



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1234755
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
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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: _____

1234755

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
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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: _____ _____
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WELLS
EDGE SERVICES, INC.
 1000 W. HARRIS AVENUE
 SUITE 100
 HOUSTON, TX 77036

REMIT TO
EDGE SERVICES, INC.
 PO BOX 609
 WOODWARD, OK 73802

DATE	STARTING D.	WORK ORDER	RIG NUMBER	LEASE NAME	TERM
HARRIS 05	02/20/14	3948	HWD 14	WEST 3508 3-5H	Day on req.

Description
 DRILLED 17' OF 12" CONDUCTOR HOLE
 DRILLED 6' OF 7" HOLE
 REINFORCED AND SET 4' X 6' TINBORN CELLAR
 FURNISHED 17' OF 20" CONDUCTOR PIPE
 FURNISHED MUD, WATER AND TRUCKING
 FURNISHED WELDER AND MATERIALS
 FURNISHED 4 YARDS OF 10 SACK GROUT FOR CONDUCTOR HOLE
 FURNISHED 4 YARDS OF 10 SACK GROUT FOR MOUSE HOLE
 FURNISHED GROUT PUMP

NET TOTAL \$13,294.83

AFE Number: DC14192
 Well Name: West 3508 3-5/1
 Code: 850-010
 Amount: 13,294.83
 Co. Man: Totta Fortune
 Co. Man Sig: [Signature]
 Notes: _____

Sales Tax (6.15%)	\$94.83
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TOTAL \$13,294.83



SandRidge Energy
West #3508 3-5H
Harper County, KS.

1.0 Executive Summary

Allied Oil & Gas Services would like to thank you, for the award of the provision of cementing products and services on the well West #3508 3-5H Surface Casing.

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 1000 psi. After a successful test we began the job by pumping 10 bbls of preflush spacer. We then mixed and pumped the following cements:

58 Bbls (275 sacks) of 15.6 ppg Tail slurry
Class A Yield 1.20
2% CC
¼ # Floseal

The top plug was then released and displaced with 27 Bbls of fresh water. The plug bumped and pressured up to 800 psi. Pressure was released and floats held.

All real time data is shown on the graph in the attachment section.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.



Weatherford[®]

Drilling Services

Final Survey Report



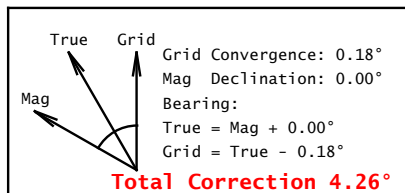
West 3508 3-5H

HARPER COUNTY, KS

WELL FILE: 10282077

OCT 13, 2014

Weatherford
6525 N. Meridian Ste. #201
Oklahoma City, OK 73116
+1.405.773.1100 Main
+1.405.773.1200 Fax
www.weatherford.com



West 3508 3-5H ST01
 HWD 14
 Harper County, KS
 X= 2083743.00'
 Y= 134407.00'
 Plan 2 vs Actual



KB: 1242'
 GL: 1260'

Plan Data for West 3508 3-5H ST01

Plan Point Information:

DogLeg (USft)	MD (°)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	VSec (USft)	DLS (DLSU)	Toolface (°)
4774.00	57.76	183.68	183.68	4630.99	-191.33	-279.91	191.18	0.00	0.0
4815.00	61.45	183.19	183.19	4651.74	-226.62	-282.03	226.47	9.06	353.4
4830.00	61.32	184.04	184.04	4658.92	-239.76	-282.86	239.62	5.00	100.0
4845.00	61.32	184.89	184.89	4666.12	-252.88	-283.88	252.74	5.00	90.0
5156.82	88.00	184.89	184.89	4747.85	-549.81	-309.29	549.65	8.55	0.0
5431.82	88.00	184.89	184.89	4757.45	-823.64	-332.72	823.47	0.00	0.0
5509.80	90.10	179.02	179.02	4758.74	-901.52	-335.37	901.35	8.00	289.6
9373.85	90.10	179.02	179.02	4752.00	-4765.00	-269.00	4764.86	0.00	0.0

Target Set Information:

Name: West 3508 3-5H T1

Name	TVD (USft)	Northing (USft)	Easting (USft)	Lat (°/'/")	Long (°/'/")
PBHL	4752.00	129642.00	2083474.00	37°1'20.5"	-98°12'50.8"

Plan Data for West 3508 3-5H ST01

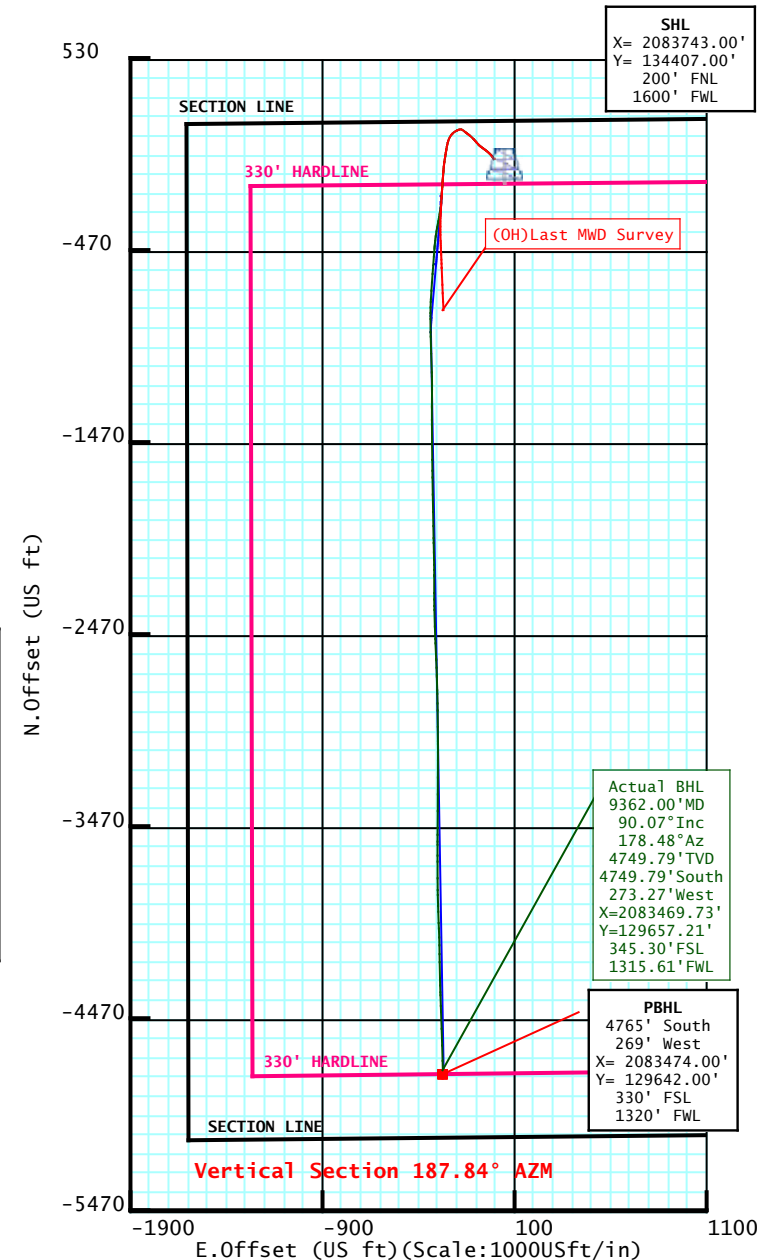
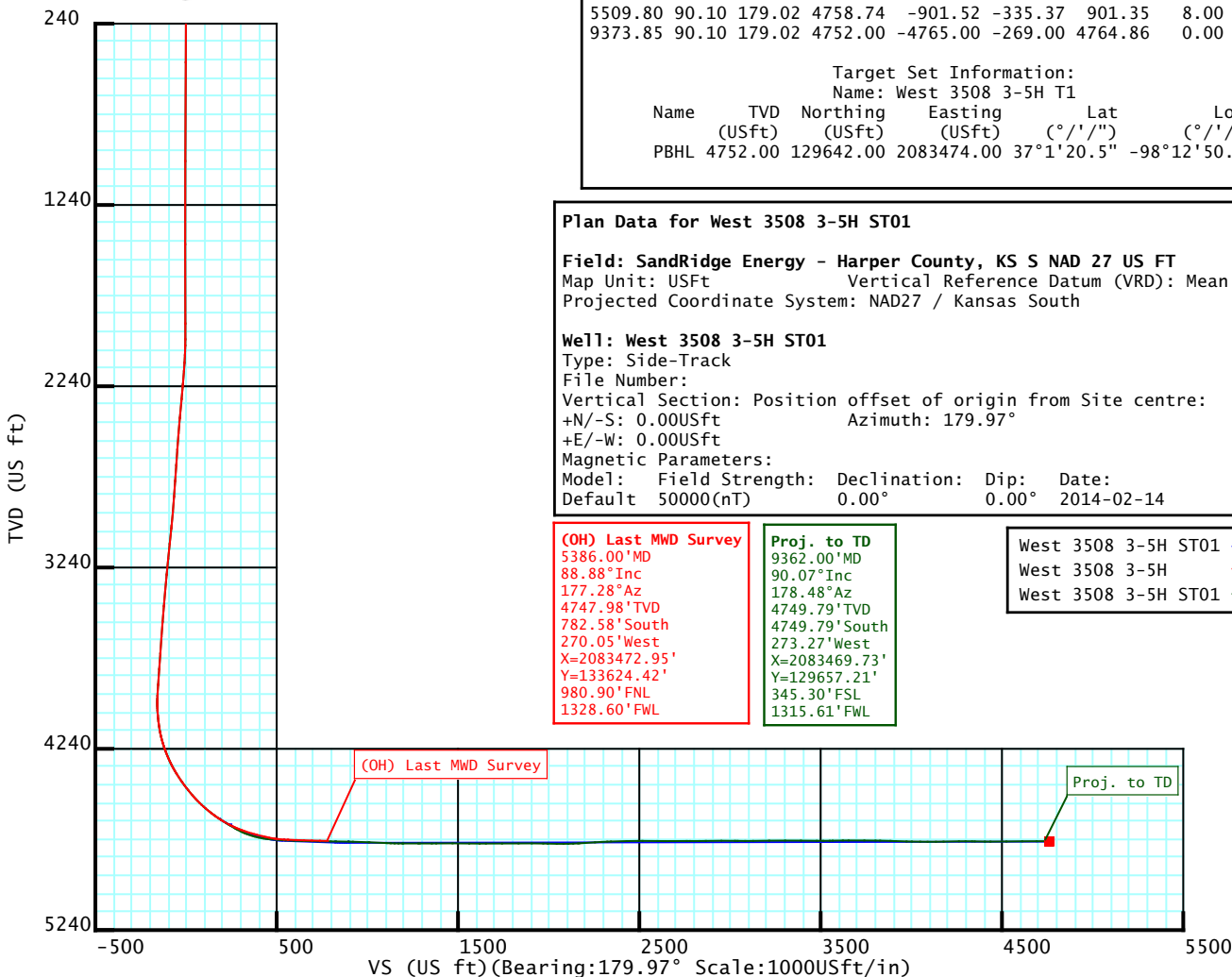
Field: SandRidge Energy - Harper County, KS S NAD 27 US FT
 Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level
 Projected Coordinate System: NAD27 / Kansas South

