

McPherson County, Kansas  
 Sec. 36, T19S, R1W

Staking For: CIMARRON SERVICES, INC.  
 20 East 5th, suite 1403  
 Tulsa, Oklahoma 74103

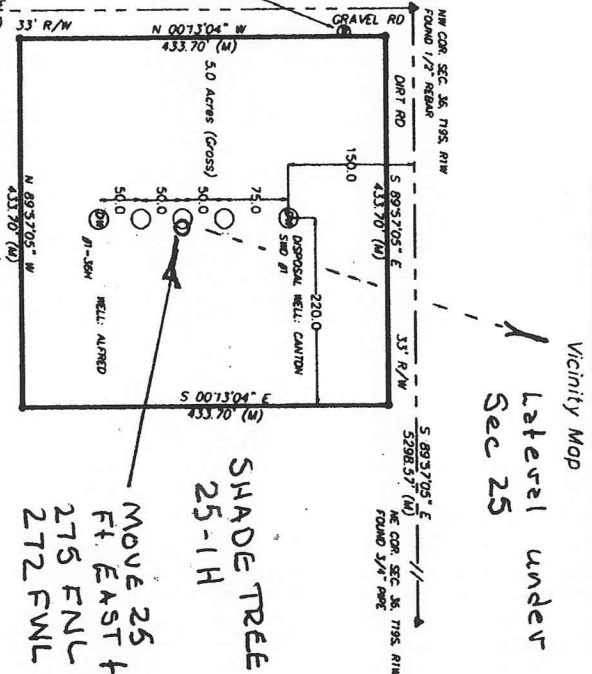
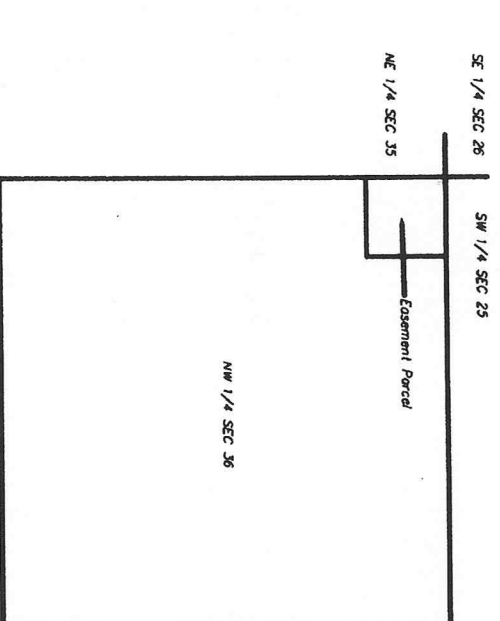
State of Kansas  
 County of McPherson SS

I, Chad R. Abbott, L.S. #1340 do hereby certify that this drawing is a true representation of a Easement Survey performed by me or under my direct supervision and that I am a duly licensed Land Surveyor in the State of Kansas.

Parcel described as:  
 A tract located in the Northwest Quarter (NW/4) of Section 36, Township 19 South, Range 1 West, described as beginning at the Northwest corner of said NW/4, thence South 466.7 feet, thence East 466.7 feet, thence North 466.7 feet to the North line of said NW/4, thence West 466.7 feet to the point of beginning, and containing approximately 5 acres, more or less. Sedgwick County, Kansas.

Date of Survey: July 1, 2010

**Chad R. Abbott, L.S. #1340**



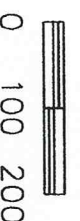
**NOTES:**

- 1) Unplatted Easements of Record if any, are not shown hereon
- 2) Property Improvements, Including Fences, are not shown hereon
- 3) All bearings and distances are measured
- 4) Date of survey = 7-01-2010
- 5) Date of Preparation = 7-06-2010

FILE: C:\drawings\boundary\12000\A12016Rev3

**LEGEND:**

- (M) = MEASURED OR CALCULATED FROM MEASUREMENT
- = SET 1/2" REBAR
- ▲ = FOUND SECTION CORNER (AS NOTED)
- ⊕ = DISPOSAL WELL



Dwn. By: CRA      Aprd. By: CRA  
 Dwg. No. A12016      Scale: 1" = 200'



**Benchmark**  
 LAND SURVEY, P.A.  
 416 S. MARKET WICHITA, KS 67202  
 PH 316.262.2262 FAX 316.262.2268  
 surveys@benchmarkks.net

