



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1236252
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: _____

1236252

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
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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: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

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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JOB SUMMARY			PROJECT NUMBER SOK 4223	TICKET DATE 09/21/14
COUNTY Harper	State Kansas	COMPANY Dridge Exploration & Produc	CUSTOMER REP Jase Bradley	
LEASE NAME Frey 3508	Well No. 1-8H	JOB TYPE Surface	EMPLOYEE NAME Joseph Klemm	

EMP NAME Joseph Klemm	0				
Cody Bonitz					
Danny Tewell					
0.00					

Form. Name _____ Type: _____
 Packer Type _____ Set At **0**
 Bottom Hole Temp. **80** Pressure _____
 Retainer Depth _____ Total Depth **784'**

Date	Called Out 9/20/2014	On Location 9/20/2014	Job Started 9/20/2014	Job Completed 9/21/2014
Time	1600	1845	2100	0130

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		36#	9 5/8"		Surface	784'	2,000
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			12 1/4"		Surface	784'	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials

Mud Type	WBM	Density	9	Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33	Lb/Gal
Spacer type	Fresh Water 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	

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
9/20	6.7	9/21	4.5	Surface
Total	6.7	Total	4.5	

Perfpac Balls _____ Qty. _____
 Other _____
 Other _____
 Other _____
 Other _____
 Other _____

Pressures

MAX	2000 PSI	AVG.	100
Average Rates in BPM			
MAX	5 BPM	AVG	4.5
Cement Left in Pipe			
Feet	46	Reason	SHOE JOINT

Cement Data

Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	215	TEX Lite Premium Plus 65	(6% Gel) 2% Calcium Chloride - 1/2pps Cello-Flake - 0.2% X-Air	11.11	2.01	12.40
2	165	Premium Plus (Class C)	2% Calcium Chloride - 1/2pps Cello-Flake	6.32	1.32	14.80
3	0	0		0	0.00	0.00

Summary

Preflush Breakdown	_____ Type: _____	Preflush: BBI	10.00	Type: Fresh Water
	MAXIMUM	2000 PSI	Load & Bkdn: Gal - BBI	N/A
	Lost Returns	NO/FULL	Excess /Return BBI	43
	Actual TOC	SURFACE	Calc. TOC:	SURFACE
Average	Bump Plug PSI:	750	Final Circ. PSI:	180
ISIF 5 Min.	10 Min	15 Min	Cement Slurry BBI	115.6
			Total Volume BBI	183.10

CUSTOMER REPRESENTATIVE *Jase Bradley* SIGNATURE

JOB SUMMARY			PROJECT NUMBER SOK 4255	TICKET DATE 09/29/14
COUNTY Harper	State Kansas	COMPANY Sandridge Exploration & Production	CUSTOMER REP Carlos Rendon	
LEASE NAME Frey 3508	Well No. 1-8H	JOB TYPE Intermediate	EMPLOYEE NAME John Hall	

EMP NAME John Hall					
Louis Arney					
Flo Helkena					
Randall Irvin					

Form. Name _____ Type: _____

Packer Type _____ Set At _____ 0 _____

Bottom Hole Temp. **155** Pressure _____

Retainer Depth _____ Total Depth **5,605'**

Date	Called Out 9/29/2014	On Location 9/29/2014	Job Started 9/29/2014	Job Completed 9/29/2014
Time	400am	630am	200pm	430pm

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

New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing	26#	7"		Surface		5,000
Liner						
Liner						
Tubing		0				
Drill Pipe						
Open Hole			8 3/4"	Surface	5,605'	Shots/Ft.
Perforations						
Perforations						
Perforations						

Materials			
WBM	Density	g	Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33
Spacer type	GEL	BBL.	30
Spacer type	BBL.		8.40
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 _____

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
9/29	10.0	9/29	2.5	Intermediate
Total	10.0	Total	2.5	

MAX 5,000 PSI		AVG. 400 psi	
MAX 8 BPM		AVG 5 bpm	
Feet 44		Reason SHOE JOINT	

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	230	50/50 POZ PREMIUM	4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.15% C-20 - 0.1% C-37 - 0.2% X-Air	6.93	1.43	13.60
2	120	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

Summary					
Preflush Breakdown	Type: _____	MAXIMUM _____	5,000 PSI	Preflush: BBI _____	30.00
	Lost Returns- ⁿ	NO/FULL		Load & Bkdn: Gal - BBI _____	N/A
	Actual TOC	2,552		Excess /Return BBI _____	N/A
Average	Bump Plug PSI:	1,400		Calc. TOC: _____	2,552
ISIP _____ 5 Min.	10 Min _____	15 Min _____		Final Circ. PSI: _____	800
				Cement Slurry BBI _____	84.0
				Total Volume BBI _____	328.00