Well: West 3508 3-5H ST01
 Type: Side-Track
 File Number:
 Vertical Section: Position offset of origin from Site centre:
 +N/-S: 0.00USft Azimuth: 179.97°
 +E/-W: 0.00USft
 Magnetic Parameters:
 Model: Field Strength: Declination: Dip: Date:
 Default 50000(nT) 0.00° 0.00° 2014-02-14

(OH) Last MWD Survey
 5386.00'MD
 88.88°Inc
 177.28°Az
 4747.98'TVD
 782.58'South
 270.05'West
 X=2083472.95'
 Y=133624.42'
 980.90'FNL
 1328.60'FWL

Proj. to TD
 9362.00'MD
 90.07°Inc
 178.48°Az
 4749.79'TVD
 4749.79'South
 273.27'West
 X=2083469.73'
 Y=129657.21'
 345.30'FSL
 1315.61'FWL

West 3508 3-5H ST01 ————
 West 3508 3-5H ———— OH ————
 West 3508 3-5H ST01 ———— Actual ————



SHL
 X= 2083743.00'
 Y= 134407.00'
 200' FNL
 1600' FWL

Actual BHL
 9362.00'MD
 90.07°Inc
 178.48°Az
 4749.79'TVD
 4749.79'South
 273.27'West
 X=2083469.73'
 Y=129657.21'
 345.30'FSL
 1315.61'FWL

PBHL
 4765' South
 269' West
 X= 2083474.00'
 Y= 129642.00'
 330' FSL
 1320' FWL

Planned By: Lando Hiler Date: 09/30/2014
 Weatherford Drilling Services
 6525 N. Meridian Ste. #201
 Oklahoma City, OK 73116
 +1.405.773.1100 Main
 +1.405.773.1887 Fax

5D Survey Report**SandRidge Energy**

Field Name: *SandRidge Energy - Harper County, KS S NAD 27 US FT*
Site Name: *West 3508 3-5H*
Well Name: *West 3508 3-5H*
Survey: *Definitive Survey*

13 October 2014



5D Survey Report**SandRidge Energy**

Field Name: *SandRidge Energy - Harper County, KS S NAD 27 US FT*
Site Name: *West 3508 3-5H(OH)*
Well Name: *West 3508 3-5H*
Survey: *Definitive Survey*

13 October 2014



West 3508 3-5H

Field Name SandRidge Energy - Harper County, KS S NAD 27 US FT	Map Units : US ft	Company Name : SandRidge Energy	
	Vertical Reference Datum (VRD) : Mean Sea Level		
	Projected Coordinate System : NAD27 / Kansas South		
	Comment :		
Site Name West 3508 3-5H	Units : US ft	North Reference : Grid	Convergence Angle : 0.18
	Position	Northing : 134407.00 US ft	Latitude : 37° 2' 7.58"
		Easting : 2083743.00 US ft	Longitude : -98° 12' 47.27"
	Site TVD Reference : GL		
	Elevation above Mean Sea Level: 1242.00 US ft		
	Comment :		
Slot Name West 3508 3-5H	Position (Offsets relative to Site Centre)		
	+N / -S : 0.00 US ft	Northing : 134407.00 US ft	Latitude : 37°2'7.58"
	+E / -W : 0.00 US ft	Easting : 2083743.00 US ft	Longitude : -98°12'47.27"
	Elevation above Mean Sea Level : 1242.00 US ft		
	Comment :		
Well Name West 3508 3-5H	Type : Main well	UWI :	
	Rig Height <i>Drill Floor</i> : 18.00 US ft	Comment :	
	Relative to Mean Sea Level: 1260.00 US ft		
	Closure Distance : 827.865 US ft	Closure Azimuth : 199.038°	
	Vertical Section (Position of Origin Relative to Site)		
	+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 179.97°

5D Survey Report

Target Set**Name :** West 3508 3-5H T1**Number of Targets :** 1**Comment :**

TargetName:	Position (Relative to Site centre)		
PBHL	+N / -S : -4765.00US ft	Northing : 129642.00 US ft	Latitude : 37°1'20.48"
Shape:	+E / -W : -269.00 US ft	Easting : 2083474.00US ft	Longitude : -98°12'50.76"
Cuboid	TVD (Drill Floor) : 4752.00 US ft		
	SS : -3492.00 US ft		
Orientation	Azimuth : 0.00°	Inclination : 0.00°	
Dimensions	Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 US ft

Survey Name :Definitive Survey**Date :** 28/Aug/2014**Survey Tool :****Comment :****Company :****Magnetic Model****Model Name:** BGGM**Date:** 28/Aug/2014**Field Strength:** 51536.3 nT**Declination:** 4.61°**Dip:** 65.15°**Survey Tool Ranges**