W K TAYLOR  
 EXACT ENGR.  
 11/19/2013





Kiowa Rd

29th Ave



WATER TANKS

CANTON SWD

PROPOSED SURF LOC  
SHADE TREE 25-1H



OIL TANKS

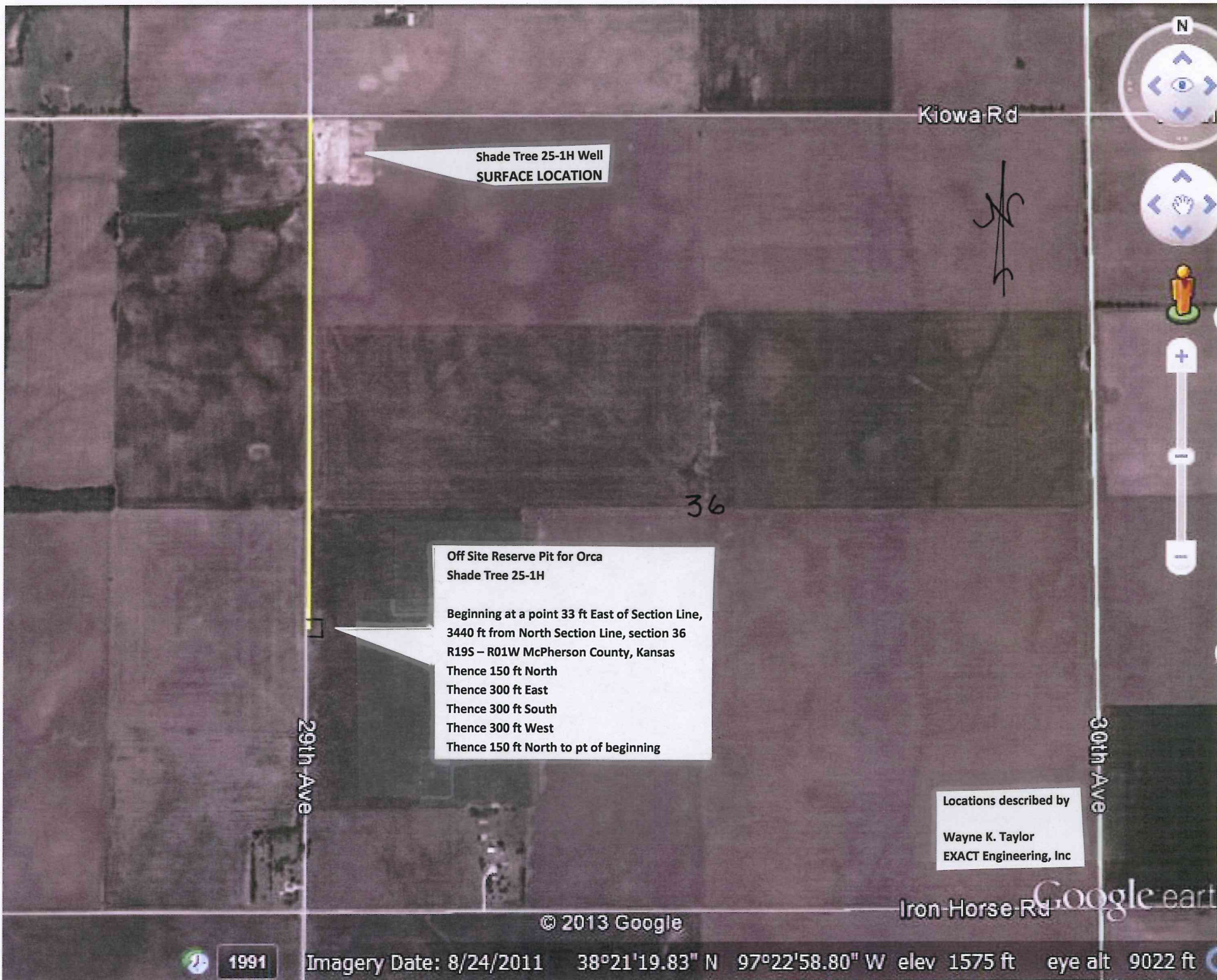
FWKO

ALFRED 36-1H

ENVIRONMENTAL TANK







Shade Tree 25-1H Well  
SURFACE LOCATION

Off Site Reserve Pit for Orca  
Shade Tree 25-1H

Beginning at a point 33 ft East of Section Line,  
3440 ft from North Section Line, section 36  
R19S - R01W McPherson County, Kansas  
Thence 150 ft North  
Thence 300 ft East  
Thence 300 ft South  
Thence 300 ft West  
Thence 150 ft North to pt of beginning

Locations described by  
Wayne K. Taylor  
EXACT Engineering, Inc

36



29th Ave

30th Ave

Iron Horse Rd

Google earth

© 2013 Google

1991 Imagery Date: 8/24/2011 38°21'19.83" N 97°22'58.80" W elev 1575 ft eye alt 9022 ft



Scientific Drilling

## **Orca Operating Company**

McPherson County Kansas

Section 36-19S-1W

Shade Tree Farms 25-1H

Sump Hole

Plan: Plan 1

## **Standard Planning Report**

16 October, 2013



Scientific Drilling





<b>Database:</b>	Okahoma District	<b>Local Co-ordinate Reference:</b>	Well Shade Tree Farms 25-1H
<b>Company:</b>	Orca Operating Company	<b>TVD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft. (Original Well Elev)
<b>Project:</b>	McPherson County Kansas	<b>MD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft. (Original Well Elev)
<b>Site:</b>	Section 36-19S-1W	<b>North Reference:</b>	True
<b>Well:</b>	Shade Tree Farms 25-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sump Hole		
<b>Design:</b>	Plan 1		

<b>Project:</b>	McPherson County Kansas, McPherson County, South Central Kansas	
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>
<b>Geo Datum:</b>	North American Datum 1983	Mean Sea Level
<b>Map Zone:</b>	Kansas Southern Zone	

<b>Site</b>	Section 36-19S-1W	
<b>Site Position:</b>		<b>Northing:</b> 1,931,663.88 usft
<b>From:</b>	Lat/Long	<b>Easting:</b> 1,630,558.55 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b> 0 "
		<b>Grid Convergence:</b>
		38° 21' 44.339 N
		97° 23' 24.163 W
		0.68 °

<b>Well</b>	Shade Tree Farms 25-1H, Mississippian	
<b>Well Position</b>	+N/-S 100.0 usft	<b>Northing:</b> 1,931,764.18 usft
	+E/W 25.0 usft	<b>Easting:</b> 1,630,582.35 usft
<b>Position Uncertainty</b>	2.0 usft	<b>Wellhead Elevation:</b> 1,582.0 usft
		<b>Ground Level:</b>
		38° 21' 45.327 N
		97° 23' 24.163 W
		1,566.0 usft

<b>Wellbore</b>	Sump Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF2010	10/15/2013	3.99	66.30	52,423

<b>Design</b>	Plan 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	<b>PLAN</b>	<b>Tie On Depth:</b>	<b>0.0</b>
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/W</b>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	20.95