CUSTOMER REPRESENTATIVE _____ *Carlos Rendon* SIGNATURE

JOB SUMMARY			PROJECT NUMBER SOK 4349	TICKET DATE 10/18/14
COUNTY Harper	State Kansas	COMPANY Bridge Exploration & Produc	CUSTOMER REP James	
LEASE NAME Frey 3508	Well No. 1-8H	JOB TYPE Misc Pumping	EMPLOYEE NAME	

EMP NAME STEPHEN RODRIGUEZ					
ALVARO YANEZ					
SHANNON STROMMER					
0.00					

Form. Name _____ Type: _____

Packer Type _____ Set At **0**

Bottom Hole Temp. **150** Pressure _____

Retainer Depth _____ Total Depth **0**

Date	Called Out 10/17/2014	On Location 10/17/2014	Job Started 10/17/2014	Job Completed 10/18/2014
Time	1400	1800	1815	0200

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

New/Used		Weight	Size	Grade	From	To	Max. Allow
Casing		11.6#	4 1/2"		Surface	0	1,500
Liner							
Liner							
Tubing			4"				
Drill Pipe							
Open Hole			6 1/8"		Surface	9,375'	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials			
Mud Type	WBM	Density	9 Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33 Lb/Gal
Spacer type	Fresh Water 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	

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
10/17	8.0	10/18	3.0	Misc Pumping
Total	8.0	Total	3.0	

Perfpac Balls _____ Qty. _____

Other _____

Other _____

Other _____

Other _____

Other _____

Pressures		
MAX	1,500 PSI	AVG. 800
Average Rates in BPM		
MAX	6 BPM	AVG 4
Cement Left in Pipe		
Feet		Reason SHOE JOINT

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	0	0		0	0.00	0.00
2	0	0		0	0.00	0.00
3	0	0		0	0.00	0.00

Summary					
Preflush	_____ Type: _____	Preflush:	BBI	10.00	Type: 0
Breakdown	_____ MAXIMUM 1,500 PSI	Load & Bkdn:	Gal - BBI	N/A	Pad:Bbl -Gal N/A
	_____ Lost Returns- NO/FULL	Excess /Return	BBI		Calc. Disp Bbl _____
	_____ Actual TOC SURFACE	Calc. TOC:		SURFACE	Actual Disp. _____
Average	_____ Bump Plug PSI: _____	Final Circ.	PSI:		Disp:Bbl _____
ISP	5 Min. _____ 10 Min _____ 15 Min _____	Cement Slurry	BBI		
		Total Volume	BBI	10.00	

CUSTOMER REPRESENTATIVE _____ SIGNATURE _____

Sandridge Energy, INC.(mid-con.)



Project: Harper County (KS27S)
 Site: Sec 08-T35S-R08W
 Frey 3508 1-8H/Job #04963-431-22/HWD 8
 Plan: Plan 090214 A0 (Frey 3508 1-8H/Job #04963-431-22/HWD 8 Wellbore #1)

WELL DETAILS: Frey 3508 1-8H/Job #04963-431-22/HWD 8

Ground Level:	1237.0		
Northing	Easting	Latitude	Longitude
129130.99	2085445.00	37° 1' 15.368 N	98° 12' 26.481 W

