Kansas Department of Agriculture Division of Water Resources

CHANGE: P/D WORKSHEET

1. File Number:	2. Status Change Date:	3. Change Num:	4. Field Office:	5. GMD:
18492	1/19/18	с1	04	03
6. Status: ⊠ Approved □ Den	ied by DWR/GMD	Dismiss by Reques	t/Failure to Return	7. Filing Date of Change:
				12/11/17
8a. Applicant(s) New to system □	Person ID 3072 Add Seq# 1	8c. Landown	• •	Person ID Add Seq#
EDNA E COLLINGWOOD WILLIAM L ENGLER PO BOX 974 GARDEN CITY KS 6784				
8b. Landowner(s) New to system ☐ EDNA E COLLINGWOOD WILLIAM L ENGLER	Person ID 3072 Add Seq# 1	į.	stem E COLLINGWOO MM L ENGLER	Person ID 3072 Add Seq# 1 D TRUST
PO BOX 974 GARDEN CITY KS 6784	6	РО ВО		16
9. Documents and Enclosure(s): 🛛 DV	VR Meter(s) Date to Comp	ıy: <u>12/31/18</u>	N & P Date to	Comply: <u>12/31/18</u>
Anti-Reverse Meter	Seal	⊠ N & P Form	☐ Water Tube ☐ Di	riller Copy
☐ Conservation Plan Date Requir	ed: Da	te Approved:	Date to	Comply:
10. Use Made of Water From:		To: _		
			Date Prepared: 1/19/1 Date Entered:	8 ву: ТРМ Ву:

File No.	18492	11. County: HA	≰	ď	asin: a	Basin: arkansas	ias				Ñ	Stream:							Forr 211	Formation Code: 211/331	Special Use: na	
12. Point CHK	12. Points of Diversion CHK													Ľ.	Rate al	Rate and Quantity	antity		- T - C			
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del 17480	80																					
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15. 5YR A	15. 5YR Allocation: Allocation Type			Start Year	Start Year		5 YR Am	5 YR Amount	ount		Amo	Amount Unit	ıit		Base Acres	cres		Co	Comment		Comment	
16. Place CHK	Place of Use			Z	NE%			²	NW%			NS.	SW%			SE	SE%		Total	Owner Ch	Chg? Overlap Files	
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Comments:	<u>;s;</u>																					



Garden City Field Office 2508 Johns Street Garden City, Kansas 67846-2804

Jackie McClaskey, Secretary David W. Barfield, Chief Engineer Michael A. Meyer, Water Commissioner Phone: (620) 276-2901 Fax: (620) 276-9315 www.agriculture.ks.gov Sam Brownback, Governor

January 19, 2018

EDNA E COLLINGWOOD TRUST WILLIAM L ENGLER PO BOX 974 GARDEN CITY KS 67846

RE: Change in Point of Diversion Water Right, File No 18492

Dear Mr. Engler:

Enclosed you will find a *Summary Order Approving Application for Change in Points of Diversion* for the above referenced file. This order modifies the authorized well location under the referenced file. This order modifies the original document; it should be recorded at the County Register of Deeds.

Your attention is directed to the enclosures and to the terms, conditions, and limitations specified in this order. The diversion works should be completed and reported to the Division of Water Resources by December 31, 2018. Enclosed is a form for this purpose, along with other information for reference.

A condition of this order is that an acceptable flow meter must be properly installed on the diversion works authorized under the referenced file number in accordance with the Kansas Administrative Regulations 5-1-4 through 5-1-12. This water flow meter shall be used to provide information required on the annual water use report.

This order shall become final if a request for a hearing is not filed with the Chief Engineer within 15 days of the date of service of this order. The date of service is the date listed on the enclosed *Certificate of Service*.

Should you have any questions, please feel free to call this office. If you would prefer, you could arrange an appointment for additional assistance.

Sincerely,

Thomas P. Makens

Assistant Water Commissioner

TPM:tpm Enclosures GMD#3

CERTIFICATE OF SERVICE

On this ZO day of January 2018, I hereby certify that the attached original Approval of Application to Change the Point of Diversion under Water Right, File No. 18492 dated January 19, 2018 was mailed postage prepaid, first class, US mail to the following:

EDNA E COLLINGWOOD TRUST WILLIAM L ENGLER PO BOX 974 GARDEN CITY KS 67846

Copy provided to GMD#3

Division of Water Resources

Submit completed application to: Kansas Department of Agriculture Division of Water Resources Field Office for your area. Call for address:

Topeka -- (785) 296-5733 Stafford -- (620) 234-5311 Stockton -- (785) 425-6787 Garden City -- (620) 276-2901 http://agriculture.ks.gov/dwr

DWR FIELD OFFICE APPLICATION FOR APPROVAL TO CHANGE THE PLACE OF USE AND/OR THE POINT OF DIVERSION



STATE OF KANSAS

Filing Fee Must Accompany the Application, K.S.A. 82a-708b(b), as amended. Fee Schedule is on the third page of this application form.

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5.	Presently authorize	<u>ed point of</u>	diversion:					
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	in <u>Haskell</u>	Col	unty, Kansas, <u>2550</u>	feet No	orth <u>4620</u>	_feet West of S	Southeast corn	er of section.
	Authorized Rate		Authorized Quantity		Depth	of well	(fe	et)
			No. 2 Gi					
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	Proposed point of	diversion: (Complete only if chan	ge is req	<u>uesteď)</u>			
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	in <u>Haskell</u>	Cοι	inty, Kansas, <u>2641</u>	feet No	orth 4881	feet West of S	Southeast corn	er of section.
	Proposed Rate		Proposed Quantity _		Propo	sed well depth ((feet)	•
	This point is: 🔲 Ad	ditional Well	☐ Geo Center List	other wate	er rights that will	use this point		
6,	Presently authorize	ed point of	diversion:					
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	of Section		, Township		Sout	th, Range		(E/W),
	in	<u>.</u> Cοι	inty, Kansas,	feet No	orth .	feet West of S	outheast corne	er of section.
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7.			iversion?		If the proposed feet of the exis the diagram be (PLEASE NOT represents pre	ting point of div low in relation to 'E: The "X"	rersion, indicated the existing point of conternor of conternor of conternor divided the conternor divided the conternor divided the content of the content	e its location on pint of diversion. diagram below
3.	If a well, is the test ho	le log attach	ed? ⊠ Yes □ No		100	50 O	50 1	00
€.	When do you prop	oose to cor	mplete the new point	of	F'		-	- -
	december 11, 2017				50 =	+ =	+ =	50
10.	If the point of diversion	n is a well:			E	_	_	
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	(a) What are you go	ng to do with	the old well?		-	-	Ξ]
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					₩ F	T	+ -	50
	(b) When will this be	done? 2018			E			
							<u> </u>	1
1.	Groundwater Mana		District recommendati	on	100	50 _0	. 50 1	 00
	attached?	⊠ No				Sout Scale: 1"	h = 100'	
2.	Assisted by <u>tpm</u>			13b.	If the proposed 100 feet but v diversion, attack For groundwater within one-half inames and mawater sources, landowner(s) oupstream from y	point of diversi- within 1320 fee- th a topograph er sources, show mile of the prop- uiling addresses show the na ne-half mile do	on will be reloce on the exit from the exit from the exit on all wells (inclused point of division of the owners of the owners of the and add ownstream and	disting point of ial photograph. Iding domestic) Version and the s. For surface