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
1,825.0	0.00	0.00	1,825.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,625.0	60.00	20.95	2,486.6	366.7	136.6	7.50	7.50	0.00	20.95	
3,439.8	60.00	20.95	2,894.0	1,015.7	388.9	0.00	0.00	0.00	0.00	
4,051.8	60.00	20.95	3,200.0	1,510.7	578.4	0.00	0.00	0.00	0.00	0.00 PBHL Shade Tree Fai



<b>Database:</b>	Oklahoma District	<b>Local Co-ordinate Reference:</b>	Well Shade Tree Farms 25-1H
<b>Company:</b>	Orca Operating Company	<b>TVD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0ustf (Original Well Elev)
<b>Project:</b>	McPherson County Kansas	<b>MD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0ustf (Original Well Elev)
<b>Site:</b>	Section 36-19S-1W	<b>North Reference:</b>	True
<b>Well:</b>	Shade Tree Farms 25-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sump Hole		
<b>Design:</b>	Plan 1		

Measured Depth (ustf)	Inclination (°)	Azimuth (°)	Vertical Depth (ustf)	+N/S (ustf)	+E/W (ustf)	Vertical Section (ustf)	Dogleg Rate (°/100ustf)	Build Rate (°/100ustf)	Turn Rate (°/100ustf)
<b>Planned Survey</b>									
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Canton SWD #1 Offset Well</b>									
1,825.0	0.00	0.00	1,825.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	5.63	20.95	1,899.9	3.4	1.3	3.7	7.50	7.50	0.00
2,000.0	13.13	20.95	1,998.5	18.6	7.1	20.0	7.50	7.50	0.00
2,100.0	20.63	20.95	2,094.1	45.7	17.5	49.0	7.50	7.50	0.00
2,200.0	28.13	20.95	2,185.1	84.2	32.3	90.2	7.50	7.50	0.00
2,300.0	35.63	20.95	2,270.0	133.5	51.1	143.0	7.50	7.50	0.00
2,400.0	43.13	20.95	2,347.2	192.7	73.8	206.4	7.50	7.50	0.00
2,500.0	50.63	20.95	2,415.5	260.8	99.9	279.3	7.50	7.50	0.00
2,600.0	58.13	20.95	2,473.7	336.7	128.9	360.5	7.50	7.50	0.00
2,625.0	60.00	20.95	2,486.6	356.7	136.6	382.0	7.50	7.50	0.00
2,700.0	60.00	20.95	2,524.1	417.4	159.8	446.9	0.00	0.00	0.00
2,800.0	60.00	20.95	2,574.1	498.3	190.8	533.5	0.00	0.00	0.00
2,900.0	60.00	20.95	2,624.1	579.1	221.7	620.1	0.00	0.00	0.00
3,000.0	60.00	20.95	2,674.1	660.0	252.7	706.7	0.00	0.00	0.00
3,100.0	60.00	20.95	2,724.1	740.9	283.7	793.3	0.00	0.00	0.00
3,200.0	60.00	20.95	2,774.1	821.8	314.6	879.9	0.00	0.00	0.00
3,300.0	60.00	20.95	2,824.1	902.6	345.6	966.5	0.00	0.00	0.00
3,400.0	60.00	20.95	2,874.1	983.5	376.6	1,053.1	0.00	0.00	0.00
3,439.8	60.00	20.95	2,894.0	1,015.7	388.9	1,087.6	0.00	0.00	0.00
3,500.0	60.00	20.95	2,924.1	1,064.4	407.5	1,139.7	0.00	0.00	0.00
3,600.0	60.00	20.95	2,974.1	1,145.3	438.5	1,226.3	0.00	0.00	0.00
3,700.0	60.00	20.95	3,024.1	1,226.2	469.4	1,312.9	0.00	0.00	0.00
3,800.0	60.00	20.95	3,074.1	1,307.0	500.4	1,399.6	0.00	0.00	0.00
3,900.0	60.00	20.95	3,124.1	1,387.9	531.4	1,486.2	0.00	0.00	0.00
4,000.0	60.00	20.95	3,174.1	1,468.8	562.3	1,572.8	0.00	0.00	0.00
4,051.8	60.00	20.95	3,200.0	1,510.7	578.4	1,617.6	0.00	0.00	0.00
<b>PBHL Shade Tree Farms 25-1H Sump</b>									

Design Targets												
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ustf)	+N/S (ustf)	+E/W (ustf)	Northing (ustf)	Eastng (ustf)	Latitude	Longitude			
- hit/miss target	0.00	0.00	0.0	125.0	-25.0	1,931,888.87	1,630,555.87	38° 21' 46.563 N	97° 23' 24.477 W			
- Shape												
Canton SWD #1 Offset \												
- plan misses target center by 127.5ustf at 0.0ustf MD (0.0 TVD, 0.0 N, 0.0 E)												
- Circle (radius 46.8)												
PBHL Shade Tree Farm:												
- plan hits target center	0.00	0.00	3,200.0	1,510.7	578.4	1,933,281.64	1,631,142.72	38° 22' 0.261 N	97° 23' 16.901 W			
- Point												





Orca Operating Company  
 Shade Tree Farms 25-1H  
 McPherson County Kansas  
 Northing: 1931764.17  
 Easting: 1630582.36  
 Plan 1

WELL DETAILS: Shade Tree Farms 25-1H  
 Ground Level: 1566.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1931764.17	1630582.36	38° 21' 45.327 N	97° 23' 24.163 W	

SECTION DETAILS:

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1825.0	0.00	0.00	1825.0	0.0	0.0	0.00	0.00	0.0	
2625.0	60.00	20.95	2486.6	356.7	136.6	7.50	20.95	382.0	
3439.8	60.00	20.95	2894.0	1015.7	388.9	0.00	0.00	1087.6	
4051.8	60.00	20.95	3200.0	1510.7	578.4	0.00	0.00	1617.6	PBHL Shade Tree Farms 25-1H Sump

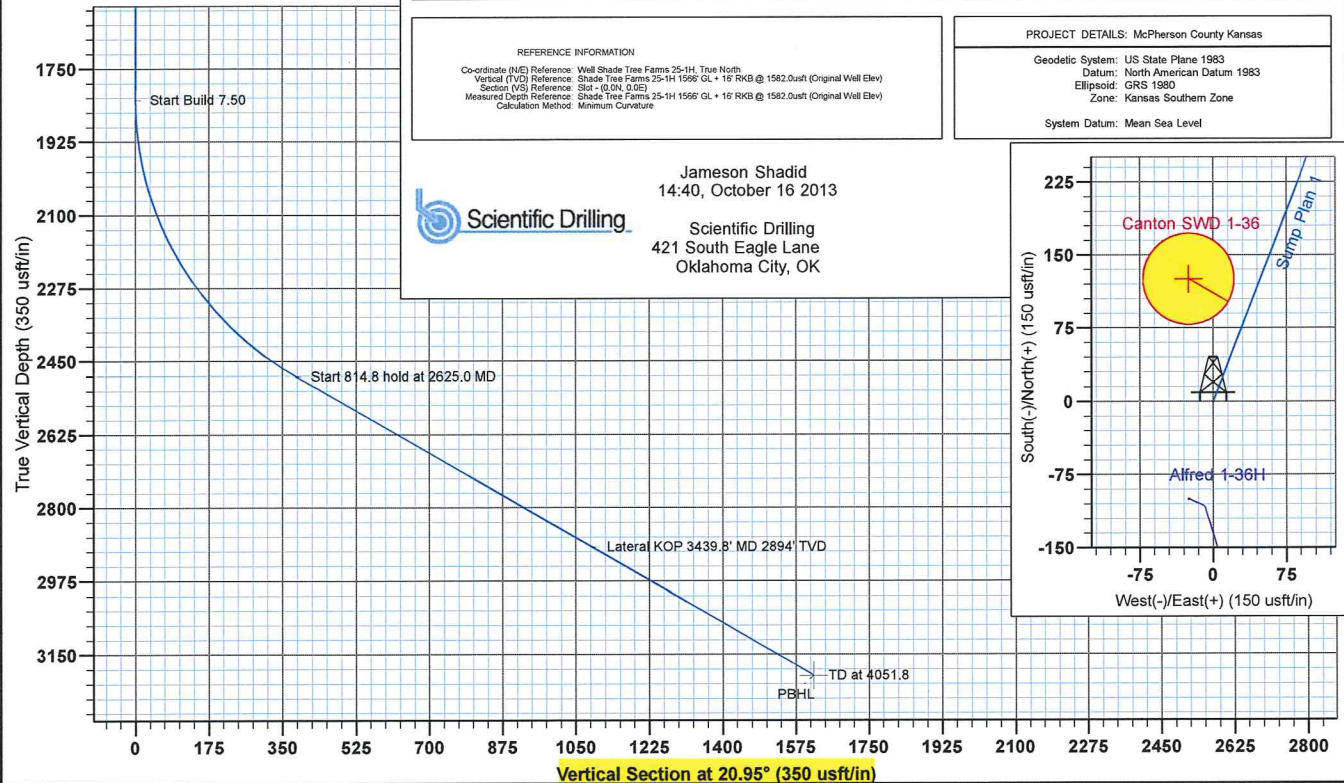
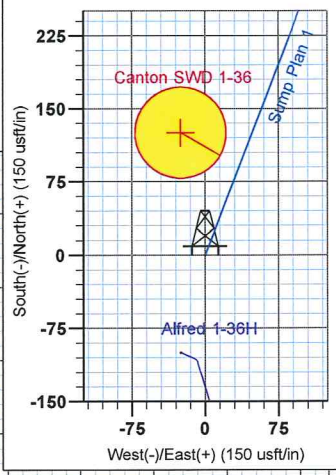
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL Shade Tree Farms 25-1H Sump	3200.0	1510.7	578.4	1933281.64	1631142.72
Canton SWD #1 Offset Well	0.0	125.0	-25.0	1931888.87	1630555.87

REFERENCE INFORMATION  
 Co-ordinate (NE) Reference: Well Shade Tree Farms 25-1H, True North  
 Vertical (VD) Reference: Shade Tree Farms 25-1H 1996' GL + 16' RKB @ 1582.0usft (Original Well Elev)  
 Section (VS) Reference: Slot = (0.0N, 0.0E)  
 Measured Depth Reference: Shade Tree Farms 25-1H 1996' GL + 16' RKB @ 1582.0usft (Original Well Elev)  
 Calculation Method: Minimum Curvature

PROJECT DETAILS: McPherson County Kansas  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Kansas Southern Zone  
 System Datum: Mean Sea Level

