

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1251712
OIL & GAS CONSERVATION DIVISION

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 # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

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 #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
-----------------------------------	-----------------	---

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ 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: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

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: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1251712

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> 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 <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
----------------	-------	---------	------------	---

Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
--	--	---

Mary 3408 1-21H - Perfs

Stage Nbr	Date	Type	Top Depth	Top Depth (TVD)	Bottom Depth	Bottom Depth (TVD)	Zone	Shot per Ft	Wellbore	String Perforated	Perforation Company	Conveyance Method	Fluid Type
20	3/17/2015	Frac Sleeve	5,527.00	4,698.10	5,529.00	4,698.10	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
19	3/18/2015	Frac Sleeve	5,809.00	4,693.20	5,811.00	4,693.20	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
18	3/19/2015	Frac Sleeve	5,999.00	4,691.00	6,001.00	4,691.00	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
17	3/20/2015	Frac Sleeve	6,184.00	4,687.80	6,186.00	4,687.80	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
16	3/21/2015	Frac Sleeve	6,368.00	4,682.70	6,370.00	4,682.60	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
15	3/22/2015	Frac Sleeve	6,553.00	4,678.00	6,555.00	4,677.90	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
14	3/23/2015	Frac Sleeve	6,738.00	4,675.30	6,740.00	4,675.30	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
13	3/24/2015	Frac Sleeve	6,924.00	4,674.20	6,926.00	4,674.10	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
12	3/25/2015	Frac Sleeve	7,111.00	4,670.70	7,113.00	4,670.60	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
11	3/26/2015	Frac Sleeve	7,300.00	4,668.10	7,302.00	4,668.10	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
10	3/27/2015	Frac Sleeve	7,483.00	4,667.80	7,485.00	4,667.70	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
9	3/28/2015	Frac Sleeve	7,675.00	4,664.20	7,677.00	4,664.10	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
8	3/29/2015	Frac Sleeve	7,865.00	4,659.60	7,867.00	4,659.60	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
7	3/30/2015	Frac Sleeve	8,049.00	4,658.60	8,051.00	4,658.60	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
6	3/31/2015	Frac Sleeve	8,243.00	4,656.80	8,245.00	4,656.80	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
5	4/1/2015	Frac Sleeve	8,437.00	4,662.20	8,439.00	4,662.30	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
4	4/2/2015	Frac Sleeve	8,629.00	4,667.60	8,631.00	4,667.70	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
3	4/3/2015	Frac Sleeve	8,821.00	4,663.30	8,823.00	4,663.20	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
2	4/4/2015	Frac Sleeve	9,016.00	4,655.50	9,018.00	4,655.40	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water
1	4/5/2015	Frac Sleeve	9,157.00	4,650.80	9,159.00	4,650.80	Miss Lime - Upper	1	Original Hole	Production Liner	Baker Hughes	Frac Sleeve	Fresh Water

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/17/2015
Job End Date:	3/18/2015
State:	Kansas
County:	Harper
API Number:	15-077-22131-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Mary 3408 1-21H
Longitude:	-98.18798980
Latitude:	37.06572417
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,648
Total Base Water Volume (gal):	2,043,552
Total Base Non Water Volume:	0



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	95.01747	None
Sand (Proppant)	Archer	Proppant					
			Silica Substrate	NA	100.00000	4.60115	None
Hydrochloric Acid (15%)	Archer	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.04863	None
			Methyl Alcohol	67-56-1	80.00000	0.00040	None
			thiourea-formaldehyde copolymer	68527-49-1	15.00000	0.00008	None
			NONYL PHENOL, 4 MOL	104-40-5	10.00000	0.00003	None
AIC	Archer	Liquid Acid Iron Control					
			Acetic Acid	64-19-7	50.00000	0.00089	None
			Citric Acid	77-92-9	30.00000	0.00054	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		0.02568	
			Anionic Polymer	N/A		0.01284	
			Aliphatic Hydrocarbon	64742-47-8		0.01284	
			Water	7732-18-5		0.01059	

		Oxyalkylated Alcohol	68002-97-1		0.00214
		Polyol Ester	N/A		0.00214
		Sodium Salt of Phosphate Ester	68131-72-6		0.00177
		Acrylic Polymer	28205-96-1		0.00177
		Water	7732-18-5		0.00063
		Polyglycol Ester	N/A		0.00043
		WATER	7732-18-5		0.00018
		TRADE SECRET	N/A		0.00012
		Alcohol Ethoxylate Surfactants	N/A		0.00008
		Tetrasodium Ethylenediaminetetraacetate	64-02-8		0.00004
		n-olefins	N/A		0.00004
		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		
		Water	7732-18-5		
		Cinnamic Aldehyde	104-55-2		
		Buffer	N/A		

* 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)