14. If the proposed groundwater point of diversion is 300 or lewer leet no	
 (a) Doges the undersigned represent all owners of the currently authomogy and the currently authomogy are supplied to the currently authomogy and the currently authomogy are supplied to the cu	cation.)
 (b) Will the ownership interest of any owner of the currently author affected if this application is approved as requested? ☐ Yes ☑ No (If yes, all owners must sign this application) 	
(c) If this application is not approved expeditiously, will there be sub ☑ Yes ☐ No (If no, all owners must sign this applic	stantial damage to property, public health or safety? cation.)
If the application proposes a surface water change in point of diversion, a or a change in place of use, the application must be signed by all owners agent (attach notarized statement authorizing representation).	groundwater change in point of diversion greater than 300 feet, of the currently authorized place of use, or their duly authorized
I hereby verify, being first duly sworn upon my oath or affirm age and the owner, the spouse of the owner, or a duly author their behalf, in regard to the water right(s) to which this app contained in this application are true, correct and complete.	ized agent of the owner(s) to make this application on
Dated at <u>Varien</u> , Kansas, this	day of Werember, 2017.
V = 0 2	
their behalf, in regard to the water right(s) to which this appropriate true, correct and complete. Dated at	(Spouse)
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)
State of Kansas County of	by presence and sworn to before me this 6 day of
JULIE JONES My Appointment Expires My Commission Expires December 15, 2018	Motary Public
ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. To be complete, all accurate information; maps, if necessary, must be included; signatures of all the atthe appropriate fee must be paid.	l of the applicable portions of the application form must be completed with appropriate owners' must be affixed to the application and notarized; and
FEE SCHED	
Each application to change the place of use or the point of diversion und forth in the schedule below: Make checks payable to: Kansas Departm (1) Application to change a point of diversion 300 feet or less (2) Application to change a point of diversion more than 300 feet (3) Application to change the place of use	nent of Agriculture \$100

SUMMARY ORDER APPROVING APPLICATION FOR CHANGE AND IMPOSING CONDITIONS

This Summary Order is issued under authority of K.S.A. 82a-708b, as amended, and K.A.R. 5-14-3 and other applicable provisions of the *Kansas Water Appropriation Law, K.S.A. 82a-701 et. seq.*, and rules and regulations promulgated thereunder, K.A.R. 5-1-1 et.seq. With the exception of those conditions expressly contained herein, this Summary Order does not change the terms, conditions and limitations of File No. 18492 A change application was received on <u>Decem & 11</u>, 2017 requesting that the place of diversion authorized under the above-referenced file number be changed as described in the application. , ZOIT requesting that the place of use and / or point of On and after the effective date of this summary order, the authorized place(s) of use shall be located substantially as shown on the topographic map accompanying the application to change the place of use. ☐ Applicable Not Applicable The change in point of diversion shall not impair existing rights and shall be limited to the same source or sources of water as previously authorized. The point of diversion authorized by this summary order shall be located within a ______ foot radius of the authorized point(s) of diversion.

Applicable ____ Not Applicable The point(s) of diversion authorized herein shall not actually be located more than ____ feet from the previously authorized point(s) of diversion. ☐ Applicable Not Applicable As required by K.A.R. 5-3-5d, if the works for diversion is a well with a diversion rate of 100 gallons per minute or more, a tube or other device suitable for making water level measurements shall be installed, operated and maintained in accordance with K.A.R. 5-6-42. 5. with K.A.R. 5-6-13. Applicable ☐ Not Applicable The owner of the authorized place(s) of use shall properly install an acceptable water flow meter on or before December 31, 2018, or before the first use of water, whichever occurs first. The water flow meter shall be installed, operated and maintained in accordance with K.A.R. 5-1-4 through 5-1-12. As required by K.S.A. 82a-732, as amended, and K.A.R. 5-3-5e, the owner shall maintain records and report the reading of the water flow meter and the total quantity of water diverted annually to the Chief Engineer by March 1 following the end of each calendar year. Applicable ☐ Not Applicable Installation of the works for diversion of water shall be completed on or before December 31, 2018, or within any authorized extension of time. By March 1, 2019 the applicant shall notify the Chief Engineer that construction of the works for diversion has been completed, on the form provided by the Chief Engineer, as required by K.A.R. 5-8-4e.

