Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1099779

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34192
Name: SandRidge Exploration and Production LLC
Address 1: 123 ROBERT S. KERR AVE
Address 2:
City: OKLAHOMA CITY State: OK Zip: 73102 + 6406
Contact Person: Tiffany Golay
Phone: (405) 429-6543
CONTRACTOR: License # 34464
Name: Lariat Services, Inc.
Wellsite Geologist: Jarret Borell
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 #:

9/28/2012 — Spud Date or Recompletion Date
11/1/2012 — Date Reached TD
11/4/2012 — Completion Date or Recompletion Date

API No. 15 - 15-057-20845-01-00
Spot Description:
E2 - NE - NW - SW Sec. 36 Twp. 26 S. R. 22 ☐ East ☑ West
2310 Feet from ☐ North / ☑ South Line of Section
1160 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Ford
Lease Name: Mary Ann 2622 Well #: 1-36H
Field Name:
Producing Formation: Mississippian
Elevation: Ground: 2336 Kelly Bushing: 2356
Total Vertical Depth: 9999 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1183 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: 30000 ppm Fluid volume: 4680 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: LoJo Disposal
Lease Name: Unnamed License #: 99999
Quarter SW Sec. 10 Twp. 26 S. R. 15 ☐ East ☑ West
County: Woods, OK Permit #: 563714

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: 01/21/2013
☑ **Confidential Release Date:** 01/21/2015
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ I ☐ II ☐ III **Approved by:** NAOMI JAMES **Date:** 01/22/2013

1099779

Operator Name: SandRidge Exploration and Production LLC Lease Name: Mary Ann 2622 Well #: 1-36H

Sec. 36 Twp. 26 S. R. 22 ☐ East ☑ West County: Ford

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

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

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

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

CML Well Shuttle Compact Array Induction Log
CML Well Shuttle Compensated Photo-Density Compensated Neutron Log

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

Name	Top	Datum
Heebner	4109	
Lansing	4226	
Marmaton	4744	
Cherokee	4922	
Mississippian Unc.	5110	

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

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Attached	Attached	Attached	Attached	Attached	Attached	Attached	Attached

ADDITIONAL CEMENTING / SQUEEZE RECORD

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

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

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

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

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

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

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

PRODUCTION INTERVAL:
_____
_____

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Mary Ann 2622 1-36H
Doc ID	1099779

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
5	10880-11254	1849 bbls water/gelled acid, 384 bbls acid, 23M lbs sd, 2230 TLTR	
5	10451-10793	1850 bbls water, 420 bbls acid/gelled acid, 23M lbs sd, 4697 TLTR	
5	10000-10379	1809 bbls water, 384 bbls acid/gelled acid, 22M lbs sd, 6882 TLTR	
5	9572-9940	1779 bbls water, 384 bbls acid/gelled acid, 23M lbs sd, 9224 TLTR	
5	9132-9480	1782 bbls water, 384 bbls acid/gelled acid, 23M lbs sd, 11563 TLTR	
5	8701-9057	1755 bbls water, 384 bbls acid/gelled acid, 23M lbs sd, 13841 TLTR	
5	8244-8594	1497 bbls water, 884 bbls acid/gelled acid, 23M lbs sd, 15859 TLTR	
5	7818-8158	1720 bbls water, 384 bbls acid/gelled acid, 23M lbs sd, 17960 TLTR	

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Mary Ann 2622 1-36H
Doc ID	1099779

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
5	7360-7706	did not put anything downhole for this stage	

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Mary Ann 2622 1-36H
Doc ID	1099779

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Conductor	30	20	75	130	Pro Oilfield Services Cement	14	none
Surface	12.25	9.63	36	1183	Halliburton Extendacem and Swiftcem Systems	405	3% Calcium Chloride, .25 lbm Poly-E-Flake
Intermediate	8.75	7	26	5343	Halliburton Econocem and Halcem Systems	300	.4% halad(R)-9, 2lbm Kol-Seal, 2% Bentonite
Liner	6.12	4.5	11.6	9999	Halliburton Econocem System	700	.4% Halad (R)-9, 2 lbm Kol-Seal, 2% Bentonite

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

November 05, 2012

Tiffany Golay
SandRidge Exploration and Production LLC
123 ROBERT S. KERR AVE
OKLAHOMA CITY, OK 73102-6406

Re: ACO1
API 15-057-20845-01-00
Mary Ann 2622 1-36H
SW/4 Sec.36-26S-22W
Ford County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Tiffany Golay

PRO OILFIELD SERVICES, LLC

P.O. BOX 3660
HOUMA, LA 70361-3660

Division : 0701
Delivery Ticket : 2833
Delivery Date : 9/30/2012

Ordered By:
Lease/Well : MARY ANN 2622 #1-36H
Rig Name/Number : LARIATE 41
AFE Number :
Site Contact :

Customer : SAN400

BILL TO : SANDRIDGE ENERGY
123 ROBERT S KERR AVENUE
OKLAHOMA CITY, OK 73102-6406
PHONE: (405) 753-6500 FAX: ()

Qty	Description	Min / Standby / Usage Charge	Add Day	Unit Price	Start Date / Stop Date	Extended Line Total
1	MARY ANN 2622 #1-36H	$27,875.00	$0.00	$27,875.00	9/30/2012	$27,875.00
130	DRILLED 30" CONDUCTOR HOLE	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
130	20" CONDUCTOR PIPE (.250 WALL)	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	6'X6' CELLAR TINHORN WITH PROTECTIVE RING	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	DRILL & INSTALL 6'X6' CELLAR TINHORN	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
75	DRILLED 20" MOUSE HOLE (PER FOOT)	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
75	16" CONDUCTOR PIPE (.250 WALL)	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	MOBILIZATION OF EQUIPMENT & ROAD PERMITTING FEE	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	WELDING SERVICES FOR PIPE & LIDS	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	PROVIDED EQUIPMENT & LABOR FOR DIRT REMOVAL	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	PROVIDED METAL LIDS (1 FOR CONDUCTOR & 2 FOR THE MOUSEHOLE PIPE)	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
14	CEMENT	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	PROVIDED EQUIPMENT & LABOR TO ASSIST IN PUMPING CONCRETE	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
1	8' HAY FEEDER	$0.00	$0.00	$0.00	9/30/2012 9/30/2012	
	Sub Total:	$27,875.00	$0.00			$27,875.00

AFE Number: DC 12452
Well Name: MARY ANN 2622 # 1-36H
Code: 850-010
Amount: 27,875.00
Co. Man: John Forward
Co. Man Sig.:
Notes:

John Forward
Print Name

Signature

10/1/2012 9:40:16 AM

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 305021	**Ship To #:** 2956349	**Quote #:**	**Sales Order #:** 9873769
Customer: SANDRIDGE ENERGY INC EBUSINESS		**Customer Rep:** Sloan, Allen	
Well Name: Mary Ann 2622	**Well #:** 1-36H		**API/UWI #:** 15-057-20845
Field:	**City (SAP):** FORD	**County/Parish:** Ford	**State:** Kansas
Legal Description: Section 36 Township 26S Range 22W			
Contractor: Lariat	**Rig/Platform Name/Num:** 41		
Job Purpose: Cement Surface Casing			
Well Type: Development Well	**Job Type:** Cement Surface Casing		
Sales Person: NGUYEN, VINH	**Srvc Supervisor:** RODRIGUEZ, EDGAR	**MBU ID Emp #:** 442125	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
JOURNAGEN, MICHAEL	13.5	524224	MENDOZA, VICTOR	13.5	442596	RODRIGUEZ, EDGAR Alejandro	13.5	442125
TORRES, CLEMENTE	13.5	344233						

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
10/8/2012	1	1	10/9/2012	12.5	2			
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**			
Job depth MD	1187. ft	**Job Depth TVD**	1182. ft		
Water Depth		**Wk Ht Above Floor**	5. ft		
Perforation Depth (MD)	**From**		**To**		

Job Times

	Date	Time	Time Zone
Called Out	08 - Oct - 2012	16:00	CST
On Location	08 - Oct - 2012	20:00	CST
Job Started	09 - Oct - 2012	10:13	CST
Job Completed	09 - Oct - 2012	11:10	CST
Departed Loc	09 - Oct - 2012	12:40	CST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
12.25" Open Hole				12.25				.	940.		
12.25" Open Hole- Lower				12.25				940.	1101.		
9.625" Surface Casing	Unknown		9.625	8.921	36.	LTC	J-55	.	1100.		

Sales/Rental/3rd Party (HES)

Description	Qty	Qty uom	Depth	Supplier
SUGAR - GRANULATED	100	LB		
PLUG,CMTG,TOP,9 5/8,HWE,8.16 MIN/9.06 MA	1	EA		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug	9 5/8	1	HES
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container	9 5/8	1	HES
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	

Fluid Data

HALLIBURTON

Cementing Job Summary

Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Fresh Water		10.00	bbl	8.33	.0	.0	.0	
2	Lead Cement	EXTENDACEM (TM) SYSTEM (452981)	280.0	sacks	12.4	2.12	11.68		11.68
3 %		CALCIUM CHLORIDE, PELLET, 50 LB (101509387)							
0.25 lbm		POLY-E-FLAKE (101216940)							
11.676 Gal		FRESH WATER							
3	Tail Cement	SWIFTCEM (TM) SYSTEM (452990)	125.0	sacks	15.6	1.2	5.32		5.32
2 %		CALCIUM CHLORIDE, PELLET, 50 LB (101509387)							
0.125 lbm		POLY-E-FLAKE (101216940)							
5.319 Gal		FRESH WATER							
4	Displacement (TBC)		88.00	bbl	8.33	.0	.0	.0	

Calculated Values		Pressures		Volumes					
Displacement	88	Shut In: Instant		Lost Returns		Cement Slurry	133	Pad	
Top Of Cement	SURFACE	5 Min		Cement Returns	28	Actual Displacement	88	Treatment	
Frac Gradient		15 Min		Spacers	10	Load and Breakdown		Total Job	231