SECTION DETAILS

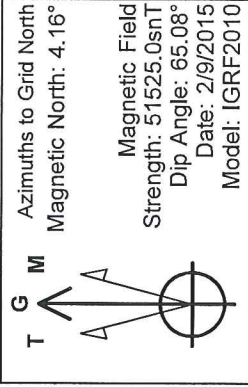
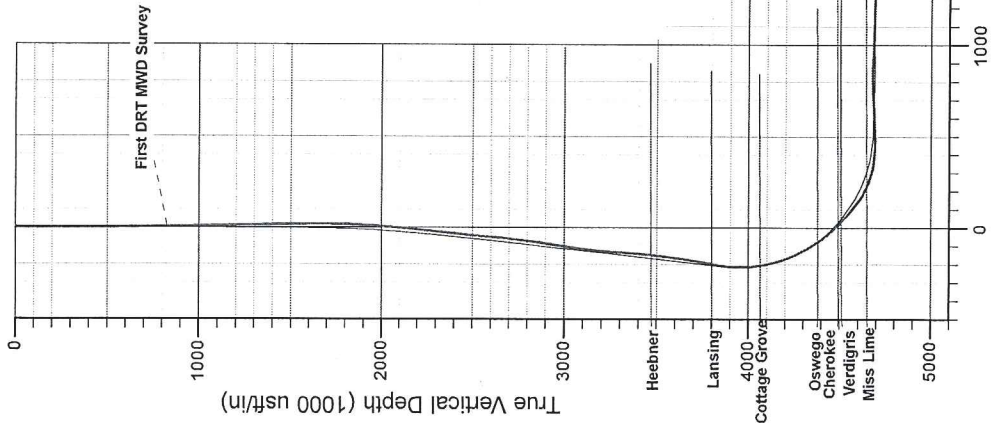
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2456.0	19.12	242.13	2438.4	-73.9	-139.7	2.00	242.13	-50.8	Start 1534.5 hold at 2456.0 MD
3990.5	19.12	242.13	3888.2	-308.8	-584.0	0.00	0.00	-212.3	Start DLS 8.00 TFO 117.14
5201.7	88.00	0.00	4679.8	375.0	-818.0	8.00	117.14	500.0	Start 275.0 hold at 5201.7 MD
5476.7	88.00	0.00	4689.4	649.8	-818.0	0.00	0.00	771.4	Start Build 8.00
5506.7	90.40	0.00	4689.9	679.8	-818.0	8.00	0.00	801.0	Landing Point
9917.0	90.40	360.00	4659.0	5090.0	-818.0	0.00	-2.60	5155.3	TD at 9917.0

Project: Harper County (NAD-27)
Site: Sec 28-T34S-R08W
Well: Mary 3408 3-21H

Plan: Plan 020915 A0 (Mary 3408 3-21H/Wellbore #1)

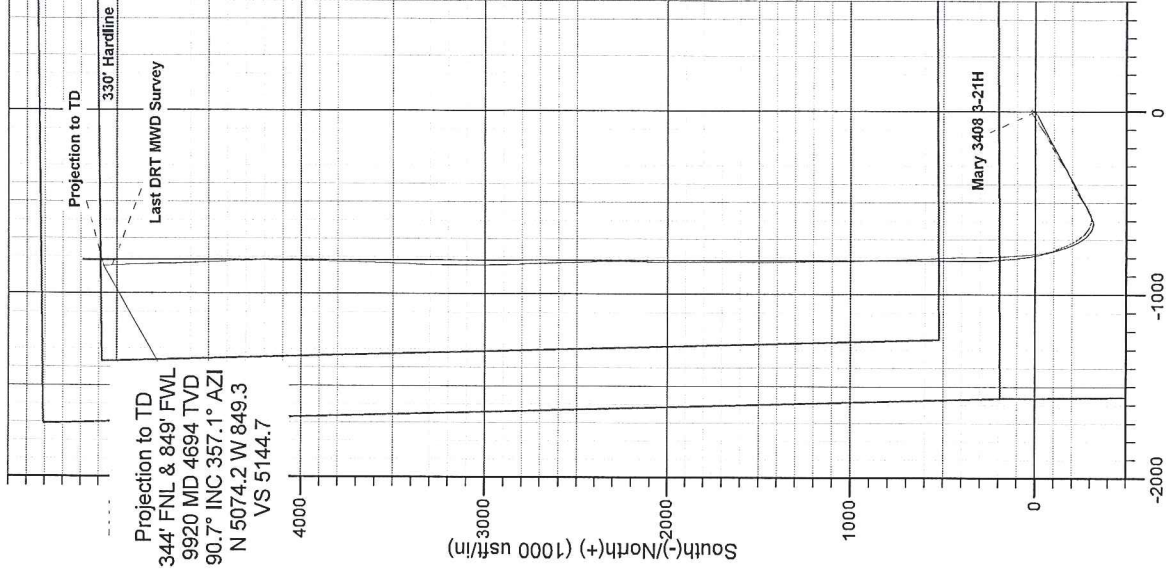
WELL DETAILS: Mary 3408 3-21H

Northing	Easting	Latitude	Longitude
145025.00	2088821.00	37° 3' 52.405 N	98° 11' 44.216 W
Ground Level:		1275.0	



Target Line: 02-09-15
 4695 KBTVD @ 0' VS
 90.4° @ 350.87 AZI Plane

Projection to TD
 344' FNL & 849' FWL
 9920 MD 4694 TVD
 90.7° INC 357.1° AZI
 N 5074.2 W 849.3
 VS 5144.7