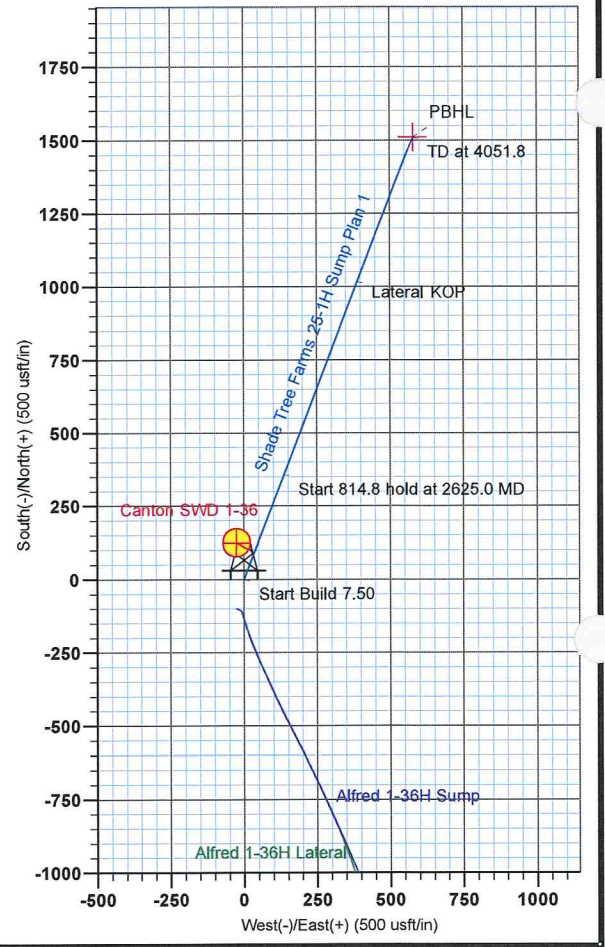
Jameson Shadid  
 14:40, October 16 2013  
 Scientific Drilling  
 421 South Eagle Lane  
 Oklahoma City, OK



To convert Magnetic North to Grid, Add 3.31°  
 To convert True North to Grid, Subtract 0.68°

Azimuths to True North  
 Magnetic North: 3.99°

Magnetic Field  
 Strength: 52423.0nT  
 Dip Angle: 66.30°  
 Date: 10/15/2013  
 Model: IGRF2010





Scientific Drilling

## **Orca Operating Company**

McPherson County Kansas

Section 36-19S-1W

Shade Tree Farms 25-1H

Original Wellpath

Plan: Plan 1

## **Standard Planning Report**

16 October, 2013



Scientific Drilling





<b>Database:</b>	Oklahoma District	<b>Local Co-ordinate Reference:</b>	Well Shade Tree Farms 25-1H
<b>Company:</b>	Orca Operating Company	<b>TVD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB
<b>Project:</b>	McPherson County Kansas	<b>MID Reference:</b>	@ 1582.0usft (Original Well Elev)
<b>Site:</b>	Section 36-19S-1W	<b>North Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB
<b>Well:</b>	Shade Tree Farms 25-1H	<b>Survey Calculation Method:</b>	@ 1582.0usft (Original Well Elev)
<b>Wellbore:</b>	Original Wellpath		True
<b>Design:</b>	Plan 1		Minimum Curvature

<b>Project</b>	McPherson County Kansas, McPherson County, South Central Kansas	<b>System Datum:</b>	Mean Sea Level
<b>Map System:</b>	US State Plane 1983		
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Kansas Southern Zone		

<b>Site</b>	Section 36-19S-1W	<b>Northing:</b>	1,931,663.88 usft	<b>Latitude:</b>	38° 21' 44.339 N
<b>Site Position:</b>	Lat/Long	<b>Easting:</b>	1,630,558.55 usft	<b>Longitude:</b>	97° 23' 24.477 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b>	0.68 °

<b>Well</b>	Shade Tree Farms 25-1H, Mississippi	<b>Northing:</b>	1,931,764.18 usft	<b>Latitude:</b>	38° 21' 45.327 N
<b>Well Position</b>	+N/-S 100.0 usft	<b>Easting:</b>	1,630,582.35 usft	<b>Longitude:</b>	97° 23' 24.163 W
	+E/-W 25.0 usft	<b>Wellhead Elevation:</b>	1,582.0 usft	<b>Ground Level:</b>	1,566.0 usft

<b>Wellbore</b>	Original Wellpath				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	10/15/2013	3.99	66.30	52,423

<b>Design</b>	Plan 1				
<b>Audit Notes:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	3,439.8
<b>Version:</b>					
<b>Vertical Section:</b>		<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
		0.0	0.0	0.0	20.95

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
3,439.8	60.00	20.95	2,894.0	1,015.7	388.9	0.00	0.00	0.00	0.00	0.00
3,561.0	90.00	20.95	2,925.0	1,123.8	430.2	24.76	24.76	0.00	-0.01	0.00
6,185.6	90.00	20.95	2,925.0	3,575.0	1,368.5	0.00	0.00	0.00	0.00	660 FSL NVV/4 1000 F
6,209.6	90.00	20.95	2,925.0	3,597.4	1,377.1	0.00	0.00	0.00	0.00	PBHL Shade Tree Farms



