Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1251975

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34192
Name: SandRidge Exploration and Production LLC
Address 1: 123 ROBERT S. KERR AVE
Address 2:
City: OKLAHOMA CITY State: OK Zip: 73102 + 6406
Contact Person: Wanda Ledbetter
Phone: (405) 429-5500
CONTRACTOR: License # 34464
Name: Lariat Services, Inc. dba Chaparral, Drilling, Fluids
Wellsite Geologist: Bob Wilcox
Purchaser: Targa-Gas, Plains - Gas

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
☑ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

1/29/2015	3/7/2015	3/25/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-077-22130-01-00
Spot Description:
SE - SE - SW - SE Sec. 21 Twp. 34 S. R. 8 ☐ East ☑ West
200 Feet from ☐ North / ☑ South Line of Section
1485 Feet from ☑ East / ☐ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Harper
Lease Name: Mary 3408 Well #: 2-21H
Field Name: Jennifer
Producing Formation: Mississippi
Elevation: Ground: 1274 Kelly Bushing: 1292
Total Vertical Depth: 4637 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 764 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 2065 ppm Fluid volume: 4960 bbls
Dewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:

Operator Name: NEMAHA
Lease Name: unknown License #: 99999
Quarter SW Sec. 15 Twp. 24 S. R. 7 ☐ East ☑ West
County: Garfield County, OK Permit #: 608693

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

☑ **Confidentiality Requested**
Date: 05/20/2015
☑ **Confidential Release Date:** 05/19/2017
☐ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ I ☐ II ☐ III **Approved by:** NAOMI JAMES **Date:** 05/21/2015

[redacted]

1251975

Operator Name: SandRidge Exploration and Production LLC Lease Name: Mary 3408 Well #: 2-21H

Sec. 21 Twp. 34 S. R. 8 ☐ East ☑ West County: Harper

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☐ Yes ☑ No

List All E. Logs Run:

☑ Log Formation (Top), Depth and Datum ☑ Sample

Name: Attached Top: Attached Datum: Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Conductor	28	20	75	90	Grout	10	none
Surface	12.25	9.625	36	764	Class C Premium Plus	485	see report
Intermediate	8.75	7	26	5604	50/50 POZ Premium	350	see report

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☑ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☑ Yes ☐ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☑ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
1	4662-4687		

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☑ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 5/13/2015

Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☑ Other *(Explain)* ESP

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	2028	2256	4723		

DISPOSITION OF GAS: ☐ Vented ☑ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* ☐ Other *(Specify)*

PRODUCTION INTERVAL: 4662-4687

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Mary 3408 2-21H
Doc ID	1251975

Tops

Name	Top	Datum
Base Heebner	3453	-2150
Lansing	3793	-2490
Cottage Grove	4054	-2931
Oswego	4377	-3074
Pawnee	4437	-3134
Cherokee	4483	-3180
Verdigris	4520	-3217
Red Fork	4556	-3253
Atoka	4605	-3302
Miss Unconformity	4637	-3334

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Mary 3408 2-21H
Doc ID	1251975

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Conductor	28	20	75	90	Grout	10	none
Surface	12.25	9.625	36	764	Class C Premium Plus	485	see report
Intermediate	8.75	7	26	5604	50/50 POZ Premium	350	see report

JOB SUMMARY

PROJECT NUMBER	TICKET DATE
SOK 4887	02/21/15

COUNTY	State	COMPANY	CUSTOMER REP
Harper	Kansas	dridge Exploration & Produc	0

LEASE NAME	Well No.	JOB TYPE	EMPLOYEE NAME
Mary 3408	2-21H	Surface	Marcos Quintana

EMP NAME							
Marcos Quintana		0					
Kyle Laskowitz							
Donnie Brown							
0.00							

Form. Name _____ Type: _____

Packer Type _____ Set At 0

Bottom Hole Temp. 80 Pressure _____

Retainer Depth _____ Total Depth 800

	Called Out	On Location	Job Started	Job Completed
Date	2/21/2015	2/21/2015	2/21/2015	2/21/2015
Time	0030	0410	545	730

Tools and Accessories

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Val	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data

	New/Used	Weight	Size Grade	From	To	Max. Allow
Casing		36#	9 5/8"	Surface	800	1,500
Liner						
Liner						
Tubing			0			
Drill Pipe						
Open Hole			12¼"	Surface	800	Shots/Ft.
Perforations						
Perforations						
Perforations						

Materials

Mud Type	WBM	Density 9	Lb/Gal	
Disp. Fluid	Fresh Water	Density 8.33	Lb/Gal	
Spacer type	resh Wate	BBL. 10		8.33
Spacer type		BBL.		
Acid Type		Gal.	%	
Acid Type		Gal.	%	
Surfactant		Gal.	In	
NE Agent		Gal.	In	
Fluid Loss		Gal/Lb	In	
Gelling Agent		Gal/Lb	In	
Fric. Red.		Gal/Lb	In	
MISC.		Gal/Lb	In	

