



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1146149
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: _____



1146149

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



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

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

June 10, 2013

Liana Ramirez
Citation Oil & Gas Corp.
14077 Cutten Rd
PO BOX 690688
HOUSTON, TX 77269-0688

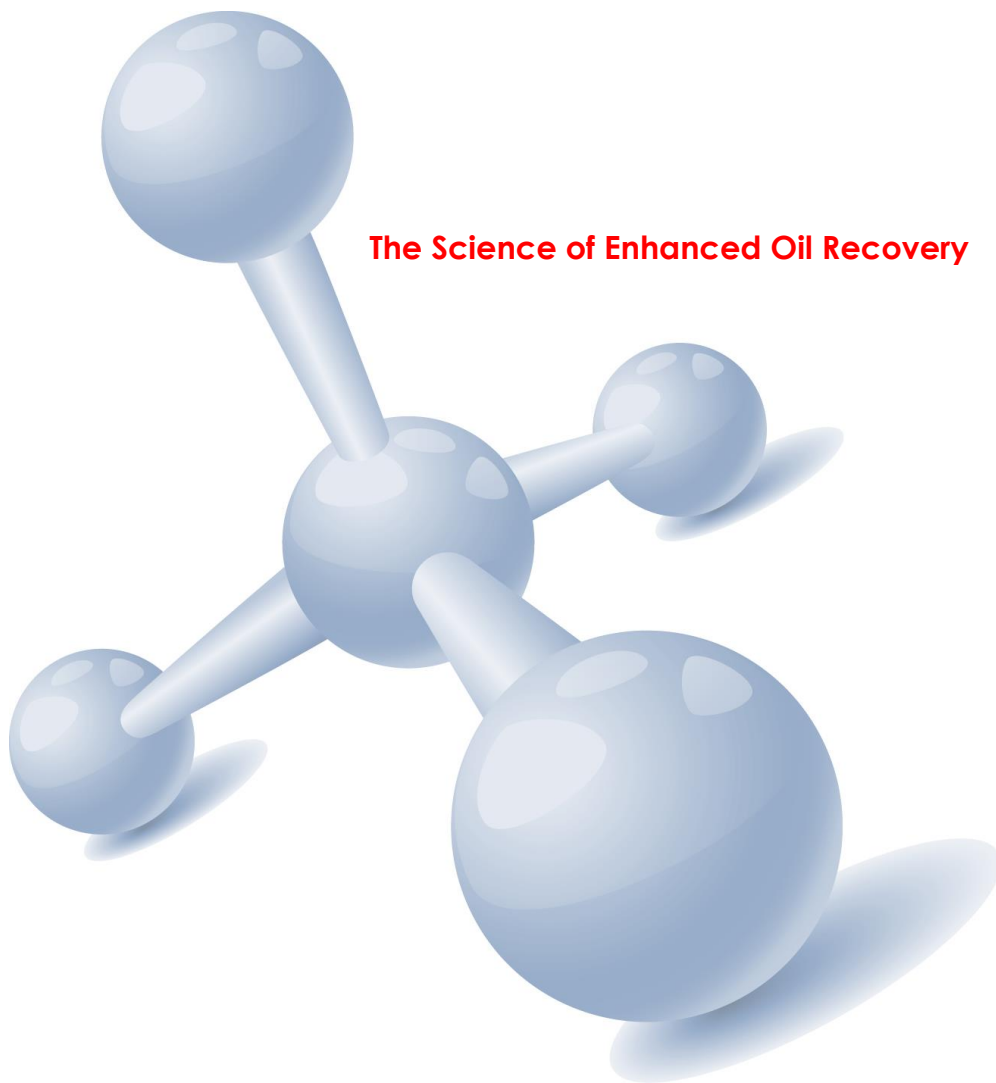
Re: ACO1
API 15-185-23800-01-00
Bordewick 10
NE/4 Sec.01-22S-14W
Stafford County, Kansas

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,
Liana Ramirez



The Science of Enhanced Oil Recovery

Treatment Summary For

Citation Oil & Gas Corp.

MARCITsm Gel Conformance

Curtis

Bordewick #10

Stafford County, Kansas

July 15, 2013

TIORCO
A NALCO & STEPAN COMPANY

TREATMENT SUMMARY

PURPOSE

Use MARCITsm polymer gel technology to 1) decrease water production, 2) lower producing fluid level, 3) improve draw-down on oil-saturated reservoir matrix rock, 4) improve oil recovery and well economics.

TREATMENT

TIORCO equipment and personnel arrived on location on July 12, 2013. A tailgate safety meeting was held to discuss all potential hazards specific to the job. TIORCO's Portable Unit #17 was connected to frac tanks for treatment supply water and to the wellhead for polymer solution injection. The unit was then connected to an electrical source. The treatment consisted of 564 BBLS of gel. The treatment started on July 12, 2013 at 13:00 and ended on July 13, 2013 at 04:00. The gel was made-up of 770 lbs. of EOR204 (Medium molecular weight polymer) and 166 lbs. of EOR684 (crosslinker). Details for each stage of the treatment, job log, and injection charts are included.