Rates							
Circulating	5	Mixing	5	Displacement	5	Avg. Job	5

Cement Left In Pipe	Amount	46.01 ft	Reason	Shoe Joint

Frac Ring # 1 @		ID		Frac ring # 2 @		ID		Frac Ring # 3 @		ID		Frac Ring # 4 @		ID	

The Information Stated Herein Is Correct	Customer Representative Signature

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 305021	**Ship To #:** 2956349	**Quote #:**	**Sales Order #:** 9884982
Customer: SANDRIDGE ENERGY INC EBUSINESS		**Customer Rep:** Sloan, Allen	
Well Name: Mary Ann 2622	**Well #:** 1-36H		**API/UWI #:** 15-057-20845
Field:	**City (SAP):** FORD	**County/Parish:** Ford	**State:** Kansas
Legal Description: Section 36 Township 26S Range 22W			
Contractor: Lariat	**Rig/Platform Name/Num:** 41		
Job Purpose: Cement Intermediate Casing			
Well Type: Development Well	**Job Type:** Cement Intermediate Casing		
Sales Person: NGUYEN, VINH	**Srvc Supervisor:** DURAN, EDUR	**MBU ID Emp #:** 445769	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
DUCSAK, JAMES Joseph	0.0	518883	DURAN, EDUR	0.0	445769	JOHNSON, MATTHEW Warren	0.0	525955

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10240245	85 mile	10872308	85 mile	11256865	85 mile	11288858	85 mile
11748315	85 mile						

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
10/19/2012	5	2	10/20/2012	4	4			
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**		**Bottom**
Form Type		**BHST**	
Job depth MD	5349. ft	**Job Depth TVD**	5349. ft
Water Depth		**Wk Ht Above Floor**	3. ft
Perforation Depth (MD)	**From**		**To**

Job Times

	Date	Time	Time Zone
Called Out	19 - Oct - 2012	11:30	CST
On Location	19 - Oct - 2012	19:00	CST
Job Started	20 - Oct - 2012	00:50	CST
Job Completed	20 - Oct - 2012	02:15	CST
Departed Loc	19 - Oct - 2012	04:30	CST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
8.75" Open Hole				8.75				1150.	5355.		
7" Intermediate Casing	Unknown		7.	6.276	26.	LTC	P-110	.	5355.		
9.625" Surface Casing	Unknown		9.625	8.921	36.	LTC	J-55	.	1150.		

Sales/Rental/3rd Party (HES)

Description	Qty	Qty uom	Depth	Supplier
PLUG,CMTG,TOP,7,HWE,5.66 MIN/6.54 MAX CS	1	EA		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	

Fluid Data

Stage/Plug #: 1

HALLIBURTON

Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Rig Supplied Gel Spacer		30.00	bbl	8.33	.0	.0	.0	
2	Lead Cement	ECONOCEM (TM) SYSTEM (452992)	200.0	sacks	13.6	1.54	7.36		7.36
	0.4 %	HALAD(R)-9, 50 LB (100001617)							
	2 lbm	KOL-SEAL, 50 LB BAG (100064232)							
	2 %	BENTONITE, BULK (100003682)							
	7.356 Gal	FRESH WATER							
3	Tail Cement	HALCEM (TM) SYSTEM (452986)	100.0	sacks	15.6	1.18	5.2		5.2
	0.4 %	HALAD(R)-9, 50 LB (100001617)							
	5.197 Gal	FRESH WATER							
4	Displacement		203.00	bbl	8.33	.0	.0	.0	

Calculated Values		Pressures		Volumes					
Displacement	201	Shut In: Instant		Lost Returns	0	Cement Slurry	76	Pad	
Top Of Cement	2511	5 Min		Cement Returns	0	Actual Displacement	201	Treatment	
Frac Gradient		15 Min		Spacers	30	Load and Breakdown		Total Job	

Rates

Circulating		Mixing	4	Displacement	4	Avg. Job	4

Cement Left In Pipe	Amount	91	Reason	Shoe Joint

Frac Ring # 1 @		ID		Frac ring # 2 @		ID		Frac Ring # 3 @		ID		Frac Ring # 4 @		ID	

The Information Stated Herein Is Correct	Customer Representative Signature

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 305021	**Ship To #:** 2956349	**Quote #:**	**Sales Order #:** 9920893
Customer: SANDRIDGE ENERGY INC EBUSINESS		**Customer Rep:** Solis, Lu	
Well Name: Mary Ann 2622	**Well #:** 1-36H		**API/UWI #:** 15-057-20845
Field:	**City (SAP):** FORD	**County/Parish:** Ford	**State:** Kansas
Legal Description: Section 36 Township 26S Range 22W			
Contractor: Lariat	**Rig/Platform Name/Num:** 41		
Job Purpose: Cement Production Liner			
Well Type: Development Well	**Job Type:** Cement Production Liner		
Sales Person: NGUYEN, VINH	**Srvc Supervisor:** RODRIGUEZ, EDGAR	**MBU ID Emp #:** 442125	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HEIDT, JAMES Nicholas	8	517102	JOURNAGAN, MICHAEL	8	524224	RAMIREZ, JORGE	8	498481
RODRIGUEZ, EDGAR Alejandro	8	442125						

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
11/2/2012	1	1	11/3/2012	7	3			
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**			
Job depth MD	11769. ft	**Job Depth TVD**	4930. ft		
Water Depth		**Wk Ht Above Floor**	23. ft		
Perforation Depth (MD)	**From**		**To**		

Job Times

	Date	Time	Time Zone
Called Out	02 - Nov - 2012	15:00	CST
On Location	02 - Nov - 2012	20:00	CST
Job Started	03 - Nov - 2012	04:04	CST
Job Completed	03 - Nov - 2012	05:54	CST
Departed Loc	03 - Nov - 2012	07:20	CST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
6.125" Open Hole				6.125				5355.	11817.		
4.5" Production Liner	Unknown		4.5	4.	11.6	LTC	P-110	4955.	11817.		
7" Intermediate Casing	Unknown		7.	6.276	26.	LTC	P-110	.	5355.		
4" Drill Pipe	Unknown		4.	3.34	14.	Unknown		.	4955.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	

Fluid Data

Stage/Plug #: 1

HALLIBURTON

Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Rig Supplied Gel Spacer		30.00	bbl	8.3	.0	.0	.0	
2	Primary Cement	ECONOCEM (TM) SYSTEM (452992)	700.0	sacks	13.6	1.53	7.24		7.24
	0.4 %	HALAD(R)-9, 50 LB (100001617)							
	2 lbm	KOL-SEAL, BULK (100064233)							
	2 %	BENTONITE, BULK (100003682)							
	7.24 Gal	FRESH WATER							
3	Displacement (TBC)		146.00	bbl	8.33	.0	.0	.0	

Calculated Values		Pressures		Volumes					
Displacement	146	Shut In: Instant		Lost Returns		Cement Slurry	191	Pad	
Top Of Cement	2968	5 Min		Cement Returns		Actual Displacement	146	Treatment	
Frac Gradient		15 Min		Spacers	30	Load and Breakdown		Total Job	367

Rates

Circulating		Mixing		Displacement		Avg. Job	

Cement Left In Pipe	Amount	88.13 ft	Reason	Shoe Joint

Frac Ring # 1 @		ID		Frac ring # 2 @		ID		Frac Ring # 3 @		ID		Frac Ring # 4 @		ID	

The Information Stated Herein Is Correct	Customer Representative Signature

DIRECTIONAL SURVEY CALCULATION

MINIMUM CURVATURE METHOD

Well Name	Target Direction	Slot	N / S	E / W	Hole Size	Calculation by	Date
Mary Ann 2622 1-	182.55	Coordinate					1/7/13
Job Number	Type of Survey	Tie-in Point				Directional Co.	
0							