Name	Start MD (US ft)	End MD (US ft)	Source Survey
MWD	0.00	5386.00	WFT/MWD SVYS

Well path created using minimum curvature

Survey Points (Relative to Site centre, TVD relative to Drill Floor)									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment	
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	2	
453.00	0.36	346.69	453.00	1.38	-0.33	-1.39	0.08	First (OH) WFT/MWD Svy	
998.00	0.28	310.55	997.99	3.92	-1.73	-3.92	0.04		
1457.00	0.36	268.83	1456.98	4.62	-4.03	-4.62	0.05		
1894.00	0.51	246.08	1893.97	3.80	-7.18	-3.80	0.05		
1981.00	0.63	300.46	1980.97	3.89	-7.94	-3.89	0.61		
2067.00	3.06	327.48	2066.92	6.06	-9.59	-6.07	2.92		
2155.00	5.08	327.74	2154.69	11.34	-12.93	-11.34	2.30		
2242.00	6.14	323.41	2241.27	18.33	-17.76	-18.34	1.31		
2330.00	7.23	317.94	2328.67	26.22	-24.27	-26.23	1.43		
2417.00	7.52	312.61	2414.95	34.14	-32.13	-34.16	0.85		
2504.00	6.97	311.25	2501.26	41.47	-40.29	-41.49	0.66		
2592.00	6.34	306.96	2588.67	47.92	-48.19	-47.94	0.91		

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment
2679.00	6.49	306.62	2675.12	53.74	-55.97	-53.77	0.18	
2767.00	7.18	306.48	2762.50	59.97	-64.38	-60.01	0.78	
2854.00	6.61	305.89	2848.87	66.14	-72.81	-66.18	0.66	
2941.00	7.28	310.97	2935.23	72.69	-81.03	-72.73	1.04	
3029.00	8.18	316.60	3022.43	80.90	-89.54	-80.94	1.34	
3116.00	7.87	319.13	3108.58	89.90	-97.69	-89.95	0.54	
3201.00	7.29	319.73	3192.83	98.41	-104.99	-98.47	0.69	
3288.00	7.52	316.54	3279.11	106.76	-112.47	-106.81	0.54	
3376.00	7.23	313.62	3366.38	114.76	-120.44	-114.82	0.54	
3463.00	7.08	311.20	3452.70	122.06	-128.44	-122.13	0.39	
3550.00	7.51	307.72	3539.00	129.07	-136.97	-129.15	0.71	
3638.00	6.48	307.78	3626.34	135.64	-145.44	-135.71	1.17	
3725.00	6.34	306.64	3712.80	141.51	-153.18	-141.59	0.22	
3813.00	6.80	309.72	3800.22	147.74	-161.08	-147.82	0.66	
3900.00	6.57	303.47	3886.63	153.77	-169.20	-153.86	0.88	
3944.00	7.43	299.31	3930.30	156.56	-173.78	-156.65	2.27	
3988.00	7.59	279.36	3973.93	158.42	-179.13	-158.52	5.91	
4031.00	10.00	256.50	4016.44	158.01	-185.56	-158.11	9.77	
4075.00	13.33	247.78	4059.53	155.20	-193.98	-155.30	8.54	
4119.00	15.88	242.31	4102.10	150.48	-204.00	-150.59	6.58	
4163.00	17.67	233.82	4144.24	143.74	-214.73	-143.86	6.89	
4206.00	19.82	222.85	4184.96	134.54	-224.96	-134.66	9.58	
4250.00	21.37	212.65	4226.16	122.32	-234.36	-122.44	8.87	
4293.00	23.11	202.79	4265.98	107.94	-241.86	-108.06	9.56	
4337.00	25.70	194.95	4306.05	90.75	-247.67	-90.88	9.41	
4381.00	29.10	190.59	4345.12	71.01	-252.09	-71.14	8.97	
4425.00	32.76	189.59	4382.85	48.74	-256.05	-48.88	8.40	
4468.00	35.12	189.20	4418.52	25.06	-259.96	-25.20	5.51	
4512.00	38.02	188.69	4453.86	-0.83	-264.03	0.70	6.63	
4556.00	40.08	186.37	4488.03	-28.31	-267.65	28.17	5.74	
4599.00	43.70	184.64	4520.04	-56.88	-270.39	56.74	8.84	
4643.00	47.15	183.75	4550.91	-88.14	-272.68	88.00	7.97	
4686.00	50.48	184.47	4579.22	-120.41	-275.00	120.27	7.85	
4730.00	53.75	183.86	4606.24	-155.04	-277.52	154.90	7.51	
4774.00	57.76	183.68	4630.99	-191.33	-279.91	191.18	9.12	
4818.00	61.72	183.16	4653.16	-229.26	-282.17	229.11	9.06	
4861.00	65.74	182.96	4672.19	-267.75	-284.23	267.60	9.36	
4905.00	70.08	182.00	4688.73	-308.47	-285.99	308.32	10.07	
4949.00	72.83	179.83	4702.73	-350.18	-286.65	350.03	7.81	
4992.00	75.64	178.45	4714.41	-391.55	-286.02	391.40	7.23	
5036.00	76.94	178.00	4724.84	-434.27	-284.70	434.13	3.12	

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment
5080.00	80.44	177.34	4733.47	-477.38	-282.94	477.23	8.09	
5123.00	85.52	177.71	4738.72	-520.00	-281.10	519.85	11.84	
5167.00	87.62	177.87	4741.35	-563.89	-279.41	563.74	4.79	
5211.00	87.83	177.71	4743.10	-607.82	-277.71	607.67	0.60	
5254.00	88.39	177.78	4744.52	-650.76	-276.02	650.62	1.31	
5298.00	88.53	177.55	4745.70	-694.71	-274.23	694.57	0.61	
5342.00	88.32	177.14	4746.91	-738.65	-272.19	738.50	1.05	
5386.00	88.88	177.28	4747.98	-782.58	-270.05	782.44	1.31	Last (OH) WFT/MWD Svy

5D Survey Report**SandRidge Energy**

Field Name: *SandRidge Energy - Harper County, KS S NAD 27 US FT*
Site Name: *West 3508 3-5H*
Well Name: *West 3508 3-5H*
Survey: *Definitive Survey(Geographic)*

13 October 2014



West 3508 3-5H

Field Name SandRidge Energy - Harper County, KS S NAD 27 US FT	Map Units : US ft	Company Name : SandRidge Energy	
	Vertical Reference Datum (VRD) : Mean Sea Level		
	Projected Coordinate System : NAD27 / Kansas South		
	Comment :		
Site Name West 3508 3-5H	Units : US ft	North Reference : Grid	Convergence Angle : 0.18
	Position	Northing : 134407.00 US ft	Latitude : 37° 2' 7.58"
		Easting : 2083743.00 US ft	Longitude : -98° 12' 47.27"
	Site TVD Reference : GL		
	Elevation above Mean Sea Level: 1242.00 US ft		
	Comment :		
Slot Name West 3508 3-5H	Position (Offsets relative to Site Centre)		
	+N / -S : 0.00 US ft	Northing : 134407.00 US ft	Latitude : 37°2'7.58"
	+E / -W : 0.00 US ft	Easting : 2083743.00 US ft	Longitude : -98°12'47.27"
	Elevation above Mean Sea Level : 1242.00 US ft		
	Comment :		
Well Name West 3508 3-5H	Type : Main well	UWI :	
	Rig Height <i>Drill Floor</i> : 18.00 US ft	Comment :	
	Relative to Mean Sea Level: 1260.00 US ft		
	Closure Distance : 827.865 US ft	Closure Azimuth : 199.038°	
	Vertical Section (Position of Origin Relative to Site)		
	+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 179.97°

5D Survey Report

Target Set**Name :** West 3508 3-5H T1**Number of Targets :** 1**Comment :**

TargetName:	Position (Relative to Site centre)		
PBHL	+N / -S : -4765.00US ft	Northing : 129642.00 US ft	Latitude : 37°1'20.48"
	+E / -W : -269.00 US ft	Easting : 2083474.00US ft	Longitude : -98°12'50.76"
Shape:	TVD (Drill Floor) : 4752.00 US ft		
Cuboid	SS : -3492.00 US ft		
Orientation	Azimuth : 0.00°	Inclination : 0.00°	
Dimensions	Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 US ft

Survey Name :Definitive Survey**Date :** 28/Aug/2014**Survey Tool :****Comment :****Company :****Magnetic Model****Model Name:** BGGM**Date:** 28/Aug/2014**Field Strength:** 51536.3 nT**Declination:** 4.61°**Dip:** 65.15°**Survey Tool Ranges**