Projection to TD
 344' FNL & 849' FWL
 9920 MD 4694 TVD
 90.7° INC 357.1° AZI
 N 5074.2 W 849.3
 VS 5144.7

Projection to TD
 344' FNL & 849' FWL
 9920 MD 4694 TVD
 90.7° INC 357.1° AZI
 N 5074.2 W 849.3
 VS 5144.7

Sandridge Energy

Harper County (NAD-27)

Sec 28-T34S-R08W

Mary 3408 3-21H

Wellbore #1

Design: Wellbore #1

Standard Survey Report

26 February, 2015

Survey Report

Company:	Sandridge Energy	Local Co-ordinate Reference:	Well Mary 3408 3-21H
Project:	Harper County (NAD-27)	TVD Reference:	KB @ 1293.0usft
Site:	Sec 28-T34S-R08W	MD Reference:	KB @ 1293.0usft
Well:	Mary 3408 3-21H	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 28-T34S-R08W				
Site Position:		Northing:	139,947.00 usft	Latitude:	37° 3' 2.247 N
From:	Map	Easting:	2,087,312.00 usft	Longitude:	98° 12' 3.034 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.18 °

Well	Mary 3408 3-21H					
Well Position	+N/-S	0.0 usft	Northing:	145,025.00 usft	Latitude:	37° 3' 52.405 N
	+E/-W	0.0 usft	Easting:	2,088,821.00 usft	Longitude:	98° 11' 44.216 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	0.0 usft	Ground Level:	1,275.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/9/2015	4.35	65.08	51,525

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	350.50	

Survey Program	Date 2/26/2015				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
829.0	9,920.0	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	
829.0	1.30	27.80	828.9	8.3	4.4	7.5	0.16	0.16	0.00	
First DRT MWD Survey										
1,207.0	1.30	33.20	1,206.8	15.7	8.7	14.0	0.03	0.00	1.43	
1,396.0	1.30	46.70	1,395.8	19.0	11.5	16.8	0.16	0.00	7.14	
1,491.0	1.50	312.20	1,490.8	20.5	11.3	18.4	2.17	0.21	-99.47	
1,586.0	3.50	278.70	1,585.7	21.8	7.5	20.3	2.52	2.11	-35.26	
1,680.0	5.10	263.50	1,679.4	21.8	0.6	21.4	2.08	1.70	-16.17	
1,774.0	5.90	245.80	1,773.0	19.3	-8.0	20.4	1.98	0.85	-18.83	
1,869.0	7.40	241.60	1,867.3	14.4	-17.8	17.2	1.66	1.58	-4.42	
1,963.0	8.70	234.10	1,960.4	7.4	-28.9	12.0	1.78	1.38	-7.98	