MARCITsm GEL QA/QC

Representative samples of cross-linked polymer solution were collected during all treatment stages to ensure that the intended gels would ultimately form. Pre-gel samples were stored at a temperature of 120°F in an oven onboard the TIORCO portable polymer injection unit. All samples indicated that gels formed as intended.

TIORCO is very interested in monitoring and evaluating the results of this treatment with time. If you should have questions or comments regarding the job, please do not hesitate to contact Mike Lantz in our Denver office at (303) 923-6440. We greatly appreciate the opportunity to be of service to Citation Oil & Gas Corp. and look forward to working with you again in the future.



TREATMENT STAGE LOG

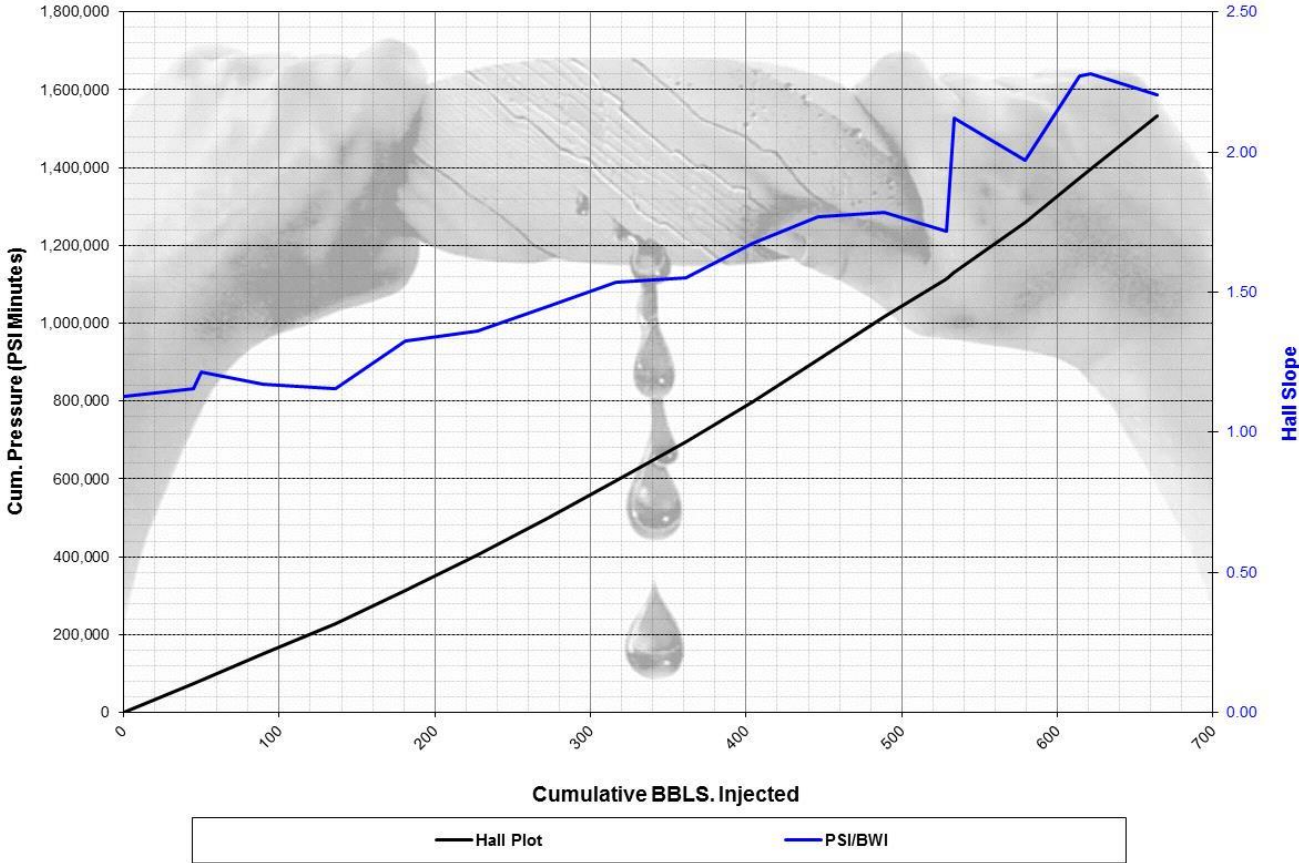
Stage	Date	Time	Date	Time	Polymer ppm	BBLs / Stage	WHP (psi)		BHP (psi)		Pump Rate (bpd)		Comments
	Begin	Begin	End	End			Begin	End	Begin	End	Begin	End	
1	7/12/13	1:00 PM	7/12/13	2:07 PM	0	50	0	VAC	1,217	1,250	1,080	1,080	Stage # 1: Water Flush
2	7/12/13	2:07 PM	7/13/13	12:52 AM	3,000	479	VAC	200	1,250	1,902	1,080	1,080	Stage # 2: 3,000 PPM
3	7/13/13	12:52 AM	7/13/13	2:00 AM	8,000	50	200	410	1,902	2,130	1,080	1,080	Stage # 3: 8,000 PPM
4	7/13/13	2:00 AM	7/13/13	2:50 AM	10,000	35	410	610	2,130	2,291	1,080	1,080	Stage # 4: 10,000 PPM
5	7/13/13	2:50 AM	7/13/13	4:00 AM	0	50	610	610	2,291	2,276	1,080	1,080	Stage # 5: Water Flush
Totals						664							