SECTION DETAILS

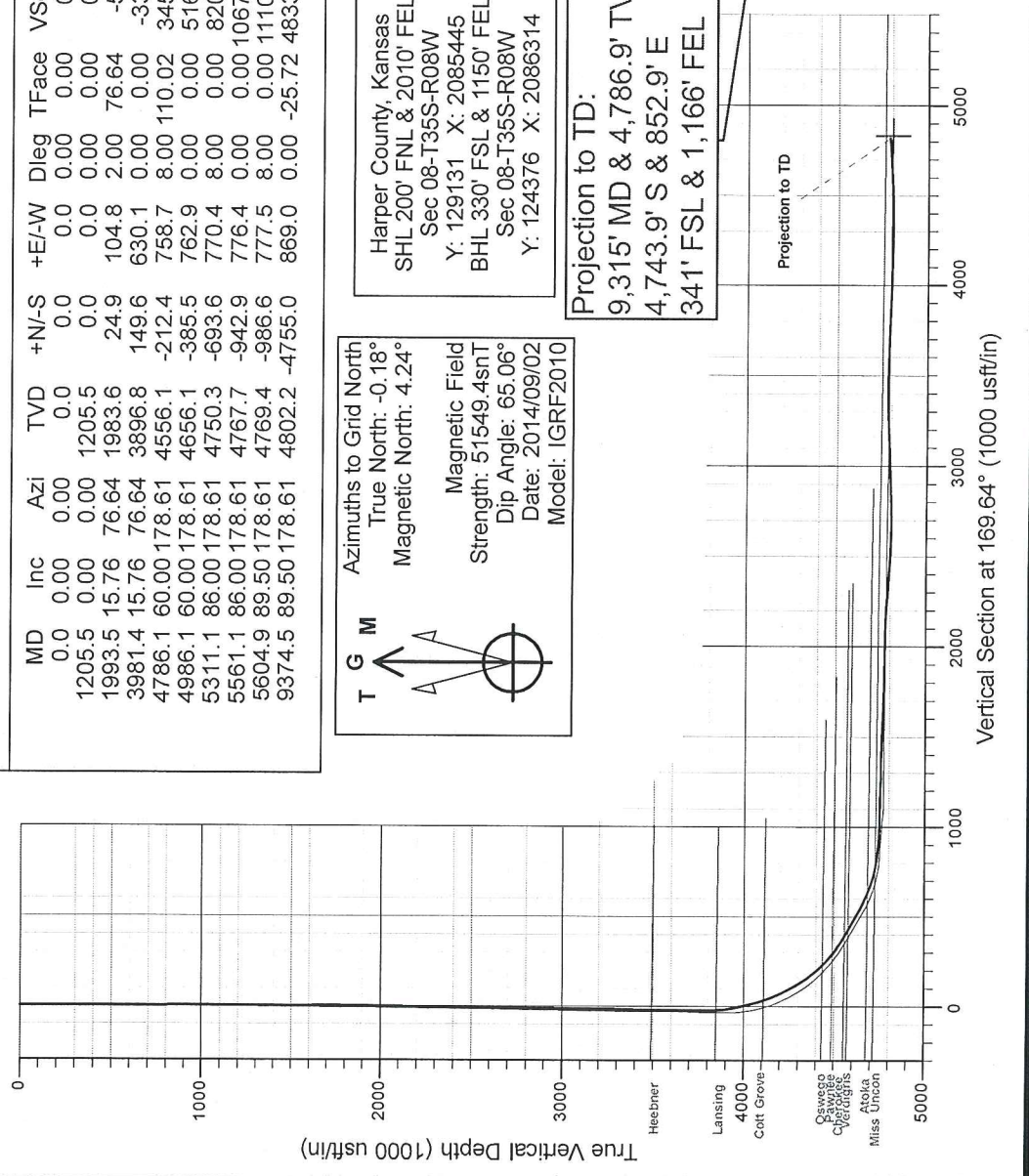
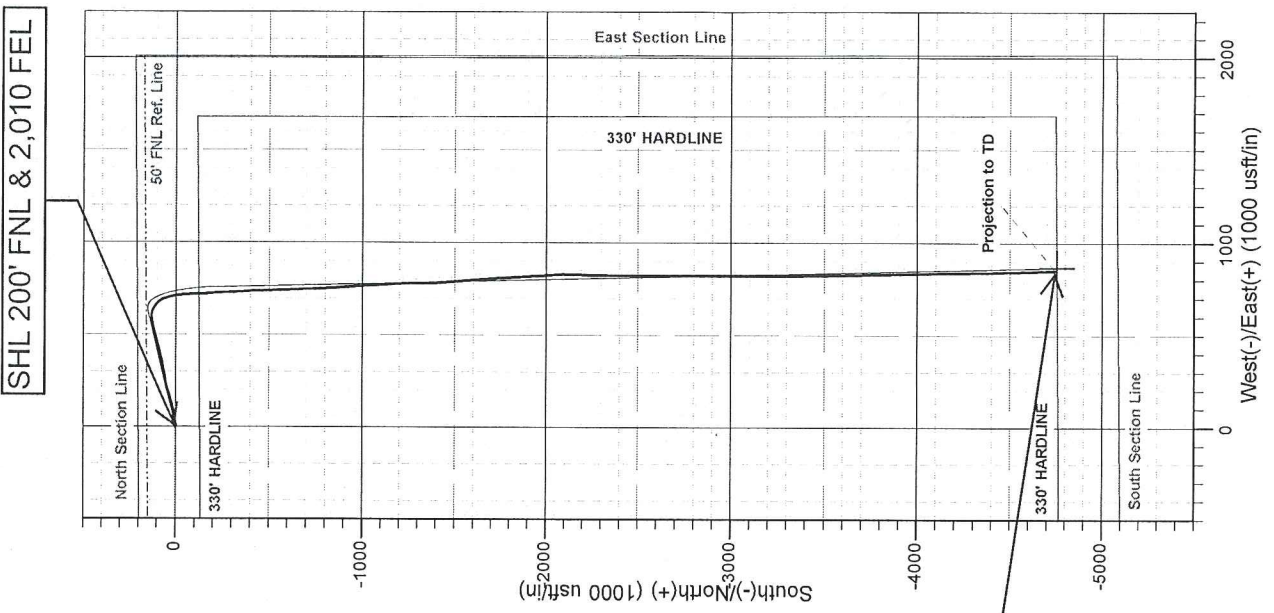
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1205.5	0.00	0.00	1205.5	0.0	0.0	0.00	0.00	0.0
1993.5	15.76	76.64	1983.6	24.9	104.8	2.00	76.64	-5.6
3981.4	15.76	76.64	3896.8	149.6	630.1	0.00	0.00	-33.9
4786.1	60.00	178.61	4556.1	-212.4	758.7	8.00	110.02	345.3
4986.1	60.00	178.61	4656.1	-385.5	762.9	0.00	0.00	516.4
5311.1	86.00	178.61	4750.3	-693.6	770.4	8.00	0.00	820.8
5561.1	86.00	178.61	4767.7	-942.9	776.4	0.00	0.00	1067.1
5604.9	89.50	178.61	4769.4	-986.6	777.5	8.00	0.00	1110.3
9374.5	89.50	178.61	4802.2	-4755.0	869.0	0.00	-25.72	4833.7