Name	Start MD (US ft)	End MD (US ft)	Source Survey
MWD	0.00	5386.00	WFT/MWD SVYS

Well path created using minimum curvature

Survey Points (Relative to Site centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")		
0.00	0.00	0.00	0.00	0.00	0.00	134407.00	2083743.00	37°2'7.58"	-98°12'47.27"		
453.00	0.36	346.69	453.00	1.38	-0.33	134408.38	2083742.67	37°2'7.60"	-98°12'47.27"		
998.00	0.28	310.55	997.99	3.92	-1.73	134410.92	2083741.27	37°2'7.62"	-98°12'47.29"		
1457.00	0.36	268.83	1456.98	4.62	-4.03	134411.62	2083738.97	37°2'7.63"	-98°12'47.32"		
1894.00	0.51	246.08	1893.97	3.80	-7.18	134410.80	2083735.82	37°2'7.62"	-98°12'47.35"		
1981.00	0.63	300.46	1980.97	3.89	-7.94	134410.89	2083735.06	37°2'7.62"	-98°12'47.36"		
2067.00	3.06	327.48	2066.92	6.06	-9.59	134413.06	2083733.41	37°2'7.64"	-98°12'47.38"		
2155.00	5.08	327.74	2154.69	11.34	-12.93	134418.34	2083730.07	37°2'7.70"	-98°12'47.43"		
2242.00	6.14	323.41	2241.27	18.33	-17.76	134425.33	2083725.24	37°2'7.77"	-98°12'47.48"		
2330.00	7.23	317.94	2328.67	26.22	-24.27	134433.22	2083718.73	37°2'7.84"	-98°12'47.56"		
2417.00	7.52	312.61	2414.95	34.14	-32.13	134441.14	2083710.87	37°2'7.92"	-98°12'47.66"		
2504.00	6.97	311.25	2501.26	41.47	-40.29	134448.47	2083702.71	37°2'8.00"	-98°12'47.76"		
2592.00	6.34	306.96	2588.67	47.92	-48.19	134454.92	2083694.81	37°2'8.06"	-98°12'47.86"		

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	
2679.00	6.49	306.62	2675.12	53.74	-55.97	134460.74	2083687.03	37°2'8.12"	-98°12'47.95"	
2767.00	7.18	306.48	2762.50	59.97	-64.38	134466.97	2083678.62	37°2'8.18"	-98°12'48.06"	
2854.00	6.61	305.89	2848.87	66.14	-72.81	134473.14	2083670.19	37°2'8.24"	-98°12'48.16"	
2941.00	7.28	310.97	2935.23	72.69	-81.03	134479.69	2083661.97	37°2'8.31"	-98°12'48.26"	
3029.00	8.18	316.60	3022.43	80.90	-89.54	134487.90	2083653.46	37°2'8.39"	-98°12'48.37"	
3116.00	7.87	319.13	3108.58	89.90	-97.69	134496.90	2083645.31	37°2'8.48"	-98°12'48.47"	
3201.00	7.29	319.73	3192.83	98.41	-104.99	134505.41	2083638.01	37°2'8.56"	-98°12'48.56"	
3288.00	7.52	316.54	3279.11	106.76	-112.47	134513.76	2083630.53	37°2'8.64"	-98°12'48.65"	
3376.00	7.23	313.62	3366.38	114.76	-120.44	134521.76	2083622.56	37°2'8.72"	-98°12'48.75"	
3463.00	7.08	311.20	3452.70	122.06	-128.44	134529.06	2083614.56	37°2'8.79"	-98°12'48.85"	
3550.00	7.51	307.72	3539.00	129.07	-136.97	134536.07	2083606.03	37°2'8.86"	-98°12'48.95"	
3638.00	6.48	307.78	3626.34	135.64	-145.44	134542.64	2083597.56	37°2'8.93"	-98°12'49.05"	
3725.00	6.34	306.64	3712.80	141.51	-153.18	134548.51	2083589.82	37°2'8.99"	-98°12'49.15"	
3813.00	6.80	309.72	3800.22	147.74	-161.08	134554.74	2083581.92	37°2'9.05"	-98°12'49.25"	
3900.00	6.57	303.47	3886.63	153.77	-169.20	134560.77	2083573.80	37°2'9.11"	-98°12'49.35"	
3944.00	7.43	299.31	3930.30	156.56	-173.78	134563.56	2083569.22	37°2'9.14"	-98°12'49.40"	
3988.00	7.59	279.36	3973.93	158.42	-179.13	134565.42	2083563.87	37°2'9.16"	-98°12'49.47"	
4031.00	10.00	256.50	4016.44	158.01	-185.56	134565.01	2083557.44	37°2'9.15"	-98°12'49.55"	
4075.00	13.33	247.78	4059.53	155.20	-193.98	134562.20	2083549.02	37°2'9.12"	-98°12'49.65"	
4119.00	15.88	242.31	4102.10	150.48	-204.00	134557.48	2083539.00	37°2'9.08"	-98°12'49.78"	
4163.00	17.67	233.82	4144.24	143.74	-214.73	134550.74	2083528.27	37°2'9.01"	-98°12'49.91"	
4206.00	19.82	222.85	4184.96	134.54	-224.96	134541.54	2083518.04	37°2'8.92"	-98°12'50.04"	
4250.00	21.37	212.65	4226.16	122.32	-234.36	134529.32	2083508.64	37°2'8.80"	-98°12'50.15"	
4293.00	23.11	202.79	4265.98	107.94	-241.86	134514.94	2083501.14	37°2'8.66"	-98°12'50.24"	
4337.00	25.70	194.95	4306.05	90.75	-247.67	134497.75	2083495.33	37°2'8.49"	-98°12'50.32"	
4381.00	29.10	190.59	4345.12	71.01	-252.09	134478.01	2083490.91	37°2'8.29"	-98°12'50.37"	
4425.00	32.76	189.59	4382.85	48.74	-256.05	134455.74	2083486.95	37°2'8.07"	-98°12'50.42"	
4468.00	35.12	189.20	4418.52	25.06	-259.96	134432.06	2083483.04	37°2'7.84"	-98°12'50.47"	
4512.00	38.02	188.69	4453.86	-0.83	-264.03	134406.17	2083478.97	37°2'7.58"	-98°12'50.52"	
4556.00	40.08	186.37	4488.03	-28.31	-267.65	134378.69	2083475.35	37°2'7.31"	-98°12'50.57"	
4599.00	43.70	184.64	4520.04	-56.88	-270.39	134350.12	2083472.61	37°2'7.03"	-98°12'50.60"	
4643.00	47.15	183.75	4550.91	-88.14	-272.68	134318.86	2083470.32	37°2'6.72"	-98°12'50.63"	
4686.00	50.48	184.47	4579.22	-120.41	-275.00	134286.59	2083468.00	37°2'6.40"	-98°12'50.66"	
4730.00	53.75	183.86	4606.24	-155.04	-277.52	134251.96	2083465.48	37°2'6.06"	-98°12'50.69"	
4774.00	57.76	183.68	4630.99	-191.33	-279.91	134215.67	2083463.09	37°2'5.70"	-98°12'50.73"	
4818.00	61.72	183.16	4653.16	-229.26	-282.17	134177.74	2083460.83	37°2'5.33"	-98°12'50.75"	
4861.00	65.74	182.96	4672.19	-267.75	-284.23	134139.25	2083458.77	37°2'4.95"	-98°12'50.78"	
4905.00	70.08	182.00	4688.73	-308.47	-285.99	134098.53	2083457.01	37°2'4.54"	-98°12'50.80"	
4949.00	72.83	179.83	4702.73	-350.18	-286.65	134056.82	2083456.35	37°2'4.13"	-98°12'50.81"	
4992.00	75.64	178.45	4714.41	-391.55	-286.02	134015.45	2083456.98	37°2'3.72"	-98°12'50.81"	
5036.00	76.94	178.00	4724.84	-434.27	-284.70	133972.73	2083458.30	37°2'3.30"	-98°12'50.79"	

