1102106

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

CONFIDENTIAL

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34715
Name: Dorado E&P Partners, LLC
Address 1: 1401 17th ST., STE 1500
Address 2:
City: DENVER State: CO Zip: 80202 +
Contact Person: TINA MILLER
Phone: (720) 402-3693
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Chris Spencer, Hembros Hydrocarbons
Purchaser: NCRA / West Wichita Gas Gathering

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [x] 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
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

09/19/2012	10/14/2012	1/7/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-155-21592-01-00
Spot Description:
NE NW NW NW Sec. 4 Twp. 25 S. R. 9 [ ] East [x] West
150 Feet from [x] North / [ ] South Line of Section
450 Feet from [ ] East / [x] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [x] NW [ ] SE [ ] SW
County: Reno
Lease Name: Toews Well #: 25-9-4
Field Name:
Producing Formation: MISSISSIPPIAN
Elevation: Ground: 1701 Kelly Bushing: 1710
Total Depth: 9346 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 250 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] 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: 40000 ppm Fluid volume: 1105 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Dorado E&P Partners, LLC
Lease Name: Moser C 1-22 SWD License #: 34715
Quarter SE Sec. 22 Twp. 23 S. R. 8 [ ] East [x] West
County: Reno Permit #: D-26545

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

- [x] Letter of Confidentiality Received
  Date: 01/14/2013
- [ ] Confidential Release Date:
- [x] Wireline Log Received
- [ ] Geologist Report Received
- [ ] UIC Distribution

ALT [x] I [ ] II [ ] III Approved by: NAOMI JAMES Date: 01/14/2013

Pan American
DRILLING SERVICES

Survey Sheet

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
Tie In	0	0.0													
1	500	0.6	72.4	500	499.99	-0.70	0.79	N	2.50	E	2.62	72.38	0.12	0.12	14.48
2	1000	0.2	158.0	500	999.98	-0.57	0.78	N	5.32	E	5.37	81.70	0.12	-0.08	17.12
3	1500	0.8	209.4	500	1499.96	3.22	3.08	S	3.93	E	4.99	128.03	0.14	0.12	10.27
4	2000	0.6	213.6	500	1999.92	8.32	8.30	S	0.77	E	8.33	174.69	0.04	-0.04	0.85
5	2500	0.2	217.2	500	2499.91	11.12	11.17	S	1.20	W	11.24	186.15	0.08	-0.08	0.71
6	2925	0.2	287.6	425	2924.91	11.44	11.54	S	2.36	W	11.78	191.56	0.05	0.00	16.57
7	3161	0.3	87.2	236	3160.91	11.30	11.39	S	2.14	W	11.58	190.62	0.21	0.04	-84.92
8	3192	0.9	141.8	31	3191.90	11.49	11.57	S	1.90	W	11.73	189.34	2.47	1.94	176.13
9	3254	6.9	155.7	62	3253.73	15.34	15.35	S	0.07	W	15.35	180.25	9.73	9.68	22.42
10	3285	9.3	156.1	31	3284.42	19.39	19.34	S	1.71	E	19.42	174.94	7.74	7.74	1.29
11	3316	12.3	153.2	31	3314.87	24.72	24.58	S	4.22	E	24.94	170.26	9.83	9.68	-9.35
12	3347	14.9	153.3	31	3345.00	31.35	31.09	S	7.50	E	31.98	166.44	8.39	8.39	0.32
13	3378	18.5	155.4	31	3374.69	39.53	39.12	S	11.34	E	40.73	163.84	11.77	11.61	6.77
14	3409	21.3	156.2	31	3403.83	49.31	48.75	S	15.66	E	51.20	162.19	9.07	9.03	2.58
15	3440	23.9	156.6	31	3432.45	60.40	59.67	S	20.42	E	63.06	161.10	8.40	8.39	1.29
16	3471	27.0	157.0	31	3460.44	72.84	71.91	S	25.67	E	76.35	160.36	10.02	10.00	1.29
17	3502	29.4	156.3	31	3487.76	86.50	85.36	S	31.48	E	90.98	159.76	7.82	7.74	-2.26
18	3533	31.2	156.7	31	3514.52	101.07	99.70	S	37.71	E	106.59	159.28	5.84	5.81	1.29
19	3564	33.6	156.7	31	3540.69	116.56	114.95	S	44.28	E	123.19	158.93	7.74	7.74	0.00
20	3594	36.9	156.9	30	3565.19	132.72	130.87	S	51.10	E	140.49	158.67	11.01	11.00	0.67
21	3625	39.4	156.3	31	3589.56	150.57	148.44	S	58.71	E	159.63	158.42	8.15	8.06	-1.94
22	3656	41.4	157.5	31	3613.17	169.34	166.92	S	66.59	E	179.71	158.25	6.92	6.45	3.87
23	3687	44.4	157.8	31	3635.88	189.15	186.43	S	74.61	E	200.81	158.19	9.70	9.68	0.97
24	3718	47.4	157.9	31	3657.45	210.07	207.05	S	83.00	E	223.07	158.16	9.68	9.68	0.32
25	3749	49.6	157.5	31	3677.99	231.87	228.53	S	91.81	E	246.28	158.11	7.16	7.10	-1.29
26	3780	52.5	157.4	31	3697.47	254.47	250.79	S	101.06	E	270.39	158.05	9.36	9.35	-0.32
27	3811	56.9	157.9	31	3715.38	278.22	274.19	S	110.67	E	295.68	158.02	14.25	14.19	1.61
28	3842	60.3	158.2	31	3731.53	303.12	298.73	S	120.56	E	322.14	158.02	11.00	10.97	0.97
29	3873	60.9	158.6	31	3746.75	328.59	323.84	S	130.50	E	349.14	158.05	2.24	1.94	1.29
30	3904	61.6	157.9	31	3761.66	354.20	349.08	S	140.57	E	376.32	158.07	3.00	2.26	-2.26