<b>Database:</b>	Oklahoma District	<b>Local Co-ordinate Reference:</b>	Well Shade Tree Farms 25-1H
<b>Company:</b>	Ora Operating Company	<b>TVD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft (Original Well Elev)
<b>Project:</b>	McPherson County Kansas	<b>MID Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft (Original Well Elev)
<b>Site:</b>	Section 36-19S-1W	<b>North Reference:</b>	True
<b>Well:</b>	Shade Tree Farms 25-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellpath		
<b>Design:</b>	Plan 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,439.8	60.00	20.95	2,894.0	1,015.7	388.9	1,087.6	0.00	0.00	0.00	
<b>Canton SWD 1-36 Offset Well</b>										
3,500.0	74.80	20.95	2,917.0	1,067.5	408.7	1,143.1	24.76	24.76	0.00	
3,561.0	90.00	20.95	2,925.0	1,123.8	430.2	1,203.3	24.76	24.76	0.00	
<b>LP Shade Tree Farms 25-1H</b>										
3,600.0	90.00	20.95	2,925.0	1,160.2	444.2	1,242.3	0.00	0.00	0.00	
3,700.0	90.00	20.95	2,925.0	1,253.6	479.9	1,342.3	0.00	0.00	0.00	
3,800.0	90.00	20.95	2,925.0	1,347.0	515.7	1,442.3	0.00	0.00	0.00	
3,900.0	90.00	20.95	2,925.0	1,440.4	551.4	1,542.3	0.00	0.00	0.00	
4,000.0	90.00	20.95	2,925.0	1,533.8	587.2	1,642.3	0.00	0.00	0.00	
4,100.0	90.00	20.95	2,925.0	1,627.2	622.9	1,742.3	0.00	0.00	0.00	
4,200.0	90.00	20.95	2,925.0	1,720.6	658.7	1,842.3	0.00	0.00	0.00	
4,300.0	90.00	20.95	2,925.0	1,814.0	694.4	1,942.3	0.00	0.00	0.00	
4,400.0	90.00	20.95	2,925.0	1,907.4	730.2	2,042.3	0.00	0.00	0.00	
4,500.0	90.00	20.95	2,925.0	2,000.7	765.9	2,142.3	0.00	0.00	0.00	
4,600.0	90.00	20.95	2,925.0	2,094.1	801.7	2,242.3	0.00	0.00	0.00	
4,700.0	90.00	20.95	2,925.0	2,187.5	837.4	2,342.3	0.00	0.00	0.00	
4,800.0	90.00	20.95	2,925.0	2,280.9	873.2	2,442.3	0.00	0.00	0.00	
4,900.0	90.00	20.95	2,925.0	2,374.3	908.9	2,542.3	0.00	0.00	0.00	
5,000.0	90.00	20.95	2,925.0	2,467.7	944.7	2,642.3	0.00	0.00	0.00	
5,100.0	90.00	20.95	2,925.0	2,561.1	980.4	2,742.3	0.00	0.00	0.00	
5,200.0	90.00	20.95	2,925.0	2,654.5	1,016.2	2,842.3	0.00	0.00	0.00	
5,300.0	90.00	20.95	2,925.0	2,747.9	1,051.9	2,942.3	0.00	0.00	0.00	
5,400.0	90.00	20.95	2,925.0	2,841.3	1,087.7	3,042.3	0.00	0.00	0.00	
5,500.0	90.00	20.95	2,925.0	2,934.7	1,123.4	3,142.3	0.00	0.00	0.00	
5,600.0	90.00	20.95	2,925.0	3,028.1	1,159.2	3,242.3	0.00	0.00	0.00	
5,700.0	90.00	20.95	2,925.0	3,121.4	1,194.9	3,342.3	0.00	0.00	0.00	
5,800.0	90.00	20.95	2,925.0	3,214.8	1,230.7	3,442.3	0.00	0.00	0.00	
5,900.0	90.00	20.95	2,925.0	3,308.2	1,266.4	3,542.3	0.00	0.00	0.00	
6,000.0	90.00	20.95	2,925.0	3,401.6	1,302.2	3,642.3	0.00	0.00	0.00	
6,100.0	90.00	20.95	2,925.0	3,495.0	1,337.9	3,742.3	0.00	0.00	0.00	
6,185.6	90.00	20.95	2,925.0	3,575.0	1,368.5	3,828.0	0.00	0.00	0.00	
<b>660 FSL NW/4 1000 FEL NW/4</b>										
6,200.0	90.00	20.95	2,925.0	3,588.4	1,373.6	3,842.3	0.00	0.00	0.00	
6,209.6	90.00	20.95	2,925.0	3,597.4	1,377.1	3,852.0	0.00	0.00	0.00	
<b>PBHL Shade Tree Farms 25-1H Lateral</b>										





<b>Database:</b>	Oklahoma District	<b>Local Co-ordinate Reference:</b>	Well Shade Tree Farms 25-1H
<b>Company:</b>	Orca Operating Company	<b>TVD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft (Original Well Elev)
<b>Project:</b>	McPherson County Kansas	<b>MD Reference:</b>	Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft (Original Well Elev)
<b>Site:</b>	Section 36-19S-1W	<b>North Reference:</b>	True
<b>Well:</b>	Shade Tree Farms 25-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellpath		
<b>Design:</b>	Plan 1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Canton SWD 1-36 Offse	0.00	0.00	0.0	125.0	-25.0	1,931,888.87	1,630,555.87	38° 21' 46.563 N	97° 23' 24.477 W
- plan misses target center by 3056.1usft at 3439.8usft MD (2894.0 TVD, 1015.7 N, 388.9 E)									
- Circle (radius 46.8)									
LP Shade Tree Farms 2i	0.00	0.00	2,925.0	1,123.8	430.2	1,932,892.99	1,630,999.19	38° 21' 56.437 N	97° 23' 18.761 W
- plan hits target center									
- Point									
PBHL Shade Tree Farm:									
- plan hits target center	0.00	0.00	2,925.0	3,597.4	1,377.1	1,935,377.73	1,631,916.51	38° 22' 20.889 N	97° 23' 6.871 W
- Point									
660 FSL NW/4 1000 FEI	0.00	0.00	2,925.0	3,575.0	1,368.5	1,935,355.21	1,631,908.20	38° 22' 20.668 N	97° 23' 6.979 W
- plan hits target center									
- Point									



Orca Operating Company  
 Shade Tree Farms 25-1H  
 McPherson County Kansas  
 Northing: 1931764.17  
 Easting: 1630582.36  
 Plan 1

**WELL DETAILS:** Shade Tree Farms 25-1H

		Ground Level: 1566.0			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1931764.17	1630582.36	38° 21' 45.327 N	97° 23' 24.163 W