MARCITSM GEL QA/QC

Sample No.	Treatment Stage	Sample Date	Sample Time	Cum. BBLs	Polymer PPM	Polymer X-Linker Ratio	Gel Grade
1	2	July 12, 2013	4:00 PM	136	3,000	40:1	3g
2	2	July 13, 2013	12:00 AM	489	3,000	40:1	3g
3	3	July 13, 2013	1:00 AM	534	8,000	40:1	8g
4	4	July 13, 2013	2:20 AM	613	10,000	40:1	9e



HALL SLOPE



TREATMENT JOB LOG

DATE	TIME	INJECTION RATE		CUM. INJ BBLs	WHP PSI	BHP PSI	HALL SLOPE	Polymer PPM	POLYMER LBS: Estimate	COMMENTS
		BPD	BPM							
12-Jul-13	13:00	1,080	0.75	0	0	1,216	1.13	0	0	Begin Stage #1: Water Flush with Baker CRO195 and X-Cide 102w
12-Jul-13	14:00	1,080	0.75	45	0	1,249	1.16	0	0	
12-Jul-13	14:07	1,029	0.71	50	0	1,250	1.22	0	0	End Stage #1
12-Jul-13	14:07	1,029	0.71	50	0	1,250	1.22	3,000	0	Begin Stage # 2: 3,000 PPM With X-Cide 102w
12-Jul-13	15:00	1,087	0.75	90	0	1,274	1.17	3,000	42	
12-Jul-13	16:00	1,104	0.77	136	0	1,274	1.15	3,000	90	Took Sample #1: Graded 3g
12-Jul-13	17:00	1,080	0.75	181	0	1,431	1.33	3,000	137	
12-Jul-13	18:00	1,104	0.77	227	0	1,502	1.36	3,000	186	
12-Jul-13	19:00	1,080	0.75	272	0	1,564	1.45	3,000	233	
12-Jul-13	20:00	1,056	0.73	316	0	1,623	1.54	3,000	279	
12-Jul-13	21:00	1,080	0.75	361	0	1,676	1.55	3,000	326	
12-Jul-13	22:00	1,032	0.72	404	0	1,726	1.67	3,000	371	
12-Jul-13	23:00	1,008	0.70	446	60	1,782	1.77	3,000	415	
13-Jul-13	0:00	1,032	0.72	489	150	1,840	1.78	3,000	460	Took Sample #2: Graded 3g
13-Jul-13	0:52	1,108	0.77	529	200	1,902	1.72	3,000	502	End Stage #2
13-Jul-13	0:52	1,108	0.77	529	200	1,902	1.72	8,000	502	Begin Stage #3: 8,000 ppm
13-Jul-13	1:00	900	0.63	534	220	1,910	2.12	8,000	516	Took Sample #3: Graded 8g
13-Jul-13	2:00	1,080	0.75	579	410	2,130	1.97	8,000	642	End Stage #3
13-Jul-13	2:00	1,080	0.75	579	410	2,130	1.97	10,000	642	Begin Stage #4: 10,000 ppm Took Sample #4 @ 02:45 AM: Graded 9e
13-Jul-13	2:50	1,008	0.70	614	610	2,291	2.27	10,000	765	End Stage #4
13-Jul-13	2:50	1,008	0.70	614	610	2,291	2.27	0	765	Begin Stage #5: Water Flush with Baker CRO195 and X-Cide 102w
13-Jul-13	3:00	1,008	0.70	621	620	2,296	2.28	0	765	
13-Jul-13	4:00	1,032	0.72	664	610	2,276	2.21	0	765	End Stage #5. Treatment Completed



