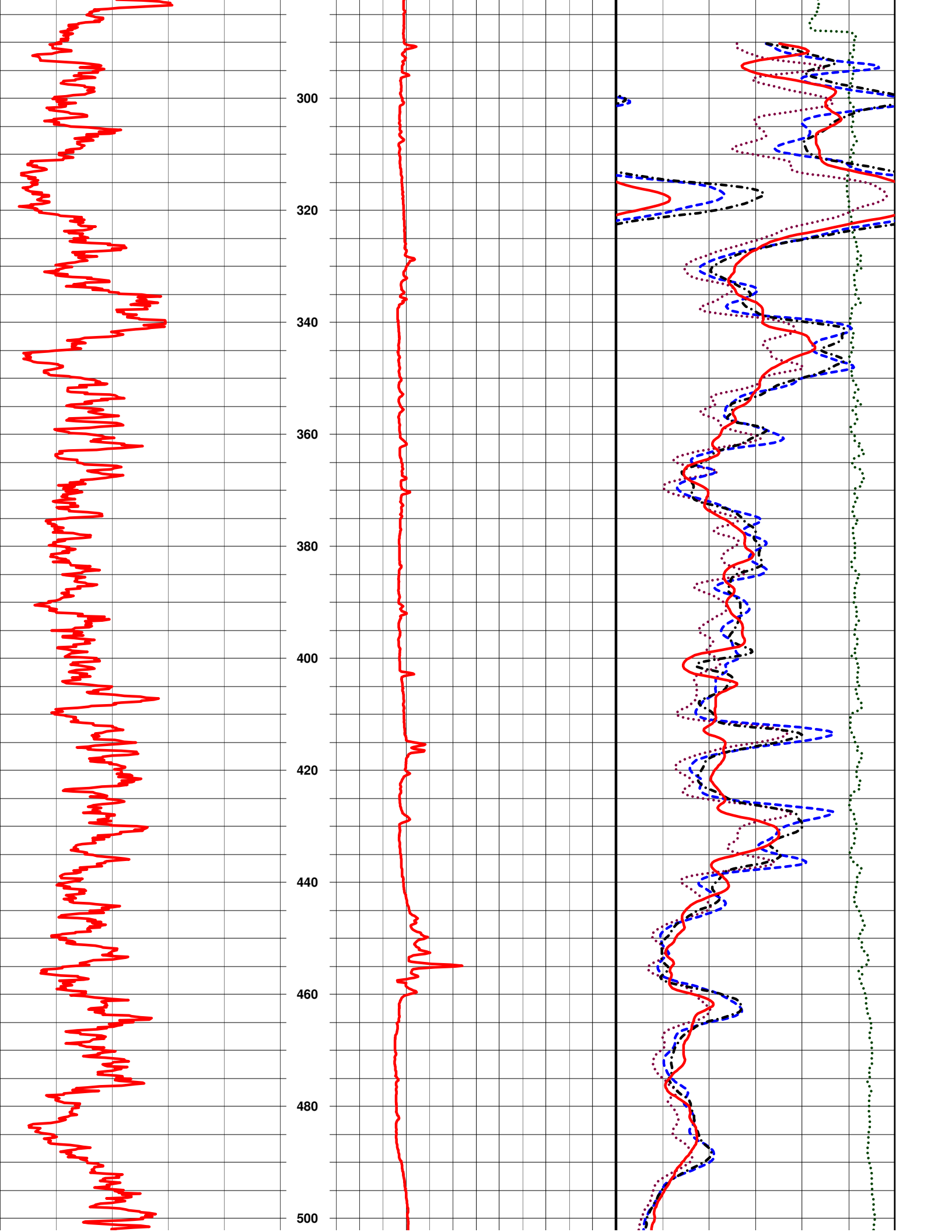
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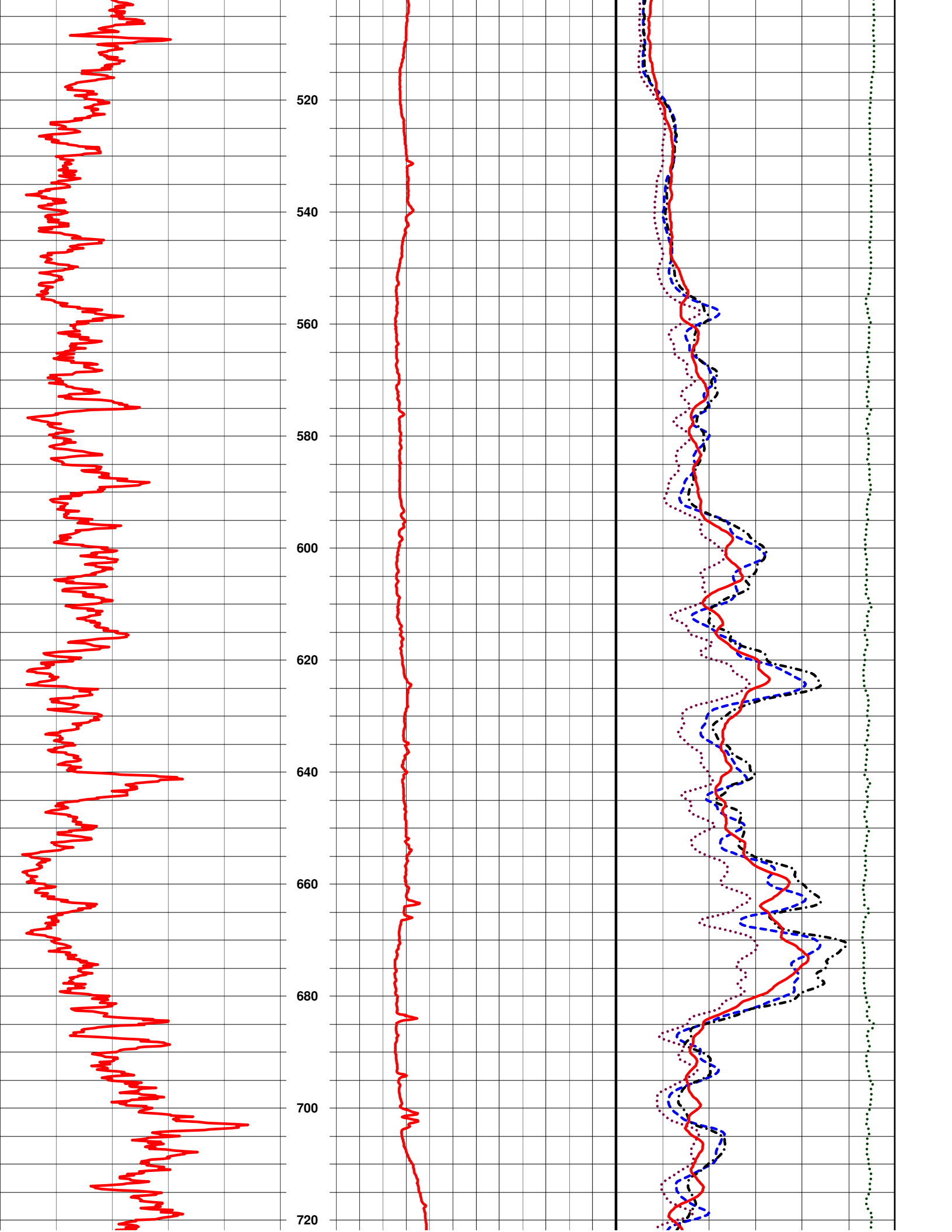