Survey Report

Company:	Sandridge Energy	Local Co-ordinate Reference:	Well Mary 3408 3-21H
Project:	Harper County (NAD-27)	TVD Reference:	KB @ 1293.0usft
Site:	Sec 28-T34S-R08W	MD Reference:	KB @ 1293.0usft
Well:	Mary 3408 3-21H	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)
2,058.0	10.50	234.60	2,054.1	-1.9	-41.8	5.1	1.90	1.89	0.53
2,152.0	12.60	237.40	2,146.2	-12.4	-57.4	-2.7	2.31	2.23	2.98
2,247.0	13.60	235.50	2,238.7	-24.3	-75.4	-11.5	1.15	1.05	-2.00
2,341.0	14.60	237.70	2,329.9	-36.9	-94.5	-20.8	1.21	1.06	2.34
2,436.0	15.40	239.50	2,421.6	-49.7	-115.5	-29.9	0.97	0.84	1.89
2,530.0	16.10	239.10	2,512.1	-62.7	-137.4	-39.1	0.75	0.74	-0.43
2,625.0	17.50	244.50	2,603.0	-75.6	-161.6	-47.9	2.21	1.47	5.68
2,720.0	20.10	244.60	2,693.0	-88.8	-189.2	-56.3	2.74	2.74	0.11
2,814.0	21.00	240.80	2,781.0	-103.9	-218.5	-66.4	1.71	0.96	-4.04
2,909.0	21.30	239.70	2,869.6	-120.9	-248.3	-78.3	0.52	0.32	-1.16
3,003.0	19.30	235.90	2,957.8	-138.2	-275.9	-90.8	2.55	-2.13	-4.04
3,098.0	17.80	230.40	3,047.8	-156.3	-300.1	-104.6	2.42	-1.58	-5.79
3,193.0	18.20	242.10	3,138.2	-172.5	-324.4	-116.6	3.82	0.42	12.32
3,287.0	17.90	245.30	3,227.6	-185.4	-350.5	-125.0	1.10	-0.32	3.40
3,382.0	18.20	250.00	3,317.9	-196.6	-377.7	-131.5	1.56	0.32	4.95
3,476.0	17.20	246.10	3,407.5	-207.2	-404.2	-137.7	1.65	-1.06	-4.15
3,571.0	19.30	243.40	3,497.7	-220.0	-431.1	-145.8	2.38	2.21	-2.84
3,665.0	21.40	236.40	3,585.8	-236.4	-459.3	-157.3	3.42	2.23	-7.45
3,759.0	18.70	232.90	3,674.1	-255.0	-485.6	-171.3	3.14	-2.87	-3.72
3,853.0	20.30	233.50	3,762.7	-273.8	-510.7	-185.7	1.72	1.70	0.64
3,916.0	21.40	238.00	3,821.6	-286.4	-529.2	-195.1	3.08	1.75	7.14
3,947.0	22.00	240.10	3,850.4	-292.3	-539.1	-199.3	3.17	1.94	6.77
3,979.0	21.60	245.00	3,880.1	-297.7	-549.6	-202.9	5.82	-1.25	15.31
4,011.0	20.30	252.00	3,910.0	-301.9	-560.2	-205.3	8.81	-4.06	21.88
4,042.0	19.70	258.90	3,939.1	-304.6	-570.5	-206.3	7.85	-1.94	22.26
4,074.0	19.00	264.90	3,969.3	-306.1	-581.0	-206.0	6.58	-2.19	18.75
4,105.0	18.80	269.50	3,998.7	-306.6	-591.0	-204.8	4.85	-0.65	14.84
4,137.0	17.40	277.60	4,029.1	-306.0	-600.9	-202.6	8.99	-4.38	25.31
4,168.0	17.60	284.70	4,058.7	-304.2	-610.0	-199.3	6.91	0.65	22.90
4,200.0	19.40	289.90	4,089.0	-301.2	-619.7	-194.7	7.63	5.63	16.25
4,231.0	21.50	295.20	4,118.1	-297.0	-629.7	-189.0	9.03	6.77	17.10
4,263.0	23.50	301.30	4,147.6	-291.2	-640.4	-181.5	9.60	6.25	19.06
4,295.0	24.80	306.20	4,176.8	-283.9	-651.3	-172.5	7.46	4.06	15.31
4,326.0	26.30	311.40	4,204.8	-275.5	-661.7	-162.5	8.70	4.84	16.77
4,358.0	27.40	316.70	4,233.3	-265.5	-672.1	-150.9	8.23	3.44	16.56
4,389.0	28.30	321.00	4,260.8	-254.6	-681.6	-138.6	7.10	2.90	13.87
4,421.0	29.50	325.60	4,288.8	-242.2	-690.8	-124.8	7.89	3.75	14.38
4,452.0	31.40	328.80	4,315.5	-229.0	-699.3	-110.4	8.06	6.13	10.32
4,484.0	33.10	330.90	4,342.6	-214.2	-707.9	-94.4	6.36	5.31	6.56
4,516.0	34.20	332.70	4,369.2	-198.6	-716.3	-77.6	4.64	3.44	5.63
4,547.0	36.20	334.30	4,394.5	-182.6	-724.2	-60.5	7.10	6.45	5.16
4,579.0	38.80	336.70	4,419.9	-164.9	-732.3	-41.7	9.32	8.13	7.50
4,610.0	40.10	337.70	4,443.9	-146.7	-739.9	-22.5	4.67	4.19	3.23