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")		
5080.00	80.44	177.34	4733.47	-477.38	-282.94	133929.62	2083460.06	37°2'2.87"	-98°12'50.77"		
5123.00	85.52	177.71	4738.72	-520.00	-281.10	133887.00	2083461.90	37°2'2.45"	-98°12'50.75"		
5167.00	87.62	177.87	4741.35	-563.89	-279.41	133843.11	2083463.59	37°2'2.02"	-98°12'50.73"		
5211.00	87.83	177.71	4743.10	-607.82	-277.71	133799.18	2083465.29	37°2'1.58"	-98°12'50.71"		
5254.00	88.39	177.78	4744.52	-650.76	-276.02	133756.24	2083466.98	37°2'1.16"	-98°12'50.69"		
5298.00	88.53	177.55	4745.70	-694.71	-274.23	133712.29	2083468.77	37°2'0.72"	-98°12'50.67"		
5342.00	88.32	177.14	4746.91	-738.65	-272.19	133668.35	2083470.81	37°2'0.29"	-98°12'50.65"		
5386.00	88.88	177.28	4747.98	-782.58	-270.05	133624.42	2083472.95	37°1'59.85"	-98°12'50.63"		

5D Survey Report**SandRidge Energy**

Field Name: *SandRidge Energy - Harper County, KS S NAD 27 US FT*
Site Name: *West 3508 3-5H*
Well Name: *West 3508 3-5H ST01*
Survey: *Definitive Survey*

13 October 2014



West 3508 3-5H ST01

Field Name SandRidge Energy - Harper County, KS S NAD 27 US FT	Map Units : US ft	Company Name : SandRidge Energy	
	Vertical Reference Datum (VRD) : Mean Sea Level		
	Projected Coordinate System : NAD27 / Kansas South		
	Comment :		
Site Name West 3508 3-5H	Units : US ft	North Reference : Grid	Convergence Angle : 0.18
	Position	Northing : 134407.00 US ft	Latitude : 37° 2' 7.58"
		Easting : 2083743.00 US ft	Longitude : -98° 12' 47.27"
	Site TVD Reference : GL		
	Elevation above Mean Sea Level: 1242.00 US ft		
	Comment :		
Slot Name West 3508 3-5H	Position (Offsets relative to Site Centre)		
	+N / -S : 0.00 US ft	Northing : 134407.00 US ft	Latitude : 37°2'7.58"
	+E / -W : 0.00 US ft	Easting : 2083743.00 US ft	Longitude : -98°12'47.27"
	Elevation above Mean Sea Level : 1242.00 US ft		
	Comment :		
Well Name West 3508 3-5H ST01	Type : Sidetrack	UWI :	
	Parent : West 3508 3-5H	Tie Point Method : MD	Tie Point : 4774.00 US ft
	Rig Height <i>Drill Floor</i> : 18.00 US ft	Comment :	
	Relative to Mean Sea Level: 1260.00 US ft		
	Closure Distance : 4757.64 US ft	Closure Azimuth : 183.293°	
	Vertical Section (Position of Origin Relative to Site)		
	+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 0.00°

5D Survey Report

Target Set

Name : West 3508 3-5H T1

Number of Targets : 1

Comment :

TargetName:	Position (Relative to Site centre)		
PBHL	+N / -S : -4765.00US ft	Northing : 129642.00 US ft	Latitude : 37°1'20.48"
Shape:	+E / -W : -269.00 US ft	Easting : 2083474.00US ft	Longitude : -98°12'50.76"
Cuboid	TVD (Drill Floor) : 4752.00 US ft		
	SS : -3492.00 US ft		
	Orientation	Azimuth : 0.00°	Inclination : 0.00°
	Dimensions	Length : 20.00 US ft	Breadth : 20.00 US ft
			Height : 20.00 US ft

Survey Name :Definitive Survey

Date : 13/Oct/2014

Survey Tool :

Comment :

Company :

Magnetic Model

Model Name: Default

Date: 14/Feb/2014

Field Strength: 50000.0 nT

Declination: 0.00°

Dip: 0.00°

Survey Tool Ranges

Name	Start MD (US ft)	End MD (US ft)	Source Survey
MWD	4774.00	9362.00	WFT/MWD ST01 Surveys

Well path created using minimum curvature

Survey Points (Relative to Site centre, TVD relative to Drill Floor)									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	
453.00	0.36	346.69	453.00	1.38	-0.33	1.38	0.08	First (OH) WFT/MWD Svy	
998.00	0.28	310.55	997.99	3.92	-1.73	3.92	0.04		
1457.00	0.36	268.83	1456.98	4.62	-4.03	4.62	0.05		
1894.00	0.51	246.08	1893.97	3.80	-7.18	3.80	0.05		
1981.00	0.63	300.46	1980.97	3.89	-7.94	3.89	0.61		
2067.00	3.06	327.48	2066.92	6.06	-9.59	6.06	2.92		
2155.00	5.08	327.74	2154.69	11.34	-12.93	11.34	2.30		
2242.00	6.14	323.41	2241.27	18.33	-17.76	18.33	1.31		
2330.00	7.23	317.94	2328.67	26.22	-24.27	26.22	1.43		
2417.00	7.52	312.61	2414.95	34.14	-32.13	34.14	0.85		
2504.00	6.97	311.25	2501.26	41.47	-40.29	41.47	0.66		
2592.00	6.34	306.96	2588.67	47.92	-48.19	47.92	0.91		

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment	
2679.00	6.49	306.62	2675.12	53.74	-55.97	53.74	0.18		
2767.00	7.18	306.48	2762.50	59.97	-64.38	59.97	0.78		
2854.00	6.61	305.89	2848.87	66.14	-72.81	66.14	0.66		
2941.00	7.28	310.97	2935.23	72.69	-81.03	72.69	1.04		
3029.00	8.18	316.60	3022.43	80.90	-89.54	80.90	1.34		
3116.00	7.87	319.13	3108.58	89.90	-97.69	89.90	0.54		
3201.00	7.29	319.73	3192.83	98.41	-104.99	98.41	0.69		
3288.00	7.52	316.54	3279.11	106.76	-112.47	106.76	0.54		
3376.00	7.23	313.62	3366.38	114.76	-120.44	114.76	0.54		
3463.00	7.08	311.20	3452.70	122.06	-128.44	122.06	0.39		
3550.00	7.51	307.72	3539.00	129.07	-136.97	129.07	0.71		
3638.00	6.48	307.78	3626.34	135.64	-145.44	135.64	1.17		
3725.00	6.34	306.64	3712.80	141.51	-153.18	141.51	0.22		
3813.00	6.80	309.72	3800.22	147.74	-161.08	147.74	0.66		
3900.00	6.57	303.47	3886.63	153.77	-169.20	153.77	0.88		
3944.00	7.43	299.31	3930.30	156.56	-173.78	156.56	2.27		
3988.00	7.59	279.36	3973.93	158.42	-179.13	158.42	5.91		
4031.00	10.00	256.50	4016.44	158.01	-185.56	158.01	9.77		
4075.00	13.33	247.78	4059.53	155.20	-193.98	155.20	8.54		
4119.00	15.88	242.31	4102.10	150.48	-204.00	150.48	6.58		
4163.00	17.67	233.82	4144.24	143.74	-214.73	143.74	6.89		
4206.00	19.82	222.85	4184.96	134.54	-224.96	134.54	9.58		
4250.00	21.37	212.65	4226.16	122.32	-234.36	122.32	8.87		
4293.00	23.11	202.79	4265.98	107.94	-241.86	107.94	9.56		
4337.00	25.70	194.95	4306.05	90.75	-247.67	90.75	9.41		
4381.00	29.10	190.59	4345.12	71.01	-252.09	71.01	8.97		
4425.00	32.76	189.59	4382.85	48.74	-256.05	48.74	8.40		
4468.00	35.12	189.20	4418.52	25.06	-259.96	25.06	5.51		
4512.00	38.02	188.69	4453.86	-0.83	-264.03	-0.83	6.63		
4556.00	40.08	186.37	4488.03	-28.31	-267.65	-28.31	5.74		
4599.00	43.70	184.64	4520.04	-56.88	-270.39	-56.88	8.84		
4643.00	47.15	183.75	4550.91	-88.14	-272.68	-88.14	7.97		
4686.00	50.48	184.47	4579.22	-120.41	-275.00	-120.41	7.85		
4730.00	53.75	183.86	4606.24	-155.04	-277.52	-155.04	7.51		
4774.00	57.76	183.68	4630.99	-191.33	-279.91	-191.33	9.12		
4811.00	58.19	184.74	4650.62	-222.61	-282.21	-222.61	2.69		
4855.00	59.94	188.45	4673.24	-260.09	-286.56	-260.09	8.25		
4899.00	64.11	190.47	4693.88	-298.41	-292.95	-298.41	10.31		
4942.00	69.57	190.85	4710.78	-337.24	-300.27	-337.24	12.72		
4986.00	75.14	189.02	4724.11	-378.53	-307.49	-378.53	13.26		
5030.00	80.30	186.37	4733.47	-421.12	-313.23	-421.12	13.12		