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7902

Date	6-4-13	Sec.	1	Twp.	22	Range	14	County	Stafford	State	Ks	On Location		Finish	4:00 PM
Lease								Bordewick		Well No. 10		Owner S/Into			
Contractor								Duke #6		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Type Job								Surface		Charge To Citation oil + gas					
Hole Size				12 1/4"		T.D.		808'		Street					
Csg.				8 5/8"		Depth		805.67' - 806'		City State					
Tbg. Size						Depth				The above was done to satisfaction and supervision of owner agent or contractor.					
Tool						Depth				Cement Amount Ordered 500 sx Common 3% CC 2 1/2 gel					
Cement Left in Csg.						Shoe Joint		81.27'		Meas Line Displace 46 BLS 1/2 # Flo-seal per sack					
EQUIPMENT								Common							
Pumptrk 15		No.		Cementer		Helper		Nick		Poz. Mix					
Bulktrk 4		No.		Driver		Driver		Lonnie M.		Gel. 10					
Bulktrk p.u.		No.		Driver		Driver		Rick		Calcium 19					
JOB SERVICES & REMARKS								Hulls							
Remarks: Cement did Circulate.								Salt							
Rat Hole In Cellar								Flowseal 250#							
Mouse Hole								Kol-Seal							
Centralizers								Mud CLR 48							
Baskets								CFL-117 or CD110 CAF 38							
D/V or Port Collar								Sand							
								Handling 529							
								Mileage							
								FLOAT EQUIPMENT							
								Guide Shoe							
								Centralizer 8							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								1- Baffle plate							
								1- Rubber plug							
								Pumptrk Charge Long Surface							
								Mileage 21							
AFE: 130334								Tax							
								Discount							
Signature								Total Charge							

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6866

Date	6-9-13	Sec.	1	Twp.	22	Range	14	County	Stafford	State	KS	On Location		Finish	2:15 AM
------	--------	------	---	------	----	-------	----	--------	----------	-------	----	-------------	--	--------	---------

Location Seward 1/2 W S N 2

Lease	<u>Bordewick</u>	Well No.	<u>10</u>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	<u>Duke 6</u>			Charge To	<u>Citation Oil & Gas</u>
Type Job	<u>long string</u>	T.D.	<u>3841</u>	Street	
Hole Size	<u>7 7/8</u>	Depth	<u>3844</u>	City	State
Csg.	<u>5 1/2</u>	Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size		Depth		Cement Amount Ordered	<u>235 com 10% salt 2% gel</u>
Tool		Depth		Meas Line	<u>89 1/4 bbl</u>
Cement Left in Csg.	<u>84</u>	Shoe Joint	<u>84</u>	Displace	<u>1/4 flow</u>

EQUIPMENT

Pumptrk	<u>15</u>	No.	<u>Cementer Helper Nick</u>	Common	<u>235</u>
Bulktrk	<u>1</u>	No.	<u>Driver Billy</u>	Poz. Mix	
Bulktrk	<u>P4</u>	No.	<u>Driver Travis Rick</u>	Gel.	<u>4</u>
				Calcium	

JOB SERVICES & REMARKS

Remarks:	Salt	<u>20</u>
Rat Hole <u>30 sx</u>	Flowseal	<u>58#</u>
Mouse Hole <u>15 sx</u>	Kol-Seal	
Centralizers <u>1, 2 in Middle 1, 3, 5, 7, 9, 11, 13, 15, 17, 19</u>	Mud CLR 48	<u>500 gal</u>
Baskets <u>3, 11</u>	CFL-117 or CD110 CAF 38	
D/V or Port Collar <u>pipe on botton broke circulation mixed 500gal Mud clr 48 and 10 bbl fw. Plug</u>	Sand	<u>2</u>
<u>Rat hole with 30 sx and Mouse hole with 15 sx. hooked to 5 1/2 mixed 190 sx com 10% salt 2% gel washed pump and lines released plug Displaced 90 bbl fw plug landed and held</u>	Handling	<u>259</u>
	Mileage	
	FLOAT EQUIPMENT	
<u>lift presser 900 psi</u>	Guide Shoe	
	Centralizer	<u>14 turbo's</u>
<u>plug landed at 1800 psi</u>	Baskets	<u>2 weatherford</u>
	AFU Inserts	
	Float Shoe	<u>1</u>
	Latch Down	<u>1 with plug</u>
		<u>2 limit clamps</u>
	Pumptrk Charge	<u>Prod long string</u>
	Mileage	<u>21</u>

	Tax	
	Discount	
	Total Charge	

X Signature  Jason Dandy

Citation Oil & Gas Corp

Stafford Co., Kansas
Section 1-T22S-R14W
Bordewick #10 (New SHL)

OH

Design: OH

Standard Survey Report

10 June, 2013





Citation Oil & Gas Corp
 Project: Stafford Co., Kansas
 Site: Section 1-T22S-R14W
 Well: Bordewick #10 (New SHL)
 Wellbore: OH
 Design: Plan #3 05Mar13 DS
 Latitude: 38.173245
 Longitude: -98.807073
 Ground Level: 1917.00
 Est 20' KB @ 1937.00ft (Duke #10)



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Bordewick #10 (New SHL), Grid North
 Vertical (TVD) Reference: Est 20' KB @ 1937.00ft (Duke #10)
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: Est 20' KB @ 1937.00ft (Duke #10)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Stafford Co., Kansas

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Kansas South 1502
 System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name
790.00	790.00	Surface Casing

WELL DETAILS: Bordewick #10 (New SHL)