Survey Report

Company:	Sandridge Energy	Local Co-ordinate Reference:	Well Mary 3408 3-21H
Project:	Harper County (NAD-27)	TVD Reference:	KB @ 1293.0usft
Site:	Sec 28-T34S-R08W	MD Reference:	KB @ 1293.0usft
Well:	Mary 3408 3-21H	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)	
4,642.0	42.20	339.20	4,468.0	-127.1	-747.6	-2.0	7.25	6.56	4.69	
4,673.0	45.00	341.00	4,490.4	-107.0	-754.9	19.1	9.88	9.03	5.81	
4,705.0	46.10	343.70	4,512.8	-85.2	-761.8	41.7	6.93	3.44	8.44	
4,736.0	48.30	346.60	4,533.9	-63.3	-767.6	64.3	9.87	7.10	9.35	
4,768.0	49.30	350.20	4,555.0	-39.7	-772.5	88.4	9.02	3.13	11.25	
4,799.0	51.20	352.80	4,574.8	-16.1	-776.0	112.2	8.90	6.13	8.39	
4,831.0	54.60	353.80	4,594.1	9.2	-779.0	137.7	10.91	10.63	3.13	
4,862.0	57.60	354.30	4,611.4	34.8	-781.6	163.4	9.77	9.68	1.61	
4,894.0	61.10	355.00	4,627.7	62.2	-784.2	190.8	11.10	10.94	2.19	
4,925.0	64.60	356.60	4,641.8	89.7	-786.2	218.3	12.19	11.29	5.16	
4,957.0	68.40	357.50	4,654.6	119.0	-787.7	247.4	12.15	11.88	2.81	
4,989.0	72.20	357.60	4,665.4	149.1	-789.0	277.3	11.88	11.88	0.31	
5,020.0	76.00	357.80	4,673.9	178.9	-790.2	306.9	12.27	12.26	0.65	
5,052.0	79.60	357.40	4,680.6	210.1	-791.5	337.9	11.32	11.25	-1.25	
5,083.0	82.80	357.60	4,685.4	240.8	-792.8	368.3	10.34	10.32	0.65	
5,115.0	85.30	357.90	4,688.7	272.6	-794.1	399.9	7.87	7.81	0.94	
5,146.0	87.30	358.30	4,690.7	303.5	-795.1	430.6	6.58	6.45	1.29	
5,178.0	89.70	358.30	4,691.5	335.4	-796.1	462.3	7.50	7.50	0.00	
5,209.0	90.90	358.50	4,691.4	366.4	-796.9	493.0	3.92	3.87	0.65	
5,272.0	91.90	358.30	4,689.8	429.4	-798.7	555.3	1.62	1.59	-0.32	
5,367.0	93.20	357.80	4,685.6	524.2	-801.9	649.4	1.47	1.37	-0.53	
5,461.0	93.90	357.00	4,679.8	618.0	-806.2	742.6	1.13	0.74	-0.85	
5,486.0	91.90	357.20	4,678.5	642.9	-807.4	767.4	8.04	-8.00	0.80	
5,547.0	88.90	357.30	4,678.1	703.8	-810.4	827.9	4.92	-4.92	0.16	
5,579.0	89.00	357.90	4,678.7	735.8	-811.7	859.7	1.90	0.31	1.88	
5,673.0	87.90	358.90	4,681.2	829.7	-814.3	952.7	1.58	-1.17	1.06	
5,767.0	88.50	358.80	4,684.2	923.6	-816.2	1,045.7	0.65	0.64	-0.11	
5,861.0	87.90	359.30	4,687.1	1,017.6	-817.8	1,138.6	0.83	-0.64	0.53	
5,956.0	88.20	359.10	4,690.3	1,112.5	-819.1	1,232.5	0.38	0.32	-0.21	
6,047.0	88.30	358.50	4,693.1	1,203.4	-821.0	1,322.5	0.67	0.11	-0.66	
6,137.0	88.10	359.80	4,696.0	1,293.4	-822.3	1,411.4	1.46	-0.22	1.44	
6,227.0	88.40	359.30	4,698.7	1,383.3	-823.0	1,500.2	0.65	0.33	-0.56	
6,319.0	88.50	359.00	4,701.2	1,475.3	-824.4	1,591.2	0.34	0.11	-0.33	
6,411.0	89.10	359.50	4,703.1	1,567.3	-825.6	1,682.1	0.85	0.65	0.54	
6,503.0	90.00	359.40	4,703.8	1,659.3	-826.5	1,772.9	0.98	0.98	-0.11	
6,594.0	91.10	359.40	4,703.0	1,750.3	-827.5	1,862.8	1.21	1.21	0.00	
6,686.0	91.80	359.70	4,700.6	1,842.2	-828.2	1,953.7	0.83	0.76	0.33	
6,777.0	91.30	0.50	4,698.2	1,933.2	-828.0	2,043.4	1.04	-0.55	0.88	
6,867.0	89.50	1.60	4,697.5	2,023.2	-826.4	2,131.8	2.34	-2.00	1.22	
6,959.0	89.50	1.30	4,698.3	2,115.1	-824.0	2,222.1	0.33	0.00	-0.33	
7,050.0	89.70	0.70	4,699.0	2,206.1	-822.5	2,311.6	0.69	0.22	-0.66	
7,142.0	90.20	0.20	4,699.1	2,298.1	-821.7	2,402.2	0.77	0.54	-0.54	
7,232.0	90.50	359.40	4,698.5	2,388.1	-822.0	2,491.0	0.95	0.33	-0.89	