T G M

Azimuths to Grid North
 True North: -0.18°
 Magnetic North: 4.24°
Magnetic Field
 Strength: 51549.4snT
 Dip Angle: 65.06°
 Date: 2014/09/02
 Model: IGRF2010

Harper County, Kansas
 SHL 200' FNL & 2010' FEL
 Sec 08-T35S-R08W
 Y: 129131 X: 2085445
 BHL 330' FSL & 1150' FEL
 Sec 08-T35S-R08W
 Y: 124376 X: 2086314

Projection to TD:
 9,315' MD & 4,786.9' TVD
 4,743.9' S & 852.9' E
 341' FSL & 1,166' FEL



- Heebner
- Lansing
- Catt Grove
- Crossed Pawnee
- Crossed Pawnee
- Atoka
- Miss Uncon

ARCHER

Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Project: Harper County (KS27S)	Site: Sec 08-T35S-R08W	Well: Frey 3508 1-8H/Job #04963-431-22/HWD 8
Wellbore: Wellbore #1	Design: Wellbore #1	Map System: US State Plane 1927 (Exact solution)	
Geo Datum: NAD 1927 (NADCON CONUS)		Map Zone: Kansas South 1502	

Local Co-ordinate Reference: Well Frey 3508 1-8H/Job #04963-431-22/HWD 8	System Datum: Mean Sea Level
TVD Reference: WELL @ 1255.0usft (Original Well Elev)	MD Reference: WELL @ 1255.0usft (Original Well Elev)
North Reference: Grid	Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db	

Site Position: Northing: 129,131.00 usft	Eastng: 2,085,445.00 usft	Slot Radius: 0.0 usft	Position Uncertainty: Map
Latitude: 37° 1' 15.368 N	Longitude: 98° 12' 26.481 W	Grid Convergence: 0.18 °	
Well: Frey 3508 1-8H/Job #04963-431-22/HWD 8			
Well Position: +N-S: 0.0 usft	Northng: 129,130.99 usft	Latitude: 37° 1' 15.368 N	Well Position Uncertainty: +E-W: 0.0 usft
Depth From (TVD): 0.0 usft	+N-S: 0.0 usft	Depth From (TVD): 0.0 usft	+E-W: 0.0 usft

Wellbore #1	Model Name: IGRF2010	Sample Date: 2014/09/02	Declination: 4.42
	Dip Angle: 65.06	Field Strength: 51,549	
Magnetics			
Design			
Wellbore #1	Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0
Design Notes:	Vertical Section: 0.0	Depth From (TVD): 0.0 usft	+E-W: 0.0 usft
Audit Notes:	Direction: 169.64		

Survey Program	Date: 2014/10/22	From (usft): 267.0	To (usft): 9,315.0
Survey (Wellbore)	Tool Name	Description	MWD - Standard
Wellbore #1			

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
267.0	0.20	126.10	267.0	-0.3	0.4	0.3	0.07	0.07	0.00
500.0	0.20	126.10	500.0	-0.8	1.0	0.9	0.00	0.00	0.00
810.0	0.40	126.10	810.0	-1.7	2.3	2.1	0.06	0.06	0.00
902.0	0.20	126.90	902.0	-2.0	2.7	2.5	0.22	-0.22	0.87
993.0	0.30	171.60	993.0	-2.3	2.9	2.8	0.23	0.11	49.12
1,082.0	0.20	135.70	1,082.0	-2.7	3.0	3.2	0.20	-0.11	-40.34