+N/-S	+E/-W	Northing	Ground Level: Easting	1917.00 Latitude	Longitude	Slot
0.00	0.00	548717.00	1911724.00	38.173245	-98.807073	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	
1284.02	6.51	86.40	1283.09	1.55	24.58	1.50	86.40	24.63	
3744.80	6.51	86.40	3728.00	19.05	303.04	0.00	0.00	303.64	
4018.57	6.51	86.40	4000.00	21.00	334.02	0.00	0.00	334.68	

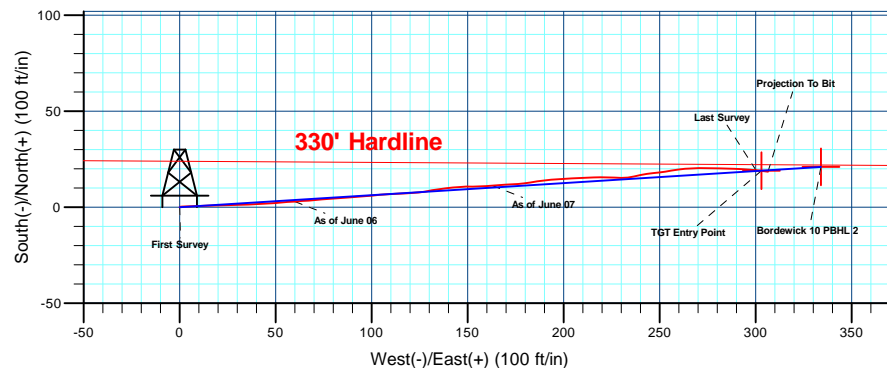
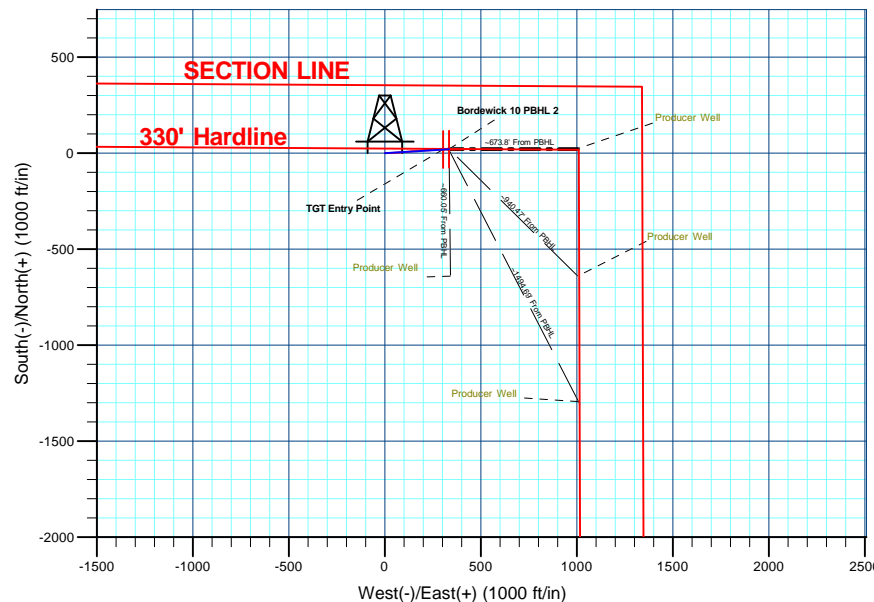
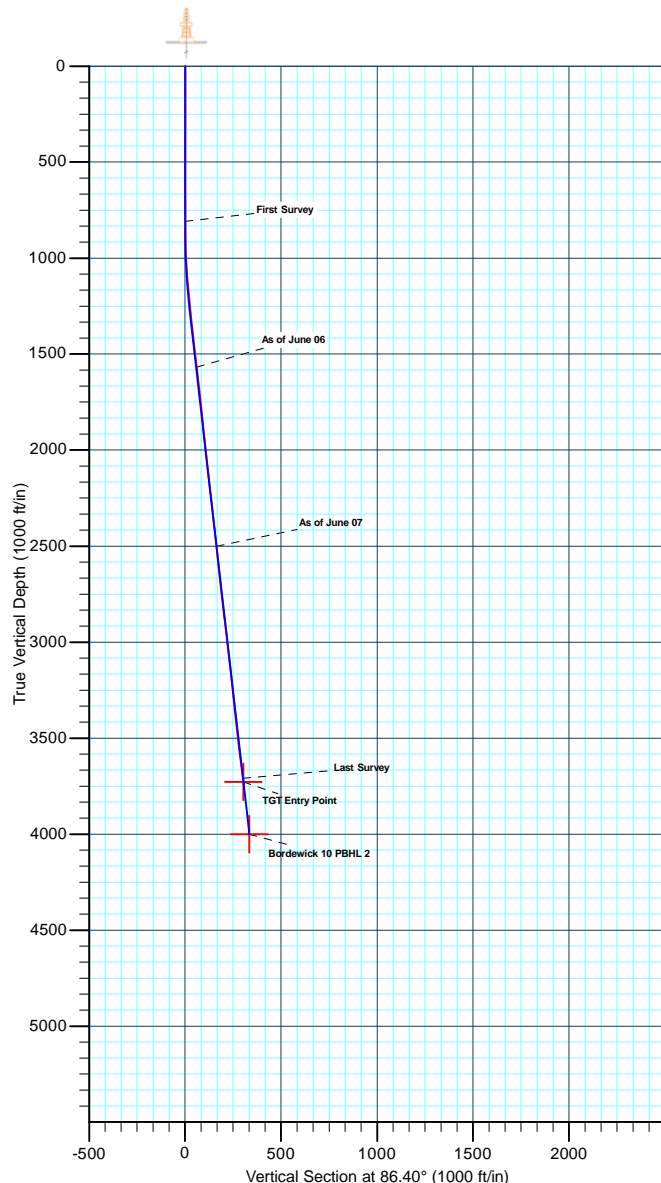
TGT Entry Point
Bordewick 10 PBHL 2