Survey Report

Company:	Sandridge Energy	Local Co-ordinate Reference:	Well Mary 3408 3-21H
Project:	Harper County (NAD-27)	TVD Reference:	KB @ 1293.0usft
Site:	Sec 28-T34S-R08W	MD Reference:	KB @ 1293.0usft
Well:	Mary 3408 3-21H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
7,322.0	90.90	358.00	4,697.4	2,478.1	-824.1	2,580.1	1.62	0.44	-1.56
7,416.0	90.00	358.30	4,696.7	2,572.0	-827.1	2,673.3	1.01	-0.96	0.32
7,510.0	90.80	356.70	4,696.0	2,665.9	-831.2	2,766.6	1.90	0.85	-1.70
7,605.0	90.60	357.70	4,694.9	2,760.8	-835.9	2,860.9	1.07	-0.21	1.05
7,700.0	88.70	359.90	4,695.4	2,855.8	-837.8	2,954.9	3.06	-2.00	2.32
7,794.0	89.60	357.80	4,696.8	2,949.7	-839.7	3,047.9	2.43	0.96	-2.23
7,889.0	89.70	358.60	4,697.4	3,044.7	-842.7	3,142.0	0.85	0.11	0.84
7,984.0	88.40	359.70	4,699.0	3,139.7	-844.1	3,235.9	1.79	-1.37	1.16
8,078.0	88.60	1.40	4,701.5	3,233.6	-843.2	3,328.5	1.82	0.21	1.81
8,172.0	89.00	2.50	4,703.4	3,327.5	-840.0	3,420.6	1.24	0.43	1.17
8,266.0	90.20	3.10	4,704.1	3,421.4	-835.4	3,512.4	1.43	1.28	0.64
8,361.0	90.80	1.90	4,703.2	3,516.3	-831.3	3,605.3	1.41	0.63	-1.26
8,456.0	91.30	1.80	4,701.5	3,611.3	-828.2	3,698.4	0.54	0.53	-0.11
8,551.0	92.40	1.50	4,698.4	3,706.2	-825.5	3,791.6	1.20	1.16	-0.32
8,645.0	90.20	1.40	4,696.3	3,800.1	-823.1	3,883.9	2.34	-2.34	-0.11
8,739.0	90.10	0.70	4,696.1	3,894.1	-821.4	3,976.3	0.75	-0.11	-0.74
8,834.0	90.20	0.80	4,695.8	3,989.1	-820.1	4,069.8	0.15	0.11	0.11
8,929.0	91.80	1.50	4,694.2	4,084.1	-818.2	4,163.1	1.84	1.68	0.74
9,024.0	89.40	359.40	4,693.2	4,179.0	-817.5	4,256.7	3.36	-2.53	-2.21
9,118.0	87.50	358.30	4,695.7	4,273.0	-819.4	4,349.6	2.34	-2.02	-1.17
9,212.0	88.20	357.90	4,699.2	4,366.9	-822.5	4,442.7	0.86	0.74	-0.43
9,306.0	89.10	357.50	4,701.4	4,460.8	-826.3	4,536.0	1.05	0.96	-0.43
9,401.0	89.60	357.60	4,702.5	4,555.7	-830.3	4,630.2	0.54	0.53	0.11
9,495.0	90.30	357.90	4,702.6	4,649.6	-834.0	4,723.5	0.81	0.74	0.32
9,589.0	89.90	357.70	4,702.4	4,743.5	-837.6	4,816.7	0.48	-0.43	-0.21
9,684.0	92.30	358.90	4,700.6	4,838.5	-840.4	4,910.8	2.82	2.53	1.26
9,778.0	92.20	358.10	4,696.9	4,932.3	-842.9	5,003.8	0.86	-0.11	-0.85
9,870.0	90.70	357.10	4,694.6	5,024.2	-846.8	5,095.1	1.96	-1.63	-1.09
Last DRT MWD Survey									
9,920.0	90.70	357.10	4,694.0	5,074.2	-849.3	5,144.7	0.00	0.00	0.00
Projection to TD - PBHL Mary 3408 3-21H									

Checked By: _____ Approved By: _____ Date: _____

Field Ticket Number: 0902115385		Field Ticket Date: Friday, February 06, 2016		Planning Order #: NA	
Bill To: SANDRIDGE ENERGY INC EBUSINESS, PO BOX 548807 - DO NOT MAIL, OKLAHOMA CITY, OK, 73154		Job Name: 9-5/8" Surface Casing ✓ Order Type: ZOH Well Name: MARY 3408 1-21H Company Code: 1100 Customer PO No.: NA Shipping Point: DUNCAN (FIELD CAMP) SP Sales Office: MID-CONTINENT BD Well Type: HORIZONTAL OIL Well Category: Development Rig Name#: LARIAT 42			
Ship To: MARY 3408 1-21H, HARPER, WALDRON, KS, 67150					

Material	Description	QTY	UOM	Unit Amount	Gross Amount	Discount	Net Amount
7521	CMT SURFACE CASING BOM	1	JOB		0.00		0.00
16091	ZI - PUMPING CHARGE FEET/METERS (FT/M) DEPTH	1 FT 800	EA	5,290.00	5,290.00		5,290.00
2	MILEAGE FOR CEMENTING CREW Number of Units	120 1	MI	5.76	691.20	\$ 514.94	176.26
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT Number of Units	120 1	MI	9.79	1,174.80	\$ 875.23	299.57
141	RCM II W/ADC, JOB, ZI ENTER FEET/METER/JOB/DAY NUMBER OF JOBS NUMBER OF UNITS	1 JOB 1 1	JOB	1,990.00	1,990.00	\$ 1,482.55	507.45
132	PORT. DAS W/CEM/WIN/ACQUIRE W/HES, ZI NUMBER OF DAYS	1 1	JOB	1,649.00	1,649.00	\$ 1,228.51	420.49
74038	ZI PLUG CONTAINER RENTAL-1ST DAY HR/DAY/WEEK/MTH/YEAR/JOB/RUN DAYS OR FRACTION (MIN)	1 DAY 1	EA	1,322.00	1,322.00	\$ 984.89	337.11
101216940	CHEM, Pol-E-Flake, 25 lb bag Poly-E-Flake	38	LB	8.31	315.78	\$ 235.26	80.52
101509387	CHEM, CALCIUM CHLORIDE-PELLET, 50 LB SK Calcium Chloride, Pellet	3	SK	180.30	540.90	\$ 402.97	137.93
15078	SBM MIDCON 2 STANDARD	151 ✓	SK	53.73	8,113.23	\$ 6,044.36	2,068.87
452986	CMT, HalCem (TM) system	145 ✓	SK		6,820.80		1,739.30
101216940	CHEM, Pol-E-Flake, 25 lb bag Poly-E-Flake	19	LB	8.31	157.89	\$ 117.63	40.26
101509387	CHEM, CALCIUM CHLORIDE-PELLET, 50 LB SK Calcium Chloride, Pellet	6	SK	180.30	1,081.80	\$ 805.94	275.86
3965	HANDLE&DUMP SVC CHR, CMT&ADDITIVES, ZI NUMBER OF EACH Unit of Measurement	320 1 EA	CF	5.49	1,756.80	\$ 1,308.82	447.98
76400	MILEAGE, CMT MTLs DEL/RET MIN NUMBER OF TONS	60 14.431	MI	3.35	2,900.63	\$ 2,160.97	739.66
16092	ADDITIONAL HOURS (PUMPING EQUIPMENT), ZI HR/DAY/WEEK/MTH/YEAR/JOB/RUN HOURS	1 H 2	EA	1,139.00	2,278.00	\$ 455.60	1,822.40
100003884	CEM, CLASS A REGULAR/TYP 1, BULK	100	SK	47.04	4,704.00	\$ 3,504.48	1,199.52
76400	MILEAGE, CMT MTLs DEL/RET MIN NUMBER OF TONS	60 4.7	MI	3.35	944.70	\$ 703.80	240.90
16092	ADDITIONAL HOURS (PUMPING EQUIPMENT), ZI HOURS HR/DAY/WEEK/MTH/YEAR/JOB/RUN	1 1 H	EA	1,139.00	1,139.00	\$ 227.80	911.20