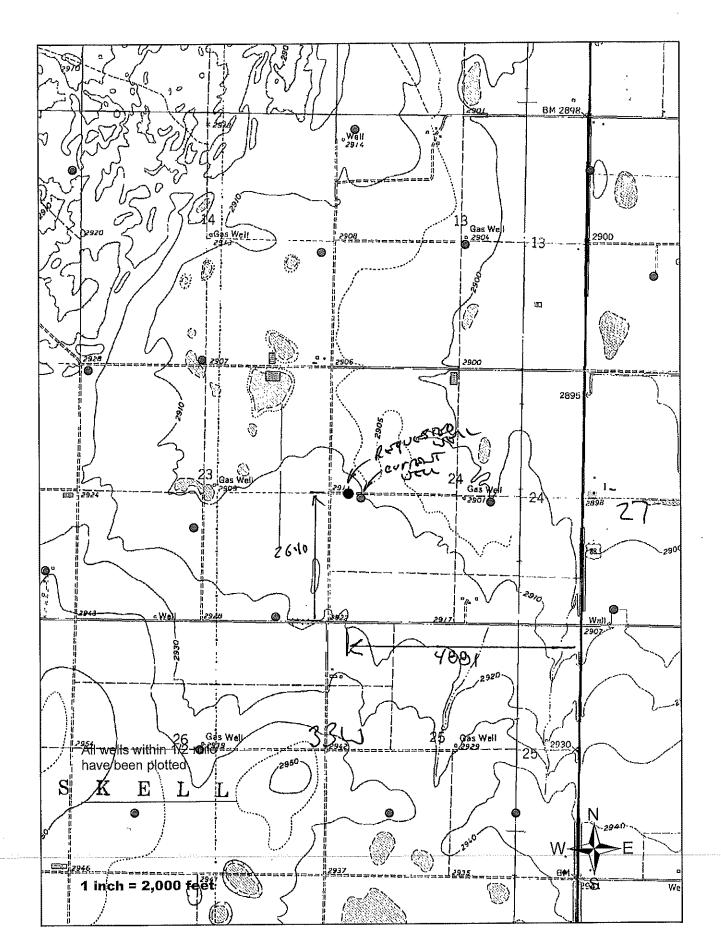
Applicable

Not Applicable The completed well log shall be submitted with the required notice. Applicable ☐ Not Applicable All diversion works into which any type of chemical or other foreign substance will be injected into the water shall be equipped with an in-line, automatic, quick-closing check valve capable of preventing pollution of the source of the water supply. The check valve(s) shall be installed, operated and maintained in accordance with K.A.R. 5-3-5c. Applicable \(\subseteq \text{Not Applicable} \) 10. Additional Conditions are attached. ☐ Yes * No 11. In accordance with K.S.A. 82a-708a, as amended, and K.A.R. 5-5-14, all of the owners of the authorized place(s) of use of water appropriated under the above-referenced file number are responsible for compliance with its terms, conditions and limitations, as amended and/or supplemented by this Summary Order, and with applicable provisions of the Kansas Water Appropriation Law and the Rules and Regulations promulgated thereunder. Failure to comply with these provisions may result in civil penalties pursuant to K.S.A. 82a-737, as amended, and/or the suspension or revocation and dismissal of the water or appropriation right or any other enforcement actions authorized by law. Administrative Appeal and Effective Date of Order FOR OFFICE USE ONLY APPLICATION APPROVED AND You have the right to a hearing in accordance with K.A.R. 5-14-3 SUMMARY ORDER ISSUED before this Summary Order becomes final action of the Kansas Department of Agriculture. Any request for a hearing must be filed with the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, 1320 Research Park Drive, Topeka, Kansas 66502, within 15 days after the date Daly Authorized Designee of the Chief Engineer shown on the Certificate of Service attached hereto. If a hearing is not requested in accordance with K.A.R. 5-14-3, this Summary Order will become effective on the 15th day after the date shown THOMAS MAKON? (Print Name): Division of Water Resources - Kansas Department of Agriculture on the Certificate of Service. JANUARY 2018 For Use by Register of Deeds State of Kansas SS County of Acknowledged before me on Signature: Notary Public giviê o JULIE JONES NOTARY My Appointment Expires PUBLIC December 15, 2018 divisio. My commission expires: (Notary Seal)

Page 4

File No. ___

DWR 1-121 (Revised 06/16/2014)





650'

Well Design & Construction

Customer Name: COLLINGWOOD TRUST (AG MANAGEMENT CONSULTANTS) County: DAWSON Legal: SW/NW 24-27S-33W **G.P.S.:** 37 41' 09.0" N Date: WO #: 17-752 100 53' 16.0" W WATER SUPPLY: IRRIGATION WELL DRILLER: ISAAC & CREW **DRILLING RIG: M-100** HELPER(S): **DRILLING METHOD:** REVERSE CIRCULATION **BOREHOLE DIAMETER: 30"** HOLE PLUG: 20'+ QUIKGEL: TBD **CASING DIAMETER: 16" GRAVEL:** 150 TONS #1 COARSE TOTAL WELL DEPTH: 650' GRAVEL SUPPLIER: HUBER DRILLING FLUID: TBD FILE #18492 ADDITIONAL INFO: TEST HOLE #1 - WEST OF EXISTING WELL **GROUT SCREEN AND** AND CASING GRAVEL IRRIGATION WELL 4" GRAVEL TUBE 2' 1" SOUNDER TUBE 36" X 20' CMP SURFACE CASING SURFACE SEAL 46" BOREHOLE WITH CONCRETE GROUT 20 16" .250 WALL STEEL CASING 320' 16" JOHNSON .080 SLOT AGRI-SCREEN GRAVEL - 400' PACK 16" .250 WALL - PLAIN STEEL CASING - 440' 16" JOHNSON .080 SLOT AGRI-SCREEN - 580' 16",250 WALL - PLAIN STEEL CASING — 600' 16" JOHNSON .050 SLOT AGRI-SCREEN SOUNDER TUBE - 640' **STOPS AT 620'** 16" .250 WALL - PLAIN STEEL CASING