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
31	3935	62.5	158.1	31	3776.19	379.96	374.47	S	150.83	E	403.71	158.06	2.96	2.90	0.65
32	3966	63.6	158.5	31	3790.24	406.01	400.15	S	161.05	E	431.34	158.08	3.73	3.55	1.29
33	3997	66.5	160.0	31	3803.32	432.65	426.43	S	171.00	E	459.44	158.15	10.33	9.35	4.84
34	4028	68.6	161.2	31	3815.15	460.02	453.45	S	180.51	E	488.06	158.29	7.66	6.77	3.87
35	4059	70.5	163.4	31	3825.99	488.00	481.12	S	189.34	E	517.04	158.52	9.04	6.13	7.10
36	4090	72.8	165.9	31	3835.75	516.65	509.49	S	197.12	E	546.29	158.85	10.66	7.42	8.06
37	4121	74.1	167.1	31	3844.58	545.79	538.38	S	204.06	E	575.76	159.24	5.60	4.19	3.87
38	4152	75.5	168.4	31	3852.70	575.24	567.62	S	210.41	E	605.36	159.66	6.06	4.52	4.19
39	4182	76.2	169.3	30	3860.04	603.98	596.16	S	216.03	E	634.09	160.08	3.73	2.33	3.00
40	4213	77.1	169.9	31	3867.20	633.83	625.82	S	221.48	E	663.86	160.51	3.46	2.90	1.94
41	4244	79.2	171.9	31	3873.56	663.95	655.78	S	226.27	E	693.72	160.96	9.26	6.77	6.45
42	4275	81.0	173.5	31	3878.89	694.36	686.07	S	230.15	E	723.64	161.46	7.72	5.81	5.16
43	4306	81.7	174.2	31	3883.55	724.93	716.54	S	233.43	E	753.60	161.96	3.18	2.26	2.26
44	4337	83.7	175.6	31	3887.49	755.64	747.16	S	236.17	E	783.60	162.46	7.85	6.45	4.52
45	4368	85.3	176.9	31	3890.46	786.49	777.95	S	238.18	E	813.60	162.98	6.64	5.16	4.19
46	4399	87.3	179.2	31	3892.47	817.42	808.87	S	239.23	E	843.50	163.52	9.82	6.45	7.42
47	4418	88.8	180.6	19	3893.11	836.39	827.85	S	239.27	E	861.74	163.88	10.80	7.89	7.37
48	4493	90.2	181.5	75	3893.77	911.27	902.84	S	237.89	E	933.65	165.24	2.22	1.87	1.20
49	4524	90.2	182.6	31	3893.66	942.18	933.81	S	236.78	E	963.37	165.77	3.55	0.00	3.55
50	4555	90.4	182.7	31	3893.50	973.07	964.78	S	235.35	E	993.07	166.29	0.72	0.65	0.32
51	4586	90.3	182.6	31	3893.31	1003.96	995.75	S	233.92	E	1022.85	166.78	0.46	-0.32	-0.32
52	4618	90.2	182.4	32	3893.17	1035.85	1027.72	S	232.52	E	1053.69	167.25	0.70	-0.31	-0.62
53	4649	90.1	182.3	31	3893.09	1066.75	1058.69	S	231.25	E	1083.65	167.68	0.46	-0.32	-0.32
54	4680	90.1	182.3	31	3893.03	1097.66	1089.67	S	230.01	E	1113.68	168.08	0.00	0.00	0.00
55	4711	90.4	182.3	31	3892.90	1128.56	1120.64	S	228.76	E	1143.75	168.46	0.97	0.97	0.00
56	4742	90.8	182.6	31	3892.57	1159.46	1151.61	S	227.44	E	1173.85	168.83	1.61	1.29	0.97
57	4773	90.0	182.3	31	3892.35	1190.36	1182.58	S	226.11	E	1204.00	169.18	2.76	-2.58	-0.97
58	4804	89.8	181.9	31	3892.41	1221.27	1213.56	S	224.98	E	1234.24	169.50	1.44	-0.65	-1.29
59	4835	89.7	181.9	31	3892.54	1252.19	1244.54	S	223.95	E	1264.53	169.80	0.32	-0.32	0.00
60	4866	89.6	182.3	31	3892.73	1283.10	1275.52	S	222.81	E	1294.84	170.09	1.33	-0.32	1.29
61	4896	89.6	182.7	30	3892.94	1313.00	1305.49	S	221.50	E	1324.15	170.37	1.33	0.00	1.33
62	4927	89.6	182.4	31	3893.16	1343.90	1336.46	S	220.13	E	1354.47	170.65	0.97	0.00	-0.97
63	4959	89.4	182.9	32	3893.44	1375.78	1368.42	S	218.65	E	1385.78	170.92	1.68	-0.62	1.56
64	4990	89.6	182.5	31	3893.71	1406.67	1399.39	S	217.19	E	1416.14	171.18	1.44	0.65	-1.29
65	5020	89.1	182.1	30	3894.05	1436.57	1429.36	S	215.98	E	1445.59	171.41	2.13	-1.67	-1.33
66	5051	88.9	181.9	31	3894.59	1467.48	1460.34	S	214.90	E	1476.07	171.63	0.91	-0.65	-0.65
67	5082	88.5	182.0	31	3895.29	1498.40	1491.31	S	213.85	E	1506.57	171.84	1.33	-1.29	0.32
68	5113	89.1	181.8	31	3895.94	1529.31	1522.29	S	212.82	E	1537.09	172.04	2.04	1.94	-0.65
69	5144	90.6	181.6	31	3896.02	1560.24	1553.27	S	211.90	E	1567.66	172.23	4.88	4.84	-0.65