2

Tie-In Pt ST01

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment
5073.00	84.96	184.27	4738.99	-463.56	-317.18	-463.56	11.87	
5117.00	86.08	184.19	4742.42	-507.31	-320.42	-507.31	2.55	
5161.00	87.14	184.39	4745.02	-551.11	-323.70	-551.11	2.45	
5204.00	87.90	184.20	4746.89	-593.95	-326.92	-593.95	1.82	
5248.00	88.53	184.05	4748.26	-637.81	-330.08	-637.81	1.47	
5292.00	89.02	183.56	4749.20	-681.70	-333.00	-681.70	1.57	
5336.00	89.09	183.25	4749.92	-725.62	-335.62	-725.62	0.72	
5350.00	89.30	182.66	4750.12	-739.60	-336.34	-739.60	4.47	
5441.00	89.51	179.56	4751.06	-830.57	-338.10	-830.57	3.41	
5531.00	88.53	178.66	4752.60	-920.54	-336.70	-920.54	1.48	
5622.00	87.62	178.14	4755.66	-1011.45	-334.16	-1011.45	1.15	
5718.00	87.06	178.05	4760.12	-1107.30	-330.97	-1107.30	0.59	
5809.00	90.49	180.50	4762.06	-1198.25	-329.82	-1198.25	4.63	
5900.00	89.44	180.18	4762.12	-1289.25	-330.36	-1289.25	1.21	
5991.00	90.70	179.65	4762.01	-1380.24	-330.23	-1380.24	1.50	
6081.00	89.93	179.57	4761.51	-1470.24	-329.62	-1470.24	0.86	
6173.00	89.02	179.17	4762.35	-1562.23	-328.61	-1562.23	1.08	
6265.00	90.63	179.30	4762.63	-1654.22	-327.38	-1654.22	1.76	
6354.00	89.79	178.83	4762.31	-1743.20	-325.93	-1743.20	1.08	
6445.00	90.63	178.94	4761.98	-1834.18	-324.15	-1834.18	0.93	
6518.00	89.79	179.10	4761.71	-1907.17	-322.91	-1907.17	1.17	
6606.00	88.46	178.68	4763.05	-1995.14	-321.20	-1995.14	1.58	
6693.00	90.21	178.75	4764.06	-2082.11	-319.25	-2082.11	2.01	
6780.00	93.22	179.99	4761.46	-2169.06	-318.29	-2169.06	3.74	
6867.00	94.06	180.13	4755.93	-2255.88	-318.38	-2255.88	0.98	
6955.00	91.89	178.69	4751.37	-2343.75	-317.48	-2343.75	2.96	
7042.00	91.26	178.15	4748.98	-2430.68	-315.08	-2430.68	0.95	
7129.00	90.00	177.67	4748.02	-2517.62	-311.91	-2517.62	1.55	
7217.00	89.09	177.10	4748.72	-2605.52	-307.89	-2605.52	1.22	
7304.00	90.77	178.56	4748.82	-2692.45	-304.60	-2692.45	2.56	
7392.00	89.51	178.57	4748.61	-2780.42	-302.40	-2780.42	1.43	
7479.00	91.12	179.19	4748.13	-2867.40	-300.70	-2867.40	1.98	
7566.00	90.14	179.54	4747.17	-2954.39	-299.73	-2954.39	1.20	
7654.00	88.95	179.58	4747.87	-3042.38	-299.06	-3042.38	1.35	
7741.00	90.91	180.25	4747.98	-3129.38	-298.93	-3129.38	2.38	
7828.00	90.77	180.29	4746.70	-3216.37	-299.34	-3216.37	0.17	
7916.00	89.86	180.18	4746.22	-3304.37	-299.70	-3304.37	1.04	
8003.00	89.79	180.28	4746.49	-3391.36	-300.05	-3391.36	0.14	
8091.00	89.16	180.58	4747.29	-3479.36	-300.71	-3479.36	0.79	
8178.00	91.54	179.99	4746.76	-3566.35	-301.14	-3566.35	2.82	
8266.00	90.00	179.79	4745.58	-3654.34	-300.97	-3654.34	1.76	

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment
8353.00	89.72	179.95	4745.79	-3741.34	-300.77	-3741.34	0.37	
8440.00	89.16	178.65	4746.64	-3828.32	-299.71	-3828.32	1.63	
8527.00	87.69	178.25	4749.03	-3915.26	-297.36	-3915.26	1.75	
8615.00	88.95	177.45	4751.61	-4003.15	-294.06	-4003.15	1.70	
8702.00	89.58	179.23	4752.73	-4090.11	-291.54	-4090.11	2.17	
8790.00	91.47	178.91	4751.92	-4178.09	-290.11	-4178.09	2.18	
8875.00	90.77	178.80	4750.26	-4263.05	-288.41	-4263.05	0.83	
8962.00	88.53	177.93	4750.79	-4350.01	-285.93	-4350.01	2.76	
9049.00	90.07	178.13	4751.85	-4436.95	-282.94	-4436.95	1.78	
9137.00	90.77	177.91	4751.21	-4524.89	-279.90	-4524.89	0.83	
9224.00	90.49	178.32	4750.25	-4611.84	-277.04	-4611.84	0.57	
9304.00	90.07	178.48	4749.86	-4691.81	-274.80	-4691.81	0.56	Last WFT/MWD Svy
9362.00	90.07	178.48	4749.79	-4749.79	-273.27	-4749.79	0.00	Proj to TD

5D Survey Report**SandRidge Energy**

Field Name: *SandRidge Energy - Harper County, KS S NAD 27 US FT*
Site Name: *West 3508 3-5H*
Well Name: *West 3508 3-5H ST01*
Survey: *Definitive Survey(Geographic)*

13 October 2014



West 3508 3-5H ST01

Field Name SandRidge Energy - Harper County, KS S NAD 27 US FT	Map Units : US ft Vertical Reference Datum (VRD) : Mean Sea Level Projected Coordinate System : NAD27 / Kansas South Comment :	Company Name : SandRidge Energy
Site Name West 3508 3-5H	Units : US ft North Reference : Grid Position Northing : 134407.00 US ft Easting : 2083743.00 US ft Site TVD Reference : GL Elevation above Mean Sea Level :1242.00 US ft Comment :	Convergence Angle : 0.18 Latitude : 37° 2' 7.58" Longitude : -98° 12' 47.27"
Slot Name West 3508 3-5H	Position (Offsets relative to Site Centre) +N / -S : 0.00 US ft Northing :134407.00 US ft Latitude : 37°2'7.58" +E / -W : 0.00 US ft Easting :2083743.00 US ft Longitude : -98°12'47.27" Elevation above Mean Sea Level : 1242.00 US ft Comment :	
Well Name West 3508 3-5H ST01	Type : Sidetrack Parent : West 3508 3-5H Rig Height Drill Floor : 18.00 US ft Relative to Mean Sea Level : 1260.00 US ft Closure Distance : 4757.64 US ft Vertical Section (Position of Origin Relative to Site) +N / -S : 0.00 US ft	UWI : Tie Point Method : MD Tie Point :4774.00 US ft Comment : Closure Azimuth : 183.293° +E / -W : 0.00 US ft Az :0.00°

5D Survey Report

Target Set**Name :** West 3508 3-5H T1**Number of Targets :** 1**Comment :**

TargetName:	Position (Relative to Site centre)		
PBHL	+N / -S : -4765.00US ft	Northing : 129642.00 US ft	Latitude : 37°1'20.48"
Shape:	+E / -W : -269.00 US ft	Easting : 2083474.00US ft	Longitude : -98°12'50.76"
Cuboid	TVD (Drill Floor) : 4752.00 US ft		
	SS : -3492.00 US ft		
Orientation	Azimuth : 0.00°	Inclination : 0.00°	
Dimensions	Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 US ft