**SECTION DETAILS:**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
3439.8	60.00	20.95	2894.0	1015.7	388.9	0.00	0.00	1087.8	
3561.0	90.00	20.95	2925.0	1123.8	430.2	24.76	-0.01	1203.3	
6185.6	90.00	20.95	2925.0	3575.0	1388.5	0.00	0.00	3828.0	660 FSL NW/4 1000 FEL NW/4
6209.6	90.00	20.95	2925.0	3597.4	1377.1	0.00	0.00	3852.0	PBHL Shade Tree Farms 25-1H Lateral

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting
660 FSL NW/4 1000 FEL NW/4	2925.0	3575.0	1368.5	1935355.21	1631908.20
PBHL Shade Tree Farms 25-1H Lateral	2925.0	3597.4	1377.1	1935377.72	1631916.51
Canton SWD 1-36 Offset Well	0.0	125.0	-25.0	1931888.87	1630555.87
LP Shade Tree Farms 25-1H	2925.0	1123.8	430.2	1932892.99	1630999.20

**REFERENCE INFORMATION**

Co-ordinate (N/E) Reference: Well Shade Tree Farms 25-1H, True North  
 Vertical (TVD) Reference: Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft (Original Well Elev)  
 Section (V/S) Reference: Sit - (0.00, 0.06)  
 Measured Depth Reference: Shade Tree Farms 25-1H 1566' GL + 16' RKB @ 1582.0usft (Original Well Elev)  
 Calculation Method: Minimum Curvature

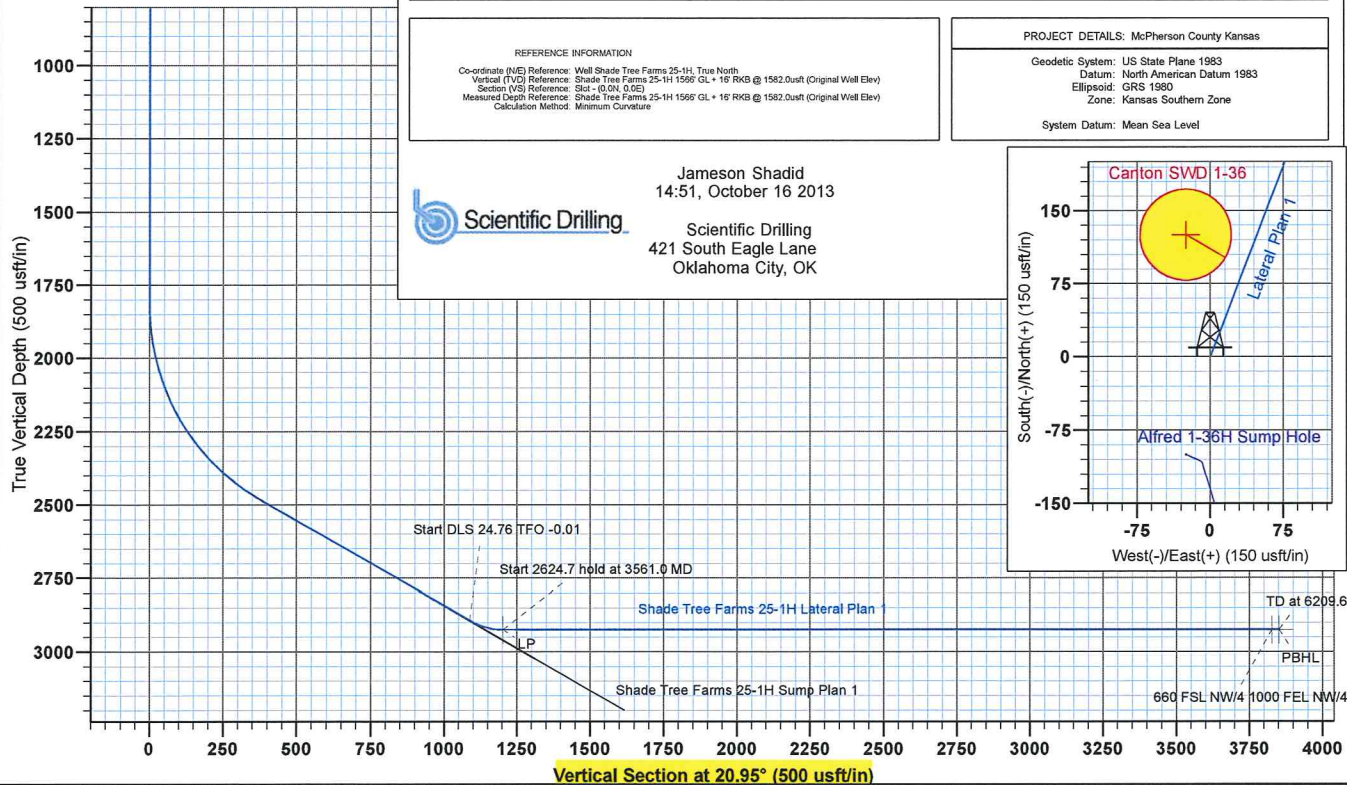
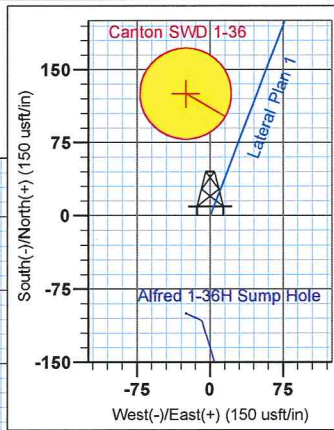
**PROJECT DETAILS:** McPherson County Kansas

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Kansas Southern Zone  
 System Datum: Mean Sea Level