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
70	5175	91.1	181.4	31	3895.56	1591.17	1584.26	S	211.09	E	1598.26	172.41	1.74	1.61	-0.65
71	5206	91.1	181.0	31	3894.97	1622.11	1615.25	S	210.44	E	1628.90	172.58	1.29	0.00	-1.29
72	5237	91.2	180.8	31	3894.35	1653.06	1646.24	S	209.95	E	1659.57	172.73	0.72	0.32	-0.65
73	5268	90.9	180.5	31	3893.78	1684.01	1677.23	S	209.60	E	1690.28	172.88	1.37	-0.97	-0.97
74	5299	90.7	180.0	31	3893.35	1714.98	1708.23	S	209.46	E	1721.02	173.01	1.74	-0.65	-1.61
75	5330	90.4	179.8	31	3893.05	1745.96	1739.22	S	209.52	E	1751.80	173.13	1.16	-0.97	-0.65
76	5361	90.5	179.8	31	3892.81	1776.94	1770.22	S	209.63	E	1782.59	173.25	0.32	0.32	0.00
77	5392	90.5	179.6	31	3892.53	1807.92	1801.22	S	209.79	E	1813.40	173.36	0.65	0.00	-0.65
78	5423	90.7	179.8	31	3892.21	1838.90	1832.22	S	209.95	E	1844.21	173.46	0.91	0.65	0.65
79	5454	91.2	179.5	31	3891.70	1869.88	1863.22	S	210.14	E	1875.03	173.57	1.88	1.61	-0.97
80	5485	90.5	180.1	31	3891.24	1900.86	1894.21	S	210.25	E	1905.84	173.67	2.97	-2.26	1.94
81	5515	88.9	179.6	30	3891.39	1930.84	1924.21	S	210.33	E	1935.67	173.76	5.59	-5.33	-1.67
82	5546	88.5	179.5	31	3892.10	1961.82	1955.20	S	210.57	E	1966.51	173.85	1.33	-1.29	-0.32
83	5577	88.4	180.2	31	3892.94	1992.79	1986.19	S	210.65	E	1997.33	173.95	2.28	-0.32	2.26
84	5609	89.3	179.7	32	3893.58	2024.76	2018.18	S	210.68	E	2029.15	174.04	3.22	2.81	-1.56
85	5639	89.3	180.0	30	3893.94	2054.74	2048.18	S	210.76	E	2058.99	174.12	1.00	0.00	1.00
86	5670	89.6	179.7	31	3894.24	2085.72	2079.18	S	210.84	E	2089.84	174.21	1.37	0.97	-0.97
87	5701	89.4	179.7	31	3894.51	2116.70	2110.18	S	211.00	E	2120.70	174.29	0.65	-0.65	0.00
88	5732	89.0	179.6	31	3894.94	2147.68	2141.17	S	211.19	E	2151.56	174.37	1.33	-1.29	-0.32
89	5763	89.5	179.1	31	3895.35	2178.67	2172.17	S	211.54	E	2182.44	174.44	2.28	1.61	-1.61
90	5794	89.6	179.2	31	3895.59	2209.66	2203.16	S	212.00	E	2213.34	174.50	0.46	0.32	0.32
91	5825	89.7	179.0	31	3895.78	2240.65	2234.16	S	212.49	E	2244.24	174.57	0.72	0.32	-0.65
92	5856	89.4	178.9	31	3896.03	2271.64	2265.15	S	213.06	E	2275.15	174.63	1.02	-0.97	-0.32
93	5887	89.3	179.3	31	3896.38	2302.63	2296.15	S	213.54	E	2306.06	174.69	1.33	-0.32	1.29
94	5918	90.6	178.9	31	3896.41	2333.62	2327.14	S	214.03	E	2336.96	174.75	4.39	4.19	-1.29
95	5949	90.8	178.8	31	3896.03	2364.61	2358.13	S	214.65	E	2367.88	174.80	0.72	0.65	-0.32
96	5980	90.7	178.8	31	3895.62	2395.61	2389.12	S	215.30	E	2398.81	174.85	0.32	-0.32	0.00
97	6011	90.8	179.0	31	3895.22	2426.60	2420.12	S	215.90	E	2429.73	174.90	0.72	0.32	0.65
98	6042	90.9	178.7	31	3894.76	2457.59	2451.11	S	216.52	E	2460.65	174.95	1.02	0.32	-0.97
99	6073	91.0	178.7	31	3894.24	2488.58	2482.09	S	217.22	E	2491.58	175.00	0.32	0.32	0.00
100	6104	91.5	178.9	31	3893.57	2519.57	2513.08	S	217.87	E	2522.51	175.05	1.74	1.61	0.65
101	6135	90.5	179.8	31	3893.02	2550.55	2544.07	S	218.22	E	2553.41	175.10	4.34	-3.23	2.90
102	6165	90.3	179.8	30	3892.81	2580.53	2574.07	S	218.33	E	2583.31	175.15	0.67	-0.67	0.00
103	6196	89.8	179.2	31	3892.79	2611.52	2605.07	S	218.60	E	2614.23	175.20	2.52	-1.61	-1.94
104	6227	90.0	179.6	31	3892.84	2642.51	2636.07	S	218.92	E	2645.14	175.25	1.44	0.65	1.29
105	6258	90.2	179.2	31	3892.79	2673.50	2667.07	S	219.25	E	2676.06	175.30	1.44	0.65	-1.29
106	6289	90.1	178.8	31	3892.71	2704.49	2698.06	S	219.79	E	2707.00	175.34	1.33	-0.32	-1.29
107	6320	90.3	179.0	31	3892.60	2735.48	2729.06	S	220.38	E	2737.94	175.38	0.91	0.65	0.65
108	6351	90.6	179.1	31	3892.35	2766.48	2760.05	S	220.90	E	2768.88	175.42	1.02	0.97	0.32