Perfpac Balls _____ Qty. _____

Other _____

Other _____

Other _____

Other _____

Other _____

Hours On Location

Date	Hours
2/21	4.0
Total	4.0

Operating Hours

Date	Hours
2/21	2.0
Total	2.0

Description of Job

Surface

Pressures

MAX 1,500 PSI AVG. 100

Average Rates in BPM

MAX 6 BPM AVG 4

Cement Left in Pipe

Feet 46 Reason SHOE JOINT

Cement Data

Stage	Sacks	Cement	Additives		W/Rq.	Yield	Lbs/Gal
1	485	Premium Plus (Class C)	2% Calcium Chloride - ¼pps Cello-Flake		6.32	1.32	14.80
2	0	0		0	0.00	0.00	0.00
3	0	0		0	0.00	0.00	0.00

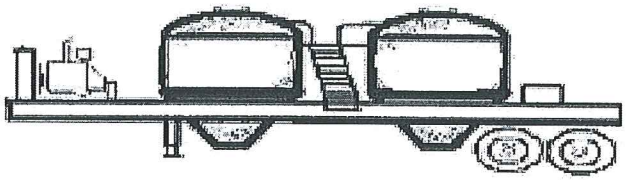
Summary

Preflush		Type:		Preflush: BBl	10.00	Type:	Fresh Water
Breakdown		MAXIMUM	1,500 PSI	Load & Bkdn: Gal - BBl	N/A	Pad:Bbl -Gal	N/A
		Lost Returns-N	NO/FULL	Excess /Return BBl	50	Calc.Disp Bbl	56
		Actual TOC	SURFACE	Calc. TOC:	SURFACE	Actual Disp.	54.00
Average		Bump Plug PSI:	1,000	Final Circ. PSI:	200	Disp:Bbl	
ISIP _____ 5 Min. _____		10 Min _____	15 Min _____	Cement Slurry: BBl	114.0		
				Total Volume BBl	178.02		

CUSTOMER REPRESENTATIVE Harold Rogers

SIGNATURE

O-Tex
Pumping, LLC



Trailer Number: 42568/94302

Driver Name _____

Front Pot		CEMENT ADDITIVES		Rear Pot	
LEAD				LEAD	
Cement	CLASS C	2% CALCIUM	2% CALCIUM	Cement	CLASS C
	243 sks	1/4 PPS FLAKE	1/4 PPS FLAKE		242 sks

COMPANY: Sandridge **DATE:** 2/20/2015

LEASE: Mary 3408 2-21H **TICKET:** SOK# 4887

JOB SUMMARY

PROJECT NUMBER	TICKET DATE
SOK 4914	02/27/15

COUNTY	State	COMPANY	CUSTOMER REP
Harper	Kansas	Sandridge Exploration & Production	0

LEASE NAME	Well No.	JOB TYPE	EMPLOYEE NAME
Mary 3408	2-21H	Intermediate	Joseph Klemm

EMP NAME							
Joseph Klemm		0					
Cody Bonitz							
Blake Hayworth							
Josh Davis							

Form. Name _____ Type: _____

Packer Type _____ Set At _____ 0

Bottom Hole Temp. 155 Pressure _____

Retainer Depth _____ Total Depth 5629'

	Called Out	On Location	Job Started	Job Completed
Date	2/27/2015	2/27/2015	2/27/2015	2/27/2015
Time	1000	1300	1700	2200

Tools and Accessories

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Va	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data

	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing		26#	7"		Surface	5604'	5,000
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			8¾"		Surface	5629'	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials

Mud Type	WBM	Density 9	Lb/Gal	
Disp. Fluid	Fresh Water	Density 8.33	Lb/Gal	
Spacer type	Gel	BBL. 30		8.60
Spacer type		BBL.		
Acid Type		Gal.	%	
Acid Type		Gal.	%	
Surfactant		Gal.	In	
NE Agent		Gal.	In	
Fluid Loss		Gal/Lb	In	
Gelling Agent		Gal/Lb	In	
Fric. Red.		Gal/Lb	In	
MISC.		Gal/Lb	In	

Perfpac Balls _____ Qty. _____

Other _____

Other _____

Other _____

Other _____

Other _____

Hours On Location

Date	Hours
2/27	9.0
Total	9.0

Operating Hours

Date	Hours
2/27	5.0
Total	5.0

Description of Job

Intermediate

Pressures

MAX 5,000 PSI AVG. 400

Average Rates in BPM

MAX 6.5 BPM AVG 5.5

Cement Left in Pipe

Feet 46 Reason SHOE JOINT

Cement Data

Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	250	50/50 POZ PREMIUM	4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.3% C-20 - 0.1% C-37 - 0.2% X-Air	6.93	1.43	13.60
2	100	Premium	0.2% FL-17 - 0.1% C-51 - 0.15% C-20 - 0.2% X-Air	5.19	1.19	15.60
3	0	0	0	0.00	0.00	0.00