Survey Name :Definitive Survey**Date :** 13/Oct/2014**Survey Tool :****Comment :****Company :****Magnetic Model****Model Name:** Default**Date:** 14/Feb/2014**Field Strength:** 50000.0 nT**Declination:** 0.00°**Dip:** 0.00°**Survey Tool Ranges**

Name	Start MD (US ft)	End MD (US ft)	Source Survey
MWD	4774.00	9362.00	WFT/MWD ST01 Surveys

Well path created using minimum curvature

Survey Points (Relative to Site centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")		
0.00	0.00	0.00	0.00	0.00	0.00	134407.00	2083743.00	37°2'7.58"	-98°12'47.27"		
453.00	0.36	346.69	453.00	1.38	-0.33	134408.38	2083742.67	37°2'7.60"	-98°12'47.27"		
998.00	0.28	310.55	997.99	3.92	-1.73	134410.92	2083741.27	37°2'7.62"	-98°12'47.29"		
1457.00	0.36	268.83	1456.98	4.62	-4.03	134411.62	2083738.97	37°2'7.63"	-98°12'47.32"		
1894.00	0.51	246.08	1893.97	3.80	-7.18	134410.80	2083735.82	37°2'7.62"	-98°12'47.35"		
1981.00	0.63	300.46	1980.97	3.89	-7.94	134410.89	2083735.06	37°2'7.62"	-98°12'47.36"		
2067.00	3.06	327.48	2066.92	6.06	-9.59	134413.06	2083733.41	37°2'7.64"	-98°12'47.38"		
2155.00	5.08	327.74	2154.69	11.34	-12.93	134418.34	2083730.07	37°2'7.70"	-98°12'47.43"		
2242.00	6.14	323.41	2241.27	18.33	-17.76	134425.33	2083725.24	37°2'7.77"	-98°12'47.48"		
2330.00	7.23	317.94	2328.67	26.22	-24.27	134433.22	2083718.73	37°2'7.84"	-98°12'47.56"		
2417.00	7.52	312.61	2414.95	34.14	-32.13	134441.14	2083710.87	37°2'7.92"	-98°12'47.66"		
2504.00	6.97	311.25	2501.26	41.47	-40.29	134448.47	2083702.71	37°2'8.00"	-98°12'47.76"		
2592.00	6.34	306.96	2588.67	47.92	-48.19	134454.92	2083694.81	37°2'8.06"	-98°12'47.86"		

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	
2679.00	6.49	306.62	2675.12	53.74	-55.97	134460.74	2083687.03	37°2'8.12"	-98°12'47.95"	
2767.00	7.18	306.48	2762.50	59.97	-64.38	134466.97	2083678.62	37°2'8.18"	-98°12'48.06"	
2854.00	6.61	305.89	2848.87	66.14	-72.81	134473.14	2083670.19	37°2'8.24"	-98°12'48.16"	
2941.00	7.28	310.97	2935.23	72.69	-81.03	134479.69	2083661.97	37°2'8.31"	-98°12'48.26"	
3029.00	8.18	316.60	3022.43	80.90	-89.54	134487.90	2083653.46	37°2'8.39"	-98°12'48.37"	
3116.00	7.87	319.13	3108.58	89.90	-97.69	134496.90	2083645.31	37°2'8.48"	-98°12'48.47"	
3201.00	7.29	319.73	3192.83	98.41	-104.99	134505.41	2083638.01	37°2'8.56"	-98°12'48.56"	
3288.00	7.52	316.54	3279.11	106.76	-112.47	134513.76	2083630.53	37°2'8.64"	-98°12'48.65"	
3376.00	7.23	313.62	3366.38	114.76	-120.44	134521.76	2083622.56	37°2'8.72"	-98°12'48.75"	
3463.00	7.08	311.20	3452.70	122.06	-128.44	134529.06	2083614.56	37°2'8.79"	-98°12'48.85"	
3550.00	7.51	307.72	3539.00	129.07	-136.97	134536.07	2083606.03	37°2'8.86"	-98°12'48.95"	
3638.00	6.48	307.78	3626.34	135.64	-145.44	134542.64	2083597.56	37°2'8.93"	-98°12'49.05"	
3725.00	6.34	306.64	3712.80	141.51	-153.18	134548.51	2083589.82	37°2'8.99"	-98°12'49.15"	
3813.00	6.80	309.72	3800.22	147.74	-161.08	134554.74	2083581.92	37°2'9.05"	-98°12'49.25"	
3900.00	6.57	303.47	3886.63	153.77	-169.20	134560.77	2083573.80	37°2'9.11"	-98°12'49.35"	
3944.00	7.43	299.31	3930.30	156.56	-173.78	134563.56	2083569.22	37°2'9.14"	-98°12'49.40"	
3988.00	7.59	279.36	3973.93	158.42	-179.13	134565.42	2083563.87	37°2'9.16"	-98°12'49.47"	
4031.00	10.00	256.50	4016.44	158.01	-185.56	134565.01	2083557.44	37°2'9.15"	-98°12'49.55"	
4075.00	13.33	247.78	4059.53	155.20	-193.98	134562.20	2083549.02	37°2'9.12"	-98°12'49.65"	
4119.00	15.88	242.31	4102.10	150.48	-204.00	134557.48	2083539.00	37°2'9.08"	-98°12'49.78"	
4163.00	17.67	233.82	4144.24	143.74	-214.73	134550.74	2083528.27	37°2'9.01"	-98°12'49.91"	
4206.00	19.82	222.85	4184.96	134.54	-224.96	134541.54	2083518.04	37°2'8.92"	-98°12'50.04"	
4250.00	21.37	212.65	4226.16	122.32	-234.36	134529.32	2083508.64	37°2'8.80"	-98°12'50.15"	
4293.00	23.11	202.79	4265.98	107.94	-241.86	134514.94	2083501.14	37°2'8.66"	-98°12'50.24"	
4337.00	25.70	194.95	4306.05	90.75	-247.67	134497.75	2083495.33	37°2'8.49"	-98°12'50.32"	
4381.00	29.10	190.59	4345.12	71.01	-252.09	134478.01	2083490.91	37°2'8.29"	-98°12'50.37"	
4425.00	32.76	189.59	4382.85	48.74	-256.05	134455.74	2083486.95	37°2'8.07"	-98°12'50.42"	
4468.00	35.12	189.20	4418.52	25.06	-259.96	134432.06	2083483.04	37°2'7.84"	-98°12'50.47"	
4512.00	38.02	188.69	4453.86	-0.83	-264.03	134406.17	2083478.97	37°2'7.58"	-98°12'50.52"	
4556.00	40.08	186.37	4488.03	-28.31	-267.65	134378.69	2083475.35	37°2'7.31"	-98°12'50.57"	
4599.00	43.70	184.64	4520.04	-56.88	-270.39	134350.12	2083472.61	37°2'7.03"	-98°12'50.60"	
4643.00	47.15	183.75	4550.91	-88.14	-272.68	134318.86	2083470.32	37°2'6.72"	-98°12'50.63"	
4686.00	50.48	184.47	4579.22	-120.41	-275.00	134286.59	2083468.00	37°2'6.40"	-98°12'50.66"	
4730.00	53.75	183.86	4606.24	-155.04	-277.52	134251.96	2083465.48	37°2'6.06"	-98°12'50.69"	
4774.00	57.76	183.68	4630.99	-191.33	-279.91	134215.67	2083463.09	37°2'5.70"	-98°12'50.73"	
4811.00	58.19	184.74	4650.62	-222.61	-282.21	134184.39	2083460.79	37°2'5.39"	-98°12'50.75"	
4855.00	59.94	188.45	4673.24	-260.09	-286.56	134146.91	2083456.44	37°2'5.02"	-98°12'50.81"	
4899.00	64.11	190.47	4693.88	-298.41	-292.95	134108.59	2083450.05	37°2'4.64"	-98°12'50.89"	
4942.00	69.57	190.85	4710.78	-337.24	-300.27	134069.76	2083442.73	37°2'4.26"	-98°12'50.98"	
4986.00	75.14	189.02	4724.11	-378.53	-307.49	134028.47	2083435.51	37°2'3.85"	-98°12'51.07"	
5030.00	80.30	186.37	4733.47	-421.12	-313.23	133985.88	2083429.77	37°2'3.43"	-98°12'51.14"	