Meaured Depth	Hole Angle	Hole Direction	Course Length	True Vertical Depth	Vertical Section	Total Coordinate N + / S -	Total Coordinate E + / W -	Dogleg Severity	Build Up °/100 ft	Walk/ °/100 ft
0	0	0	0	0.00	0.00			<< TIE-IN POINT >>		
0	0	0		0.00	0.00	0.00	0.00			
253	0	267	253	253.00	0.04	-0.02	-0.44	0.08	0.08	105.45
557	1	267	304	556.98	0.36	-0.20	-3.62	0.26	0.26	0.00
735	1	267	178	734.96	0.66	-0.37	-6.57	0.06	-0.06	0.00
1229	0	201	494	1,228.93	2.28	-1.79	-10.90	0.17	-0.12	-13.36
1594	0	220	365	1,593.93	3.94	-3.42	-11.85	0.03	0.00	5.29
2042	0	226	448	2,041.92	6.00	-5.40	-13.74	0.02	0.02	1.36
2587	1	280	545	2,586.89	6.96	-6.15	-18.39	0.10	0.06	9.83
3044	1	281	457	3,043.86	6.16	-5.09	-24.28	0.02	0.02	0.15
3409	1	356	365	3,408.84	4.23	-3.04	-26.89	0.23	-0.08	20.77
3470	0	25	61	3,469.84	3.77	-2.58	-26.81	0.40	-0.16	-542.62
3501	0	31	31	3,500.83	3.57	-2.39	-26.71	0.13	0.00	18.71
3531	0	44	30	3,530.83	3.40	-2.22	-26.58	0.31	0.00	44.00
3562	0	88	31	3,561.83	3.32	-2.14	-26.45	0.94	-0.65	141.94
3592	1	171	30	3,591.83	3.49	-2.32	-26.37	2.34	1.67	275.67
3623	2	217	31	3,622.82	4.21	-3.03	-26.74	6.40	5.48	149.68
3653	4	229	30	3,652.78	5.42	-4.18	-27.87	5.06	4.67	37.33
3684	4	231	31	3,683.70	6.85	-5.55	-29.47	0.81	0.65	7.10
3714	4	233	30	3,713.63	8.25	-6.88	-31.16	0.78	0.67	5.67
3744	4	233	30	3,743.55	9.65	-8.19	-32.88	0.35	-0.33	1.33
3775	5	220	31	3,774.46	11.33	-9.81	-34.57	3.45	1.61	-40.32
3805	5	214	30	3,804.35	13.43	-11.83	-36.09	2.54	1.67	-22.67
3836	5	210	31	3,835.23	15.87	-14.22	-37.58	1.16	0.65	-10.65
3866	6	213	30	3,865.09	18.33	-16.61	-39.07	1.18	0.67	10.33
3957	5	214	91	3,955.69	25.66	-23.74	-43.82	0.23	-0.22	0.66
3988	5	213	31	3,986.56	28.07	-26.08	-45.38	0.67	-0.65	-1.94
4018	5	213	30	4,016.44	30.37	-28.31	-46.83	0.27	0.00	-3.00
4049	6	212	31	4,047.29	33.07	-30.94	-48.48	4.20	4.19	-1.61
4079	9	213	30	4,077.02	36.48	-34.26	-50.60	7.68	7.67	3.00
4110	10	210	31	4,107.60	40.95	-38.62	-53.28	5.33	5.16	-8.06
4140	12	206	30	4,137.04	46.14	-43.69	-55.99	5.67	5.00	-14.00
4171	13	204	31	4,167.31	52.31	-49.75	-58.81	4.49	4.19	-7.42
4201	14	201	30	4,196.46	58.97	-56.29	-61.51	4.32	3.67	-9.67
4232	15	200	31	4,226.44	66.47	-63.67	-64.30	3.58	3.55	-1.94
4262	17	199	30	4,255.26	74.43	-71.52	-67.06	5.61	5.33	-6.33
4292	19	196	30	4,283.82	83.32	-80.29	-69.80	6.72	6.33	-7.33
4323	21	196	31	4,313.01	93.45	-90.31	-72.70	5.49	5.48	-0.97
4353	22	196	30	4,340.93	104.12	-100.86	-75.70	6.34	6.33	-0.67
4384	24	197	31	4,369.38	116.08	-112.67	-79.17	6.60	6.45	3.55
4414	26	197	30	4,396.52	128.48	-124.91	-82.89	5.67	5.67	0.00
4445	27	197	31	4,424.20	142.00	-138.27	-86.93	4.20	4.19	-0.65
4475	29	196	30	4,450.61	155.82	-151.93	-90.89	6.20	6.00	-3.33
4506	31	197	31	4,477.50	170.82	-166.75	-95.17	4.39	4.19	2.58
4536	32	196	30	4,503.09	186.03	-181.79	-99.52	6.45	6.33	-2.33
4567	35	196	31	4,528.92	202.69	-198.25	-104.26	7.47	7.42	1.61
4597	37	195	30	4,553.19	219.85	-215.21	-109.07	8.84	8.67	-3.00
4628	40	196	31	4,577.37	238.76	-233.91	-114.26	9.36	9.35	0.65
4658	43	196	30	4,599.75	258.20	-253.13	-119.70	10.37	10.33	1.33
4688	46	196	30	4,621.09	278.69	-273.38	-125.55	9.01	9.00	0.67
4719	48	197	31	4,642.15	300.74	-295.16	-132.10	8.17	7.74	3.55
4749	49	199	30	4,661.93	322.46	-316.59	-139.13	4.86	2.33	5.67
4780	49	199	31	4,682.23	344.96	-338.77	-146.68	0.98	0.00	-1.29
4810	49	199	30	4,701.85	366.74	-360.25	-154.00	1.06	0.33	1.33
4841	49	198	31	4,722.06	389.33	-382.53	-161.49	2.06	0.65	-2.58
4871	49	198	30	4,741.59	411.26	-404.16	-168.62	0.25	0.00	0.33
4902	50	199	31	4,761.68	433.97	-426.56	-176.08	1.38	1.29	0.65
4932	50	199	30	4,781.08	455.97	-448.26	-183.34	0.67	-0.67	0.00
4963	51	198	31	4,800.82	478.98	-470.96	-190.82	5.62	5.48	-1.61
4993	55	196	30	4,818.89	502.15	-493.84	-197.85	12.00	11.00	-6.00
5024	58	194	31	4,836.12	527.28	-518.70	-204.64	11.69	10.65	-5.81
5054	60	193	30	4,851.50	552.56	-543.73	-210.67	9.65	8.33	-5.67
5085	64	191	31	4,866.07	579.55	-570.50	-216.33	10.87	10.00	-4.84
5115	66	189	30	4,878.78	606.50	-597.27	-221.00	12.45	9.67	-8.67
5146	69	187	31	4,890.49	635.07	-625.69	-224.99	9.72	9.03	-3.87
5175	72	185	29	4,900.03	662.39	-652.90	-228.03	12.81	11.03	-6.90
5205	76	183	30	4,908.32	691.20	-681.64	-230.24	12.16	10.33	-6.67
5236	79	183	31	4,915.19	721.43	-711.82	-231.82	11.25	10.97	-2.58
5266	82	182	30	4,920.06	751.02	-741.40	-232.96	11.96	11.67	-2.67
5296	86	182	30	4,923.22	780.85	-771.21	-233.87	10.34	10.33	-0.33
5308	87	182	12	4,924.02	792.82	-783.18	-234.23	11.70	11.67	0.83
5386	90	181	78	4,925.86	870.77	-861.12	-236.21	4.58	4.49	-0.90
5418	91	181	32	4,925.44	902.76	-893.11	-236.77	2.28	2.19	-0.62
5449	91	181	31	4,924.76	933.73	-924.10	-237.20	1.16	0.97	-0.65
5481	92	181	32	4,923.75	965.70	-956.08	-237.53	2.58	2.50	-0.62
5512	93	180	31	4,922.43	996.65	-987.05	-237.78	1.64	1.61	-0.32
5544	93	180	32	4,920.81	1,028.59	-1,019.01	-238.00	1.25	1.25	0.00
5575	92	180	31	4,919.32	1,059.53	-1,049.98	-238.22	2.26	-2.26	0.00
5607	93	181	32	4,917.93	1,091.48	-1,081.94	-238.49	0.88	0.62	0.62
5638	93	181	31	4,916.36	1,122.42	-1,112.90	-238.82	1.94	1.94	0.00
5670	94	180	32	4,914.49	1,154.34	-1,144.85	-239.04	1.56	0.94	-1.25
5701	93	180	31	4,912.79	1,185.27	-1,175.80	-239.12	2.28	-2.26	-0.32
5733	93	180	32	4,911.19	1,217.20	-1,207.76	-239.09	0.99	0.31	-0.94
5764	92	180	31	4,909.98	1,248.14	-1,238.74	-239.09	4.39	-4.19	1.29
5796	91	179	32	4,909.39	1,280.09	-1,270.73	-238.84	5.32	-3.44	-4.06
5827	91	179	31	4,909.12	1,311.03	-1,301.72	-238.33	0.97	0.00	0.97
5859	90	179	32	4,909.12	1,342.98	-1,333.72	-237.94	3.19	-3.13	0.63
5890	90	180	31	4,909.39	1,373.94	-1,364.72	-237.72	1.29	0.00	1.29
5922	90	180	32	4,909.61	1,405.90	-1,396.72	-237.61	0.62	0.63	0.00
5953	90	180	31	4,909.67	1,436.86	-1,427.72	-237.42	1.61	1.29	-0.97
5985	90	179	32	4,909.78	1,468.81	-1,459.71	-237.03	2.25	-1.87	-1.25
6016	89	180	31	4,910.19	1,499.76	-1,490.71	-236.68	2.28	-1.61	1.61
6048	89	179	32	4,910.77	1,531.71	-1,522.70	-236.40	0.70	-0.31	-0.62
6079	89	180	31	4,911.34	1,562.66	-1,553.70	-236.16	1.02	0.32	0.97
6111	89	181	32	4,911.90	1,594.63	-1,585.69	-236.21	2.50	0.00	2.50
6142	89	180	31	4,912.52	1,625.60	-1,616.68	-236.43	1.16	-0.97	-0.65
6174	89	180	32	4,913.16	1,657.56	-1,648.68	-236.51	1.33	0.94	-0.94
6205	91	180	31	4,913.30	1,688.54	-1,679.68	-236.62	5.01	4.84	1.29
6237	91	181	32	4,912.91	1,720.51	-1,711.67	-236.93	1.56	1.25	0.94
6268	92	180	31	4,912.26	1,751.49	-1,742.66	-237.22	2.16	1.94	-0.97
6300	91	180	32	4,911.48	1,783.45	-1,774.65	-237.28	1.98	-0.63	-1.87
6331	91	181	31	4,910.88	1,814.42	-1,805.65	-237.47	3.78	-1.29	3.55
6363	90	182	32	4,910.52	1,846.41	-1,837.63	-238.28	3.78	-1.56	3.44
6394	91	183	31	4,910.19	1,877.41	-1,868.61	-239.50	2.07	1.29	1.61
6426	91	183	32	4,909.75	1,909.41	-1,900.57	-240.92	0.31	0.00	0.31
6457	91	183	31	4,909.18	1,940.40	-1,931.54	-242.30	1.64	1.61	-0.32
6489	92	182	32	4,908.37	1,972.39	-1,963.50	-243.50	2.38	0.94	-2.19
6520	92	182	31	4,907.50	2,003.37	-1,994.48	-244.50	0.32	0.00	0.32
6552	92	182	32	4,906.58	2,035.36	-2,026.45	-245.56	0.31	0.31	0.00
6583	92	182	31	4,905.53	2,066.34	-2,057.41	-246.56	1.64	1.61	-0.32
6615	92	182	32	4,904.44	2,098.32	-2,089.37	-247.70	2.21	-1.56	1.56
6646	91	183	31	4,903.76	2,129.31	-2,120.33	-249.06	3.18	-2.90	1.29
6677	90	183	31	4,903.68	2,160.31	-2,151.30	-250.57	4.24	-4.19	0.65
6709	90	183	32	4,903.96	2,192.31	-2,183.25	-252.27	0.94	0.00	0.94
6740	90	183	31	4,904.12	2,223.31	-2,214.20	-254.00	1.29	1.29	0.00
6772	91	183	32	4,904.01	2,255.30	-2,246.15	-255.82	1.90	1.87	0.31
6803	89	183	31	4,904.09	2,286.30	-2,277.11	-257.44	4.62	-4.19	-1.94
6835	89	183	32	4,904.57	2,318.30	-2,309.07	-258.92	0.44	-0.31	-0.31
6866	89	183	31	4,905.00	2,349.29	-2,340.03	-260.30	0.72	0.65	-0.32
6898	90	183	32	4,905.28	2,381.29	-2,372.00	-261.75	1.40	1.25	0.62