Field Ticket Number: 0902115385	Field Ticket Date: Friday, February 06, 2015	Planning Order #: NA
Bill To: SANDRIDGE ENERGY INC EBUSINESS, PO BOX 548807 - DO NOT MAIL, OKLAHOMA CITY, OK, 73154	Job Name: 9-5/8" Surface Casing Order Type: ZOH Well Name: MARY 3408 1-21H Company Code: 1100 Customer PO No.: NA Shipping Point: DUNCAN (FIELD CAMP) SP Sales Office: MID-CONTINENT BD Well Type: HORIZONTAL OIL Well Category: Development Rig Name/#: LARIAT 42	
Ship To: MARY 3408 1-21H,HARPER, WALDRON, KS, 67150		

Material	Description	QTY	UOM	Unit Amount	Gross Amount	Discount	Net Amount
11950	DELIVERY CHG, MTL&EQP,F/LD UNITS ZI Number of Units	80 1	MI	5.76	345.60	\$ 257.47	88.13
367969	Circulating Iron Package used w/HES,CMT	1	EA	936.00	936.00	\$ 468.00	468.00
101214575	PLUG,CMTG, TOP, 9 5/8, HW, 8, 16 MIN/9, 06 MA	1	EA	454.00	454.00	\$ 227.00	227.00
100008028	CHEM, SUGAR, GRANULATED, 50LB BAG	100	LB	6.96	696.00	\$ 518.52	177.48
Totals USD					\$ 45,302.13	\$ 27,606.24	\$ 17,695.89

Field Ticket Signature

Field Ticket Number: 0902115385 Field Ticket Date: Friday, February 06, 2015 Planning Order #: NA

Bill To:
SANDRIDGE ENERGY INC EBUSINESS,
PO BOX 548807 - DO NOT MAIL,
OKLAHOMA CITY, OK, 73154

Ship To:
MARY 3408 1-21H, HARPER,
WALDRON, KS, 67150

Job Name: 9-5/8" Surface Casing
Order Type: ZOH
Well Name: MARY 3408 1-21H
Company Code: 1100
Customer PO No.: NA
Shipping Point: DUNCAN (FIELD CAMP) SP
Sales Office: MID-CONTINENT BD
Well Type: HORIZONTAL OIL
Well Category: Development
Rig Name/#: LARIAT 42

THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE. CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE, ON ANY PRECEDING PAGES, AND ATTACHED DOCUMENTS.

Gross Amount Total: \$ 45,302.13
Item Discount Total: \$ 27,606.24
Net Amount Total: \$ 17,695.89 USD

AFE Number: DC14316
Well Name: MARY 3408 1-21H
Code: 830-360
Amount: 17,695.89
Co. Rep: Paul Beckelheimer
Date: Paul Beckelheimer
Notes:

Customer Representative Signature:

PAUL BECKEHEIMER
Customer Representative

Date:

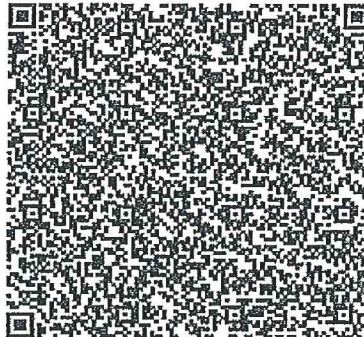
Stacy Votruba
Halliburton Representative