Summary

Preflush		Type:		Preflush: BBl	30.00	Type:	Gel Spacer
Breakdown		MAXIMUM	5,000 PSI	Load & Bkdn: Gal - BBl	N/A	Pad:Bbl -Gal	N/A
		Lost Returns-N	NO/FULL	Excess /Return BBl	N/A	Calc.Disp Bbl	213
		Actual TOC	2,505	Calc. TOC:	2,505	Actual Disp.	213.00
Average		Bump Plug PSI:	1,450	Final Circ. PSI:	900	Disp:Bbl	213.00
ISIP _____	5 Min. _____	10 Min _____	15 Min _____	Cement Slurry BBl	84.7		
				Total Volume BBl	327.70		

CUSTOMER REPRESENTATIVE _____ SIGNATURE

Job Data Sheet

O-Tex Pumping, LLC

COMPANY	PROJECT NUMBER	AFE/WORK ORDER	DATE
Sandridge Exploration & Production	SOK 4914	DC14455	2/26/2015
CONTRACTOR / Owner		LEGAL DESCRIPTION	API
Lariat #42 / Same		21/34S/8W	15-077-22130-01-00
LEASE & WELL #	COUNTY	STATE	MILEAGE
Mary 3408 2-21H	Harper	Kansas	120

DIRECTIONS

WALDRON KS - 4 MILES NORTH - 1 MILE WEST

Pumping Services

☐ Surface ☑ Intermediate ☐ Long String ☐ Plug Back
☐ Squeeze ☐ Acid ☐ PTA ☐ Other ( ) H2S

Casing Size	Casing Weight	Thread	Tbng/DP Size	Thread	Plug. Cont.	Swage	Top Plug	Bottom Plug	% Excess
7"	26#	LTC			YES	YES	YES	NO	40%

Number and Type Units	Casing Depth	Hole Depth	Hole Size
Pump Truck & Bulk Materials	5,391'	5,391'	8¾"

Remarks	Est. BHST	KOP	Depth-TVD	Mud Weight/Type
TOC~3,439'	155		4,652'	9.2ppg WBM

Materials

	# of Sacks	Type		Additives
LEAD 63.67	250	50/50 POZ PREMIUM		Height of lead 2375' Top 2505'
H2O TO MIX 41.25	Weight PPG 13.60	Yield Ft3/Sk 1.43	Water Gal/Sk 6.93	4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.3% C-20 - 0.1% C-37 - 0.2% X-Air
TAIL 21.16	# of Sacks 100	Type Premium		Additives Height of TAIL 724' Top 4880'
H2O TO MIX 12.36	Weight PPG 15.60	Yield Ft3/Sk 1.19	Water Gal/Sk 5.19	0.2% FL-17 - 0.1% C-51 - 0.15% C-20 - 0.2% X-Air
	# of Sacks	Type		Additives Total Water use 330BBL
	Weight PPG	Yield Ft3/Sk	Water Gal/Sk	Approx. Lift pressure 1000 PSI
	ACID	Type		Additives Disp. 213 BBL
	Inhibitor	Surfactant	clay cont.	55 BBL 1.7 BBL
Spacer or Flush	Quantity 30 bbls	Type Gel Spacer		Additives 900#s Bentonite Gel
Displace	Quantity	Type		Additives
Other	Quantity	Type		Additives

Crew Called

Cementer	Pumper	Bulky	Bulky	Bulky

CEOL

7" 8RD SWAGE, SW, DW, 2 HOSES

Sales Items

Casing Size	Casing Weight	Thread	
7"	26#	LTC	
Guide Shoe	Float Shoe	Float Collar	Insert Float Valve
Centralizers - Number	Size	Type	
Wall Cleaners - Number	Type	MSC (DV Tool)	MSC Plug Set
Limit Clamps	Thread lock	Other	

Remarks: GET WATER SAMPLE

Customer Rep.	Cell Phone	Office Phone	Fax	Time of Call
0	0			

Call Taken By	Date Ready	Location Time
Robert Burris		
Crew Called: 0	Yard Time	

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/18/2015
Job End Date:	3/19/2015
State:	Kansas
County:	Harper
API Number:	15-077-22130-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Mary 3408 2-21H
Longitude:	-98.18798782
Latitude:	37.06566917
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,662
Total Base Water Volume (gal):	2,060,110
Total Base Non Water Volume:	0

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

INTERSTATE Oil & Gas COMPACT COMMISSION

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Archer	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	95.06701	None
Sand (Proppant)	Archer	Proppant					
			Silica Substrate	NA	100.00000	4.56234	None
Hydrochloric Acid (15%)	Archer	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.04814	None
			Methyl Alcohol	67-56-1	80.00000	0.00040	None
			thiourea-formaldehyde copolymer	68527-49-1	15.00000	0.00007	None
			NONYL PHENOL, 4 MOL	104-40-5	10.00000	0.00003	None
Chemflush	Archer	Enviro-Friendly Chemical Flush					
			Hydrotreated Petroleum Distillate	64742-47-8	99.00000	0.00361	None
			Alcohol Ethoxylate Surfactants	NA	10.00000	0.00036	None
AIC	Archer	Liquid Acid Iron Control					
			Acetic Acid	64-19-7	50.00000	0.00088	None
			Citric Acid	77-92-9	30.00000	0.00053	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
		Other Chemicals					