Directional Survey Calculation
Minimum Curvature Method - version 2.0

For Microsoft Excel Version 3.0 for Macintosh
and Microsoft Excel Version 3.0 for Windows (IBM)

4.00 Direction	Interval's	Ratio	D	D	D	Closure	Closure
2.00 Azimuth	Dog Leg	Factor	N / S	E / S	TVD	Distance	Direction
3.00 0.00						0.00	#DIV/0!
0.30 0.00	0.00	1.00	######	######	######	0.00	0.00
266.80	0.20	1.00	-0.02	-0.44	253.00	0.44	-93.20
266.80	0.80	1.00	-0.18	-3.18	303.98	3.62	-93.20
266.80	0.10	1.00	-0.16	-2.95	177.98	6.58	-93.20
200.80	0.82	1.00	-1.43	-4.33	493.97	11.05	-99.34
220.10	0.10	1.00	-1.62	-0.95	365.00	12.34	-106.08
226.20	0.11	1.00	-1.98	-1.88	447.99	14.76	-111.45
279.80	0.56	1.00	-0.75	-4.65	544.98	19.39	-108.48
280.50	0.10	1.00	1.06	-5.89	456.96	24.81	-101.84
356.30	0.83	1.00	2.05	-2.61	364.98	27.06	-96.44
25.30	0.25	1.00	0.46	0.07	61.00	26.94	-95.49
31.10	0.04	1.00	0.19	0.10	31.00	26.82	-95.11
44.30	0.09	1.00	0.16	0.13	30.00	26.68	-94.78
88.30	0.29	1.00	0.08	0.13	31.00	26.54	-94.63
171.00	0.70	1.00	-0.18	0.08	30.00	26.48	-95.03
217.40	1.98	1.00	-0.70	-0.36	30.99	26.91	-96.46
228.60	1.52	1.00	-1.16	-1.13	29.96	28.18	-98.54
230.80	0.25	1.00	-1.36	-1.61	30.93	29.99	-100.66
232.50	0.23	1.00	-1.33	-1.68	29.92	31.91	-102.44
232.90	0.10	1.00	-1.32	-1.73	29.92	33.89	-103.99
220.40	1.07	1.00	-1.62	-1.69	30.91	35.94	-105.84
213.60	0.76	1.00	-2.03	-1.52	29.89	37.98	-108.15
210.30	0.36	1.00	-2.38	-1.48	30.87	40.18	-110.72
213.40	0.35	1.00	-2.40	-1.49	29.87	42.45	-113.04
214.00	0.21	1.00	-7.13	-4.75	90.60	49.83	-118.45
213.40	0.21	1.00	-2.34	-1.56	30.87	52.33	-119.88
212.50	0.08	1.00	-2.24	-1.45	29.88	54.72	-121.16
212.00	1.30	1.00	-2.63	-1.66	30.84	57.51	-122.55
212.90	2.30	1.00	-3.32	-2.12	29.74	61.11	-124.10
210.40	1.65	1.00	-4.36	-2.68	30.57	65.80	-125.94
206.20	1.70	1.00	-5.07	-2.71	29.44	71.02	-127.97
203.90	1.39	1.00	-6.06	-2.82	30.27	77.03	-130.23
201.00	1.30	1.00	-6.54	-2.70	29.15	83.38	-132.46
200.40	1.11	1.00	-7.38	-2.79	29.98	90.49	-134.72
198.50	1.68	1.00	-7.85	-2.76	28.82	98.04	-136.84
196.30	2.02	1.00	-8.78	-2.74	28.55	106.39	-139.00
196.00	1.70	1.00	-10.01	-2.90	29.19	115.93	-141.17
195.80	1.90	1.00	-10.55	-3.00	27.92	126.11	-143.11
196.90	2.05	1.00	-11.81	-3.47	28.45	137.71	-144.90
3.50 196.90	1.70	1.00	-12.24	-3.72	27.13	149.92	-146.43
1.25 196.70	1.30	1.00	-13.36	-4.03	27.68	163.32	-147.84
195.70	1.86	1.00	-13.66	-3.96	26.41	177.04	-149.11
196.50	1.36	1.00	-14.82	-4.28	26.89	192.00	-150.29
195.80	1.93	1.00	-15.03	-4.35	25.59	207.25	-151.30
196.30	2.32	1.00	-16.46	-4.74	25.83	223.99	-152.26
195.40	2.65	1.00	-16.96	-4.81	24.27	241.27	-153.12
195.60	2.90	1.00	-18.70	-5.19	24.17	260.32	-153.97
196.00	3.11	1.00	-19.22	-5.44	22.38	280.00	-154.69
196.20	2.70	1.00	-20.25	-5.85	21.34	300.83	-155.33
197.30	2.53	1.00	-21.78	-6.56	21.06	323.37	-155.89
199.00	1.46	1.00	-21.43	-7.03	19.78	345.81	-156.28
198.60	0.30	1.00	-22.18	-7.55	20.30	369.16	-156.59
199.00	0.32	1.00	-21.48	-7.31	19.62	391.79	-156.85
198.20	0.64	1.00	-22.27	-7.50	20.22	415.22	-157.11
198.30	0.08	1.00	-21.63	-7.13	19.52	437.92	-157.35
198.50	0.43	1.00	-22.40	-7.45	20.09	461.47	-157.57
198.50	0.20	1.00	-21.70	-7.26	19.40	484.30	-157.76
198.00	1.74	1.00	-22.70	-7.48	19.74	508.15	-157.94
196.20	3.60	1.00	-22.88	-7.03	18.07	532.00	-158.17
194.40	3.62	1.00	-24.86	-6.79	17.22	557.61	-158.47
192.70	2.89	1.00	-25.04	-6.03	15.38	583.12	-158.82
191.20	3.37	1.00	-26.76	-5.66	14.58	610.14	-159.23
188.60	3.74	1.00	-26.77	-4.66	12.70	636.84	-159.69
187.40	3.01	1.00	-28.42	-3.99	11.71	664.91	-160.22
185.40	3.72	1.00	-27.21	-3.05	9.54	691.57	-160.75
183.40	3.65	1.00	-28.74	-2.21	8.29	719.47	-161.34
182.60	3.49	1.00	-30.18	-1.58	6.87	748.62	-161.96
181.80	3.59	1.00	-29.57	-1.14	4.87	777.13	-162.56
181.70	3.10	1.00	-29.82	-0.91	3.16	805.89	-163.13
181.80	1.40	1.00	-11.97	-0.37	0.80	817.46	-163.35
181.10	3.57	1.00	-77.94	-1.97	1.84	892.93	-164.66
180.90	0.73	1.00	-31.99	-0.56	-0.42	923.96	-165.15
180.70	0.36	1.00	-30.99	-0.43	-0.68	954.06	-165.60
180.50	0.82	1.00	-31.98	-0.33	-1.01	985.15	-166.05
180.40	0.51	1.00	-30.97	-0.24	-1.33	1,015.29	-166.46
180.40	0.40	1.00	-31.96	-0.22	-1.62	1,046.44	-166.85
180.40	0.70	1.00	-30.96	-0.22	-1.49	1,076.66	-167.22
180.60	0.28	1.00	-31.97	-0.28	-1.40	1,107.92	-167.57
180.60	0.60	1.00	-30.96	-0.32	-1.57	1,138.24	-167.89
180.20	0.50	1.00	-31.94	-0.22	-1.87	1,169.54	-168.21
180.10	0.71	1.00	-30.95	-0.08	-1.70	1,199.87	-168.50
179.80	0.32	1.00	-31.96	0.03	-1.59	1,231.20	-168.80
180.20	1.36	1.00	-30.98	0.00	-1.22	1,261.60	-169.08
178.90	1.70	1.00	-31.99	0.25	-0.59	1,292.98	-169.36
179.20	0.30	1.00	-30.99	0.51	-0.27	1,323.36	-169.62
179.40	1.02	1.00	-32.00	0.39	0.00	1,354.78	-169.88
179.80	0.40	1.00	-31.00	0.22	0.27	1,385.27	-170.12
179.80	0.20	1.00	-32.00	0.11	0.22	1,416.78	-170.35
179.50	0.50	1.00	-31.00	0.19	0.05	1,447.32	-170.56
179.10	0.72	1.00	-32.00	0.39	0.11	1,478.83	-170.78
179.60	0.71	1.00	-31.00	0.35	0.41	1,509.38	-170.98
179.40	0.22	1.00	-31.99	0.28	0.59	1,540.94	-171.18
179.70	0.32	1.00	-30.99	0.24	0.57	1,571.54	-171.36
180.50	0.80	1.00	-31.99	-0.06	0.56	1,603.19	-171.53
180.30	0.36	1.00	-30.99	-0.22	0.62	1,633.88	-171.68
180.00	0.42	1.00	-31.99	-0.08	0.64	1,665.56	-171.84
180.40	1.55	1.00	-31.00	-0.11	0.14	1,696.26	-171.98
180.70	0.50	1.00	-32.00	-0.31	-0.39	1,727.99	-172.12
180.40	0.67	1.00	-30.99	-0.30	-0.65	1,758.74	-172.25
179.80	0.63	1.00	-31.99	-0.06	-0.78	1,790.45	-172.38
180.90	1.17	1.00	-30.99	-0.19	-0.60	1,821.20	-172.51
182.00	1.21	1.00	-31.99	-0.81	-0.36	1,853.02	-172.61
182.50	0.64	1.00	-30.97	-1.22	-0.32	1,883.89	-172.70
182.60	0.10	1.00	-31.97	-1.42	-0.45	1,915.78	-172.78
182.50	0.51	1.00	-30.96	-1.38	-0.57	1,946.68	-172.85
181.80	0.76	1.00	-31.97	-1.20	-0.81	1,978.55	-172.93
181.90	0.10	1.00	-30.97	-1.00	-0.87	2,009.41	-173.01
181.90	0.10	1.00	-31.97	-1.06	-0.92	2,041.27	-173.09
181.80	0.51	1.00	-30.97	-1.00	-1.05	2,072.13	-173.17
182.30	0.71	1.00	-31.96	-1.14	-1.09	2,104.00	-173.24
182.70	0.98	1.00	-30.96	-1.35	-0.68	2,134.91	-173.30
182.90	1.32	1.00	-30.96	-1.51	-0.08	2,165.84	-173.36
183.20	0.30	1.00	-31.95	-1.70	0.28	2,197.78	-173.41
183.20	0.40	1.00	-30.95	-1.73	0.16	2,228.72	-173.46
183.30	0.61	1.00	-31.95	-1.81	-0.11	2,260.67	-173.50
182.70	1.43	1.00	-30.96	-1.62	0.08	2,291.61	-173.55
182.60	0.14	1.00	-31.96	-1.48	0.47	2,323.54	-173.60
182.50	0.22	1.00	-30.97	-1.38	0.43	2,354.47	-173.65
182.70	0.45	1.00	-31.97	-1.45	0.28	2,386.40	-173.70