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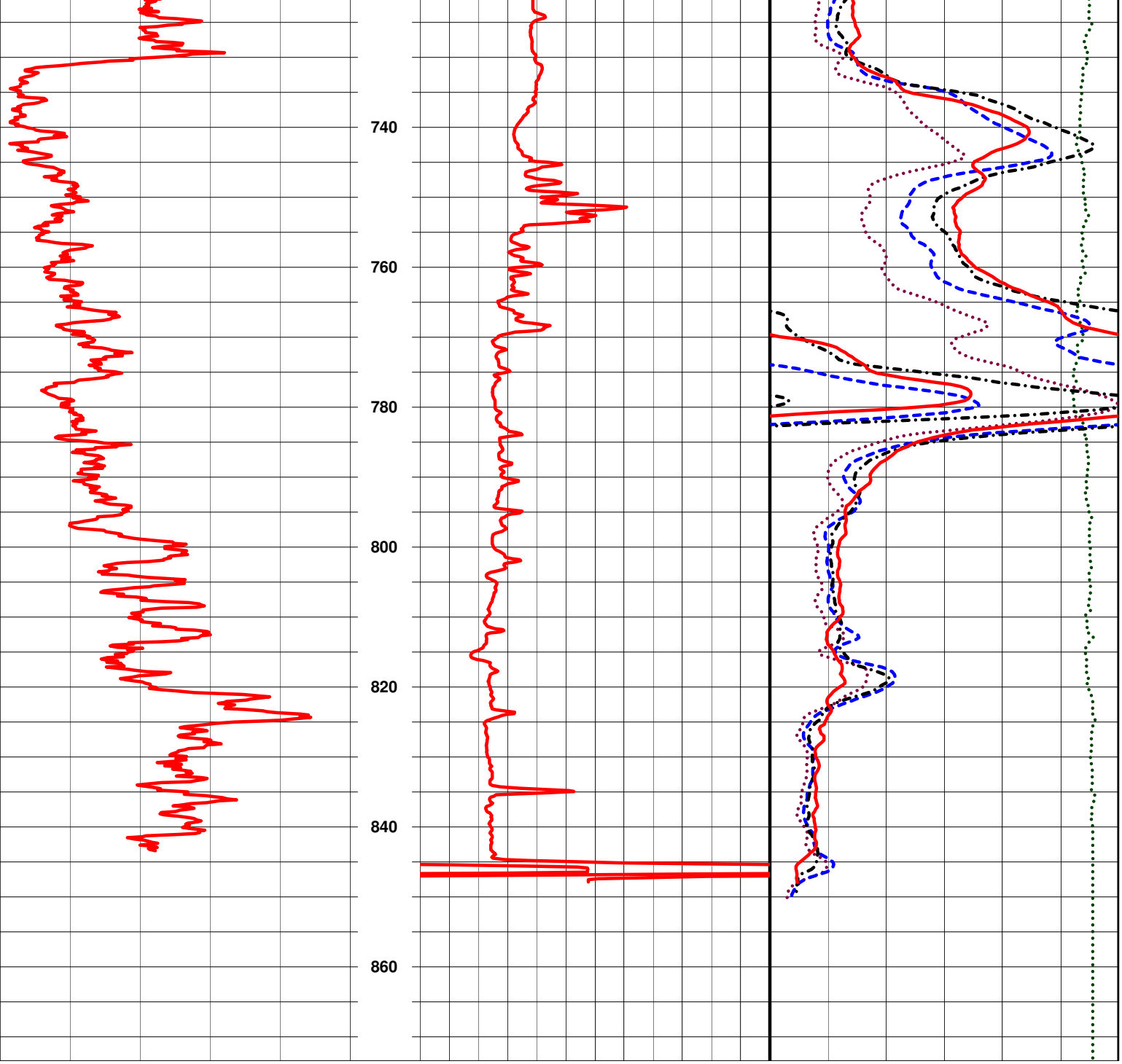
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