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TGT Entry Point	3728.00	19.05	303.04	548736.05	1912027.02	38.173300	-98.806019	Point
Bordewick 10 PBHL 2	4000.00	21.00	334.02	548738.00	1912058.00	38.173306	-98.805911	Point

Azimuths to Grid North
 True North: 0.19°
 Magnetic North: 5.16°

Magnetic Field
 Strength: 52279.3snT
 Dip Angle: 66.01°
 Date: 05/29/2013
 Model: IGRF2010



Plan: Plan #3 05Mar13 DS (Bordewick #10 (New SHL)/OH)

Created By: Rolando Garza Date: 10:15, June 10 2013

Company:	Citation Oil & Gas Corp	Local Co-ordinate Reference:	Well Bordewick #10 (New SHL)
Project:	Stafford Co., Kansas	TVD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Site:	Section 1-T22S-R14W	MD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Well:	Bordewick #10 (New SHL)	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Project	Stafford Co., Kansas		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Kansas South 1502		Using geodetic scale factor

Site	Section 1-T22S-R14W				
Site Position:		Northing:	548,690.02 usft	Latitude:	38.173177
From:	Lat/Long	Easting:	1,912,359.23 usft	Longitude:	-98.804863
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-0.19 °

Well	Bordewick #10 (New SHL)					
Well Position	+N/-S	0.00 ft	Northing:	548,717.00 usft	Latitude:	38.173245
	+E/-W	0.00 ft	Easting:	1,911,724.00 usft	Longitude:	-98.807073
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	1,917.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/29/13	4.97	66.01	52,279

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	86.40	

Survey Program	Date	06/10/13			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
808.00	3,777.00	OH (OH)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
808.00	0.00	360.00	808.00	0.00	0.00	0.00	0.00	0.00	0.00	
First Survey										
817.00	0.30	52.80	817.00	0.01	0.02	0.02	3.33	3.33	0.00	
849.00	0.10	318.40	849.00	0.09	0.07	0.07	1.01	-0.63	-295.00	
880.00	0.40	70.40	880.00	0.14	0.15	0.16	1.44	0.97	361.29	
910.00	1.20	75.90	910.00	0.25	0.55	0.57	2.68	2.67	18.33	
942.00	1.90	85.80	941.98	0.37	1.41	1.43	2.33	2.19	30.94	
974.00	2.50	86.90	973.96	0.45	2.63	2.66	1.88	1.88	3.44	
1,001.00	3.30	85.80	1,000.93	0.54	4.00	4.02	2.97	2.96	-4.07	
1,036.00	4.00	88.50	1,035.85	0.65	6.22	6.25	2.06	2.00	7.71	