DIRECTIONAL SURVEY CALCULATION

MINIMUM CURVATURE METHOD

Well Name	Target Direction	Slot Coordinate	N / S	E / W	Hole Size	Calculation by	Date
Mary Ann 2622 1-1	182.55						1/7/13
Job Number	Type of Survey	Tie-in Point				Directional Co.	
0							

Directional Survey Calculation
Minimum Curvature Method - version 2.0

For Microsoft Excel Version 3.0 for Macintosh
and Microsoft Excel Version 3.0 for Windows (IBM)

Meaured Depth	Hole Angle	Hole Direction	Course Length	True Vertical Depth	Vertical Section	Total Coordinate N + / S -	Total Coordinate E + / W -	Dogleg Severity	Build Up °/100 ft	Walk/ °/100 ft
0	0	0	0	0.00	0.00			<< TIE-IN POINT >>		
6929	90	182	31	4,905.31	2,412.29	-2,402.98	-262.97	3.32	1.61	-2.90
6961	90	182	32	4,905.19	2,444.29	-2,434.96	-263.97	0.00	0.00	0.00
6992	88	180	31	4,905.57	2,475.27	-2,465.95	-264.57	7.36	-5.81	-4.52
7024	89	180	32	4,906.41	2,507.24	-2,497.94	-264.79	0.62	0.62	0.00
7055	89	180	31	4,907.11	2,538.21	-2,528.93	-265.01	0.65	0.65	0.00
7087	89	181	32	4,907.67	2,570.19	-2,560.92	-265.26	1.29	1.25	0.31
7118	90	180	31	4,908.02	2,601.16	-2,591.92	-265.50	1.02	0.97	-0.32
7150	90	181	32	4,908.30	2,633.14	-2,623.92	-265.89	1.87	0.00	1.87
7181	90	180	31	4,908.57	2,664.13	-2,654.91	-266.27	1.94	0.00	-1.94
7213	90	180	32	4,908.77	2,696.10	-2,686.91	-266.38	1.56	0.94	-1.25
7244	89	180	31	4,909.01	2,727.07	-2,717.91	-266.46	1.88	-1.61	0.97
7276	88	180	32	4,909.74	2,759.04	-2,749.90	-266.60	3.76	-3.75	-0.31
7307	88	180	31	4,910.77	2,789.99	-2,780.88	-266.71	0.00	0.00	0.00
7339	88	180	32	4,911.80	2,821.94	-2,812.87	-266.71	1.29	0.31	-1.25
7370	87	179	31	4,913.10	2,852.87	-2,843.84	-266.44	4.33	-3.87	-1.94
7370	87	179	0	4,913.10	2,852.87	-2,843.84	-266.44	#DIV/0!	#DIV/0!	#DIV/0!
7402	86	179	32	4,914.94	2,884.76	-2,875.78	-265.97	1.90	-1.87	-0.31
7433	88	180	31	4,916.56	2,915.67	-2,906.74	-265.64	4.33	3.87	1.94
7464	89	180	31	4,917.62	2,946.62	-2,937.72	-265.59	3.18	2.90	1.29
7496	90	181	32	4,918.01	2,978.60	-2,969.71	-265.84	5.46	5.00	2.19
7527	89	180	31	4,918.17	3,009.58	-3,000.71	-266.08	3.43	-2.58	-2.26
7559	89	180	32	4,918.73	3,041.54	-3,032.71	-266.14	1.87	-1.87	0.00
7590	89	180	31	4,919.38	3,072.50	-3,063.70	-266.14	0.91	0.65	-0.65
7622	90	180	32	4,919.74	3,104.47	-3,095.70	-266.20	3.08	2.81	1.25
7654	91	180	32	4,919.60	3,136.45	-3,127.70	-266.39	2.83	2.81	0.31
7685	91	181	31	4,919.09	3,167.42	-3,158.69	-266.69	1.88	1.61	0.97
7717	92	180	32	4,918.28	3,199.39	-3,190.68	-266.97	2.00	1.56	-1.25
7748	92	180	31	4,917.22	3,230.35	-3,221.66	-267.05	1.88	1.61	-0.97
7780	93	180	32	4,915.86	3,262.29	-3,253.63	-266.99	1.68	1.56	-0.62
7811	92	180	31	4,914.56	3,293.23	-3,284.60	-266.99	2.33	-1.94	1.29
7843	92	181	32	4,913.47	3,325.19	-3,316.58	-267.38	3.26	-0.94	3.13
7874	91	182	31	4,912.68	3,356.18	-3,347.56	-268.17	2.77	-2.26	1.61
7905	92	182	31	4,911.95	3,387.17	-3,378.54	-269.20	2.07	1.61	1.29
7968	90	183	63	4,910.85	3,450.15	-3,441.48	-271.72	2.01	-1.90	0.63
8000	91	192	32	4,910.57	3,482.01	-3,473.18	-275.79	30.01	0.62	30.00
8031	91	182	31	4,910.06	3,512.86	-3,503.90	-279.61	32.33	2.26	-32.26
8063	91	182	32	4,909.47	3,544.86	-3,535.87	-280.70	1.82	-1.56	-0.94
8094	90	182	31	4,909.26	3,575.85	-3,566.86	-281.67	2.58	-2.58	0.00
8126	90	182	32	4,909.20	3,607.85	-3,598.84	-282.62	0.88	0.63	-0.63
8157	91	182	31	4,908.96	3,638.84	-3,629.83	-283.46	1.64	1.61	-0.32
8189	91	181	32	4,908.40	3,670.83	-3,661.82	-284.19	2.25	1.87	-1.25
8220	92	181	31	4,907.64	3,701.81	-3,692.80	-284.76	0.72	0.65	-0.32
8252	91	181	32	4,906.86	3,733.79	-3,724.79	-285.40	1.13	-0.63	0.94
8283	91	182	31	4,906.29	3,764.78	-3,755.77	-286.16	1.74	-1.61	0.65
8315	89	182	32	4,906.24	3,796.78	-3,787.76	-287.13	4.65	-4.37	1.56
8346	89	182	31	4,906.56	3,827.77	-3,818.73	-288.24	0.32	0.00	0.32
8378	90	182	32	4,906.70	3,859.77	-3,850.71	-289.50	2.38	2.19	0.94
8409	90	182	31	4,906.62	3,890.77	-3,881.68	-290.71	1.02	0.32	-0.97
8441	89	182	32	4,906.90	3,922.77	-3,913.66	-291.83	4.42	-4.38	-0.62
8472	89	182	31	4,907.47	3,953.76	-3,944.64	-292.75	1.61	0.97	-1.29
8504	90	182	32	4,907.83	3,985.75	-3,976.63	-293.59	1.56	1.56	0.00
8535	90	181	31	4,907.94	4,016.75	-4,007.62	-294.35	1.44	1.29	-0.65
8566	91	181	31	4,907.80	4,047.74	-4,038.61	-295.02	1.64	1.61	-0.32
8598	90	181	32	4,907.63	4,079.73	-4,070.60	-295.75	1.40	-1.25	0.63
8629	90	182	31	4,907.55	4,110.72	-4,101.59	-296.59	1.02	0.32	0.97
8661	89	181	32	4,907.69	4,142.72	-4,133.58	-297.34	3.56	-2.81	-2.19
8692	88	181	31	4,908.31	4,173.70	-4,164.57	-297.91	2.92	-2.90	0.32
8724	89	180	32	4,909.10	4,205.67	-4,196.56	-298.33	2.52	1.25	-2.19
8755	89	180	31	4,909.75	4,236.64	-4,227.55	-298.54	0.00	0.00	0.00
8787	88	180	32	4,910.53	4,268.61	-4,259.54	-298.77	1.25	-1.25	0.00
8818	88	180	31	4,911.39	4,299.58	-4,290.53	-298.98	0.00	0.00	0.00
8850	89	181	32	4,912.26	4,331.55	-4,322.52	-299.26	0.70	0.31	0.62
8881	88	180	31	4,913.10	4,362.51	-4,353.50	-299.51	1.02	-0.32	-0.97
8913	89	180	32	4,913.91	4,394.48	-4,385.49	-299.62	1.13	0.94	-0.63
8944	89	180	31	4,914.53	4,425.44	-4,416.49	-299.70	1.02	0.97	0.32
8976	88	180	32	4,915.42	4,457.40	-4,448.47	-299.75	3.80	-3.75	-0.62
9007	87	180	31	4,916.72	4,488.34	-4,479.45	-299.75	1.29	-1.29	0.00
9039	88	180	32	4,918.09	4,520.28	-4,511.42	-299.78	0.99	0.94	0.31
9070	88	180	31	4,919.28	4,551.23	-4,542.39	-299.86	0.72	0.65	0.32
9102	88	180	32	4,920.34	4,583.19	-4,574.38	-299.97	1.25	1.25	0.00
9133	89	180	31	4,921.15	4,614.15	-4,605.36	-300.08	1.29	1.29	0.00
9165	89	180	32	4,921.77	4,646.12	-4,637.36	-300.25	1.40	1.25	0.63
9196	89	180	31	4,922.20	4,677.10	-4,668.35	-300.47	0.65	0.65	0.00
9228	88	180	32	4,922.87	4,709.07	-4,700.35	-300.63	3.19	-3.13	-0.63
9259	88	180	31	4,923.76	4,740.02	-4,731.33	-300.61	1.64	0.32	-1.61
9291	89	180	32	4,924.57	4,771.97	-4,763.32	-300.47	0.99	0.94	0.31
9322	89	179	31	4,925.25	4,802.92	-4,794.32	-300.25	1.33	0.32	-1.29
9354	89	180	32	4,925.83	4,834.88	-4,826.31	-300.03	1.56	0.94	1.25
9385	89	180	31	4,926.37	4,865.84	-4,857.30	-299.92	0.65	-0.65	0.00
9417	89	180	32	4,926.99	4,897.79	-4,889.30	-299.84	0.31	0.00	0.31
9448	89	180	31	4,927.58	4,928.75	-4,920.29	-299.67	1.29	0.00	-1.29
9480	90	179	32	4,928.00	4,960.70	-4,952.29	-299.37	2.21	2.19	-0.31
9511	90	179	31	4,928.11	4,991.65	-4,983.28	-298.93	1.82	1.29	-1.29
9543	90	179	32	4,928.00	5,023.58	-5,015.28	-298.29	1.56	1.25	-0.94
9574	91	179	31	4,927.70	5,054.51	-5,046.27	-297.59	0.97	0.97	0.00
9606	91	178	32	4,927.34	5,086.42	-5,078.25	-296.72	1.59	-0.31	-1.56
9637	91	178	31	4,926.99	5,117.33	-5,109.24	-295.72	0.46	0.32	-0.32
9669	91	178	32	4,926.48	5,149.23	-5,141.21	-294.61	1.40	1.25	-0.62
9700	91	178	31	4,925.84	5,180.11	-5,172.18	-293.36	1.44	0.65	-1.29
9731	92	178	31	4,925.05	5,210.98	-5,203.14	-292.04	1.02	0.97	0.32
9763	92	177	32	4,924.05	5,242.84	-5,235.09	-290.61	1.56	1.25	-0.94
9794	92	178	31	4,923.02	5,273.71	-5,266.05	-289.40	2.97	-0.65	2.90
9826	92	178	32	4,921.96	5,305.61	-5,298.02	-288.42	0.70	0.63	0.31
9857	92	178	31	4,921.01	5,336.50	-5,328.99	-287.39	2.07	-1.61	-1.29
9889	91	179	32	4,920.34	5,368.41	-5,360.97	-286.50	3.64	-1.87	3.13
9920	91	179	31	4,919.80	5,399.34	-5,391.96	-286.01	1.44	0.65	1.29
9952	91	181	32	4,919.24	5,431.31	-5,423.95	-285.96	3.80	-0.62	3.75
9983	91	182	31	4,918.78	5,462.29	-5,454.95	-286.50	3.24	-0.32	3.23
10015	91	181	32	4,918.42	5,494.28	-5,486.93	-287.31	0.99	-0.94	-0.31
10046	89	182	31	4,918.50	5,525.28	-5,517.92	-288.12	4.24	-4.19	0.65
10078	87	181	32	4,919.45	5,557.25	-5,549.90	-288.85	5.93	-5.62	-1.87
10109	87	181	31	4,920.91	5,588.20	-5,580.86	-289.30	1.16	-0.65	-0.97
10172	88	181	63	4,923.66	5,651.11	-5,643.80	-289.96	1.00	0.95	-0.32
10203	88	181	31	4,924.68	5,682.07	-5,674.78	-290.29	2.04	1.94	0.65
10235	89	181	32	4,925.52	5,714.05	-5,706.76	-290.71	0.70	0.62	0.31
10266	89	181	31	4,926.20	5,745.02	-5,737.75	-291.09	1.16	0.97	-0.65
10298	89	181	32	4,926.76	5,777.00	-5,769.75	-291.39	0.70	0.62	-0.31
10329	88	182	31	4,927.49	5,807.98	-5,800.73	-292.01	5.10	-2.90	4.19
10361	88	182	32	4,928.58	5,839.96	-5,832.70	-293.02	0.94	-0.94	0.00
10392	88	182	31	4,929.79	5,870.93	-5,863.66	-294.02	1.02	-0.97	0.32
10424	88	182	32	4,931.10	5,902.90	-5,895.62	-295.02	0.70	0.31	-0.63
10455	89	182	31	4,932.13	5,933.88	-5,926.58	-295.94	2.58	2.58	0.00
10487	89	182	32	4,932.94	5,965.87	-5,958.56	-296.92	0.44	0.31	0.31
10518	89	183	31	4,933.48	5,996.86	-5,989.53	-298.08	3.43	2.58	2.26
10550	90	183	32	4,933.57	6,028.86	-6,021.49	-299.70	3.76	2.81	2.50
10581	90	183	31	4,933.43	6,059.86	-6,052.44	-301.38	1.33	-0.32	-1.29
10613	91	183	32	4,933.24	6,091.86	-6,084.41	-302.94	1.13	0.94	-0.63
10644	91	182	31	4,932.97	6,122.86	-6,115.38	-304.29	1.29	0.00	-1.29
10676	91	183	32	4,932.69	6,154.86	-6,147.35	-305.63	0.62	0.00	0.62