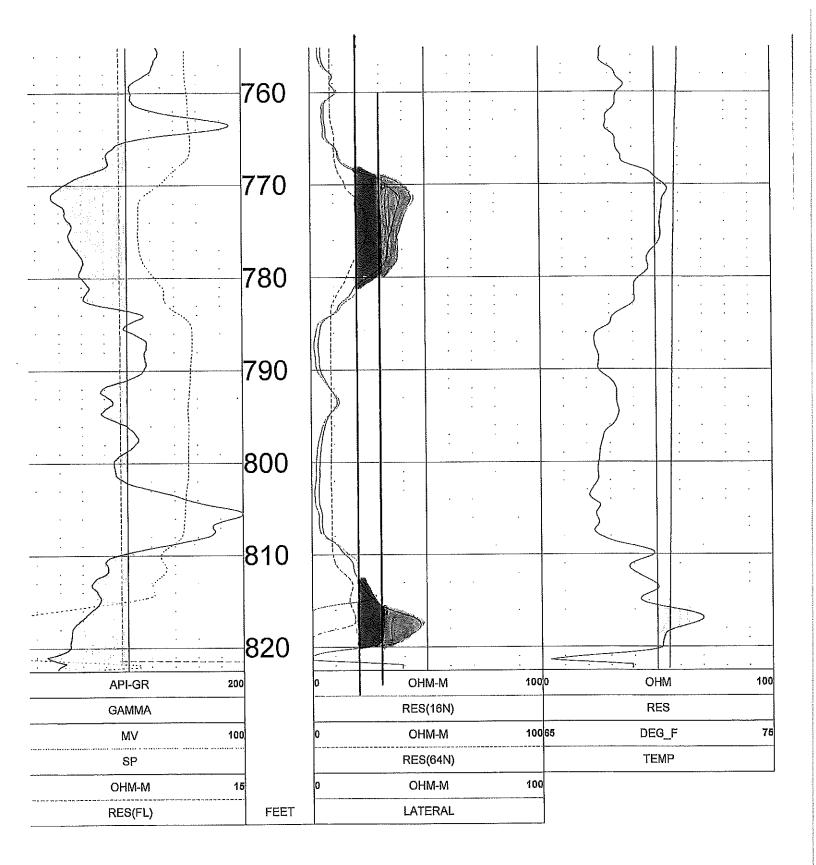
(SUMP)

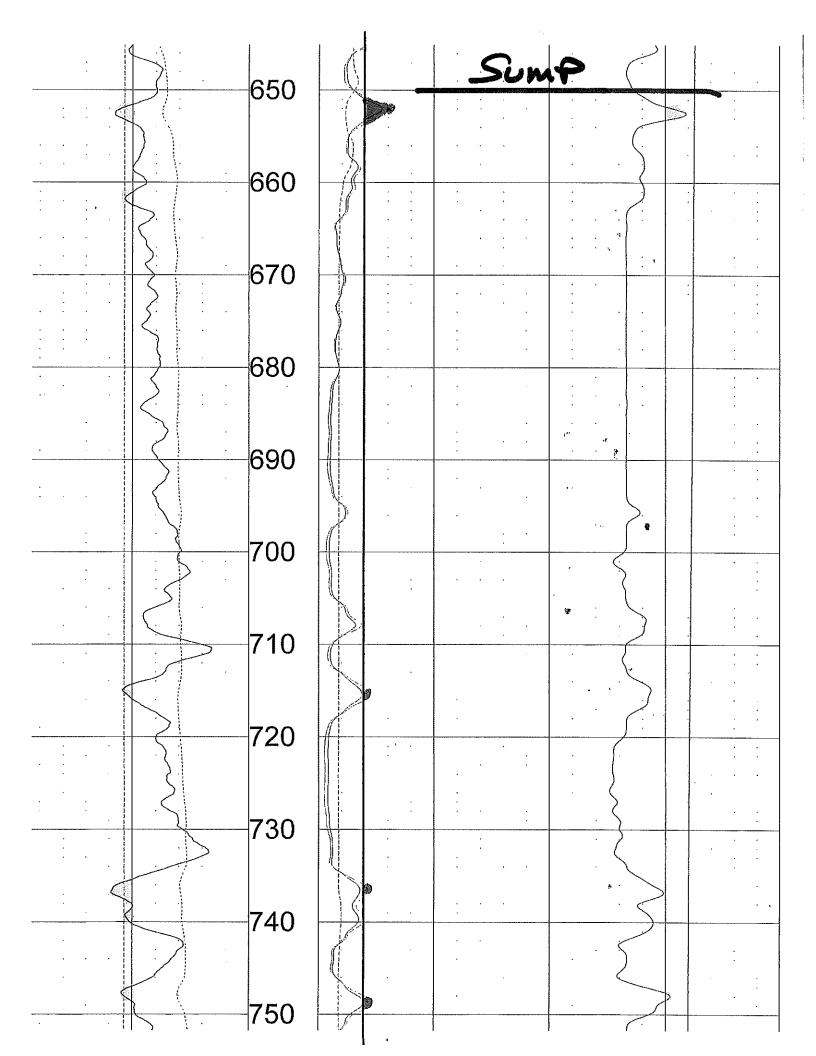
650'