Company:	Citation Oil & Gas Corp	Local Co-ordinate Reference:	Well Bordewick #10 (New SHL)
Project:	Stafford Co., Kansas	TVD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Site:	Section 1-T22S-R14W	MD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Well:	Bordewick #10 (New SHL)	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,068.00	4.50	89.00	1,067.77	0.70	8.59	8.62	1.57	1.56	1.56	
1,100.00	4.60	88.90	1,099.67	0.74	11.13	11.16	0.31	0.31	-0.31	
1,131.00	4.70	91.00	1,130.56	0.74	13.64	13.66	0.64	0.32	6.77	
1,162.00	5.10	90.40	1,161.45	0.71	16.29	16.30	1.30	1.29	-1.94	
1,194.00	5.40	88.50	1,193.32	0.74	19.22	19.23	1.08	0.94	-5.94	
1,225.00	5.70	85.20	1,224.17	0.91	22.21	22.22	1.41	0.97	-10.65	
1,256.00	5.90	86.60	1,255.01	1.13	25.34	25.36	0.79	0.65	4.52	
1,288.00	6.10	89.00	1,286.84	1.26	28.68	28.70	1.00	0.63	7.50	
1,319.00	6.00	90.10	1,317.66	1.29	31.94	31.96	0.49	-0.32	3.55	
1,350.00	6.20	88.50	1,348.49	1.33	35.24	35.25	0.85	0.65	-5.16	
1,382.00	6.20	85.60	1,380.30	1.50	38.69	38.71	0.98	0.00	-9.06	
1,413.00	6.30	85.30	1,411.12	1.77	42.05	42.08	0.34	0.32	-0.97	
1,444.00	6.60	87.80	1,441.92	1.98	45.53	45.56	1.33	0.97	8.06	
1,476.00	6.60	87.20	1,473.71	2.14	49.20	49.24	0.22	0.00	-1.88	
1,507.00	6.80	84.90	1,504.50	2.39	52.81	52.86	1.08	0.65	-7.42	
1,538.00	6.50	85.00	1,535.29	2.71	56.39	56.44	0.97	-0.97	0.32	
1,570.00	6.70	86.50	1,567.08	2.98	60.05	60.12	0.83	0.63	4.69	
As of June 06										
1,601.00	6.70	86.40	1,597.87	3.20	63.66	63.74	0.04	0.00	-0.32	
1,633.00	6.50	86.30	1,629.65	3.44	67.33	67.42	0.63	-0.63	-0.31	
1,663.00	6.40	83.60	1,659.46	3.73	70.69	70.79	1.06	-0.33	-9.00	
1,695.00	6.40	84.70	1,691.26	4.10	74.24	74.35	0.38	0.00	3.44	
1,727.00	6.60	85.50	1,723.06	4.41	77.85	77.97	0.69	0.63	2.50	
1,758.00	6.70	87.80	1,753.85	4.61	81.43	81.56	0.92	0.32	7.42	
1,789.00	6.10	85.40	1,784.66	4.82	84.88	85.01	2.12	-1.94	-7.74	
1,821.00	5.80	84.40	1,816.48	5.11	88.18	88.33	0.99	-0.94	-3.13	
1,853.00	5.80	85.60	1,848.32	5.39	91.41	91.56	0.38	0.00	3.75	
1,884.00	5.80	85.40	1,879.16	5.64	94.53	94.70	0.07	0.00	-0.65	
1,915.00	6.10	85.80	1,909.99	5.88	97.73	97.91	0.98	0.97	1.29	
1,946.00	6.00	84.70	1,940.82	6.15	100.99	101.18	0.49	-0.32	-3.55	
1,978.00	6.00	84.90	1,972.65	6.46	104.32	104.52	0.07	0.00	0.63	
2,009.00	6.10	86.20	2,003.47	6.71	107.58	107.79	0.55	0.32	4.19	
2,040.00	6.10	87.50	2,034.30	6.89	110.87	111.08	0.45	0.00	4.19	
2,072.00	6.10	86.50	2,066.12	7.07	114.26	114.48	0.33	0.00	-3.13	
2,103.00	6.10	87.40	2,096.94	7.25	117.55	117.77	0.31	0.00	2.90	
2,134.00	6.20	86.90	2,127.76	7.41	120.87	121.09	0.37	0.32	-1.61	
2,165.00	6.40	84.70	2,158.58	7.66	124.26	124.50	1.01	0.65	-7.10	
2,197.00	6.70	79.30	2,190.37	8.17	127.87	128.13	2.14	0.94	-16.88	
2,228.00	6.80	79.70	2,221.15	8.84	131.45	131.75	0.36	0.32	1.29	
2,259.00	6.80	83.10	2,251.93	9.38	135.08	135.40	1.30	0.00	10.97	
2,290.00	6.70	82.60	2,282.72	9.84	138.70	139.04	0.37	-0.32	-1.61	
2,321.00	6.80	84.20	2,313.50	10.26	142.31	142.68	0.69	0.32	5.16	
2,353.00	6.60	86.50	2,345.29	10.56	146.03	146.41	1.05	-0.63	7.19	