			Water	7732-18-5		0.01936	
			Water	7732-18-5		0.01010	
			Aliphatic Hydrocarbon	64742-47-8		0.00968	
			Anionic Polymer	N/A		0.00968	
			Acrylic Polymer	28205-96-1		0.00168	
			Sodium Salt of Phosphate Ester	68131-72-6		0.00168	
			Polyol Ester	N/A		0.00161	
			Oxyalkylated Alcohol	68002-97-1		0.00161	
			Water	7732-18-5		0.00062	
			Polyglycol Ester	N/A		0.00032	
			WATER	7732-18-5		0.00018	
			TRADE SECRET	N/A		0.00012	
			Alcohol Ethoxylate Surfactants	N/A		0.00007	
			n-olefins	N/A		0.00004	
			Tetrasodium Ethylenediaminetetraacetate	64-02-8		0.00003	
			Propargyl Alcohol	107-19-7		0.00003	
			METHANOL	67-56-1		0.00003	
			ISOPROPANOL	67-63-0		0.00003	
			Surfactant	N/A			
			Acetic Acid	64-19-7			
			Buffer	N/A			
			Water	7732-18-5			
			Cinnamic Aldehyde	104-55-2			

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

MARY 3408 2-21H Perforations

Stage Nbr	Date	Type	Top Depth	Top Depth (TVD)	Bottom Depth	Bottom Depth (TVD)	Zone	Shots per Ft	Wellbore	String Perforated	Perforation Company	Conveyance Method	Fluid Type
20	3/18/2015	Frac Sleeve	5,697	4,687	5,699	4,687	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
19	3/18/2015	Frac Sleeve	5,981	4,688	5,983	4,688	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
18	3/18/2015	Frac Sleeve	6,164	4,685	6,166	4,685	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
17	3/18/2015	Frac Sleeve	6,352	4,683	6,354	4,683	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
16	3/18/2015	Frac Sleeve	6,537	4,679	6,539	4,679	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
15	3/18/2015	Frac Sleeve	6,712	4,672	6,714	4,672	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
14	3/18/2015	Frac Sleeve	6,899	4,668	6,891	4,668	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
13	3/18/2015	Frac Sleeve	7,081	4,665	7,083	4,665	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
12	3/18/2015	Frac Sleeve	7,274	4,662	7,276	4,662	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
11	3/18/2015	Frac Sleeve	7,463	4,661	7,465	4,661	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
10	3/18/2015	Frac Sleeve	7,643	4,659	7,645	4,659	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
9	3/18/2015	Frac Sleeve	7,838	4,658	7,840	4,658	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
8	3/18/2015	Frac Sleeve	8,028	4,656	8,030	4,656	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
7	3/18/2015	Frac Sleeve	8,222	4,658	8,224	4,658	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
6	3/18/2015	Frac Sleeve	8,416	4,659	8,418	4,659	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
5	3/18/2015	Frac Sleeve	8,610	4,658	8,612	4,658	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
4	3/18/2015	Frac Sleeve	8,794	4,662	8,796	4,662	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
3	3/18/2015	Frac Sleeve	8,984	4,664	8,986	4,664	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
2	3/18/2015	Frac Sleeve	9,171	4,664	9,173	4,664	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
1	3/18/2015	Frac Sleeve	9,319	4,662	9,321	4,662	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water

Sandridge Energy

DrillRight TECHNOLOGY, INC.

SECTION DETAILS

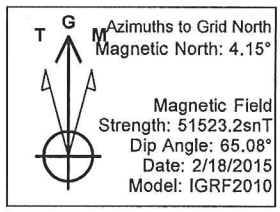
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2796.5	25.93	260.14	2752.7	-49.4	-284.1	2.00	260.14	29.8	Start 1369.7 hold at 2796.5 MD
4166.2	25.93	260.14	3984.5	-151.9	-874.2	0.00	0.00	91.7	Start DLS 8.00 TFO 98.31
5313.7	88.00	358.41	4675.0	531.1	-1213.1	8.00	98.31	841.1	Start 300.0 hold at 5313.7 MD
5613.7	88.00	358.41	4685.5	830.8	-1221.5	0.00	0.00	1131.8	Start DLS 8.00 TFO 0.00
5645.0	90.50	358.41	4685.9	862.0	-1222.3	8.00	0.00	1162.1	Landing Point
9484.6	90.50	358.41	4652.4	4700.0	-1329.0	0.00	-102.45	4884.3	TD at 9484.6