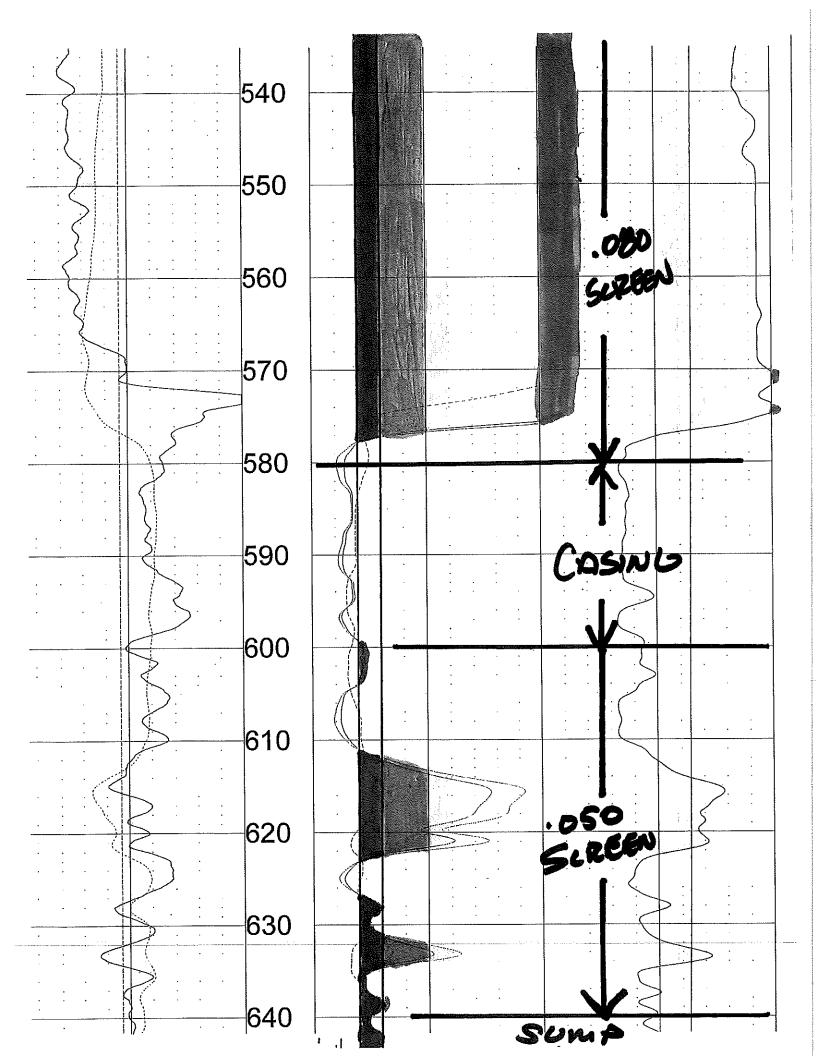
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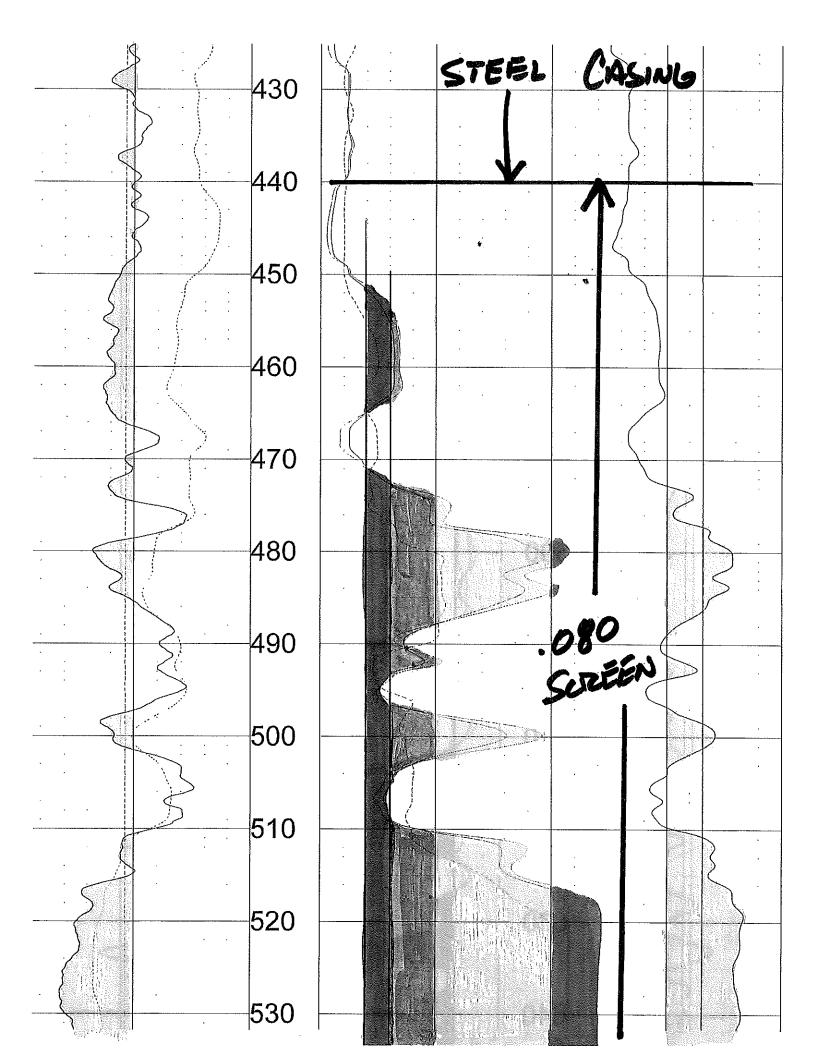
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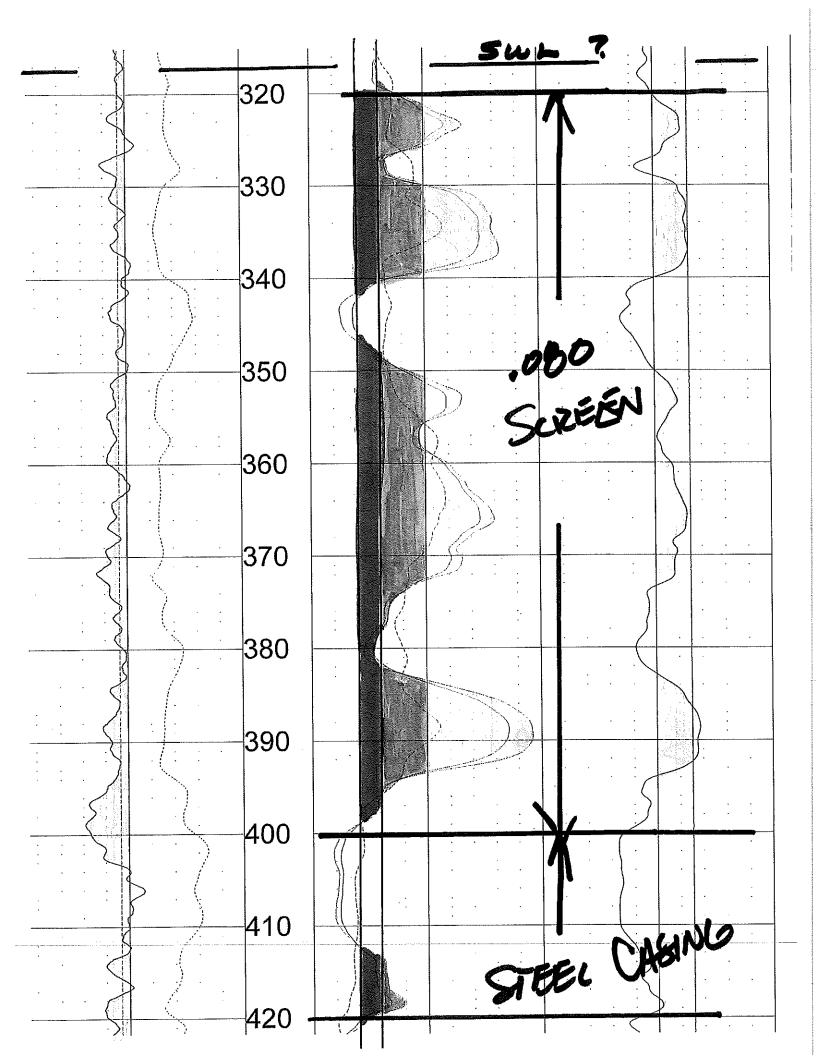
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Oct18,17	20:36:52	GAMMA	340.000	[API-GR]	290.000	[CPS]
Jul12,17	13:24:17	RES(FL)	1.330	[OHM-M]	7595,000	[CPS]
Jul12,17	13:24:17	RES(FL)	42.700	[OHM-M]	64820.000	[CPS]
Jul12,17	13:24:23	SP	0.000	[MV]	327520.000	CPS
Jul12,17	13:24:23	SP	390.000	[MV]	157140,000	[CPS]
Jul12,17	12:40:24	RES(16N)	0.000	[OHM-M]	5210.000	[CPS]
Jul12,17	12:40:24	RES(16N)	1955.000	ÎOHM-M Î	426837,000	[CPS]
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Jul12,17	12:40:03	RES	0.000	[OHM]	5320,000	[CPS]
Jul12,17	12:40:03	RES	943.000	јонм ј	163939,000	[CPS]