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	
5073.00	84.96	184.27	4738.99	-463.56	-317.18	133943.44	2083425.82	37°2'3.01"	-98°12'51.20"	
5117.00	86.08	184.19	4742.42	-507.31	-320.42	133899.69	2083422.58	37°2'2.58"	-98°12'51.24"	
5161.00	87.14	184.39	4745.02	-551.11	-323.70	133855.89	2083419.30	37°2'2.14"	-98°12'51.28"	
5204.00	87.90	184.20	4746.89	-593.95	-326.92	133813.05	2083416.08	37°2'1.72"	-98°12'51.32"	
5248.00	88.53	184.05	4748.26	-637.81	-330.08	133769.19	2083412.92	37°2'1.29"	-98°12'51.36"	
5292.00	89.02	183.56	4749.20	-681.70	-333.00	133725.30	2083410.00	37°2'0.85"	-98°12'51.40"	
5336.00	89.09	183.25	4749.92	-725.62	-335.62	133681.38	2083407.38	37°2'0.42"	-98°12'51.43"	
5350.00	89.30	182.66	4750.12	-739.60	-336.34	133667.40	2083406.66	37°2'0.28"	-98°12'51.44"	
5441.00	89.51	179.56	4751.06	-830.57	-338.10	133576.43	2083404.90	37°1'59.38"	-98°12'51.47"	
5531.00	88.53	178.66	4752.60	-920.54	-336.70	133486.46	2083406.30	37°1'58.49"	-98°12'51.45"	
5622.00	87.62	178.14	4755.66	-1011.45	-334.16	133395.55	2083408.84	37°1'57.59"	-98°12'51.43"	
5718.00	87.06	178.05	4760.12	-1107.30	-330.97	133299.70	2083412.03	37°1'56.65"	-98°12'51.39"	
5809.00	90.49	180.50	4762.06	-1198.25	-329.82	133208.75	2083413.18	37°1'55.75"	-98°12'51.38"	
5900.00	89.44	180.18	4762.12	-1289.25	-330.36	133117.75	2083412.64	37°1'54.85"	-98°12'51.39"	
5991.00	90.70	179.65	4762.01	-1380.24	-330.23	133026.76	2083412.77	37°1'53.95"	-98°12'51.39"	
6081.00	89.93	179.57	4761.51	-1470.24	-329.62	132936.76	2083413.38	37°1'53.06"	-98°12'51.39"	
6173.00	89.02	179.17	4762.35	-1562.23	-328.61	132844.77	2083414.39	37°1'52.15"	-98°12'51.38"	
6265.00	90.63	179.30	4762.63	-1654.22	-327.38	132752.78	2083415.62	37°1'51.24"	-98°12'51.37"	
6354.00	89.79	178.83	4762.31	-1743.20	-325.93	132663.80	2083417.07	37°1'50.36"	-98°12'51.35"	
6445.00	90.63	178.94	4761.98	-1834.18	-324.15	132572.82	2083418.85	37°1'49.46"	-98°12'51.33"	
6518.00	89.79	179.10	4761.71	-1907.17	-322.91	132499.83	2083420.09	37°1'48.74"	-98°12'51.32"	
6606.00	88.46	178.68	4763.05	-1995.14	-321.20	132411.86	2083421.80	37°1'47.87"	-98°12'51.30"	
6693.00	90.21	178.75	4764.06	-2082.11	-319.25	132324.89	2083423.75	37°1'47.01"	-98°12'51.28"	
6780.00	93.22	179.99	4761.46	-2169.06	-318.29	132237.94	2083424.71	37°1'46.15"	-98°12'51.27"	
6867.00	94.06	180.13	4755.93	-2255.88	-318.38	132151.12	2083424.62	37°1'45.29"	-98°12'51.28"	
6955.00	91.89	178.69	4751.37	-2343.75	-317.48	132063.25	2083425.52	37°1'44.42"	-98°12'51.27"	
7042.00	91.26	178.15	4748.98	-2430.68	-315.08	131976.32	2083427.92	37°1'43.56"	-98°12'51.24"	
7129.00	90.00	177.67	4748.02	-2517.62	-311.91	131889.38	2083431.09	37°1'42.70"	-98°12'51.21"	
7217.00	89.09	177.10	4748.72	-2605.52	-307.89	131801.48	2083435.11	37°1'41.83"	-98°12'51.16"	
7304.00	90.77	178.56	4748.82	-2692.45	-304.60	131714.55	2083438.40	37°1'40.97"	-98°12'51.12"	
7392.00	89.51	178.57	4748.61	-2780.42	-302.40	131626.58	2083440.60	37°1'40.10"	-98°12'51.10"	
7479.00	91.12	179.19	4748.13	-2867.40	-300.70	131539.60	2083442.30	37°1'39.24"	-98°12'51.08"	
7566.00	90.14	179.54	4747.17	-2954.39	-299.73	131452.61	2083443.27	37°1'38.38"	-98°12'51.07"	
7654.00	88.95	179.58	4747.87	-3042.38	-299.06	131364.62	2083443.94	37°1'37.51"	-98°12'51.07"	
7741.00	90.91	180.25	4747.98	-3129.38	-298.93	131277.62	2083444.07	37°1'36.65"	-98°12'51.07"	
7828.00	90.77	180.29	4746.70	-3216.37	-299.34	131190.63	2083443.66	37°1'35.79"	-98°12'51.08"	
7916.00	89.86	180.18	4746.22	-3304.37	-299.70	131102.63	2083443.30	37°1'34.92"	-98°12'51.09"	
8003.00	89.79	180.28	4746.49	-3391.36	-300.05	131015.64	2083442.95	37°1'34.06"	-98°12'51.09"	
8091.00	89.16	180.58	4747.29	-3479.36	-300.71	130927.64	2083442.29	37°1'33.19"	-98°12'51.11"	
8178.00	91.54	179.99	4746.76	-3566.35	-301.14	130840.65	2083441.86	37°1'32.33"	-98°12'51.11"	
8266.00	90.00	179.79	4745.58	-3654.34	-300.97	130752.66	2083442.03	37°1'31.46"	-98°12'51.12"	

5D Survey Report

Survey Points (Relative to Site centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	
8353.00	89.72	179.95	4745.79	-3741.34	-300.77	130665.66	2083442.23	37°1'30.60"	-98°12'51.12"	
8440.00	89.16	178.65	4746.64	-3828.32	-299.71	130578.68	2083443.29	37°1'29.74"	-98°12'51.11"	
8527.00	87.69	178.25	4749.03	-3915.26	-297.36	130491.74	2083445.64	37°1'28.88"	-98°12'51.08"	
8615.00	88.95	177.45	4751.61	-4003.15	-294.06	130403.85	2083448.94	37°1'28.01"	-98°12'51.04"	
8702.00	89.58	179.23	4752.73	-4090.11	-291.54	130316.89	2083451.46	37°1'27.15"	-98°12'51.02"	
8790.00	91.47	178.91	4751.92	-4178.09	-290.11	130228.91	2083452.89	37°1'26.28"	-98°12'51.00"	
8875.00	90.77	178.80	4750.26	-4263.05	-288.41	130143.95	2083454.59	37°1'25.44"	-98°12'50.98"	
8962.00	88.53	177.93	4750.79	-4350.01	-285.93	130056.99	2083457.07	37°1'24.58"	-98°12'50.96"	
9049.00	90.07	178.13	4751.85	-4436.95	-282.94	129970.05	2083460.06	37°1'23.72"	-98°12'50.92"	
9137.00	90.77	177.91	4751.21	-4524.89	-279.90	129882.11	2083463.10	37°1'22.85"	-98°12'50.89"	
9224.00	90.49	178.32	4750.25	-4611.84	-277.04	129795.16	2083465.96	37°1'22.00"	-98°12'50.86"	
9304.00	90.07	178.48	4749.86	-4691.81	-274.80	129715.19	2083468.20	37°1'21.20"	-98°12'50.83"	
9362.00	90.07	178.48	4749.79	-4749.79	-273.27	129657.21	2083469.73	37°1'20.63"	-98°12'50.82"	