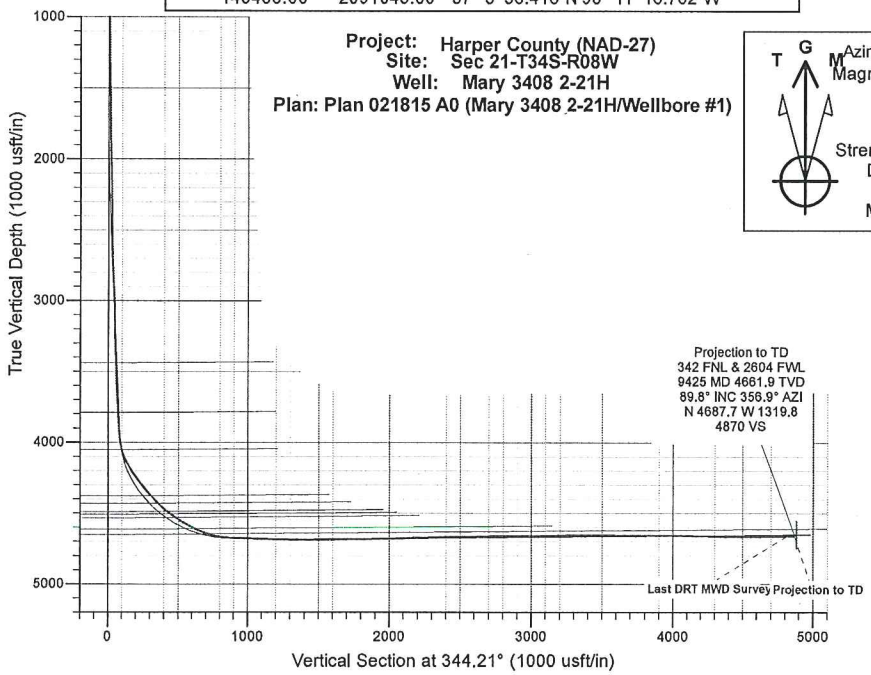
WELL DETAILS: Mary 3408 2-21H

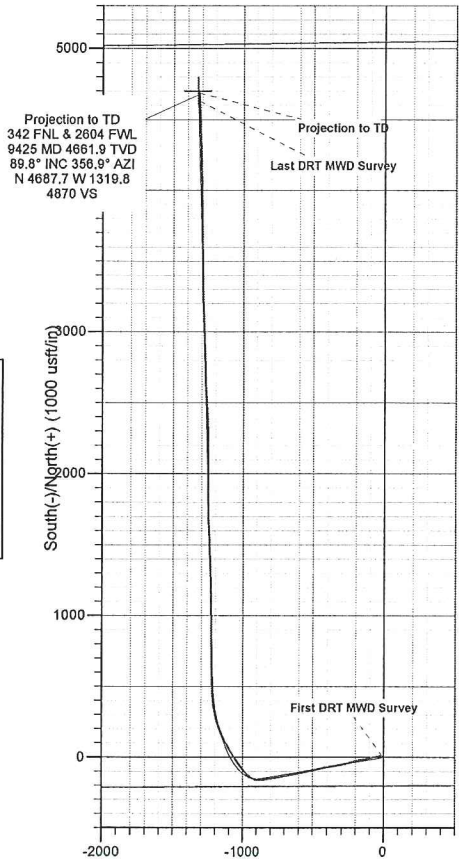
Ground Level: 1285.0

Northing	Easting	Latitude	Longitude
145438.00	2091045.00	37° 3' 56.416 N	98° 11' 16.762 W

Project: Harper County (NAD-27)
Site: Sec 21-T34S-R08W
Well: Mary 3408 2-21H
Plan: Plan 021815 A0 (Mary 3408 2-21H/Wellbore #1)







Survey Report

Company:	Sandridge Energy	**Local Co-ordinate Reference:**	Well Mary 3408 2-21H
Project:	Harper County (NAD-27)	**TVD Reference:**	KB @ 1303.0usft
Site:	Sec 21-T34S-R08W	**MD Reference:**	KB @ 1303.0usft
Well:	Mary 3408 2-21H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Project Harper County (NAD-27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Kansas South 1502		

Site Sec 21-T34S-R08W

Site Position:		**Northing:**	145,215.00 usft	**Latitude:**	37° 3' 54.334 N
From:	Map	**Easting:**	2,087,259.00 usft	**Longitude:**	98° 12' 3.479 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.18 °

Well Mary 3408 2-21H

Well Position	**+N/-S**	0.0 usft	**Northing:**	145,438.00 usft	**Latitude:**	37° 3' 56.416 N
	+E/-W	0.0 usft	**Easting:**	2,091,045.00 usft	**Longitude:**	98° 11' 16.762 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	1,285.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/18/2015	4.34	65.08	51,523