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
109	6382	89.9	178.6	31	3892.22	2797.47	2791.04	S	221.52	E	2799.82	175.46	2.77	-2.26	-1.61
110	6413	89.8	178.3	31	3892.30	2828.47	2822.03	S	222.36	E	2830.78	175.49	1.02	-0.32	-0.97
111	6444	88.8	178.8	31	3892.68	2859.46	2853.02	S	223.14	E	2861.73	175.53	3.61	-3.23	1.61
112	6475	88.4	178.1	31	3893.44	2890.45	2884.00	S	223.98	E	2892.68	175.56	2.60	-1.29	-2.26
113	6506	88.8	178.5	31	3894.19	2921.44	2914.98	S	224.90	E	2923.64	175.59	1.82	1.29	1.29
114	6537	88.7	178.5	31	3894.87	2952.43	2945.96	S	225.71	E	2954.59	175.62	0.32	-0.32	0.00
115	6568	88.8	178.9	31	3895.55	2983.42	2976.94	S	226.42	E	2985.54	175.65	1.33	0.32	1.29
116	6599	89.3	178.3	31	3896.06	3014.41	3007.93	S	227.17	E	3016.49	175.68	2.52	1.61	-1.94
117	6630	89.2	178.3	31	3896.47	3045.41	3038.91	S	228.09	E	3047.46	175.71	0.32	-0.32	0.00
118	6661	89.1	177.3	31	3896.93	3076.40	3069.88	S	229.28	E	3078.44	175.73	3.24	-0.32	-3.23
119	6692	90.0	177.0	31	3897.17	3107.40	3100.85	S	230.82	E	3109.42	175.74	3.06	2.90	-0.97
120	6723	90.2	176.9	31	3897.12	3138.40	3131.80	S	232.47	E	3140.42	175.75	0.72	0.65	-0.32
121	6754	90.6	177.3	31	3896.90	3169.39	3162.76	S	234.04	E	3171.41	175.77	1.82	1.29	1.29
122	6785	90.5	176.8	31	3896.60	3200.39	3193.72	S	235.64	E	3202.40	175.78	1.64	-0.32	-1.61
123	6816	90.6	176.9	31	3896.30	3231.38	3224.67	S	237.34	E	3233.39	175.79	0.46	0.32	0.32
124	6847	90.5	176.6	31	3896.01	3262.38	3255.62	S	239.10	E	3264.39	175.80	1.02	-0.32	-0.97
125	6878	91.4	176.1	31	3895.49	3293.36	3286.55	S	241.07	E	3295.38	175.80	3.32	2.90	-1.61
126	6909	90.9	176.8	31	3894.87	3324.35	3317.48	S	242.99	E	3326.37	175.81	2.77	-1.61	2.26
127	6940	91.1	176.3	31	3894.33	3355.33	3348.42	S	244.85	E	3357.36	175.82	1.74	0.65	-1.61
128	6971	90.7	176.3	31	3893.84	3386.32	3379.36	S	246.85	E	3388.36	175.82	1.29	-1.29	0.00
129	7002	89.5	177.2	31	3893.79	3417.31	3410.30	S	248.61	E	3419.35	175.83	4.84	-3.87	2.90
130	7033	89.5	177.6	31	3894.06	3448.31	3441.27	S	250.02	E	3450.34	175.84	1.29	0.00	1.29
131	7064	89.5	177.7	31	3894.33	3479.31	3472.24	S	251.29	E	3481.33	175.86	0.32	0.00	0.32
132	7095	89.7	176.9	31	3894.55	3510.31	3503.21	S	252.75	E	3512.31	175.87	2.66	0.65	-2.58
133	7125	90.1	178.1	30	3894.60	3540.31	3533.18	S	254.06	E	3542.30	175.89	4.22	1.33	4.00
134	7156	90.0	178.8	31	3894.57	3571.31	3564.17	S	254.90	E	3573.27	175.91	2.28	-0.32	2.26
135	7187	89.1	179.7	31	3894.81	3602.29	3595.16	S	255.30	E	3604.22	175.94	4.11	-2.90	2.90
136	7218	89.1	180.8	31	3895.30	3633.26	3626.16	S	255.17	E	3635.13	175.97	3.55	0.00	3.55
137	7249	89.5	181.0	31	3895.68	3664.21	3657.15	S	254.68	E	3666.01	176.02	1.44	1.29	0.65
138	7280	89.4	181.3	31	3895.98	3695.16	3688.15	S	254.06	E	3696.89	176.06	1.02	-0.32	0.97
139	7311	89.7	180.7	31	3896.22	3726.11	3719.14	S	253.52	E	3727.77	176.10	2.16	0.97	-1.94
140	7342	89.7	180.2	31	3896.38	3757.08	3750.14	S	253.27	E	3758.68	176.14	1.61	0.00	-1.61
141	7373	90.0	180.0	31	3896.46	3788.05	3781.14	S	253.22	E	3789.61	176.17	1.16	0.97	-0.65
142	7404	90.3	179.6	31	3896.38	3819.03	3812.14	S	253.33	E	3820.55	176.20	1.61	0.97	-1.29
143	7435	89.4	180.7	31	3896.46	3850.01	3843.14	S	253.25	E	3851.47	176.23	4.58	-2.90	3.55
144	7465	89.0	180.1	30	3896.88	3879.97	3873.13	S	253.04	E	3881.39	176.26	2.40	-1.33	-2.00
145	7496	88.6	179.9	31	3897.53	3910.94	3904.13	S	253.04	E	3912.32	176.29	1.44	-1.29	-0.65
146	7527	89.0	179.9	31	3898.18	3941.92	3935.12	S	253.09	E	3943.25	176.32	1.29	1.29	0.00
147	7557	90.0	180.3	30	3898.44	3971.89	3965.12	S	253.04	E	3973.18	176.35	3.59	3.33	1.33