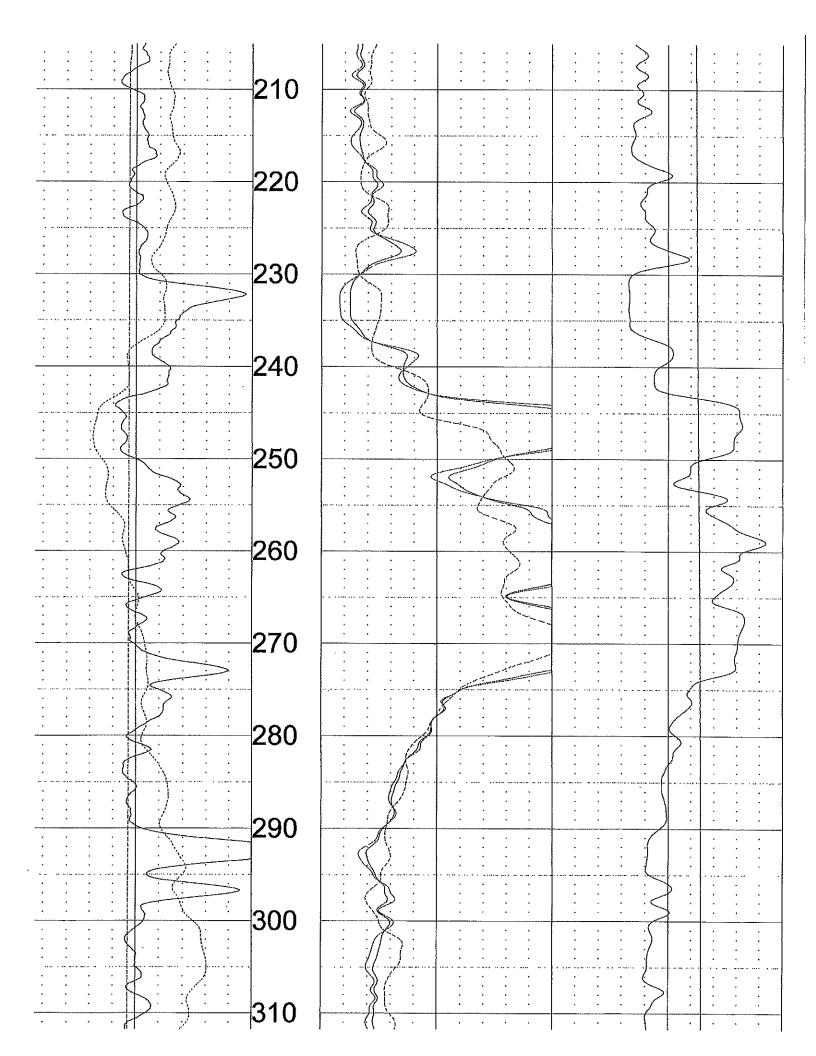




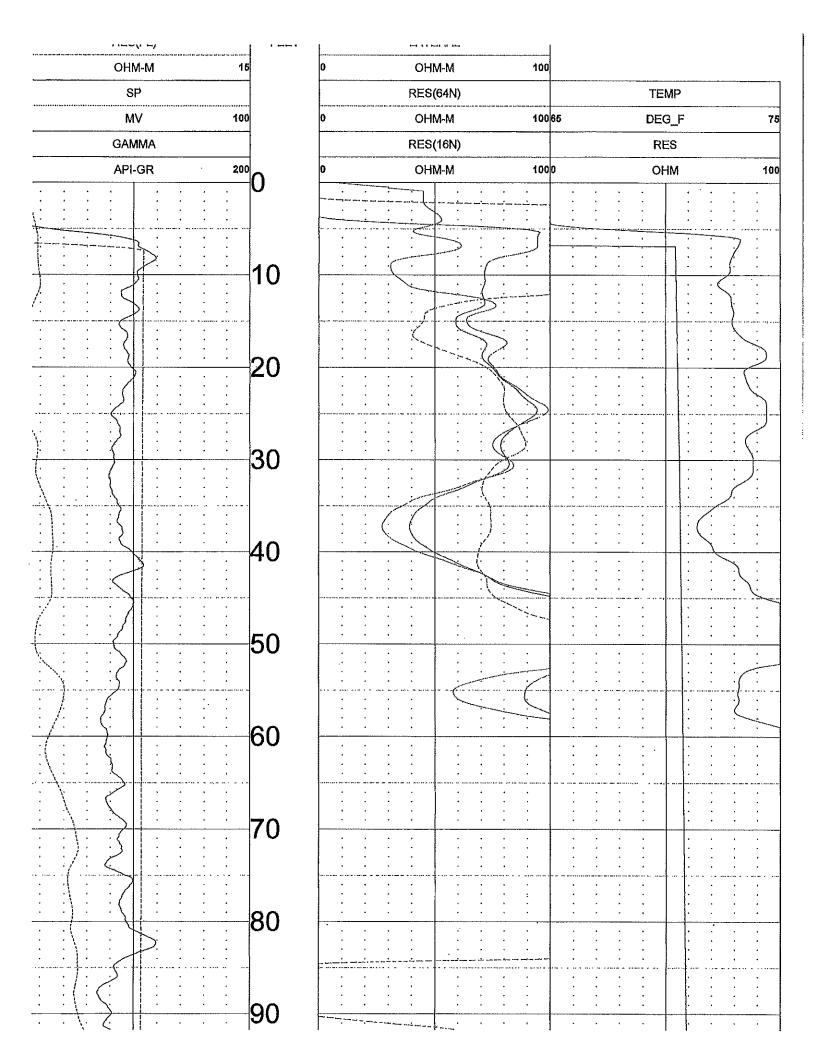








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OTHER SERVICES:

COLLINGWOOD TRUST

YNA9MO(

: DOWNEY DRILLING INC

VELL

: COLLINGWOOD TRUS

.OCATION/FIELD :

YTNUO

: HASKELL

,OCATION

: W 1/2

: 24 **SECTION**

TOWNSHIP

: 278

RANGE: 33W

)ATE

: 10/25/1

)EPTH DRILLER : 820

OG BOTTOM

OG TOP

: 822.4

DRL MEASURED FROM: GL : 0.0

LOGGING UNIT

FIELD OFFICE

RECORDED BY

: 1319

: DDI : DAVE

3IT SIZE : 6.25

MAGNETIC DECL. : 0

SASING DIAMETER: 10.

: ASING TYPE :

:ASING THICKNESS:

MATRIX DENSITY : 2.71

IEUTRON MATRIX : LIMESTON

BOREHOLE FLUID : MUD

PERMANENT DATUM : GL

LOG MEASURED FROM: GL

RM TEMPERATURE : MATRIX DELTA T : 49

KB : DF :

GL

FILE : ORIGINA

TYPE : 8144A

LGDATE: 10/25/17 LGTIME: 14:07:

THRESH: 99999



37 41 09.0 N -100 53 16.0 W

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1	ΤW	FROM	то	ТУРЕ	HARDNESS	COLOR	SPEED	PD	OTHER / DRILLING ACTION
685 692 SHALE	Х	676	685	SHALE AND SAND LAYERS	SOFT	GRAY	FAST		
692 896 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 696 708 SHALE AND LIMESTONE LAYERS FIRM GRAY SLOW CHOPPY 708 715 SHALE AND THIN SAND LAYERS SOFT GRAY FAST SMOOTH 716 723 SHALE FIRM GRAY SLOW SMOOTH 723 726 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 728 732 SHALE FIRM GRAY SLOW SMOOTH 732 737 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 737 741 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 746 747 LIMESTONE LAYER FIRM GRAY SLOW SMOOTH 748 749 SHALE AND SAND SOFT GRAY FAST SMOOTH 749 740 741 SHALE FIRM GRAY SLOW SMOOTH 740 741 SHALE SHALE AND SAND SOFT GRAY FAST SMOOTH 740 741 SHALE FIRM GRAY SLOW SMOOTH 741 742 SHALE AND SAND SOFT GRAY FAST SMOOTH 743 744 SHALE AND SAND SOFT GRAY FAST SMOOTH 745 747 SHALE SHALE AND SAND SOFT GRAY FAST SMOOTH 746 747 SHALE SHALE AND SAND SOFT GRAY FAST SMOOTH 748 SHALE AND SAND SOFT GRAY FAST SMOOTH 749 SHALE AND SAND SOFT GRAY FAST SMOOTH 750 771 SHALE SHALE AND SAND SOFT GRAY FAST SMOOTH 750 SHALE AND SAND SOFT GRAY FAST SMOOTH 750 SHALE AND SAND SOFT GRAY FAST SMOOTH 751 758 SHALE AND SAND SOFT GRAY FAST SMOOTH		685	692	SHALE	FIRM	GRAY			
696 708		692	696	SHALE AND SAND LAYERS	SOFT	GRAY	FAST		
708 715 SHALE AND THIN SAND LAYERS SOFT GRAY FAST SMOOTH 716 723 SHALE FIRM GRAY SLOW SMOOTH 723 726 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 726 732 SHALE FIRM GRAY SLOW SMOOTH 732 737 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY SLOW SMOOTH 767 771 SHALE AND SAND SOFT GRAY FAST SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH		696	708	SHALE AND LIMESTONE LAYERS .	FIRM	GRAY	sLow		1
715 723 SHALE FIRM GRAY SLOW SMOOTH 723 728 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 728 732 SHALE FIRM GRAY SLOW SMOOTH 732 737 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 737 741 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY FAST SMOOTH 758 767 SHALE AND SAND SOFT GRAY FAST SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH		708	716	SHALE AND THIN SAND LAYERS	SOFT	GRAY	FAST		
728 732 SHALE FIRM GRAY SLOW SMOOTH 732 737 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 737 741 SHALE FIRM GRAY SLOW SMOOTH 741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY SLOW SMOOTH 758 767 SHALE AND SAND SOFT GRAY FAST SMOOTH 767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 700 700 CHOPPY FAST SMOOTH		715	723	SHALE	FIRM	GRAY	sLow		SMOOTH
732 737 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 737 741 SHALE FIRM GRAY SLOW SMOOTH 741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY SLOW SMOOTH 758 767 SHALE AND SAND SOFT GRAY FAST SMOOTH 767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 700 700 CHALE SUMATE SOFT GRAY FAST SMOOTH		723	726	SHALE AND F SAND LENSES	SOFT	GRAY	FAST		SMOOTH
737 741 SHALE FIRM GRAY SLOW SMOOTH 741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY SLOW SMOOTH 758 767 SHALE AND SAND SOFT GRAY FAST SMOOTH 767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 700 700 700 CRAY FAST SMOOTH		726	732	SHALE	FIRM	GRAY	sLow		-
741 745 SHALE AND F SAND LENSES SOFT GRAY FAST SMOOTH 745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY SLOW SMOOTH 758 767 SHALE AND SAND SOFT GRAY FAST SMOOTH 767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 700 200 CHALE SMOOTH SOFT GRAY FAST SMOOTH	_	732	737	SHALE AND F SAND LENSES	SOFT	GRAY	FAST		SMOOTH
745 747 LIMESTONE LAYER FIRM SLOW CHOPPY 747 758 SHALE FIRM GRAY SLOW SMOOTH 758 767 ŞHALE AND SAND SOFT GRAY FAST SMOOTH 767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 700 CREE CHALE SOFT GRAY FAST SMOOTH	-	737	741	SHALE	FIRM	GRAY	SLOW		sмоотн
747 758 SHALE FIRM GRAY SLOW SMOOTH 758 767 SHALE AND SAND SOFT GRAY FAST SMOOTH 767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH 700 200 CHALE SOFT GRAY FAST SMOOTH	_	741	745	SHALE AND F SAND LENSES	SOFT	GRAY	FAST		<u></u> SMOOTH
758 767 \$HALE AND SAND SOFT GRAY FAST \$MOOTH 767 771 \$HALE FIRM GRAY \$LOW \$MOOTH 771 788 \$HALE AND SAND LAYERS \$OFT GRAY FAST \$MOOTH		745	747	LIMESTONE LAYER	FIRM		sLow		СНОРРҮ
767 771 SHALE FIRM GRAY SLOW SMOOTH 771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH		747	758	SHALE	FIRM	GRAY	sLow		SMOOTH
771 788 SHALE AND SAND LAYERS SOFT GRAY FAST SMOOTH		758	767	SHALE AND SAND	SOFT	GRAY	FAST		SMOOTH
700 OCC OUNTS		767	771	SHALE	FIRM	GRAY	slow_		SMOOTH
786 820 SHALE	_	771	788	SHALE AND SAND LAYERS	SOFT	GRAY	FAST		sмоотн_
		788	820	SHALE	FIRM	GRAY	sLow		SMOOTH
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WELL LOG