Design Wellbore #1

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	344.21

Survey Program **Date** 3/9/2015

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
785.0	9,425.0	DrillRight MWD Surveys (Wellbore #1)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
785.0	1.20	291.40	784.9	3.0	-7.7	5.0	0.15	0.15	0.00
First DRT MWD Survey									
968.0	1.10	290.40	967.9	4.3	-11.1	7.2	0.06	-0.05	-0.55
1,441.0	1.30	287.50	1,440.8	7.5	-20.5	12.8	0.04	0.04	-0.61
1,535.0	3.20	279.90	1,534.7	8.3	-24.1	14.5	2.04	2.02	-8.09
1,630.0	4.80	262.10	1,629.5	8.2	-30.6	16.2	2.11	1.68	-18.74
1,724.0	6.70	258.90	1,723.0	6.6	-39.9	17.2	2.05	2.02	-3.40
1,819.0	8.70	259.60	1,817.2	4.2	-52.4	18.3	2.11	2.11	0.74
1,913.0	10.40	258.90	1,909.8	1.3	-67.7	19.7	1.81	1.81	-0.74
2,008.0	11.80	256.60	2,003.1	-2.6	-85.6	20.8	1.55	1.47	-2.42

Survey Report

Company:	Sandridge Energy	**Local Co-ordinate Reference:**	Well Mary 3408 2-21H
Project:	Harper County (NAD-27)	**TVD Reference:**	KB @ 1303.0usft
Site:	Sec 21-T34S-R08W	**MD Reference:**	KB @ 1303.0usft
Well:	Mary 3408 2-21H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,103.0	14.20	257.50	2,095.6	-7.4	-106.4	21.9	2.54	2.53	0.95
2,198.0	16.00	260.60	2,187.3	-12.0	-130.7	24.0	2.08	1.89	3.26
2,293.0	17.40	259.10	2,278.3	-16.9	-157.6	26.7	1.54	1.47	-1.58
2,387.0	18.90	257.90	2,367.7	-22.7	-186.3	28.8	1.64	1.60	-1.28
2,482.0	19.70	254.80	2,457.3	-30.1	-216.8	30.0	1.37	0.84	-3.26
2,577.0	20.20	253.00	2,546.6	-39.1	-247.9	29.8	0.83	0.53	-1.89
2,672.0	22.40	257.40	2,635.1	-47.9	-281.2	30.5	2.86	2.32	4.63
2,767.0	26.20	259.30	2,721.7	-55.7	-319.5	33.3	4.08	4.00	2.00
2,861.0	28.70	259.10	2,805.1	-63.8	-362.1	37.1	2.66	2.66	-0.21
2,956.0	28.70	258.80	2,888.4	-72.6	-406.9	40.9	0.15	0.00	-0.32
3,051.0	26.60	258.30	2,972.6	-81.3	-450.1	44.2	2.22	-2.21	-0.53
3,146.0	24.60	257.10	3,058.3	-90.0	-490.2	46.7	2.17	-2.11	-1.26
3,240.0	23.00	257.00	3,144.3	-98.5	-527.1	48.6	1.70	-1.70	-0.11
3,335.0	22.50	256.40	3,231.9	-107.0	-562.9	50.2	0.58	-0.53	-0.63
3,429.0	24.30	259.60	3,318.1	-114.7	-599.4	52.7	2.34	1.91	3.40
3,524.0	21.30	259.10	3,405.7	-121.5	-635.6	56.0	3.16	-3.16	-0.53
3,617.0	23.30	258.30	3,491.7	-128.4	-670.2	58.8	2.18	2.15	-0.86
3,712.0	24.00	259.50	3,578.8	-135.8	-707.6	61.9	0.89	0.74	1.26
3,807.0	24.30	261.50	3,665.5	-142.2	-745.9	66.1	0.92	0.32	2.11
3,902.0	24.50	261.90	3,752.0	-147.8	-784.7	71.3	0.27	0.21	0.42
3,997.0	27.00	262.60	3,837.5	-153.4	-825.6	77.0	2.65	2.63	0.74
4,092.0	23.20	261.90	3,923.5	-158.8	-865.6	82.7	4.01	-4.00	-0.74
4,123.0	23.20	265.60	3,952.0	-160.1	-877.7	84.7	4.70	0.00	11.94
4,155.0	23.30	272.90	3,981.4	-160.3	-890.3	88.0	9.01	0.31	22.81
4,186.0	22.90	281.10	4,010.0	-158.8	-902.4	92.7	10.45	-1.29	26.45
4,218.0	23.60	290.10	4,039.4	-155.4	-914.5	99.3	11.31	2.19	28.13
4,250.0	25.40	294.40	4,068.5	-150.4	-926.7	107.4	7.91	5.63	13.44
4,281.0	27.10	299.90	4,096.3	-144.1	-938.9	116.8	9.57	5.48	17.74
4,313.0	29.40	306.50	4,124.5	-135.8	-951.6	128.2	12.11	7.19	20.63
4,344.0	32.10	310.50	4,151.1	-125.9	-963.9	141.1	10.92	8.71	12.90
4,375.0	34.30	313.40	4,177.1	-114.6	-976.6	155.5	8.75	7.10	9.35
4,407.0	35.50	316.90	4,203.3	-101.6	-989.5	171.5	7.29	3.75	10.94
4,438.0	36.50	319.90	4,228.4	-88.0	-1,001.5	187.9	6.54	3.23	9.68
4,470.0	37.90	322.40	4,253.9	-72.9	-1,013.7	205.7	6.44	4.38	7.81
4,501.0	40.00	324.00	4,278.0	-57.3	-1,025.3	223.9	7.51	6.77	5.16
4,533.0	41.50	325.90	4,302.2	-40.2	-1,037.3	243.6	6.08	4.69	5.94
4,565.0	41.10	326.10	4,326.3	-22.7	-1,049.1	263.6	1.32	-1.25	0.63
4,596.0	40.90	326.10	4,349.7	-5.8	-1,060.5	283.0	0.65	-0.65	0.00
4,628.0	42.60	326.40	4,373.6	11.9	-1,072.3	303.2	5.35	5.31	0.94
4,659.0	43.80	328.40	4,396.2	29.8	-1,083.8	323.5	5.87	3.87	6.45
4,691.0	46.00	329.90	4,418.8	49.2	-1,095.3	345.4	7.63	6.88	4.69
4,722.0	48.10	330.50	4,439.9	68.9	-1,106.6	367.4	6.92	6.77	1.94
4,754.0	50.10	331.80	4,460.9	90.0	-1,118.3	390.9	6.96	6.25	4.06