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
148	7588	90.2	180.6	31	3898.39	4002.86	3996.12	S	252.80	E	4004.10	176.38	1.16	0.65	0.97
149	7619	90.1	180.6	31	3898.31	4033.82	4027.11	S	252.47	E	4035.02	176.41	0.32	-0.32	0.00
150	7650	89.7	180.9	31	3898.36	4064.78	4058.11	S	252.07	E	4065.93	176.45	1.61	-1.29	0.97
151	7682	89.0	181.4	32	3898.73	4096.72	4090.10	S	251.42	E	4097.82	176.48	2.69	-2.19	1.56
152	7712	89.1	181.8	30	3899.22	4126.65	4120.09	S	250.59	E	4127.70	176.52	1.37	0.33	1.33
153	7743	89.0	182.2	31	3899.74	4157.57	4151.06	S	249.50	E	4158.56	176.56	1.33	-0.32	1.29
154	7774	89.0	181.5	31	3900.28	4188.48	4182.04	S	248.50	E	4189.42	176.60	2.26	0.00	-2.26
155	7805	89.2	181.9	31	3900.77	4219.41	4213.02	S	247.58	E	4220.29	176.64	1.44	0.65	1.29
156	7836	89.9	182.0	31	3901.01	4250.33	4244.01	S	246.53	E	4251.16	176.68	2.28	2.26	0.32
157	7867	90.3	182.1	31	3900.95	4281.24	4274.99	S	245.42	E	4282.02	176.71	1.33	1.29	0.32
158	7898	90.5	182.5	31	3900.74	4312.15	4305.96	S	244.18	E	4312.88	176.75	1.44	0.65	1.29
159	7929	91.1	181.3	31	3900.31	4343.06	4336.94	S	243.15	E	4343.75	176.79	4.33	1.94	-3.87

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
160	7960	91.4	181.5	31	3899.63	4373.99	4367.92	S	242.39	E	4374.64	176.82	1.16	0.97	0.65
161	7991	91.7	181.2	31	3898.79	4404.92	4398.90	S	241.66	E	4405.54	176.86	1.37	0.97	-0.97
162	8022	92.0	181.5	31	3897.79	4435.85	4429.88	S	240.93	E	4436.42	176.89	1.37	0.97	0.97
163	8053	92.1	181.3	31	3896.68	4466.77	4460.85	S	240.17	E	4467.31	176.92	0.72	0.32	-0.65
164	8083	91.0	181.3	30	3895.87	4496.70	4490.83	S	239.49	E	4497.21	176.95	3.67	-3.67	0.00
165	8114	91.1	181.4	31	3895.30	4527.64	4521.82	S	238.76	E	4528.11	176.98	0.46	0.32	0.32
166	8145	90.5	182.1	31	3894.87	4558.56	4552.80	S	237.82	E	4559.00	177.01	2.97	-1.94	2.26
167	8176	89.1	181.8	31	3894.98	4589.48	4583.78	S	236.76	E	4589.89	177.04	4.62	-4.52	-0.97
168	8207	88.9	181.6	31	3895.52	4620.40	4614.76	S	235.84	E	4620.78	177.07	0.91	-0.65	-0.65
169	8238	88.4	181.5	31	3896.25	4651.33	4645.74	S	235.00	E	4651.68	177.10	1.64	-1.61	-0.32
170	8269	88.4	181.6	31	3897.11	4682.25	4676.72	S	234.17	E	4682.58	177.13	0.32	0.00	0.32
171	8300	88.5	181.5	31	3897.95	4713.17	4707.69	S	233.33	E	4713.47	177.16	0.46	0.32	-0.32
172	8331	88.6	181.7	31	3898.74	4744.09	4738.67	S	232.46	E	4744.37	177.19	0.72	0.32	0.65
173	8362	89.0	181.0	31	3899.39	4775.03	4769.66	S	231.73	E	4775.28	177.22	2.60	1.29	-2.26
174	8393	88.6	180.4	31	3900.04	4805.98	4800.65	S	231.35	E	4806.22	177.24	2.33	-1.29	-1.94
175	8423	88.1	180.9	30	3900.90	4835.93	4830.63	S	231.01	E	4836.15	177.26	2.36	-1.67	1.67
176	8454	88.3	180.9	31	3901.87	4866.87	4861.61	S	230.53	E	4867.08	177.29	0.65	0.65	0.00
177	8485	88.0	180.2	31	3902.87	4897.82	4892.60	S	230.23	E	4898.01	177.31	2.46	-0.97	-2.26
178	8518	88.6	180.9	33	3903.85	4930.77	4925.58	S	229.91	E	4930.94	177.33	2.79	1.82	2.12
179	8549	89.6	180.4	31	3904.34	4961.72	4956.57	S	229.56	E	4961.89	177.35	3.61	3.23	-1.61
180	8580	89.9	180.1	31	3904.47	4992.70	4987.57	S	229.43	E	4992.85	177.37	1.37	0.97	-0.97
181	8611	89.6	180.2	31	3904.61	5023.67	5018.57	S	229.34	E	5023.81	177.38	1.02	-0.97	0.32
182	8641	88.9	180.1	30	3905.00	5053.64	5048.57	S	229.27	E	5053.77	177.40	2.36	-2.33	-0.33
183	8672	90.1	180.5	31	3905.27	5084.61	5079.57	S	229.10	E	5084.73	177.42	4.08	3.87	1.29
184	8703	90.6	180.6	31	3905.08	5115.58	5110.56	S	228.81	E	5115.68	177.44	1.64	1.61	0.32
185	8734	90.7	181.1	31	3904.73	5146.53	5141.56	S	228.35	E	5146.63	177.46	1.64	0.32	1.61
186	8765	90.4	180.3	31	3904.43	5177.49	5172.56	S	227.97	E	5177.58	177.48	2.76	-0.97	-2.58
187	8796	90.2	179.8	31	3904.27	5208.46	5203.55	S	227.94	E	5208.54	177.49	1.74	-0.65	-1.61
188	8827	90.2	180.0	31	3904.16	5239.44	5234.55	S	227.99	E	5239.52	177.51	0.65	0.00	0.65
189	8858	90.0	179.5	31	3904.11	5270.43	5265.55	S	228.13	E	5270.49	177.52	1.74	-0.65	-1.61
190	8889	89.6	179.2	31	3904.22	5301.41	5296.55	S	228.48	E	5301.48	177.53	1.61	-1.29	-0.97
191	8920	89.4	179.4	31	3904.49	5332.40	5327.55	S	228.86	E	5332.46	177.54	0.91	-0.65	0.65
192	8952	90.1	178.9	32	3904.63	5364.39	5359.54	S	229.34	E	5364.45	177.55	2.69	2.19	-1.56
193	8982	90.5	178.9	30	3904.47	5394.39	5389.54	S	229.91	E	5394.44	177.56	1.33	1.33	0.00
194	9013	90.7	179.3	31	3904.15	5425.38	5420.53	S	230.40	E	5425.43	177.57	1.44	0.65	1.29
195	9043	90.9	179.9	30	3903.73	5455.36	5450.53	S	230.61	E	5455.40	177.58	2.11	0.67	2.00
196	9074	91.4	179.7	31	3903.11	5486.33	5481.52	S	230.72	E	5486.38	177.59	1.74	1.61	-0.65
197	9105	91.4	179.4	31	3902.35	5517.31	5512.51	S	230.96	E	5517.35	177.60	0.97	0.00	-0.97
198	9136	89.8	179.0	31	3902.02	5548.30	5543.51	S	231.39	E	5548.33	177.61	5.32	-5.16	-1.29

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
199	9167	90.0	178.9	31	3902.08	5579.29	5574.50	S	231.96	E	5579.32	177.62	0.72	0.65	-0.32
200	9198	89.9	179.0	31	3902.10	5610.29	5605.50	S	232.53	E	5610.32	177.62	0.46	-0.32	0.32
201	9229	89.6	179.4	31	3902.24	5641.28	5636.49	S	232.96	E	5641.30	177.63	1.61	-0.97	1.29

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
202	9260	89.4	179.0	31	3902.51	5672.27	5667.49	S	233.39	E	5672.29	177.64	1.44	-0.65	-1.29
203	9291	89.1	179.3	31	3902.92	5703.26	5698.48	S	233.85	E	5703.28	177.65	1.37	-0.97	0.97
204															
205															
206															
207															
208															
209															
210															
211															
212															
213															
214															
215															
216															
217															
218															
219															
220															
221															
222															
223															
224															
225															
226															
227															
228															
229															
230															
231															
232															
233															
234															
235															
236															
237															
238															
239															
240															

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
241													
242													
243													
244													
245													
246													
247													
248													
249													
250													
251													
252													
253													
254													
255													
256													
257													
258													
259													
260													
261													
262													
263													
264													
265													
266													
267													
268													
269													
270													
271													
272													
273													
274													
275													
276													
277													
278													
279													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
280													
281													
282													
283													
284													
285													
286													
287													
288													
289													
290													
291													
292													
293													
294													
295													
296													
297													
298													
299													
300													
301													
302													
303													
304													
305													
306													
307													
308													
309													
310													
311													
312													
313													
314													
315													
316													
317													
318													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
319													
320													
321													
322													
323													
324													
325													
326													
327													
328													
329													
330													
331													
332													
333													
334													
335													
336													
337													
338													
339													
340													
341													
342													
343													
344													
345													
346													
347													
348													
349													
350													
351													
352													
353													
354													
355													
356													
357													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
358													
359													
360													
361													
362													
363													
364													
365													
366													
367													
368													
369													
370													
371													
372													
373													
374													
375													
376													
377													
378													
379													
380													
381													
382													
383													
384													
385													
386													
387													
388													
389													
390													
391													
392													
393													
394													
395													
396													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
397													
398													
399													
400													
401													
402													
403													
404													
405													
406													
407													
408													
409													
410													
411													
412													
413													
414													
415													
416													
417													
418													
419													
420													
421													
422													
423													
424													
425													
426													
427													
428													
429													
430													
431													
432													
433													
434													
435													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
436													
437													
438													
439													
440													
441													
442													
443													
444													
445													
446													
447													
448													
449													
450													
451													
452													
453													
454													
455													
456													
457													
458													
459													
460													
461													
462													
463													
464													
465													
466													
467													
468													
469													
470													
471													
472													
473													
474													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature

Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
475													
476													
477													
478													
479													
480													
481													
482													
483													
484													
485													
486													
487													
488													
489													
490													
491													
492													
493													
494													
495													
496													
497													
498													
499													
500													
501													
502													
503													
504													
505													
506													
507													
508													
509													
510													
511													
512													
513													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

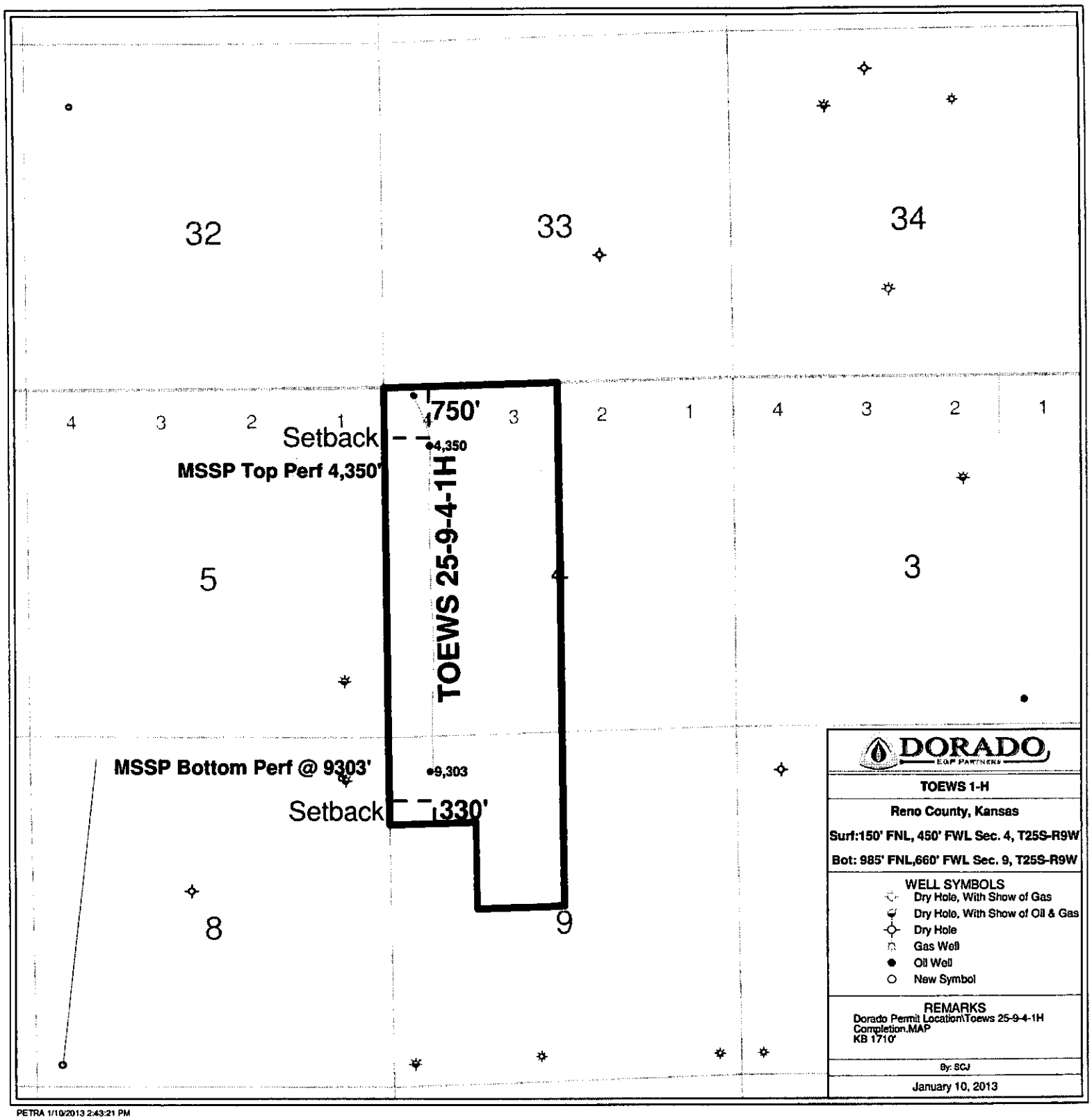
Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
514													
515													
516													
517													
518													
519													
520													
521													
522													
523													
524													
525													
526													
527													
528													
529													
530													
531													
532													
533													
534													
535													
536													
537													
538													
539													
540													
541													
542													
543													
544													
545													
546													
547													
548													
549													
550													
551													
552													

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
553													



PETRA 1/10/2013 2:43:21 PM