ARCHER
Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Project: Harper County (KS27S)	Site: Sec 08-T35S-R08W	Well: Frey 3508 1-8H/Job #04963-431-22/HWD 8	Wellbore: Wellbore #1	Design: Wellbore #1
Local Co-ordinate Reference: Well Frey 3508 1-8H/Job #04963-431-22/HWD 8					
TVD Reference: WELL @ 1255.0usft (Original Well Elev)					
MD Reference: WELL @ 1255.0usft (Original Well Elev)					
North Reference: Grid					
Survey Calculation Method: Minimum Curvature					
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)
1,176.0	0.50	81.50	1,176.0	-2.7	3.6	3.3	0.44	0.32	-57.66
1,269.0	1.50	76.50	1,269.0	-2.4	5.1	3.3	1.08	1.08	-5.38
1,363.0	3.30	68.50	1,362.9	-1.1	8.9	2.7	1.94	1.91	-8.51
1,440.0	4.30	72.80	1,439.7	0.6	13.7	1.9	1.35	1.30	5.58
1,528.0	6.40	78.90	1,527.3	2.5	21.6	1.4	2.47	2.39	6.93
1,617.0	8.40	87.10	1,615.6	3.8	33.0	2.2	2.54	2.25	9.21
1,704.0	11.00	81.20	1,701.3	5.4	47.6	3.3	3.20	2.99	-6.78
1,791.0	11.30	79.10	1,786.7	8.2	64.1	3.4	0.58	0.34	-2.41
1,883.0	13.40	79.00	1,876.6	12.0	83.4	3.2	2.28	2.28	-0.11
1,973.0	15.90	77.60	1,963.6	16.6	105.7	2.7	2.81	2.78	-1.56
2,061.0	15.10	75.00	2,048.4	22.2	128.6	1.3	1.20	-0.91	-2.95
2,150.0	14.70	74.00	2,134.4	28.3	150.6	-0.7	0.53	-0.45	-1.12
2,237.0	15.10	72.80	2,218.5	34.7	172.1	-3.2	0.58	0.46	-1.38
2,326.0	14.30	71.40	2,304.6	41.6	193.6	-6.1	0.98	-0.90	-1.57
2,415.0	14.80	78.30	2,390.7	47.4	215.1	-8.0	2.03	0.56	7.75
2,505.0	13.40	77.10	2,478.0	52.1	236.5	-8.7	1.59	-1.56	-1.33
2,593.0	13.50	83.10	2,563.6	55.6	256.7	-8.5	1.59	0.11	6.82
2,683.0	14.90	82.80	2,650.9	58.3	278.6	-7.3	1.56	1.56	-0.33
2,773.0	15.40	78.90	2,737.7	62.1	301.8	-6.8	1.26	0.56	-4.33
2,862.0	15.70	79.00	2,823.5	66.6	325.2	-7.1	0.34	0.34	0.11
2,951.0	17.40	77.70	2,908.8	71.8	350.0	-7.7	1.95	1.91	-1.46
3,041.0	18.20	75.00	2,994.5	78.3	376.7	-9.3	1.28	0.89	-3.00
3,130.0	17.10	75.90	3,079.3	85.1	402.9	-11.2	1.27	-1.24	1.01
3,214.0	15.70	76.30	3,159.9	90.8	425.9	-12.7	1.67	-1.67	0.48
3,303.0	13.70	76.10	3,245.7	96.4	448.9	-14.1	0.56	-0.56	-0.22
3,392.0	15.20	75.60	3,331.8	101.8	470.4	-15.6	1.69	-1.69	-0.56
3,481.0	13.80	75.10	3,418.3	107.2	490.9	-17.2	0.17	0.11	-0.56
3,570.0	15.20	76.40	3,504.5	112.7	512.5	-18.7	1.61	1.57	1.46
3,659.0	14.20	75.00	3,590.5	118.2	534.4	-20.2	1.19	-1.12	-1.57
3,749.0	14.30	77.60	3,677.8	123.5	555.9	-21.5	0.72	0.11	2.89
3,835.0	14.60	83.10	3,761.1	127.1	577.0	-21.2	1.63	0.35	6.40
3,880.0	14.30	84.00	3,804.6	128.3	588.2	-20.5	0.83	-0.67	2.00
3,925.0	16.20	87.40	3,848.1	129.2	600.0	-19.2	4.66	4.22	7.56
3,967.0	19.00	98.40	3,888.1	128.4	612.6	-16.2	10.32	6.67	26.19
4,012.0	21.00	111.90	3,930.4	124.4	627.4	-9.6	11.15	4.44	30.00
4,057.0	20.40	119.10	3,972.5	117.5	641.7	-0.3	5.81	-1.33	16.00
4,101.0	19.60	123.30	4,013.9	109.8	654.6	9.7	3.74	-1.82	9.55
4,146.0	19.10	129.40	4,056.3	100.9	666.6	20.5	4.62	-1.11	13.56
4,191.0	19.70	138.40	4,098.8	90.6	677.3	32.6	6.77	1.33	20.00
4,236.0	22.40	145.60	4,140.8	77.8	687.2	47.0	8.30	6.00	16.00
4,281.0	25.40	153.30	4,181.9	62.1	696.4	64.1	9.61	6.67	17.11
4,325.0	27.20	160.70	4,221.4	44.2	703.9	83.1	8.49	4.09	16.82
4,368.0	28.80	168.30	4,259.3	24.8	709.3	103.1	9.09	3.72	17.67