Survey Report

Company:	Sandridge Energy	**Local Co-ordinate Reference:**	Well Mary 3408 2-21H
Project:	Harper County (NAD-27)	**TVD Reference:**	KB @ 1303.0usft
Site:	Sec 21-T34S-R08W	**MD Reference:**	KB @ 1303.0usft
Well:	Mary 3408 2-21H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,785.0	51.50	332.40	4,480.5	111.3	-1,129.5	414.4	4.76	4.52	1.94
4,816.0	53.40	334.90	4,499.4	133.3	-1,140.4	438.6	8.86	6.13	8.06
4,848.0	55.20	336.40	4,518.1	157.0	-1,151.1	464.3	6.79	5.63	4.69
4,880.0	56.60	337.90	4,536.0	181.4	-1,161.4	490.6	5.85	4.38	4.69
4,911.0	58.10	339.00	4,552.7	205.7	-1,171.0	516.5	5.69	4.84	3.55
4,942.0	59.40	342.30	4,568.8	230.7	-1,179.8	543.0	10.02	4.19	10.65
4,974.0	61.80	344.90	4,584.5	257.4	-1,187.6	570.9	10.31	7.50	8.13
5,005.0	64.60	347.10	4,598.5	284.3	-1,194.3	598.5	11.03	9.03	7.10
5,037.0	65.90	348.40	4,611.9	312.7	-1,200.5	627.5	5.49	4.06	4.06
5,068.0	67.80	350.40	4,624.1	340.7	-1,205.7	655.9	8.53	6.13	6.45
5,100.0	69.50	352.60	4,635.7	370.1	-1,210.1	685.4	8.32	5.31	6.88
5,131.0	72.60	353.90	4,645.8	399.3	-1,213.6	714.4	10.76	10.00	4.19
5,163.0	75.50	355.80	4,654.6	429.9	-1,216.3	744.6	10.71	9.06	5.94
5,194.0	78.70	356.90	4,661.5	460.0	-1,218.2	774.2	10.89	10.32	3.55
5,226.0	81.30	358.10	4,667.1	491.5	-1,219.6	804.8	8.92	8.13	3.75
5,289.0	86.80	359.50	4,673.6	554.2	-1,220.9	865.5	9.01	8.73	2.22
5,320.0	88.70	359.60	4,674.8	585.1	-1,221.2	895.3	6.14	6.13	0.32
5,416.0	88.40	359.90	4,677.2	681.1	-1,221.6	987.8	0.44	-0.31	0.31
5,509.0	87.90	359.40	4,680.2	774.0	-1,222.2	1,077.4	0.76	-0.54	-0.54
5,575.0	87.80	358.90	4,682.7	840.0	-1,223.1	1,141.1	0.77	-0.15	-0.76
5,690.0	88.60	359.40	4,686.3	954.9	-1,224.8	1,252.2	0.82	0.70	0.43
5,784.0	88.80	359.10	4,688.5	1,048.9	-1,226.1	1,342.9	0.38	0.21	-0.32
5,877.0	89.90	358.60	4,689.5	1,141.9	-1,227.9	1,432.9	1.30	1.18	-0.54
5,971.0	91.40	358.90	4,688.4	1,235.8	-1,230.0	1,523.9	1.63	1.60	0.32
6,065.0	91.40	358.00	4,686.2	1,329.8	-1,232.5	1,615.0	0.96	0.00	-0.96
6,159.0	90.60	357.60	4,684.5	1,423.7	-1,236.1	1,706.3	0.95	-0.85	-0.43
6,253.0	90.40	357.60	4,683.7	1,517.6	-1,240.1	1,797.8	0.21	-0.21	0.00
6,347.0	90.80	357.00	4,682.7	1,611.5	-1,244.5	1,889.3	0.77	0.43	-0.64
6,441.0	91.30	358.40	4,681.0	1,705.4	-1,248.3	1,980.7	1.58	0.53	1.49
6,534.0	91.60	359.50	4,678.6	1,798.3	-1,250.0	2,070.6	1.23	0.32	1.18
6,628.0	92.20	359.90	4,675.5	1,892.3	-1,250.5	2,161.1	0.77	0.64	0.43
6,723.0	92.80	0.00	4,671.4	1,987.2	-1,250.5	2,252.5	0.64	0.63	0.11
6,817.0	90.70	359.90	4,668.5	2,081.1	-1,250.6	2,342.9	2.24	-2.23	-0.11
6,911.0	90.80	358.90	4,667.3	2,175.1	-1,251.6	2,433.6	1.07	0.11	-1.06
7,006.0	90.80	359.80	4,665.9	2,270.1	-1,252.7	2,525.3	0.95	0.00	0.95
7,101.0	90.40	358.80	4,664.9	2,365.1	-1,253.9	2,617.0	1.13	-0.42	-1.05
7,196.0	91.00	356.60	4,663.8	2,460.0	-1,257.7	2,709.4	2.40	0.63	-2.32
7,291.0	91.00	356.50	4,662.1	2,554.8	-1,263.4	2,802.2	0.11	0.00	-0.11
7,386.0	90.20	357.60	4,661.1	2,649.7	-1,268.3	2,894.8	1.43	-0.84	1.16
7,481.0	90.50	358.50	4,660.6	2,744.6	-1,271.5	2,987.1	1.00	0.32	0.95
7,575.0	90.40	358.10	4,659.8	2,838.6	-1,274.3	3,078.2	0.44	-0.11	-0.43
7,670.0	90.80	358.00	4,658.8	2,933.5	-1,277.5	3,170.5	0.43	0.42	-0.11
7,765.0	90.00	356.80	4,658.2	3,028.4	-1,281.8	3,262.9	1.52	-0.84	-1.26