4.00 Direction	Interval's	Ratio	D	D	D	Closure	Closure
2.00 Azimuth	Dog Leg	Factor	N / S	E / S	TVD	Distance	Direction
3.00 0.00						0.00	#DIV/0!
181.80	1.03	1.00	-30.98	-1.22	0.03	2,417.32	-173.75
181.80	0.00	1.00	-31.98	-1.01	-0.11	2,449.23	-173.81
180.40	2.28	1.00	-30.99	-0.60	0.38	2,480.10	-173.88
180.40	0.20	1.00	-31.99	-0.22	0.84	2,511.93	-173.95
180.40	0.20	1.00	-30.99	-0.22	0.70	2,542.78	-174.02
180.50	0.41	1.00	-31.99	-0.25	0.56	2,574.62	-174.09
180.40	0.32	1.00	-31.00	-0.24	0.35	2,605.48	-174.15
181.00	0.60	1.00	-32.00	-0.39	0.28	2,637.35	-174.21
180.40	0.60	1.00	-31.00	-0.38	0.27	2,668.23	-174.27
180.00	0.50	1.00	-32.00	-0.11	0.20	2,700.08	-174.34
180.30	0.58	1.00	-31.00	-0.08	0.24	2,730.94	-174.40
180.20	1.20	1.00	-31.99	-0.14	0.73	2,762.80	-174.46
180.20	0.00	1.00	-30.98	-0.11	1.03	2,793.65	-174.52
179.80	0.41	1.00	-31.98	0.00	1.03	2,825.48	-174.58
179.20	1.34	1.00	-30.97	0.27	1.30	2,856.29	-174.65
179.20	0.00	1.00	0.00	0.00	0.00	2,856.29	-174.65
179.10	0.61	1.00	-31.94	0.47	1.84	2,888.05	-174.72
179.70	1.34	1.00	-30.96	0.32	1.62	2,918.85	-174.78
180.10	0.98	1.00	-30.98	0.05	1.05	2,949.70	-174.83
180.80	1.75	1.00	-32.00	-0.25	0.39	2,981.59	-174.88
180.10	1.06	1.00	-31.00	-0.24	0.16	3,012.49	-174.93
180.10	0.60	1.00	-31.99	-0.06	0.56	3,044.36	-174.98
179.90	0.28	1.00	-30.99	0.00	0.65	3,075.24	-175.04
180.30	0.98	1.00	-32.00	-0.06	0.36	3,107.12	-175.09
180.40	0.91	1.00	-32.00	-0.20	-0.14	3,139.02	-175.13
180.70	0.58	1.00	-30.99	-0.30	-0.51	3,169.93	-175.17
180.30	0.64	1.00	-31.99	-0.28	-0.81	3,201.83	-175.22
180.00	0.58	1.00	-30.98	-0.08	-1.05	3,232.71	-175.26
179.80	0.54	1.00	-31.97	0.06	-1.37	3,264.57	-175.31
180.20	0.72	1.00	-30.97	0.00	-1.30	3,295.44	-175.35
181.20	1.04	1.00	-31.98	-0.39	-1.09	3,327.34	-175.39
181.70	0.86	1.00	-30.98	-0.78	-0.78	3,358.29	-175.42
182.10	0.64	1.00	-30.97	-1.03	-0.73	3,389.24	-175.44
182.50	1.26	1.00	-62.94	-2.53	-1.10	3,452.19	-175.49
192.10	9.60	1.00	-31.70	-4.06	-0.28	3,484.11	-175.46
182.10	10.02	1.00	-30.72	-3.83	-0.52	3,515.04	-175.44
181.80	0.58	1.00	-31.98	-1.09	-0.59	3,547.00	-175.46
181.80	0.80	1.00	-30.98	-0.97	-0.22	3,577.96	-175.48
181.60	0.28	1.00	-31.99	-0.95	-0.06	3,609.92	-175.51
181.50	0.51	1.00	-30.99	-0.84	-0.24	3,640.88	-175.53
181.10	0.72	1.00	-31.99	-0.73	-0.56	3,672.83	-175.56
181.00	0.22	1.00	-30.99	-0.57	-0.76	3,703.76	-175.59
181.30	0.36	1.00	-31.98	-0.64	-0.78	3,735.70	-175.62
181.50	0.54	1.00	-30.99	-0.76	-0.57	3,766.66	-175.64
182.00	1.49	1.00	-31.98	-0.98	-0.06	3,798.62	-175.66
182.10	0.10	1.00	-30.98	-1.11	0.32	3,829.60	-175.68
182.40	0.76	1.00	-31.97	-1.26	0.14	3,861.58	-175.70
182.10	0.32	1.00	-30.98	-1.22	-0.08	3,892.56	-175.72
181.90	1.41	1.00	-31.98	-1.12	0.28	3,924.53	-175.74
181.50	0.50	1.00	-30.98	-0.92	0.57	3,955.49	-175.76
181.50	0.50	1.00	-31.99	-0.84	0.36	3,987.45	-175.78
181.30	0.45	1.00	-30.99	-0.76	0.11	4,018.42	-175.80
181.20	0.51	1.00	-30.99	-0.68	-0.14	4,049.37	-175.82
181.40	0.45	1.00	-31.99	-0.73	-0.17	4,081.33	-175.84
181.70	0.32	1.00	-30.99	-0.84	-0.08	4,112.30	-175.86
181.00	1.14	1.00	-31.99	-0.75	0.14	4,144.26	-175.89
181.10	0.91	1.00	-30.99	-0.57	0.62	4,175.21	-175.91
180.40	0.81	1.00	-31.99	-0.42	0.78	4,207.15	-175.93
180.40	0.00	1.00	-30.99	-0.22	0.65	4,238.08	-175.96
180.40	0.40	1.00	-31.99	-0.22	0.78	4,270.01	-175.99
180.40	0.00	1.00	-30.99	-0.22	0.87	4,300.93	-176.01
180.60	0.22	1.00	-31.99	-0.28	0.87	4,332.86	-176.04
180.30	0.32	1.00	-30.99	-0.24	0.84	4,363.79	-176.06
180.10	0.36	1.00	-31.99	-0.11	0.81	4,395.72	-176.09
180.20	0.32	1.00	-30.99	-0.08	0.62	4,426.64	-176.12
180.00	1.22	1.00	-31.99	-0.06	0.89	4,458.56	-176.15
180.00	0.40	1.00	-30.97	0.00	1.30	4,489.46	-176.17
180.10	0.32	1.00	-31.97	-0.03	1.37	4,521.37	-176.20
180.20	0.22	1.00	-30.98	-0.08	1.19	4,552.28	-176.22
180.20	0.40	1.00	-31.98	-0.11	1.06	4,584.20	-176.25
180.20	0.40	1.00	-30.99	-0.11	0.81	4,615.13	-176.27
180.40	0.45	1.00	-31.99	-0.17	0.61	4,647.07	-176.30
180.40	0.20	1.00	-31.00	-0.22	0.43	4,678.01	-176.32
180.20	1.02	1.00	-31.99	-0.17	0.67	4,709.95	-176.34
179.70	0.51	1.00	-30.99	0.03	0.89	4,740.87	-176.36
179.80	0.32	1.00	-31.99	0.14	0.81	4,772.79	-176.39
179.40	0.41	1.00	-30.99	0.22	0.68	4,803.71	-176.42
179.80	0.50	1.00	-31.99	0.22	0.59	4,835.63	-176.44
179.80	0.20	1.00	-31.00	0.11	0.54	4,866.55	-176.47
179.90	0.10	1.00	-31.99	0.08	0.61	4,898.48	-176.49
179.50	0.40	1.00	-30.99	0.16	0.60	4,929.41	-176.51
179.40	0.71	1.00	-32.00	0.31	0.42	4,961.33	-176.54
179.00	0.57	1.00	-31.00	0.43	0.11	4,992.24	-176.57
178.70	0.50	1.00	-31.99	0.64	-0.11	5,024.14	-176.60
178.70	0.30	1.00	-30.99	0.70	-0.30	5,055.03	-176.63
178.20	0.51	1.00	-31.99	0.87	-0.36	5,086.92	-176.66
178.10	0.14	1.00	-30.98	1.00	-0.35	5,117.79	-176.69
177.90	0.45	1.00	-31.98	1.12	-0.50	5,149.65	-176.72
177.50	0.45	1.00	-30.97	1.24	-0.65	5,180.49	-176.75
177.60	0.32	1.00	-30.96	1.32	-0.78	5,211.33	-176.79
177.30	0.50	1.00	-31.95	1.42	-1.01	5,243.15	-176.82
178.20	0.92	1.00	-30.96	1.22	-1.03	5,274.00	-176.85
178.30	0.22	1.00	-31.97	0.98	-1.06	5,305.87	-176.88
177.90	0.64	1.00	-30.97	1.03	-0.95	5,336.73	-176.91
178.90	1.17	1.00	-31.98	0.89	-0.67	5,368.62	-176.94
179.30	0.45	1.00	-30.99	0.49	-0.54	5,399.54	-176.96
180.50	1.22	1.00	-31.99	0.06	-0.56	5,431.49	-176.98
181.50	1.00	1.00	-30.99	-0.54	-0.46	5,462.46	-176.99
181.40	0.32	1.00	-31.99	-0.81	-0.36	5,494.45	-177.00
181.60	1.32	1.00	-30.99	-0.81	0.08	5,525.44	-177.01
181.00	1.90	1.00	-31.98	-0.73	0.95	5,557.41	-177.02
180.70	0.36	1.00	-30.96	-0.46	1.46	5,588.35	-177.03
180.50	0.63	1.00	-62.94	-0.66	2.75	5,651.24	-177.06
180.70	0.63	1.00	-30.98	-0.32	1.03	5,682.20	-177.07
180.80	0.22	1.00	-31.99	-0.42	0.84	5,714.16	-177.08
180.60	0.36	1.00	-30.99	-0.38	0.68	5,745.13	-177.10
180.50	0.22	1.00	-31.99	-0.31	0.56	5,777.10	-177.11
181.80	1.58	1.00	-30.98	-0.62	0.73	5,808.08	-177.12
181.80	0.30	1.00	-31.97	-1.00	1.09	5,840.05	-177.12
181.90	0.32	1.00	-30.96	-1.00	1.22	5,871.02	-177.13
181.70	0.22	1.00	-31.96	-1.00	1.31	5,902.99	-177.14
181.70	0.80	1.00	-30.97	-0.92	1.03	5,933.97	-177.14
181.80	0.14	1.00	-31.97	-0.98	0.81	5,965.95	-177.15
182.50	1.06	1.00	-30.97	-1.16	0.54	5,996.95	-177.15
183.30	1.20	1.00	-31.96	-1.62	0.08	6,028.94	-177.15
182.90	0.41	1.00	-30.95	-1.68	-0.14	6,059.94	-177.15
182.70	0.36	1.00	-31.96	-1.56	-0.20	6,091.94	-177.15
182.30	0.40	1.00	-30.97	-1.35	-0.27	6,122.94	-177.15
182.50	0.20	1.00	-31.97	-1.34	-0.28	6,154.94	-177.15