Company: Sandridge Energy, INC.(mid-con.)
Project: Harper County (KS27S)
Site: Sec 08-T35S-R08W
Well: Frey 3508 1-8H/Job #04963-431-22/HWD 8
Wellbore: Wellbore #1
Design: Wellbore #1
Database: EDM 5000.1 Single User Db
Survey Calculation Method: Minimum Curvature
Local Co-ordinate Reference: Well Frey 3508 1-8H/Job #04963-431-22/HWD 8
TVD Reference: WELLS @ 1255.0usft (Original Well Elev)
MD Reference: WELLS @ 1255.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
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4,413.0	31.30	172.70	4,298.3	2.6	713.0	125.6	7.40	5.56	9.78
4,502.0	37.60	175.90	4,371.8	-47.3	717.9	175.6	8.09	7.78	3.78
4,547.0	41.10	176.70	4,406.6	-75.8	719.8	203.9	7.86	7.78	1.78
4,592.0	44.30	176.90	4,439.7	-106.2	721.5	234.2	7.12	7.11	0.44
4,637.0	48.70	177.20	4,470.6	-138.8	723.1	266.6	9.79	9.78	0.67
4,681.0	53.30	177.60	4,498.3	-173.0	724.7	300.4	10.48	10.45	0.91
4,725.0	56.50	177.30	4,523.6	-208.9	726.3	336.1	7.29	7.27	-0.68
4,770.0	59.10	177.30	4,547.6	-247.0	728.1	373.8	5.78	5.78	0.00
4,814.0	60.10	177.10	4,569.8	-284.9	729.9	411.4	2.31	2.27	-0.45
4,859.0	60.90	177.30	4,592.0	-324.0	731.8	450.3	1.82	1.78	0.44
4,904.0	61.30	176.80	4,613.8	-363.3	733.9	489.3	1.32	0.89	-1.11
4,949.0	61.60	176.70	4,635.3	-402.8	736.1	528.6	0.69	0.67	-0.22
4,994.0	63.60	177.10	4,656.0	-442.7	738.3	568.2	4.51	4.44	0.89
5,038.0	67.00	177.60	4,674.3	-482.6	740.1	607.8	7.80	7.73	1.14
5,082.0	69.10	177.80	4,690.8	-523.4	741.8	648.2	4.79	4.77	0.45
5,127.0	71.80	177.70	4,705.9	-565.7	743.4	690.2	6.00	6.00	-0.22
5,172.0	75.20	177.90	4,718.6	-608.9	745.1	732.9	7.57	7.56	0.44
5,216.0	78.90	178.30	4,728.5	-651.7	746.5	775.3	8.46	8.41	0.91
5,261.0	81.80	178.00	4,736.0	-696.0	747.9	819.2	6.48	6.44	-0.67
5,305.0	84.60	176.60	4,741.2	-739.7	750.0	862.5	7.10	6.36	-3.18
5,350.0	86.60	176.20	4,744.7	-784.5	752.8	907.0	4.53	4.44	-0.89
5,395.0	87.80	176.50	4,746.9	-829.3	755.7	951.7	2.75	2.67	0.67
5,441.0	88.00	176.80	4,748.6	-875.2	758.4	997.3	0.78	0.43	0.65
5,486.0	87.80	176.60	4,750.2	-920.1	760.9	1,041.9	0.63	-0.44	-0.44
5,531.0	88.40	176.60	4,751.7	-965.0	763.6	1,086.5	1.33	1.33	0.00
5,575.0	89.10	175.90	4,752.7	-1,008.9	766.5	1,130.2	2.25	1.59	-1.59
5,599.0	89.10	175.90	4,753.1	-1,032.8	768.2	1,154.1	0.00	0.00	0.00
5,656.0	88.40	175.30	4,754.3	-1,089.6	772.6	1,210.8	1.62	-1.23	-1.05
5,748.0	90.20	177.40	4,755.4	-1,181.4	778.4	1,302.1	3.01	1.96	2.28
5,841.0	88.50	180.10	4,756.5	-1,274.4	780.5	1,393.9	3.43	-1.83	2.90
5,933.0	87.30	177.10	4,759.9	-1,366.3	782.7	1,484.7	3.51	-1.30	-3.26
6,025.0	87.50	175.70	4,764.0	-1,458.0	788.5	1,576.0	1.54	0.22	-1.52
6,117.0	87.80	175.80	4,767.8	-1,549.7	795.3	1,667.4	0.34	0.33	0.11
6,209.0	89.20	175.30	4,770.2	-1,641.4	802.4	1,758.9	1.62	1.52	-0.54
6,301.0	88.80	176.40	4,771.8	-1,733.1	809.1	1,850.3	1.27	-0.43	1.20
6,393.0	89.10	177.40	4,773.5	-1,825.0	814.1	1,941.6	1.13	0.33	1.09
6,484.0	89.30	175.90	4,774.8	-1,915.8	819.4	2,031.9	1.66	0.22	-1.65
6,576.0	88.70	175.90	4,776.4	-2,007.6	825.9	2,123.3	0.65	-0.65	0.00
6,668.0	85.10	180.20	4,781.3	-2,099.3	829.1	2,214.2	6.09	-3.91	4.67
6,760.0	86.30	181.50	4,788.2	-2,191.1	827.7	2,304.2	1.92	1.30	1.41
6,834.0	86.00	180.90	4,793.2	-2,264.9	826.2	2,376.5	0.90	-0.41	-0.81
6,940.0	87.30	180.90	4,799.4	-2,370.7	824.5	2,480.3	1.23	1.23	0.00
7,032.0	88.00	179.60	4,803.2	-2,462.6	824.1	2,570.6	1.60	0.76	-1.41