Survey Report

Company:	Sandridge Energy	**Local Co-ordinate Reference:**	Well Mary 3408 2-21H
Project:	Harper County (NAD-27)	**TVD Reference:**	KB @ 1303.0usft
Site:	Sec 21-T34S-R08W	**MD Reference:**	KB @ 1303.0usft
Well:	Mary 3408 2-21H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,859.0	90.60	358.60	4,657.7	3,122.3	-1,285.6	3,354.3	2.02	0.64	1.91
7,954.0	90.30	358.40	4,656.9	3,217.3	-1,288.1	3,446.4	0.38	-0.32	-0.21
8,049.0	90.30	359.60	4,656.4	3,312.3	-1,289.7	3,538.3	1.26	0.00	1.26
8,144.0	88.70	359.40	4,657.3	3,407.3	-1,290.6	3,629.9	1.70	-1.68	-0.21
8,239.0	90.70	359.80	4,657.7	3,502.3	-1,291.2	3,721.5	2.15	2.11	0.42
8,334.0	88.80	359.10	4,658.2	3,597.3	-1,292.2	3,813.1	2.13	-2.00	-0.74
8,429.0	90.30	359.50	4,658.9	3,692.3	-1,293.3	3,904.8	1.63	1.58	0.42
8,524.0	90.80	0.00	4,658.0	3,787.2	-1,293.7	3,996.4	0.74	0.53	0.53
8,619.0	88.80	358.40	4,658.3	3,882.2	-1,295.1	4,088.1	2.70	-2.11	-1.68
8,714.0	88.90	358.90	4,660.2	3,977.2	-1,297.3	4,180.1	0.54	0.11	0.53
8,809.0	89.00	358.50	4,662.0	4,072.1	-1,299.4	4,272.1	0.43	0.11	-0.42
8,904.0	89.30	358.60	4,663.4	4,167.1	-1,301.8	4,364.1	0.33	0.32	0.11
8,999.0	89.70	358.30	4,664.2	4,262.1	-1,304.4	4,456.2	0.53	0.42	-0.32
9,094.0	90.10	358.30	4,664.4	4,357.0	-1,307.2	4,548.3	0.42	0.42	0.00
9,189.0	90.60	358.60	4,663.8	4,452.0	-1,309.8	4,640.4	0.61	0.53	0.32
9,284.0	91.10	357.80	4,662.4	4,546.9	-1,312.8	4,732.6	0.99	0.53	-0.84
9,368.0	89.80	356.90	4,661.7	4,630.8	-1,316.7	4,814.4	1.88	-1.55	-1.07
Last DRT MWD Survey									
9,425.0	89.80	356.90	4,661.9	4,687.7	-1,319.8	4,870.0	0.00	0.00	0.00
Projection to TD - PBHL Mary 2-21H									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
785.0	784.9	3.0	-7.7	First DRT MWD Survey
9,368.0	4,661.7	4,630.8	-1,316.7	Last DRT MWD Survey
9,425.0	4,661.9	4,687.7	-1,319.8	Projection to TD

Checked By: _____ Approved By: _____ Date: _____