-100.00	4,870.00
4,680.00	4,915.00

DIRECTIONAL SURVEY CALCULATION

MINIMUM CURVATURE METHOD

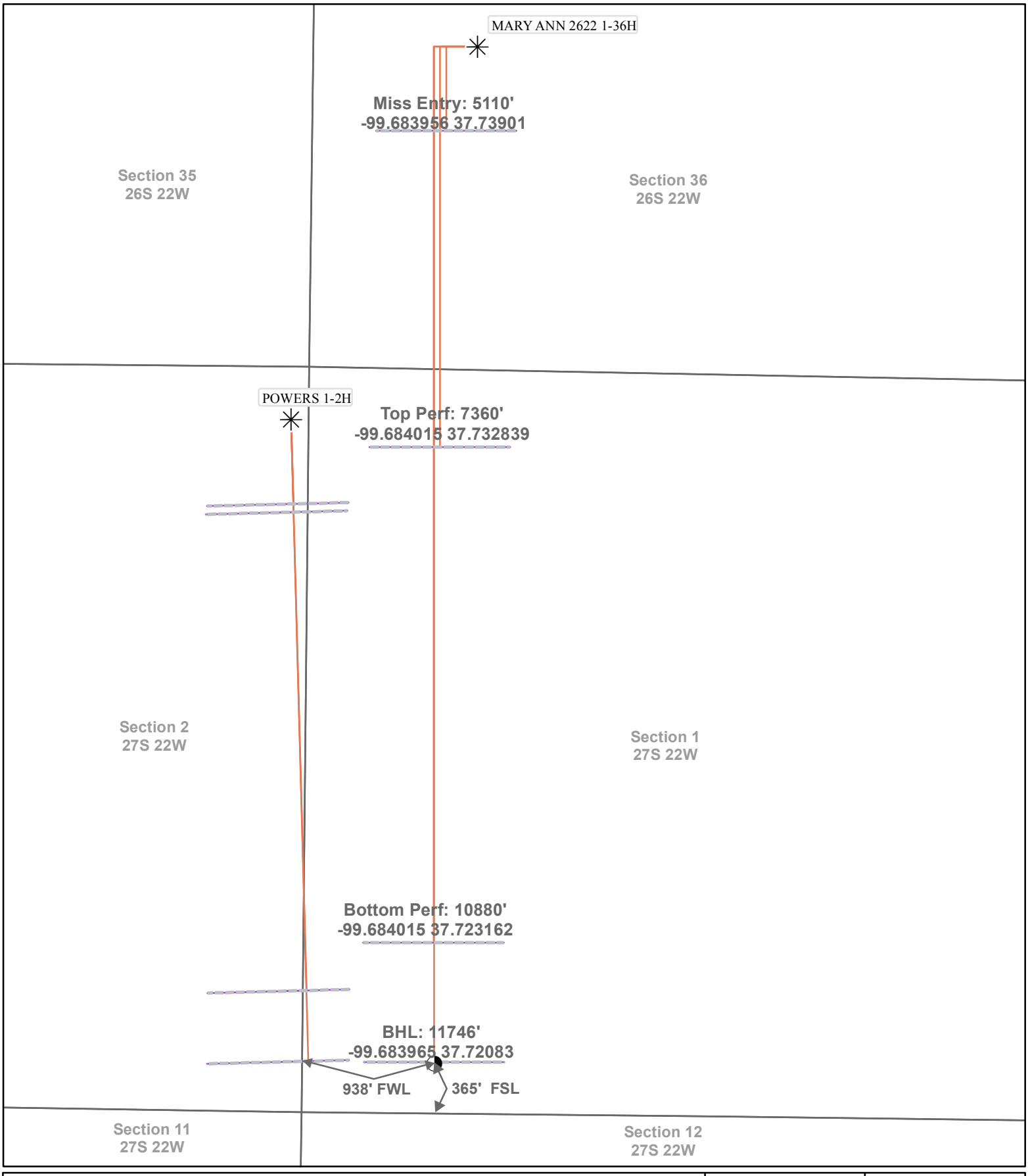
Well Name	Target Direction	Slot	N / S	E / W	Hole Size	Calculation by	Date
Mary Ann 2622 1-	182.55	Coordinate					1/7/13
Job Number	Type of Survey	Tie-in Point				Directional Co.	
0							