ARCHER
Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Project: Harper County (KS27S)	Site: Sec 08-T36S-R08W	Well: Frey 3508 1-8H/Job #04963-431-22/HWD 8	Wellbore: Wellbore #1	Design: Wellbore #1
Local Co-ordinate Reference: Well Frey 3508 1-8H/Job #04963-431-22/HWD 8	TVD Reference: WELL @ 1255.0usft (Original Well Elev)	MD Reference: WELL @ 1255.0usft (Original Well Elev)	North Reference: Grid	Survey Calculation Method: Minimum Curvature	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)
7,124.0	88.50	179.50	179.50	4,806.0	-2,554.5	824.8	2,661.2	0.55	0.54
7,216.0	92.90	180.90	180.90	4,804.9	-2,646.5	824.5	2,751.6	5.02	4.78
7,308.0	91.80	180.80	180.80	4,801.1	-2,738.4	823.1	2,841.8	1.20	-1.20
7,400.0	90.60	179.90	179.90	4,799.2	-2,830.4	822.6	2,932.2	1.63	-1.30
7,491.0	93.20	179.70	179.70	4,796.2	-2,921.3	822.9	3,021.7	2.87	2.86
7,583.0	93.80	180.20	180.20	4,790.5	-3,013.2	823.0	3,112.0	0.85	0.65
7,675.0	92.10	180.20	180.20	4,785.8	-3,105.0	822.7	3,202.4	1.85	-1.85
7,767.0	91.90	179.50	179.50	4,783.1	-3,197.0	822.9	3,292.9	1.16	-0.87
7,859.0	89.80	179.10	179.10	4,782.2	-3,289.0	824.0	3,383.5	1.69	-1.63
7,951.0	89.30	178.50	178.50	4,782.9	-3,381.0	825.9	3,474.4	0.85	-0.54
8,043.0	88.30	178.70	178.70	4,784.8	-3,472.9	828.2	3,565.2	1.11	-1.09
8,134.0	88.20	179.70	179.70	4,787.6	-3,563.9	829.5	3,654.9	1.10	-1.11
8,226.0	87.90	178.80	178.80	4,790.7	-3,655.8	830.7	3,745.6	1.03	-0.33
8,318.0	88.20	179.20	179.20	4,793.9	-3,747.7	832.3	3,836.3	0.54	0.33
8,410.0	88.00	178.80	178.80	4,796.9	-3,839.7	833.9	3,927.0	0.49	-0.22
8,502.0	87.70	178.10	178.10	4,800.4	-3,931.6	836.4	4,017.9	0.83	-0.33
8,594.0	88.70	178.70	178.70	4,803.3	-4,023.5	838.9	4,108.8	1.27	1.09
8,686.0	90.80	179.50	179.50	4,803.7	-4,115.5	840.4	4,199.5	2.44	2.28
8,761.0	89.30	179.40	179.40	4,803.6	-4,190.5	841.1	4,273.4	2.00	-2.00
8,853.0	90.00	179.30	179.30	4,804.2	-4,282.5	842.1	4,364.1	0.77	0.76
8,945.0	91.00	179.50	179.50	4,803.4	-4,374.4	843.1	4,454.7	1.11	1.09
9,037.0	91.80	179.10	179.10	4,801.1	-4,466.4	844.2	4,545.4	0.97	0.87
9,129.0	92.30	178.50	178.50	4,797.8	-4,558.3	846.2	4,636.2	0.85	0.54
9,221.0	93.50	177.90	177.90	4,793.2	-4,650.2	849.0	4,727.0	1.46	1.30
9,264.0	93.90	177.60	177.60	4,790.4	-4,693.0	850.7	4,769.5	1.16	0.93
9,315.0	93.90	177.60	177.60	4,786.9	-4,743.9	852.9	4,819.9	0.00	0.00
9,315.0	93.15.0	177.60	177.60	4,786.9	-4,743.9	852.9	4,819.9	0.00	0.00
9,264.0	93.15.0	177.60	177.60	4,790.4	-4,693.0	850.7	4,769.5	1.16	0.93
810.0	810.0	500.0	500.0	-1.7	-0.8	2.3	First Archer MWD Survey		
500.0	500.0	500.0	500.0	-0.8	-0.8	1.0	Last Single Shot Survey		
267.0	267.0	267.0	267.0	-0.3	-0.3	0.4	First Single Shot Survey		