Company:	Citation Oil & Gas Corp	Local Co-ordinate Reference:	Well Bordewick #10 (New SHL)
Project:	Stafford Co., Kansas	TVD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Site:	Section 1-T22S-R14W	MD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Well:	Bordewick #10 (New SHL)	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
2,383.00	6.20	88.10	2,375.10	10.72	149.37	149.75	1.46	-1.33	5.33	
2,415.00	6.20	91.00	2,406.91	10.75	152.83	153.20	0.98	0.00	9.06	
2,446.00	6.10	87.10	2,437.73	10.80	156.15	156.52	1.39	-0.32	-12.58	
2,478.00	6.20	86.30	2,469.55	11.00	159.57	159.95	0.41	0.31	-2.50	
2,509.00	6.20	86.30	2,500.37	11.21	162.91	163.29	0.00	0.00	0.00	
As of June 07										
2,540.00	6.10	84.90	2,531.19	11.47	166.22	166.61	0.58	-0.32	-4.52	
2,572.00	6.20	86.40	2,563.01	11.73	169.64	170.04	0.59	0.31	4.69	
2,603.00	6.20	87.30	2,593.82	11.91	172.98	173.39	0.31	0.00	2.90	
2,635.00	5.90	84.10	2,625.65	12.16	176.35	176.76	1.41	-0.94	-10.00	
2,666.00	5.60	84.00	2,656.49	12.48	179.43	179.86	0.97	-0.97	-0.32	
2,698.00	5.60	82.20	2,688.34	12.86	182.53	182.98	0.55	0.00	-5.63	
2,729.00	6.20	81.60	2,719.17	13.31	185.69	186.16	1.95	1.94	-1.94	
2,760.00	6.90	82.30	2,749.97	13.80	189.19	189.68	2.27	2.26	2.26	
2,792.00	7.20	83.50	2,781.73	14.29	193.09	193.60	1.04	0.94	3.75	
2,823.00	6.90	86.00	2,812.49	14.64	196.88	197.41	1.38	-0.97	8.06	
2,854.00	6.90	87.00	2,843.27	14.86	200.59	201.13	0.39	0.00	3.23	
2,884.00	6.90	87.60	2,873.05	15.03	204.19	204.73	0.24	0.00	2.00	
2,915.00	6.90	87.40	2,903.83	15.20	207.91	208.46	0.08	0.00	-0.65	
2,946.00	6.90	87.40	2,934.60	15.37	211.63	212.18	0.00	0.00	0.00	
2,978.00	7.00	87.70	2,966.37	15.53	215.50	216.05	0.33	0.31	0.94	
3,009.00	6.90	89.70	2,997.14	15.62	219.25	219.80	0.84	-0.32	6.45	
3,041.00	6.60	91.60	3,028.92	15.58	223.01	223.55	1.17	-0.94	5.94	
3,072.00	6.40	93.10	3,059.72	15.43	226.52	227.04	0.85	-0.65	4.84	
3,103.00	6.30	91.40	3,090.53	15.30	229.94	230.45	0.69	-0.32	-5.48	
3,135.00	6.20	82.50	3,122.34	15.48	233.41	233.92	3.04	-0.31	-27.81	
3,166.00	6.30	77.80	3,153.16	16.06	236.73	237.28	1.68	0.32	-15.16	
3,197.00	6.30	77.80	3,183.97	16.78	240.06	240.64	0.00	0.00	0.00	
3,228.00	6.10	82.90	3,214.79	17.34	243.36	243.97	1.89	-0.65	16.45	
3,260.00	5.90	82.30	3,246.61	17.77	246.67	247.30	0.66	-0.63	-1.88	
3,291.00	5.90	83.50	3,277.45	18.16	249.84	250.48	0.40	0.00	3.87	
3,321.00	6.10	81.70	3,307.28	18.57	252.94	253.61	0.92	0.67	-6.00	
3,352.00	6.20	79.70	3,338.11	19.11	256.22	256.92	0.76	0.32	-6.45	
3,384.00	6.20	83.00	3,369.92	19.63	259.64	260.36	1.11	0.00	10.31	
3,415.00	6.00	84.90	3,400.74	19.97	262.91	263.65	0.92	-0.65	6.13	
3,446.00	6.20	86.70	3,431.57	20.21	266.20	266.94	0.89	0.65	5.81	
3,478.00	6.70	89.60	3,463.37	20.33	269.79	270.53	1.86	1.56	9.06	
3,508.00	6.90	90.50	3,493.15	20.32	273.34	274.08	0.76	0.67	3.00	
3,539.00	7.00	90.20	3,523.93	20.30	277.09	277.82	0.34	0.32	-0.97	
3,570.00	7.20	91.00	3,554.69	20.26	280.92	281.64	0.72	0.65	2.58	
3,601.00	7.20	92.10	3,585.44	20.15	284.81	285.51	0.44	0.00	3.55	
3,633.00	7.20	91.10	3,617.19	20.04	288.82	289.50	0.39	0.00	-3.13	
3,664.00	7.20	94.00	3,647.95	19.87	292.70	293.37	1.17	0.00	9.35	
3,696.00	7.00	93.60	3,679.70	19.61	296.64	297.29	0.64	-0.63	-1.25	

Company:	Citation Oil & Gas Corp	Local Co-ordinate Reference:	Well Bordewick #10 (New SHL)
Project:	Stafford Co., Kansas	TVD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Site:	Section 1-T22S-R14W	MD Reference:	Est 20' KB @ 1937.00ft (Duke #10)
Well:	Bordewick #10 (New SHL)	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,726.00	7.00	96.50	3,709.48	19.29	300.28	300.90	1.18	0.00	9.67
Last Survey									
3,777.00	7.00	96.50	3,760.10	18.58	306.46	307.02	0.00	0.00	0.00
Projection To Bit									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
808.00	808.00	0.00	0.00	First Survey	
1,570.00	1,567.08	2.98	60.05	As of June 06	
2,509.00	2,500.37	11.21	162.91	As of June 07	
3,726.00	3,709.48	19.29	300.28	Last Survey	
3,777.00	3,760.10	18.58	306.46	Projection To Bit	

Checked By: _____ Approved By: _____ Date: _____