Meaured Depth	Hole Angle	Hole Direction	Course Length	True Vertical Depth	Vertical Section	Total Coordinate N + / S -	Total Coordinate E + / W -	Dogleg Severity	Build Up °/100 ft	Walk/ °/100 ft
0	0	0	0	0.00	0.00			<< TIE-IN POINT >>		
10707	91	182	31	4,932.42	6,185.85	-6,178.32	-306.80	2.26	0.00	-2.26
10738	91	182	31	4,932.09	6,216.85	-6,209.31	-307.72	0.91	0.65	-0.65
10770	91	182	32	4,931.56	6,248.84	-6,241.29	-308.61	1.56	1.56	0.00
10801	91	182	31	4,930.88	6,279.83	-6,272.27	-309.53	0.72	0.32	0.65
10833	91	181	32	4,930.27	6,311.82	-6,304.25	-310.31	2.79	-1.25	-2.50
10864	91	181	31	4,929.68	6,342.80	-6,335.24	-310.74	1.82	1.29	-1.29
10896	92	181	32	4,928.87	6,374.77	-6,367.23	-311.19	1.56	0.94	1.25
10927	91	181	31	4,928.16	6,405.75	-6,398.22	-311.70	1.96	-1.94	-0.32
10959	91	181	32	4,927.49	6,437.73	-6,430.21	-312.23	1.29	1.25	0.31
10990	90	181	31	4,927.06	6,468.72	-6,461.20	-312.83	3.92	-3.87	0.65
11022	90	181	32	4,926.95	6,500.71	-6,493.19	-313.44	0.62	0.00	-0.62
11053	90	181	31	4,926.97	6,531.70	-6,524.19	-314.01	1.64	-1.61	0.32
11085	90	181	32	4,927.09	6,563.69	-6,556.18	-314.65	0.70	0.63	0.31
11148	90	181	63	4,927.09	6,626.66	-6,619.17	-315.70	0.85	0.32	-0.79
11179	90	180	31	4,927.09	6,657.64	-6,650.17	-315.94	1.74	-0.65	-1.61
11211	90	179	32	4,927.14	6,689.60	-6,682.17	-315.80	2.81	0.00	-2.81
11242	90	179	31	4,927.11	6,720.55	-6,713.17	-315.45	1.02	0.97	0.32
11273	90	180	31	4,927.01	6,751.51	-6,744.17	-315.15	0.32	0.00	0.32
11305	91	179	32	4,926.70	6,783.46	-6,776.16	-314.82	2.28	2.19	-0.62
11337	92	179	32	4,926.03	6,815.39	-6,808.15	-314.29	2.44	1.87	-1.56
11368	92	179	31	4,925.06	6,846.31	-6,839.13	-313.58	2.04	1.94	-0.65
11399	93	179	31	4,923.78	6,877.21	-6,870.09	-312.85	1.64	1.61	0.32
11431	92	179	32	4,922.47	6,909.11	-6,902.06	-312.21	1.82	-1.56	0.94
11462	92	179	31	4,921.47	6,940.05	-6,933.04	-311.78	2.07	-1.61	1.29
11494	92	179	32	4,920.44	6,971.98	-6,965.02	-311.45	1.56	1.56	0.00
11525	92	179	31	4,919.22	7,002.91	-6,996.00	-311.12	0.97	0.97	0.00
11557	93	179	32	4,917.77	7,034.82	-7,027.96	-310.67	1.77	1.25	-1.25
11588	94	179	31	4,916.07	7,065.71	-7,058.91	-310.11	2.28	2.26	-0.32
11620	94	179	32	4,914.06	7,097.58	-7,090.84	-309.44	0.88	0.63	-0.63
11649	94	179	29	4,912.11	7,126.46	-7,119.77	-308.86	1.46	1.03	1.03
11683	95	179	34	4,909.56	7,160.29	-7,153.66	-308.24	1.79	1.76	-0.29
11700	95	179	17	4,908.15	7,177.21	-7,170.60	-307.99	3.42	1.76	2.94
11746	95	179	46	4,904.22	7,222.97	-7,216.43	-307.51	0.00	0.00	0.00
11770	95	179	24	4,902.17	7,246.84	-7,240.34	-307.25	0.00	0.00	0.00

Directional Survey Calculation
Minimum Curvature Method - version 2.0

For Microsoft Excel Version 3.0 for Macintosh
and Microsoft Excel Version 3.0 for Windows (IBM)

4.00	Direction	Interval's	Ratio	D	D	D	Closure	Closure
2.00	Azimuth	Dog Leg	Factor	N / S	E / S	TVD	Distance	Direction
3.00	0.00						0.00	#DIV/0!
	181.80	0.70	1.00	-30.98	-1.16	-0.27	6,185.94	-177.16
	181.60	0.28	1.00	-30.98	-0.92	-0.32	6,216.93	-177.16
	181.60	0.50	1.00	-31.98	-0.89	-0.53	6,248.92	-177.17
	181.80	0.22	1.00	-30.98	-0.92	-0.68	6,279.90	-177.17
	181.00	0.89	1.00	-31.98	-0.78	-0.61	6,311.89	-177.18
	180.60	0.57	1.00	-30.99	-0.43	-0.60	6,342.86	-177.19
	181.00	0.50	1.00	-31.99	-0.45	-0.81	6,374.83	-177.20
	180.90	0.61	1.00	-30.99	-0.51	-0.70	6,405.81	-177.21
	181.00	0.41	1.00	-31.99	-0.53	-0.67	6,437.78	-177.22
	181.20	1.22	1.00	-30.99	-0.60	-0.43	6,468.77	-177.23
	181.00	0.20	1.00	-31.99	-0.61	-0.11	6,500.75	-177.24
	181.10	0.51	1.00	-30.99	-0.57	0.03	6,531.74	-177.24
	181.20	0.22	1.00	-31.99	-0.64	0.11	6,563.73	-177.25
	180.70	0.54	1.00	-62.99	-1.04	0.00	6,626.70	-177.27
	180.20	0.54	1.00	-31.00	-0.24	0.00	6,657.67	-177.28
	179.30	0.90	1.00	-32.00	0.14	0.06	6,689.63	-177.29
	179.40	0.32	1.00	-31.00	0.35	-0.03	6,720.57	-177.31
	179.50	0.10	1.00	-31.00	0.30	-0.11	6,751.53	-177.32
	179.30	0.73	1.00	-32.00	0.34	-0.31	6,783.47	-177.34
	178.80	0.78	1.00	-31.99	0.53	-0.67	6,815.40	-177.36
	178.60	0.63	1.00	-30.98	0.70	-0.97	6,846.31	-177.37
	178.70	0.51	1.00	-30.97	0.73	-1.27	6,877.21	-177.39
	179.00	0.58	1.00	-31.97	0.64	-1.31	6,909.12	-177.41
	179.40	0.64	1.00	-30.98	0.43	-1.00	6,940.05	-177.43
	179.40	0.50	1.00	-31.98	0.33	-1.03	6,971.98	-177.44
	179.40	0.30	1.00	-30.97	0.32	-1.22	7,002.91	-177.45
	179.00	0.57	1.00	-31.96	0.45	-1.45	7,034.82	-177.47
	178.90	0.71	1.00	-30.95	0.57	-1.70	7,065.72	-177.48
	178.70	0.28	1.00	-31.93	0.67	-2.01	7,097.59	-177.50
	179.00	0.42	1.00	-28.93	0.58	-1.95	7,126.46	-177.52
	178.90	0.61	1.00	-33.90	0.62	-2.55	7,160.30	-177.53
	179.40	0.58	1.00	-16.94	0.25	-1.41	7,177.21	-177.54
	179.40	0.00	1.00	-45.83	0.48	-3.93	7,222.98	-177.56
	179.40	0.00	1.00	-23.91	0.25	-2.05	7,246.86	-177.57



SANDRIDGE
THE POWER OF US

Actual BH Location
SandRidge Wells
Sections
Perf

Actual Bottom-Hole Location of Mary Ann 2622 1-36H
Ford County, Kansas
T&R: 37S 22W
Section: 1, 938' FWL & 365' FSL
Long/Lat: -99.683965 37.72083

1 in = 897 ft

0 650 1,300 2,600 Feet

N

Draftsman: Aaron Birk	Draft Date: 1/11/2013
Drawing Name/Number: Addendum_MaryAnn_1-36H .mxd	
Coordinate System: NAD 1927 State Plane Kansas South FIPS: 1502	

Tiffany Golay 01/17/013 01:23 pm	Additional Fluid Mgmt Info: 2140 bbls hauled to Weinett Disposal LLC, NW/4 Section 1079 Block 43, Lipscomb, TX
Tiffany Golay 01/17/013 09:02 am	Our staff is analyzing data on this well to determine whether or not to install a gas pipeline to the area. Currently there is no pipeline connection to produce the well. It will remain shut in until there is a sales outlet for the gas.
Tiffany Golay 01/07/013 08:12 am	Conductor weight= 94 lbs/ft Liner depth= 11,390 feet
Tiffany Golay 11/05/012 07:41 am	TD= 11,746