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Local Coordinates	Comment				
9,315.0	93.15.0	177.60	177.60	4,786.9	-4,743.9	852.9	4,819.9	0.00	0.00
9,264.0	93.15.0	177.60	177.60	4,790.4	-4,693.0	850.7	4,769.5	1.16	0.93
810.0	810.0	500.0	500.0	-1.7	-0.8	2.3	First Archer MWD Survey		
500.0	500.0	500.0	500.0	-0.8	-0.8	1.0	Last Single Shot Survey		
267.0	267.0	267.0	267.0	-0.3	-0.3	0.4	First Single Shot Survey		

Checked By: _____ Approved By: _____ Date: _____

Design Annotations

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/29/2014
Job End Date:	10/30/2014
State:	Kansas
County:	Harper
API Number:	15-077-22089-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Frey 3508 1-8H
Longitude:	-98.20735520
Latitude:	37.02093523
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,770
Total Base Water Volume (gal):	2,378,670
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	95.90191	None
Sand (Proppant)	Archer	Proppant					
			Silica Substrate	NA	100.00000	3.52175	None
Hydrochloric Acid (15%)	Archer	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.07577	None
			Methyl Alcohol	67-56-1	80.00000	0.00062	None
			thiourea-formaldehyde copolymer	68527-49-1	15.00000	0.00012	None
			NONYL PHENOL, 4 MOL	104-40-5	10.00000	0.00002	None
Chemflush	Archer	Enviro-Friendly Chemical Flush					
			Hydrotreated Petroleum Distillate	64742-47-8	99.00000	0.00316	None
			Alcohol Ethoxylate Surfactants	NA	10.00000	0.00032	None
AIC	Archer	Liquid Acid Iron Control					
			Acetic Acid	64-19-7	50.00000	0.00136	None
			Citric Acid	77-92-9	30.00000	0.00081	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		0.03282
		Anionic Polymer	N/A		0.01641
		Aliphatic Hydrocarbon	64742-47-8		0.01641
		Water	7732-18-5		0.00865
		Polyol Ester	N/A		0.00273
		Oxyalkylated Alcohol	68002-97-1		0.00273
		Sodium Salt of Phosphate Ester	68131-72-6		0.00144
		Acrylic Polymer	28205-96-1		0.00144
		Water	7732-18-5		0.00095
		Polyglycol Ester	N/A		0.00055
		WATER	7732-18-5		0.00014
		Alcohol Ethoxylate Surfactants	N/A		0.00012
		TRADE SECRET	N/A		0.00009
		n-olefins	N/A		0.00006
		Tetrasodium Ethylenediaminetetraacetate	64-02-8		0.00005
		Propargyl Alcohol	107-19-7		0.00005
		METHANOL	67-56-1		0.00002
		ISOPROPANOL	67-63-0		0.00002
		Acetic Acid	64-19-7		
		Water	7732-18-5		
		Surfactant	N/A		
		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)