Downey Drilling Inc.

CUSTOMER	NAME.	COLLINGWOOD	TRUS
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LEGAL: W1/2 24-275-33W

COUNTY: HASKELL

.68583 GPS: 37 41' 09" N

DATE: 10/24/2017

786. 531 16" W -100

	,		DRILLER:	CHRIS P			WO#:	17-752
TW	FROM	то	түре	HARDNESS	COLOR	SPEED	PULL DOWN	OTHER / DRILLING ACTION
	0	2	TOP SOIL	SOFT	BLACK	FAST		SMOOTH
	2	46	SILTY CLAY AND SANDY CLAY	SOFT	BROWN	FAST		SMOOTH
	46	70	FINE-MEDIUM SAND AND FINE GRAVEL	SOFT	RED	FAST		SMOOTH
<u> </u>	70	85	MEDIUM SAND AND MEDIUM-COARSE GRAVEL	SOFT	RED	FAST		CHATTER
<u> </u>	85	95	MEDIUM-COARSE GRAVEL	SOFT	RED	FAST		CHATTER
Х	95	115	FINE-MEDIUM-COARSE-VERY COARSE GRAVEL	SOFT	RED	FAST		CHATTER
	115	130	FINE-MEDIUM GRAVEL WITH A TRACE OF MEDIUM SAND	SOFT	RED	FAST		CHATTER
	130	146	FINE-MEDIUM GRVAEL AND SAND	SOFT	RED	FAST		CHATTER
	146	177	FINE-MEDIUM-COARSE GRAVEL AND SOME SAND	SOFT	RED	FAST		CHATTER
	177	190	FINE-MEDIUM SAND AND GRAVEL	SOFT	RED	FAST		CHATTER
	190	209	SANDY CLAY WITH A TRACE OF COARSE GRAVEL	SOFT	TAN	sLow		CHOPPY
	209	247	SANDY CLAY, TRACE OF MAG, AND GRAVEL LAYERS	SOFT	TAN	FAST		СНОРРҮ
	247	258	SANDY CLAY AND MAG LAYERS	HARD	WHITE	SLOW	х	СНОРРУ
x	258	283	SILT, SANDY CLAY, AND MAG LAYERS	FIRM	WHITE	SLOW		СНОРРҮ
**********	283	302	SILTY CLAY	SOFT	DARK GRAY	FAST		SMOOTH
	302	321	SANDY CLAY AND SMALL GRAVEL LAYERS	SOFT	RED	SLOW		СНОРРУ
	321	342	FINE-TR. MEDIUM GRAVEL, M-C-VC SAND	SOFT	RED	FAST		CHATTER
	342	358	C-VC SAND, FINE-TR. MEDIUM GRAVEL W/FEW THIN SILT LENSES	SOFT	TAN	sLow		CHATTER
	358	395	FINE-MEDIUM SAND AND SILT OPO SCREEN	SOFT	RED	slow		CHATTER
<u>x</u>	395	425	SANDY CLAY AND SILT HOO -	SOFT	TAN	SLOW		SMOOTH
x	425	473	SANDY CLAY LING C14-SING	FIRM	TAN	slow		sмоотн
************	473	478	CEMENTED SAND W/M-C SAND	HARD		sLow		СНОРРУ
	478	493	M SAND, TR BROWN ROCK W/WEATHERED SHALE	FIRM	BROWN	sLow		SMOOTHER
	493	494	CEMENTED SAND	HARD	WHITE	SLOW		СНОРРҮ
	494	514	WEATHERED SHALE, TR. BROWN ROCK, M SAND	FIRM	BROWN	sLow		SMOOTHER
	514	540	M-C SAND SANDSTONE SCREEN	FIRM	GRAY	FASTER		SOME CHATTER
			10/25/2017 CHANGED TO PDC BIT					
	540	555	M-C SAND SANDSTONE	SEM! FIRM	BROWN	SEMI FAST		SOME CHATTER
	555	577	SANDSTONE WITH M-C-VC SAND 580, V	SOFTER		FASTER		SOME CHATTER
	577	611	SHALE (OUT) CITSING	FIRM	GRAY	SLOW		SMOOTH
x	611	636	F-TR.M SAND W/SHALE LENSES	FIRM	GRAY	FASTER		NOT AS SMOOTH
	636	641	SHALE AND LIMESTONE LAYER . 050 SCREEN	FIRM	GRAY	SLOW		СНОРРУ
X	641	649		SOFT	GRAY	FAST		СНОРРУ
x	649	652	SHALE AND SAND LAYERS SHALE AND LIMESTONE (P40) SUMP	FIRM	GRAY	SLOW		СНОРРҮ
X	652	676	SHALE	FIRM	GRAY	SLOW		SMOOTH