Jameson Shadid  
 14:51, October 16 2013



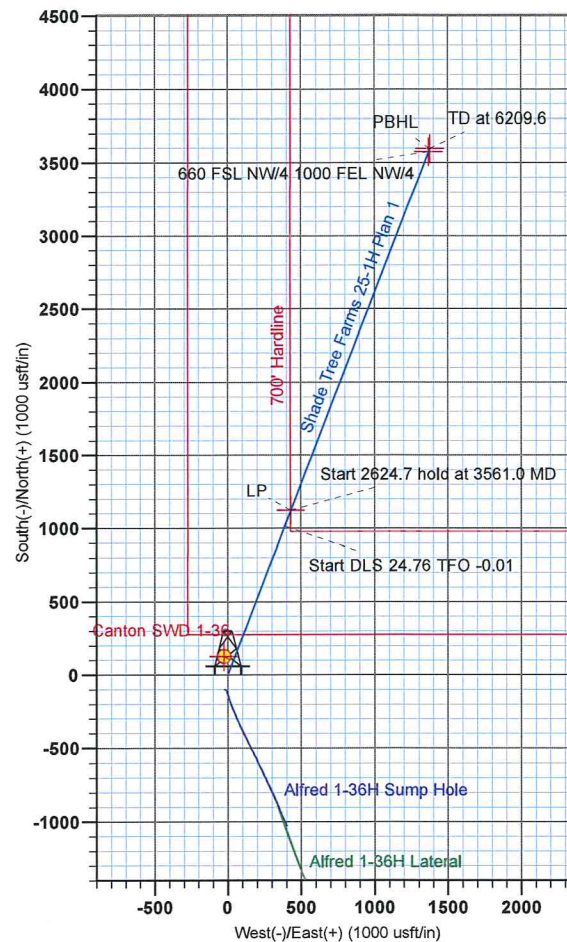
Scientific Drilling  
 421 South Eagle Lane  
 Oklahoma City, OK



To convert Magnetic North to Grid, Add 3.31°  
 To convert True North to Grid, Subtract 0.68°

Azimuths to True North  
 Magnetic North: 3.99°

Magnetic Field  
 Strength: 52423.0snT  
 Dip Angle: 66.30°  
 Date: 10/15/2013  
 Model: IGRF2010





Orca Operating Company has acquired the leasehold interest necessary to drill a horizontal producing well in the Mississippian formation in a 640 acre unit underlying Section 25, Township 9 South, Range 1 West in McPherson County, Kansas. Orca intends to, by filing of a Declaration of Unitization Instrument of record, unitize and consolidate the oil and gas rights in and to the oil and gas leasehold estate created by the oil and gas leases listed below to form an oil and gas unit of approximately 640 acres.

Oil and Gas Leases

LEASE NO. 1:

Date: December 28, 1973  
Recorded: Book 202 at Page 243  
Lessors: James Peters and Marjorie Peters, husband and wife  
Description: S/2 NW/4, Section 25-T19S-R1W,

LEASE NO. 2:

Date: April 19, 2013  
Recorded: Book 657 at Page 6112  
Lessors: Anthony J. Sullivan and Charlsie M. Sullivan, his wife  
Description: Sullivan Tract in SW/4 Section 25-T19S-R1W,  
More fully described as:  
Beginning at the SW/c SW/4; North 589.43 feet  
for a POB; North 345.57 feet; East 833.79 feet;  
South 329.53 feet; West 833.63 feet to the POB

LEASE NO. 3:

Date: April 24, 2013  
Recorded: Book 657 at Page 4347  
Lessors: Shade Tree Farms, L.P., a Kansas limited partnership  
Description: North 53.33 acres of SW/4, Section 25-T19S-R1W

LEASE NO. 4:

Date: April 27, 2009  
Recorded: Book 647 at Page 4981  
Lessors: Jean Koehn, Trustee of the Jean Koehn Revocable Trust dated 4/23/1997  
Description: W/2 SE/4, Section 25-T19S-R1W

LEASE NO. 5:

Date: April 22, 2009  
Recorded: Book 657 at Page 4973  
Lessors: Leroy E. & Doris L. Bitikofer Revocable Living Trust, dated January 15, 2007  
Description: NE/4 SE/4, Section 25-T19S-R1W

LEASE NO. 6:

Date: April 22, 2009  
Recorded: Book 647 at Page 4971  
Lessors: Juanita Koehn, a widow  
Description: SE/4 SE/4, Section 25-T19S-R1W

LEASE NO. 7:  
Date: April 15, 2009  
Recorded: Book 647 at Page 4987  
Lessors: DuMont K. Schmidt as Attorney-in-Fact for Ella M. Schmidt a/k/a Ella K. Schmidt,  
a widow  
Description: NE/4 NW/4, NW/4 NW/4, Section 25-T19S-R1W

LEASE NO. 8:  
Date: April 3, 2009  
Recorded: Book 647 at Page 2778  
Lessors: Lloyd S. Voth Trustee of the Lloyd S. Voth Revocable Trust dated 2/1/79 and  
Marlene R. Voth Trustee of the Marlene R. Voth Revocable Trust dated 2/1/79  
Description: N/2 NE/4, Section 25-T19S-R1W

LEASE NO. 9:  
Date: April 6, 2009  
Recorded: Book 647 at Page 2780  
Lessors: Shade Tree Farms LP  
Description: S/2 NE/4, Sec. 25;E/2, Sec. 36;in T19S-R1W

LEASE NO. 10:  
Date: August 17, 2009  
Recorded: Book 648 at Page 2449  
Lessors: Shade Tree Farms LP  
Description: South 106.67 acres of the SW/4, Section 25-T19S-R1W



Two separate highway deeds issued to the Kansas Department of Transportation covering a total of 2.98 net mineral acres across the north 75 feet of the the NW NW & NE NW.