Was our HSE performance satisfactory? (Health, Safety, Environment)
 Yes No

Were you satisfied with our equipment?
 Yes No

Were you satisfied with our people?
 Yes No

Comments:



Field Ticket Number: 0902124508 Field Ticket Date: Thursday, February 12, 2015 Planning Order #: NA

Bill To:
 SANDRIDGE ENERGY INC EBUSINESS,
 PO BOX 548807 - DO NOT MAIL,
 OKLAHOMA CITY, OK, 73154

Job Name: 7" Intermediate Casing
Order Type: ZOH
Well Name: MARY 3408 1-21H
Company Code: 1100
Customer PO No.: NA
Shipping Point: Blackwell, OK, US Shipping Pt
Sales Office: MID-CONTINENT BD
Well Type: HORIZONTAL OIL
Well Category: Development
Rig Name/#: LARIAT 42

Ship To:
 MARY 3408 1-21H, HARPER,
 WALDRON, KS, 67150

Material	Description	QTY	UOM	Unit Amount	Gross Amount	Discount	Net Amount
7622	CMT INTERMEDIATE CASING BOM	1	JOB		0.00		0.00
16091	ZI - PUMPING CHARGE FEET/METERS (FT/M) DEPTH	1 FT 5466	EA	8,708.00	8,708.00	\$ 1,741.60	6,966.40
2	MILEAGE FOR CEMENTING CREW Number of Units	120 1	MI	5.76	691.20	\$ 514.94	176.26
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT Number of Units	120 1	MI	9.79	1,174.80	\$ 875.23	299.57
141	RCM II WIADC,/JOB,ZI NUMBER OF UNITS NUMBER OF JOBS ENTER FEETMETERJOBIDAY	1 1 1 JOB	JOB	1,990.00	1,990.00	\$ 1,482.55	507.45
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI NUMBER OF DAYS	1 1	JOB	1,649.00	1,649.00	\$ 1,228.51	420.49
74038	ZI PLUG CONTAINER RENTAL-1ST DAY DAYS OR FRACTION (MIN) HR/DAY/WEEK/MTH/YEAR/JOB/RUN	1 1 DAY	EA	1,322.00	1,322.00	\$ 984.89	337.11
100003650	CHEM, CAUSTIC SODA BEADS, 50# Caustic Soda Beads	50	LB	3.90	195.00	\$ 145.28	49.72
15078	SBM MIDCON 2 STANDARD	210 ✓	SK	53.73	11,283.30	\$ 8,406.06	2,877.24
101216940	CHEM, Pol-E-Flake, 25 lb bag Poly-E-Flake	52	LB	8.31	432.12	\$ 321.93	110.19
452986	CMT, HalCem (TM) system	100 ✓	SK		4,704.00		1,199.52
76400	MILEAGE,CMT MTL5 DEL/RET MIN NUMBER OF TONS	60 15,166	MI	3.35	3,048.37	\$ 2,271.04	777.33
3965	HANDLE&DUMP SVC CHR9, CMT&ADDITIVES,ZI Unit of Measurement NUMBER OF EACH	335 EA 1	CF	5.49	1,839.15	\$ 1,370.17	468.98
101229888	PLUG,CMTG, TOP,7,HWE,5.66 MIN/6.54 MAX CS	1	EA	289.00	289.00	\$ 149.59	139.41
100064040	CHEM, Halliburton Gel, 50 lb sk Halliburton Gel	6	SK	30.76	184.56	\$ 137.50	47.06
Totals (USD)					\$ 37,510.50	\$ 23,133.77	\$ 14,376.73

Field Ticket Signature

Field Ticket Number: 0902124508 Field Ticket Date: Thursday, February 12, 2015 Planning Order #: NA

Bill To:
 SANDRIDGE ENERGY INC EBUSINESS,
 PO BOX 548807 - DO NOT MAIL,
 OKLAHOMA CITY, OK, 73154

Job Name: 7" Intermediate Casing
Order Type: ZOH
Well Name: MARY 3408 1-21H
Company Code: 1100
Customer PO No.: NA
Shipping Point: Blackwell, OK, US Shipping Pt
Sales Office: MID-CONTINENT BD
Well Type: HORIZONTAL OIL
Well Category: Development
Rig Name#: LARIAT 42

Ship To:
 MARY 3408 1-21H, HARPER,
 WALDRON, KS, 67150

THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE. CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE, ON ANY PRECEDING PAGES, AND ATTACHED DOCUMENTS.

Gross Amount Total: \$ 37,510.50
 Item Discount Total: \$ 23,133.77
 Net Amount Total: \$ 14,376.73 USD

AFE Number: DC 14316
 Well Name: MARY 3408 1-21 #
 Code: \$ 30-370
 Amount: \$ 14376.73
 Co. Man: [Signature]
 Date: _____
 Co. Man Sig.: [Signature]
 Notes: 2-12-15

Customer Representative Signature: _____

Date: _____

Customer Representative

Chance Cordell
 Halliburton Representative

Was our HSE performance satisfactory? (Health, Safety, Environment)
 Yes No

Were you satisfied with our equipment?
 Yes No

Were you satisfied with our people?
 Yes No

Comments:

