

SRC ENERGY

**WELD COUNTY (NAD83, TRUE NORTH)
6N-66W-18 LINCOLN STATE 3-18 PAD
LINCOLN STATE 26C-17-M**

**Wellbore #1
Design #1**

Anticollision Summary Report

12 December, 2017

Reference	Design #1				
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria				
Interpolation Method:	Stations	Error Model:	ISCWSA		
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D		
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Pedal Curve		
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Added to Error Values		

Survey Tool Program	Date 12/12/2017				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,750.00	Design #1 (Wellbore #1)	SRC Energy_ISCWSA REV	Fixed:v2:crustal field declination	
1,750.00	15,559.76	Design #1 (Wellbore #1)	SRC Energy_ISCWSA REV	Fixed:v2:crustal field declination	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
6N-66W-06 Offsets Incomplete						
Simonsen-Schaefer 7E-203 - PDC Energy PR Well - Actu	6,767.98	12,010.00	2,328.64	2,183.09	15.998	CC, ES
Simonsen-Schaefer 7E-203 - PDC Energy PR Well - Actu	6,850.00	12,010.00	2,335.19	2,188.75	15.946	SF
Simonsen-Schaefer 7E-423 - PDC Energy PR Well - Actu	6,856.14	11,988.00	1,787.78	1,649.95	12.971	CC, ES
Simonsen-Schaefer 7E-423 - PDC Energy PR Well - Actu	7,000.00	11,988.00	1,808.84	1,667.99	12.843	SF
Simonsen-Schaefer 7J-243 - PDC Energy PR Well - Actu	6,829.84	11,830.00	1,539.58	1,404.55	11.402	CC
Simonsen-Schaefer 7J-243 - PDC Energy PR Well - Actu	6,850.00	11,830.00	1,540.01	1,404.53	11.367	ES
Simonsen-Schaefer 7J-243 - PDC Energy PR Well - Actu	6,950.00	11,830.00	1,554.69	1,417.15	11.303	SF
Simonsen-Schaefer 7J-403 - PDC Planned Well - Planne	6,926.65	11,938.00	1,222.41	1,105.38	10.445	CC
Simonsen-Schaefer 7J-403 - PDC Planned Well - Planne	6,950.00	11,938.00	1,223.02	1,105.05	10.368	ES
Simonsen-Schaefer 7J-403 - PDC Planned Well - Planne	7,100.00	11,938.00	1,255.18	1,131.68	10.163	SF
Simonsen-Schaefer 7M-243 - PDC Planned Well - Plann	7,073.49	11,983.00	630.41	579.56	12.399	CC
Simonsen-Schaefer 7M-243 - PDC Planned Well - Plann	7,100.00	11,983.00	631.19	578.43	11.963	ES
Simonsen-Schaefer 7M-243 - PDC Planned Well - Plann	7,550.00	11,983.00	837.99	739.42	8.501	SF
6N-66W-07 Offsets Incomplete						
FRYE 1 - Marlin Oil AB Well - No Surveys	4,700.00	4,481.00	1,787.25	1,618.83	10.612	ES, SF
FRYE 1 - Marlin Oil AB Well - No Surveys	4,701.80	4,481.00	1,787.25	1,618.84	10.612	CC
FRYE-SWANSON-FRYE 1 - PDC Energy AB Well - Actua	9,819.61	7,222.82	729.63	631.52	7.436	CC, ES
FRYE-SWANSON-FRYE 1 - PDC Energy AB Well - Actua	9,900.00	7,226.00	734.04	633.61	7.309	SF
HERGERT 1 - Frizzell AB Well - No Surveys	6,687.85	6,648.89	1,977.52	1,725.95	7.861	CC
HERGERT 1 - Frizzell AB Well - No Surveys	6,700.00	6,660.92	1,977.62	1,725.59	7.847	ES
HERGERT 1 - Frizzell AB Well - No Surveys	6,900.00	6,853.20	2,010.02	1,750.58	7.747	SF
Schaefer 34-7D - PDC Energy PR Well - Actual Ensign S	8,384.74	7,445.07	761.59	675.85	8.882	CC
Schaefer 34-7D - PDC Energy PR Well - Actual Ensign S	8,400.00	7,444.99	761.75	675.56	8.838	ES
Schaefer 34-7D - PDC Energy PR Well - Actual Ensign S	8,500.00	7,444.45	770.27	681.68	8.695	SF
Schaefer 43-7D - PDC Energy PR Well - Actual Ensign S	9,729.37	7,367.01	1,939.73	1,838.89	19.236	CC
Schaefer 43-7D - PDC Energy PR Well - Actual Ensign S	9,800.00	7,366.33	1,941.02	1,838.06	18.853	ES
Schaefer 43-7D - PDC Energy PR Well - Actual Ensign S	10,400.00	7,360.30	2,052.38	1,934.81	17.457	SF
Schaefer 7DD - PDC Energy PR Well - Actual Ensign Su	8,965.06	7,378.18	1,409.70	1,325.05	16.653	CC
Schaefer 7DD - PDC Energy PR Well - Actual Ensign Su	9,000.00	7,378.16	1,410.13	1,324.64	16.495	ES
Schaefer 7DD - PDC Energy PR Well - Actual Ensign Su	9,300.00	7,377.97	1,448.94	1,357.74	15.886	SF
Schaefer 7TD - PDC Energy PR Well - Actual Ensign Sur	8,904.86	7,338.87	192.87	109.31	2.308	CC, ES, SF
Schaefer 7XD - PDC Energy PR Well - Actual Ensign Su	10,383.95	7,319.64	1,391.52	1,261.80	10.727	CC
Schaefer 7XD - PDC Energy PR Well - Actual Ensign Su	10,400.00	7,320.26	1,391.61	1,261.31	10.680	ES
Schaefer 7XD - PDC Energy PR Well - Actual Ensign Su	10,700.00	7,332.17	1,426.89	1,288.35	10.299	SF
6N-66W-08 Offsets Incomplete						
Booth U-8-7HN - Bayswater Planned Well - Planned Ens	8,234.94	16,217.20	909.18	575.45	2.724	CC, ES, SF
Booth V-8-7HN - Bayswater Planned Well - Planned Ensi	8,227.25	16,309.98	603.08	268.87	1.804	CC, ES, SF
Booth W-8-7HC - Bayswater Planned Well - Planned Ens	8,224.87	16,401.06	401.01	64.04	1.190	Level 2, CC, ES, SF
Booth X-8-7HN - Bayswater Planned Well - Planned Ensi	8,220.70	16,250.36	285.75	1.05	1.004	Level 2, CC, ES, SF
HERGERT 8-33 - SRC Energy PR Well - No Surveys	11,242.41	7,213.17	607.33	230.00	1.610	CC, ES, SF
HERGERT 8-34 - SRC Energy PR Well - No Surveys	12,398.74	7,208.63	577.99	166.93	1.406	Level 3, CC
HERGERT 8-34 - SRC Energy PR Well - No Surveys	12,400.00	7,208.63	578.00	166.89	1.406	Level 3, ES, SF
HERGERT 8-43 - SRC Energy PR Well - No Surveys	13,912.92	7,213.39	594.57	138.82	1.305	Level 3, CC, ES, SF
6N-66W-09 Offsets Incomplete						
Circle B 6-66-9-0164CH - SRC Energy PR Well - Actual S	15,559.76	11,895.00	1,094.21	873.72	4.963	CC, ES, SF
LOVELY 14-9 - Bill Barrett AB Well - No Surveys	15,559.76	7,214.00	973.13	530.55	2.199	CC, ES, SF

Summary							
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning	
Offset Well - Wellbore - Design			Between Centres (usft)	Between Ellipses (usft)			
6N-66W-16 Offsets Incomplete							
STATE-HOPPE 16-3 - Noble Energy PR Well - Actual VE	15,559.76	7,191.37	2,113.19	1,858.89	8.310	CC, ES, SF	
6N-66W-17 Offsets Incomplete							
ANTELOPE 1-17 - Apache AB Well - No Surveys	12,316.91	7,189.10	1,840.42	1,432.45	4.511	CC	
ANTELOPE 1-17 - Apache AB Well - No Surveys	12,400.00	7,189.63	1,842.29	1,432.23	4.493	ES	
ANTELOPE 1-17 - Apache AB Well - No Surveys	12,500.00	7,209.72	1,849.50	1,436.65	4.480	SF	
FRANK KEMP 1 - UK Operator AB Well - No Surveys	13,595.29	4,850.00	3,921.00	3,625.51	13.269	CC	
FRANK KEMP 1 - UK Operator AB Well - No Surveys	13,700.00	4,850.00	3,922.40	3,624.54	13.168	ES	
FRANK KEMP 1 - UK Operator AB Well - No Surveys	14,500.00	4,850.00	4,024.02	3,710.43	12.832	SF	
Fritzler 17-32-12 - GWOG PR Well - Actual Ensign Surve	14,324.70	7,615.64	2,489.35	2,247.32	10.286	CC	
Fritzler 17-32-12 - GWOG PR Well - Actual Ensign Surve	14,400.00	7,615.55	2,490.48	2,245.89	10.182	ES	
Fritzler 17-32-12 - GWOG PR Well - Actual Ensign Surve	14,800.00	7,615.08	2,534.31	2,279.07	9.929	SF	
Fritzler 17-42-11 - GWOG PR Well - Actual Ensign Surve	15,559.76	7,597.64	2,506.51	2,226.81	8.961	CC, ES, SF	
FRITZLER 43-17 - GWOG PR Well - Actual Ensign Surve	14,944.37	7,409.43	3,128.79	2,874.84	12.320	CC	
FRITZLER 43-17 - GWOG PR Well - Actual Ensign Surve	15,000.00	7,408.95	3,129.29	2,873.80	12.248	ES	
FRITZLER 43-17 - GWOG PR Well - Actual Ensign Surve	15,500.00	7,404.56	3,177.74	2,911.47	11.934	SF	
HERGERT 17-21 - SRC Energy PR Well - No Surveys	12,553.73	7,205.62	570.28	154.77	1.372	Level 3, CC, ES, SF	
HERGERT 17-22 - Noble Energy PR Well - Actual VES S	11,161.69	7,200.16	889.18	746.39	6.227	CC, ES	
HERGERT 17-22 - Noble Energy PR Well - Actual VES S	11,200.00	7,200.16	890.01	746.40	6.198	SF	
HERGERT 17-25 - SRC Energy PR Well - No Surveys	11,628.53	7,208.66	1,375.59	987.11	3.541	CC, ES	
HERGERT 17-25 - SRC Energy PR Well - No Surveys	11,700.00	7,209.12	1,377.44	987.27	3.530	SF	
MCGLOTHLIN 17-11 - SRC Energy PR Well - No Survey	14,871.11	7,204.44	350.84	-132.81	0.725	Level 1, CC, ES, SF	
MCGLOTHLIN 17-12 - SRC Energy SI Well - No Surveys	13,782.39	7,209.46	374.01	-77.76	0.828	Level 1, CC, ES, SF	
MCGLOTHLIN 17-42 - SRC Energy PR Well - No Survey	13,739.03	7,171.26	3,164.38	2,715.24	7.045	CC	
MCGLOTHLIN 17-42 - SRC Energy PR Well - No Survey	13,800.00	7,171.66	3,164.97	2,714.15	7.020	ES	
MCGLOTHLIN 17-42 - SRC Energy PR Well - No Survey	14,200.00	7,174.24	3,197.78	2,737.79	6.952	SF	
McGlothlin 8-6-17 - GWOG PR Well - Actual MS Energy	15,525.22	7,434.00	3,759.74	3,478.10	13.349	CC	
McGlothlin 8-6-17 - GWOG PR Well - Actual MS Energy	15,559.76	7,434.00	3,759.90	3,477.34	13.306	ES, SF	
SCHAEFFER 17-31 - SRC Energy PR Well - No Surveys	12,471.45	7,166.09	3,332.33	2,920.64	8.094	CC	
SCHAEFFER 17-31 - SRC Energy PR Well - No Surveys	12,600.00	7,166.92	3,334.80	2,919.60	8.032	ES	
SCHAEFFER 17-31 - SRC Energy PR Well - No Surveys	13,000.00	7,169.50	3,373.98	2,949.47	7.948	SF	
SCHAEFFER 17-32 - SRC Energy PR Well - No Surveys	10,976.61	7,159.46	3,355.88	2,988.21	9.128	CC	
SCHAEFFER 17-32 - SRC Energy PR Well - No Surveys	11,100.00	7,160.25	3,358.14	2,987.09	9.050	ES	
SCHAEFFER 17-32 - SRC Energy PR Well - No Surveys	11,600.00	7,163.48	3,413.28	3,030.26	8.911	SF	
ULRICH PC I 17-07D - SRC Energy PR Well - Actual Ens	13,660.07	7,351.43	1,873.01	1,645.64	8.238	CC	
ULRICH PC I 17-07D - SRC Energy PR Well - Actual Ens	13,700.00	7,351.01	1,873.44	1,645.05	8.203	ES	
ULRICH PC I 17-07D - SRC Energy PR Well - Actual Ens	13,900.00	7,348.89	1,888.32	1,656.28	8.138	SF	
ULRICH PC I 17-08 - SRC Energy PR Well - No Surveys	14,831.08	7,186.30	1,807.52	1,325.68	3.751	CC	
ULRICH PC I 17-08 - SRC Energy PR Well - No Surveys	14,900.00	7,186.75	1,808.83	1,325.29	3.741	ES	
ULRICH PC I 17-08 - SRC Energy PR Well - No Surveys	15,000.00	7,187.39	1,815.39	1,329.97	3.740	SF	
ULRICH PC I 17-17D - SRC Energy PR Well - Actual Ens	14,130.16	7,358.64	985.29	751.69	4.218	CC, ES	
ULRICH PC I 17-17D - SRC Energy PR Well - Actual Ens	14,200.00	7,359.92	987.76	752.19	4.193	SF	

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
Offset Well - Wellbore - Design			Between Centres (usft)	Between Ellipses (usft)		
6N-66W-18 LINCOLN STATE 3-18 PAD						
LINCOLN 30C-13-M - Wellbore #1 - Design #1	200.00	197.00	181.19	173.62	23.947	CC, ES
LINCOLN 30C-13-M - Wellbore #1 - Design #1	7,422.70	7,583.01	252.56	209.23	5.829	SF
LINCOLN 30N-13B-M - Wellbore #1 - Design #1	7,161.54	7,659.19	40.90	-4.02	0.910	Level 1, CC, ES, SF
LINCOLN 31C-13-M - Wellbore #1 - Design #1	200.00	202.00	227.95	220.39	30.122	CC, ES
LINCOLN 31C-13-M - Wellbore #1 - Design #1	8,600.00	6,900.00	1,770.54	1,710.46	29.467	SF
LINCOLN 31N-13B-M - Wellbore #1 - Design #1	200.00	202.00	216.33	208.76	28.586	CC, ES
LINCOLN 31N-13B-M - Wellbore #1 - Design #1	300.00	294.64	217.73	210.08	28.470	SF
LINCOLN 31N-13C-M - Wellbore #1 - Design #1	200.00	202.00	205.77	198.20	27.190	CC, ES
LINCOLN 31N-13C-M - Wellbore #1 - Design #1	6,950.00	7,785.24	1,062.06	1,017.04	23.589	SF
LINCOLN 32C-13-M - Wellbore #1 - Design #1	200.00	202.00	284.05	276.48	37.535	CC, ES
LINCOLN 32C-13-M - Wellbore #1 - Design #1	9,400.00	6,816.13	2,828.42	2,748.69	35.478	SF
LINCOLN 32N-13B-M - Wellbore #1 - Design #1	200.00	202.00	268.93	261.36	35.536	CC, ES
LINCOLN 32N-13B-M - Wellbore #1 - Design #1	9,200.00	6,700.00	2,591.40	2,517.89	35.253	SF
LINCOLN 4C-13-M - Wellbore #1 - Design #1	200.00	202.00	196.93	189.36	26.023	CC, ES
LINCOLN 4C-13-M - Wellbore #1 - Design #1	8,000.00	7,124.95	957.98	910.37	20.123	SF
LINCOLN 4N-13B-M - Wellbore #1 - Design #1	200.00	202.00	189.55	181.98	25.047	CC, ES
LINCOLN 4N-13B-M - Wellbore #1 - Design #1	7,000.00	7,709.34	645.01	600.08	14.357	SF
LINCOLN 4N-13C-M - Wellbore #1 - Design #1	200.00	203.00	184.33	176.76	24.356	CC, ES
LINCOLN 4N-13C-M - Wellbore #1 - Design #1	7,150.00	7,700.53	452.76	408.54	10.239	SF
LINCOLN 5N-13A-M - Wellbore #1 - Design #1	200.00	202.00	240.89	233.32	31.832	CC, ES
LINCOLN 5N-13A-M - Wellbore #1 - Design #1	300.00	294.24	242.47	234.83	31.707	SF
LINCOLN 5N-13C-M - Wellbore #1 - Design #1	200.00	202.00	254.56	246.99	33.637	CC, ES
LINCOLN 5N-13C-M - Wellbore #1 - Design #1	9,000.00	6,766.25	2,302.35	2,233.57	33.475	SF
LINCOLN STATE 1C-17-M - Wellbore #1 - Design #1	200.00	201.00	59.75	52.18	7.896	CC, ES
LINCOLN STATE 1C-17-M - Wellbore #1 - Design #1	15,559.76	15,510.82	662.31	162.27	1.325	Level 3, SF
LINCOLN STATE 1N-17B-M - Wellbore #1 - Design #1	200.00	201.00	79.78	72.21	10.543	CC, ES
LINCOLN STATE 1N-17B-M - Wellbore #1 - Design #1	15,559.76	15,358.33	927.02	450.56	1.946	SF
LINCOLN STATE 1N-17C-M - Wellbore #1 - Design #1	200.00	200.00	40.07	32.51	5.296	CC
LINCOLN STATE 1N-17C-M - Wellbore #1 - Design #1	15,559.76	15,427.23	471.69	-12.49	0.974	Level 1, ES, SF
LINCOLN STATE 26N-17B-M - Wellbore #1 - Design #1	200.00	200.00	20.04	12.48	2.649	CC
LINCOLN STATE 26N-17B-M - Wellbore #1 - Design #1	15,559.76	15,371.81	284.37	-115.10	0.712	Level 1, ES, SF
LINCOLN STATE 40C-17-M - Wellbore #1 - Design #1	200.00	201.00	200.01	192.44	26.431	CC, ES
LINCOLN STATE 40C-17-M - Wellbore #1 - Design #1	15,559.76	15,603.94	2,200.84	1,700.26	4.397	SF
LINCOLN STATE 40N-17C-M - Wellbore #1 - Design #1	200.00	201.00	220.04	212.47	29.078	CC, ES
LINCOLN STATE 40N-17C-M - Wellbore #1 - Design #1	15,559.76	15,544.22	2,424.77	1,924.75	4.849	SF
LINCOLN STATE 41N-17A-M - Wellbore #1 - Design #1	200.00	201.00	99.82	92.26	13.191	CC, ES
LINCOLN STATE 41N-17A-M - Wellbore #1 - Design #1	15,559.76	15,231.51	1,144.64	662.39	2.374	SF
LINCOLN STATE 41N-17B-M - Wellbore #1 - Design #1	200.00	201.00	139.90	132.33	18.487	CC, ES
LINCOLN STATE 41N-17B-M - Wellbore #1 - Design #1	15,559.76	15,368.22	1,555.31	1,059.24	3.135	SF
LINCOLN STATE 41N-17C-M - Wellbore #1 - Design #1	200.00	201.00	119.86	112.29	15.838	CC, ES
LINCOLN STATE 41N-17C-M - Wellbore #1 - Design #1	15,559.76	15,514.64	1,321.35	821.15	2.642	SF
LINCOLN STATE 8C-17-M - Wellbore #1 - Design #1	200.00	201.00	159.93	152.36	21.134	CC, ES
LINCOLN STATE 8C-17-M - Wellbore #1 - Design #1	15,559.76	15,552.45	1,715.73	1,215.78	3.432	SF
LINCOLN STATE 8N-17B-M - Wellbore #1 - Design #1	200.00	201.00	179.97	172.40	23.783	CC, ES
LINCOLN STATE 8N-17B-M - Wellbore #1 - Design #1	15,559.76	15,414.73	1,992.20	1,494.20	4.000	SF

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
6N-66W-18 Offsets Incomplete						
ANTELOPE 1 - Marlin Oil AB Sussex Well - No Surveys	2,865.72	2,777.34	2,693.58	2,589.03	25.763	CC
ANTELOPE 1 - Marlin Oil AB Sussex Well - No Surveys	4,500.00	4,401.45	2,701.47	2,535.60	16.286	ES
ANTELOPE 1 - Marlin Oil AB Sussex Well - No Surveys	4,600.00	4,435.00	2,703.19	2,535.90	16.159	SF
CARLSON 18-41 - Noble Energy SI Well - No Surveys	9,746.14	7,158.53	3,367.20	3,035.29	10.145	CC
CARLSON 18-41 - Noble Energy SI Well - No Surveys	9,800.00	7,158.88	3,367.63	3,034.24	10.101	ES
CARLSON 18-41 - Noble Energy SI Well - No Surveys	10,500.00	7,163.39	3,450.55	3,099.97	9.842	SF
CARLSON 33-18 - GWOG PR Well - No Surveys	200.00	141.00	2,382.05	2,373.36	274.024	CC
CARLSON 33-18 - GWOG PR Well - No Surveys	300.00	240.98	2,383.51	2,371.85	204.480	ES
CARLSON 33-18 - GWOG PR Well - No Surveys	9,000.00	7,183.72	2,922.03	2,612.75	9.448	SF
DICKERSON 1 - Stuarco AB Sussex Well - No Surveys	200.00	117.00	2,776.16	2,768.02	340.952	CC
DICKERSON 1 - Stuarco AB Sussex Well - No Surveys	500.00	416.45	2,781.87	2,764.18	157.323	ES
DICKERSON 1 - Stuarco AB Sussex Well - No Surveys	5,000.00	4,854.00	3,035.83	2,852.88	16.594	SF
DUNBAR 18-31 - Noble Energy AB Well - Actual VES Su	257.88	260.55	2,580.76	2,573.34	347.514	CC, ES
DUNBAR 18-31 - Noble Energy AB Well - Actual VES Su	10,100.00	7,000.00	4,933.86	4,856.63	63.884	SF
KOCHERT 11-18 - SRC Energy SI Well - No Surveys	2,513.98	2,509.59	1,717.54	1,623.01	18.170	CC
KOCHERT 11-18 - SRC Energy SI Well - No Surveys	6,651.49	6,605.16	1,795.15	1,545.04	7.177	ES
KOCHERT 11-18 - SRC Energy SI Well - No Surveys	6,750.00	6,707.82	1,806.04	1,552.03	7.110	SF
KOCHERT 12-18 - SRC Energy SI Well - No Surveys	200.00	170.00	2,031.63	2,022.17	214.683	CC
KOCHERT 12-18 - SRC Energy SI Well - No Surveys	400.00	369.84	2,035.16	2,019.16	127.199	ES
KOCHERT 12-18 - SRC Energy SI Well - No Surveys	6,900.00	6,812.20	2,579.65	2,322.32	10.025	SF
PEXOIL MURPHY & DICKERSON 1 - Pexoil AB Sussex	200.00	145.00	1,534.74	1,525.95	174.536	CC
PEXOIL MURPHY & DICKERSON 1 - Pexoil AB Sussex	300.00	244.98	1,535.90	1,524.12	130.338	ES
PEXOIL MURPHY & DICKERSON 1 - Pexoil AB Sussex	4,500.00	4,412.55	1,919.04	1,753.46	11.589	SF
R A 1 - Francis Energy AB Well - No Surveys	200.00	170.00	3,066.99	3,057.53	324.089	CC
R A 1 - Francis Energy AB Well - No Surveys	300.00	269.98	3,068.34	3,055.75	243.656	ES
R A 1 - Francis Energy AB Well - No Surveys	7,100.00	6,981.02	3,838.40	3,574.97	14.571	SF
TIGGES 18-11 - SRC Energy PR Well - No Surveys	9,474.29	7,185.78	755.28	430.21	2.323	CC
TIGGES 18-11 - SRC Energy PR Well - No Surveys	9,500.00	7,185.94	755.72	430.09	2.321	ES, SF
TIGGES 18-13 - SRC Energy PR Well - No Surveys	200.00	144.00	1,584.54	1,575.77	180.719	CC
TIGGES 18-13 - SRC Energy PR Well - No Surveys	8,400.00	7,182.85	1,718.59	1,423.71	5.828	ES
TIGGES 18-13 - SRC Energy PR Well - No Surveys	8,600.00	7,184.14	1,734.76	1,435.27	5.792	SF
TIGGES 18-14 - SRC Energy PR Well - No Surveys	9,586.65	7,167.50	2,063.18	1,735.54	6.297	CC
TIGGES 18-14 - SRC Energy PR Well - No Surveys	9,600.00	7,167.59	2,063.23	1,735.23	6.290	ES
TIGGES 18-14 - SRC Energy PR Well - No Surveys	9,900.00	7,169.52	2,086.84	1,751.67	6.226	SF
TIGGES 18-15 - SRC Energy PR Well - No Surveys	8,886.24	7,176.99	1,224.80	916.70	3.975	CC
TIGGES 18-15 - SRC Energy PR Well - No Surveys	8,900.00	7,177.07	1,224.88	916.44	3.971	ES
TIGGES 18-15 - SRC Energy PR Well - No Surveys	9,000.00	7,177.72	1,230.07	919.38	3.959	SF
TIGGES 31-18 - SRC Energy SI Well - No Surveys	8,383.99	7,182.75	784.72	490.17	2.664	CC
TIGGES 31-18 - SRC Energy SI Well - No Surveys	8,400.00	7,182.85	784.89	489.99	2.662	ES, SF
WALKER 11-18 - Petro Canada AB Well - No Surveys	200.00	178.00	1,823.62	1,813.93	188.186	CC
WALKER 11-18 - Petro Canada AB Well - No Surveys	2,700.00	2,659.94	1,886.98	1,786.89	18.853	ES
WALKER 11-18 - Petro Canada AB Well - No Surveys	6,850.00	6,773.62	2,125.88	1,869.58	8.294	SF
Walker-Shands 18-18 - SRC Energy PR Well - Actual En	957.67	938.03	105.94	77.67	3.747	CC, ES, SF
Walker-Shands 3-18 - SRC Energy PR Well - No Surveys	1,213.01	1,183.84	121.47	75.60	2.648	CC
Walker-Shands 3-18 - SRC Energy PR Well - No Surveys	1,500.00	1,468.54	126.75	70.12	2.238	ES
Walker-Shands 3-18 - SRC Energy PR Well - No Surveys	1,900.00	1,865.34	149.23	78.14	2.099	SF
Walker-Shands 6-18 - SRC Energy PR Well - Actual Ens	1,037.15	1,018.35	85.63	56.29	2.919	CC, ES
Walker-Shands 6-18 - SRC Energy PR Well - Actual Ens	1,100.00	1,080.59	86.02	56.54	2.918	SF
6N-67W-10 Offsets Incomplete						
Bower FD 11-322HC - GWOG Planned Well - Planned G	6,712.67	13,035.16	8,235.42	8,187.68	172.505	CC, ES
Bower FD 11-322HC - GWOG Planned Well - Planned G	6,850.00	13,035.16	8,251.15	8,203.23	172.177	SF
Bower FD 11-322HN - GWOG Planned Well - Planned G	6,698.60	12,854.66	8,218.21	8,170.80	173.342	CC
Bower FD 11-322HN - GWOG Planned Well - Planned G	6,700.00	12,854.66	8,218.21	8,170.80	173.334	ES
Bower FD 11-322HN - GWOG Planned Well - Planned G	6,900.00	12,854.66	8,251.87	8,204.11	172.776	SF
Bower FD 11-359HN - GWOG Planned Well - Planned G	6,702.14	13,026.84	8,189.82	8,137.10	155.326	CC, ES
Bower FD 11-359HN - GWOG Planned Well - Planned G	7,050.00	13,026.84	8,288.66	8,234.82	153.938	SF
Bower FD 11-362HC - GWOG Planned Well - Planned G	6,707.32	13,174.35	8,183.79	8,125.44	140.247	CC, ES
Bower FD 11-362HC - GWOG Planned Well - Planned G	7,050.00	13,174.35	8,280.01	8,220.37	138.849	SF
Bower FD 11-362HN - GWOG Planned Well - Planned G	6,692.40	13,011.68	8,162.90	8,100.88	131.611	CC, ES
Bower FD 11-362HN - GWOG Planned Well - Planned G	7,050.00	13,011.68	8,267.51	8,204.03	130.240	SF
MILLER 1 - GWOG AB Well - Actual VES Surveys	6,660.75	6,660.75	8,355.43	8,322.93	257.077	CC, ES
MILLER 1 - GWOG AB Well - Actual VES Surveys	7,550.00	7,200.46	8,878.98	8,840.36	229.894	SF

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation	Warning
Offset Well - Wellbore - Design			Between Centres (usft)	Between Ellipses (usft)	Factor	
6N-67W-12 Offsets Incomplete						
FLOCKHART 12-43(DIR) - SRC Energy SI Well - Actual E	2,108.76	1,823.23	4,262.16	4,243.11	223.732	CC
FLOCKHART 12-43(DIR) - SRC Energy SI Well - Actual E	2,400.00	2,024.29	4,266.43	4,241.57	171.630	ES
FLOCKHART 12-43(DIR) - SRC Energy SI Well - Actual E	6,800.00	6,894.12	4,542.35	4,363.40	25.383	SF
FLOCKHART 12-44 - SRC Energy PR Well - No Surveys	6,673.91	6,635.08	2,974.88	2,723.67	11.842	CC
FLOCKHART 12-44 - SRC Energy PR Well - No Surveys	6,700.00	6,660.92	2,975.40	2,723.20	11.798	ES
FLOCKHART 12-44 - SRC Energy PR Well - No Surveys	6,950.00	6,901.70	3,032.21	2,770.76	11.598	SF
Knievel 14-12D - PDC Energy PR Well - Actual Ensign S	807.30	483.00	5,789.27	5,781.05	705.068	CC, ES
Knievel 14-12D - PDC Energy PR Well - Actual Ensign S	6,950.00	7,175.51	6,985.98	6,933.64	133.483	SF
Knievel 24-12D - PDC Energy PR Well - Actual Ensign S	6,658.24	6,679.47	5,607.33	5,554.62	106.382	CC, ES
Knievel 24-12D - PDC Energy PR Well - Actual Ensign S	6,900.00	6,928.95	5,652.19	5,598.55	105.361	SF
Simonsen 12E-223 - PDC Planned Well - Planned Ensign	6,694.58	11,562.40	7,503.79	7,374.77	58.162	CC, ES
Simonsen 12E-223 - PDC Planned Well - Planned Ensign	6,800.00	11,562.40	7,513.20	7,383.82	58.071	SF
Simonsen 12J-243 - PDC Energy PR Well - Actual Ensig	6,701.19	11,570.00	6,447.42	6,311.85	47.558	CC, ES
Simonsen 12J-243 - PDC Energy PR Well - Actual Ensig	6,800.00	11,570.00	6,455.78	6,319.85	47.494	SF
6N-67W-13 Offsets Incomplete						
FREE ENTERPRISE 1-13 - McGarvey-Stark AB Sussex	200.00	152.00	5,385.98	5,377.00	600.176	CC
FREE ENTERPRISE 1-13 - McGarvey-Stark AB Sussex	400.00	351.84	5,389.03	5,373.64	350.203	ES
FREE ENTERPRISE 1-13 - McGarvey-Stark AB Sussex	4,600.00	4,500.00	5,638.90	5,469.51	33.289	SF
KADLUB/MILLER 1 - Mission Oil AB Well - No Surveys	3,559.91	3,520.97	7,063.16	6,930.85	53.382	CC
KADLUB/MILLER 1 - Mission Oil AB Well - No Surveys	6,651.49	6,587.84	7,073.93	6,824.31	28.339	ES
KADLUB/MILLER 1 - Mission Oil AB Well - No Surveys	7,100.00	7,002.98	7,228.18	6,962.73	27.230	SF
KADLUB-MILLER 2 - Bonanza Creek AB Well - No Surve	200.00	219.00	5,809.94	5,799.02	531.999	CC
KADLUB-MILLER 2 - Bonanza Creek AB Well - No Surve	6,651.49	6,620.84	5,942.60	5,691.89	23.703	ES
KADLUB-MILLER 2 - Bonanza Creek AB Well - No Surve	7,050.00	7,009.03	6,070.74	5,805.32	22.872	SF
KREYKES 13-11 - Noble Energy SI Well - No Surveys	2,781.15	2,754.44	3,169.06	3,065.46	30.590	CC
KREYKES 13-11 - Noble Energy SI Well - No Surveys	6,651.49	6,606.16	3,206.48	2,956.24	12.814	ES
KREYKES 13-11 - Noble Energy SI Well - No Surveys	6,950.00	6,879.30	3,279.93	3,019.25	12.583	SF
KREYKES 13-13 - Noble Energy SI Well - No Surveys	200.00	208.00	4,671.85	4,661.27	441.498	CC
KREYKES 13-13 - Noble Energy SI Well - No Surveys	5,700.00	5,649.96	4,830.39	4,616.96	22.633	ES
KREYKES 13-13 - Noble Energy SI Well - No Surveys	7,050.00	6,963.97	4,997.11	4,733.39	18.949	SF
KREYKES 13-14 - Noble Energy SI Well - No Surveys	200.00	180.00	3,080.85	3,071.10	316.046	CC
KREYKES 13-14 - Noble Energy SI Well - No Surveys	562.50	541.53	3,087.35	3,065.26	139.813	ES
KREYKES 13-14 - Noble Energy SI Well - No Surveys	6,950.00	6,867.30	3,466.25	3,206.39	13.339	SF
KREYKES 13-15 - Noble Energy SI Well - No Surveys	200.00	203.00	3,783.34	3,772.91	362.750	CC
KREYKES 13-15 - Noble Energy SI Well - No Surveys	6,651.49	6,601.16	3,940.93	3,690.96	15.766	ES
KREYKES 13-15 - Noble Energy SI Well - No Surveys	7,000.00	6,927.65	4,041.96	3,779.60	15.406	SF
PITNER 13-12 - Noble Energy SI Well - No Surveys	3,693.30	3,684.31	4,217.13	4,078.72	30.468	CC
PITNER 13-12 - Noble Energy SI Well - No Surveys	6,651.49	6,618.84	4,233.63	3,982.92	16.887	ES
PITNER 13-12 - Noble Energy SI Well - No Surveys	7,000.00	6,947.65	4,330.04	4,066.79	16.449	SF
Rubyanna 13C-25W - Extraction PR Well - Actual BHI Su	6,319.08	6,829.26	3,601.73	3,551.10	71.135	CC, ES
Rubyanna 13C-25W - Extraction PR Well - Actual BHI Su	6,700.00	6,905.00	3,619.22	3,567.31	69.720	SF
RUBYANNA 13NC-26W - Extraction PR Well - Actual BH	6,300.00	6,766.62	3,926.58	3,879.24	82.945	CC, ES
RUBYANNA 13NC-26W - Extraction PR Well - Actual BH	9,300.00	6,795.20	5,703.45	5,631.91	79.722	SF
STROMBERGER 13-31 - Noble Energy PR Well - Actual	100.00	37.79	6,476.26	6,468.90	880.700	CC, ES
STROMBERGER 13-31 - Noble Energy PR Well - Actual	10,300.00	7,181.52	9,909.42	9,859.92	200.202	SF
STROMBERGER 13-32 - Noble Energy PR Well - Actual	100.00	42.25	7,539.79	7,532.44	1,025.320	CC, ES
STROMBERGER 13-32 - Noble Energy PR Well - Actual	7,300.00	7,118.71	8,165.44	8,130.93	236.663	SF
YANCEY 1 - Chandler AB Well - No Surveys	2,831.66	2,800.55	3,108.74	3,003.42	29.518	CC
YANCEY 1 - Chandler AB Well - No Surveys	6,651.49	6,589.84	3,145.89	2,896.23	12.601	ES
YANCEY 1 - Chandler AB Well - No Surveys	6,900.00	6,830.20	3,197.92	2,939.10	12.356	SF

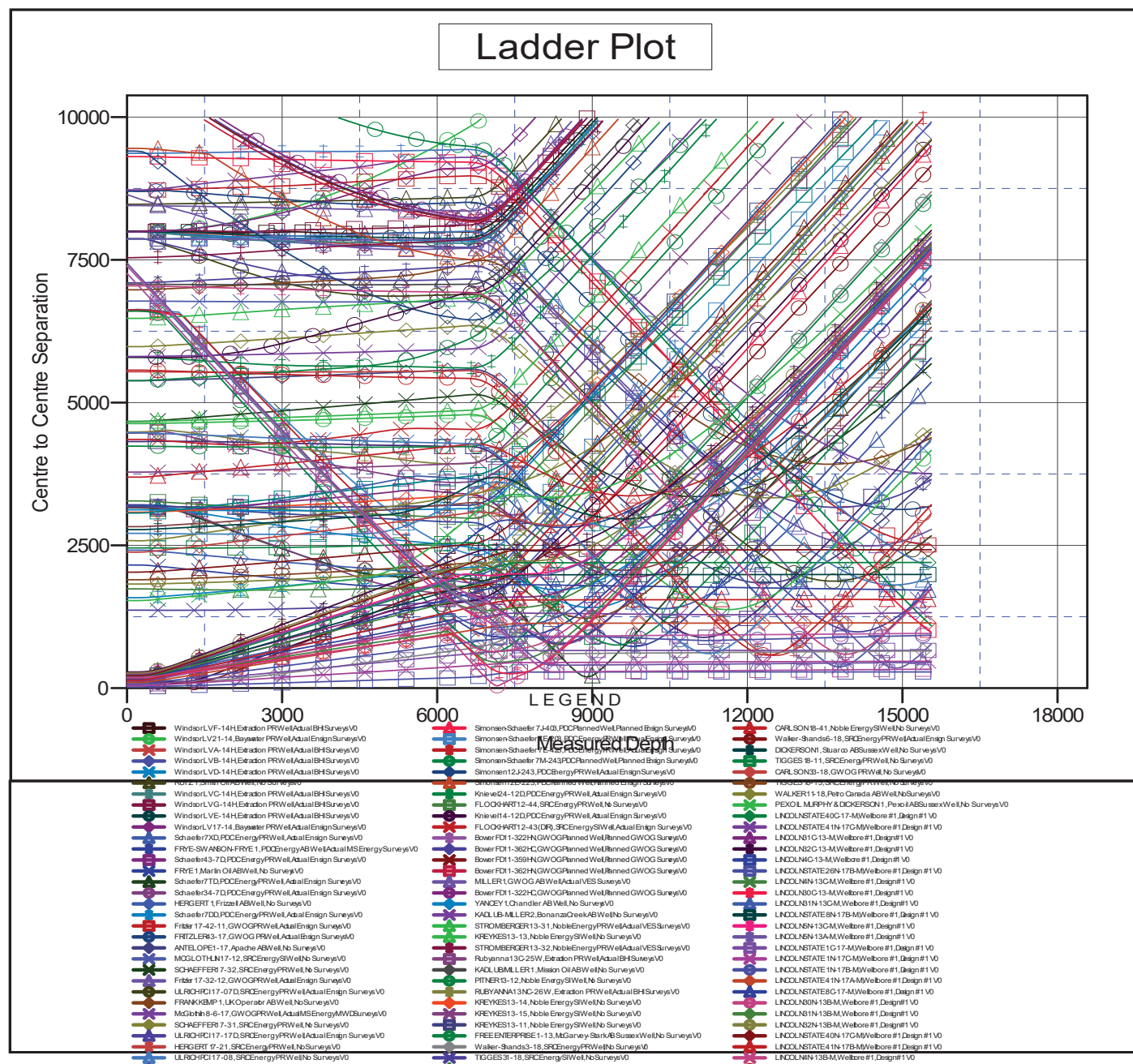
Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
6N-67W-14 Offsets Incomplete						
RUTZ 1 - Smith Oil AB Well - No Surveys	200.00	209.00	8,474.77	8,464.16	798.571	CC
RUTZ 1 - Smith Oil AB Well - No Surveys	6,651.49	6,607.16	8,593.72	8,343.47	34.340	ES
RUTZ 1 - Smith Oil AB Well - No Surveys	7,200.00	7,072.32	8,823.05	8,555.08	32.926	SF
Windsor LV 17-14 - Bayswater PR Well - Actual Ensign S	0.00	0.00	7,989.07			
Windsor LV 17-14 - Bayswater PR Well - Actual Ensign S	7,648.00	7,335.78	9,743.97	9,690.03	180.626	SF
Windsor LV 21-14 - Bayswater PR Well - Actual Ensign S	0.00	0.00	7,991.18			
Windsor LV 21-14 - Bayswater PR Well - Actual Ensign S	6,850.00	1,570.00	9,971.19	9,948.14	432.597	SF
Windsor LV A-14H - Extraction PR Well - Actual BHI Surv	6,511.28	6,545.78	7,714.94	7,669.71	170.584	CC
Windsor LV A-14H - Extraction PR Well - Actual BHI Surv	6,600.00	6,591.00	7,715.34	7,669.67	168.942	ES
Windsor LV A-14H - Extraction PR Well - Actual BHI Surv	6,900.00	6,591.00	7,770.43	7,723.99	167.338	SF
Windsor LV B-14H - Extraction PR Well - Actual BHI Surv	6,554.35	6,590.00	7,721.51	7,681.39	192.443	CC, ES
Windsor LV B-14H - Extraction PR Well - Actual BHI Surv	6,900.00	6,684.00	7,775.79	7,734.53	188.429	SF
Windsor LV C-14H - Extraction PR Well - Actual BHI Surv	6,356.22	6,401.00	7,790.24	7,755.11	221.722	CC
Windsor LV C-14H - Extraction PR Well - Actual BHI Surv	6,400.00	6,401.00	7,790.37	7,755.10	220.911	ES
Windsor LV C-14H - Extraction PR Well - Actual BHI Surv	6,950.00	6,495.00	7,879.11	7,842.06	212.702	SF
Windsor LV D-14H - Extraction PR Well - Actual BHI Surv	6,355.32	6,432.00	7,827.00	7,792.96	229.899	CC
Windsor LV D-14H - Extraction PR Well - Actual BHI Surv	6,400.00	6,432.00	7,827.13	7,792.95	229.001	ES
Windsor LV D-14H - Extraction PR Well - Actual BHI Surv	7,050.00	6,538.18	7,968.99	7,932.83	220.384	SF
Windsor LV E-14H - Extraction PR Well - Actual BHI Surv	6,079.61	6,218.00	7,874.13	7,839.44	226.986	CC
Windsor LV E-14H - Extraction PR Well - Actual BHI Surv	6,100.00	6,218.00	7,874.16	7,839.41	226.585	ES
Windsor LV E-14H - Extraction PR Well - Actual BHI Surv	7,000.00	6,407.00	8,007.36	7,969.69	212.526	SF
Windsor LV F-14H - Extraction PR Well - Actual BHI Surv	4,587.73	4,754.41	7,962.96	7,934.26	277.477	CC
Windsor LV F-14H - Extraction PR Well - Actual BHI Surv	4,700.00	4,814.74	7,963.37	7,934.14	272.421	ES
Windsor LV F-14H - Extraction PR Well - Actual BHI Surv	6,900.00	6,682.00	8,050.76	8,008.44	190.221	SF
Windsor LV G-14H - Extraction PR Well - Actual BHI Surv	2,188.40	2,291.00	7,994.12	7,978.23	503.156	CC
Windsor LV G-14H - Extraction PR Well - Actual BHI Surv	2,200.00	2,291.00	7,994.13	7,978.23	502.854	ES
Windsor LV G-14H - Extraction PR Well - Actual BHI Surv	6,850.00	6,587.00	8,155.90	8,107.89	169.905	SF

Coordinates are relative to: LINCOLN STATE 26C-17-M

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.44°



Central Meridian is -105.500000

Grid Convergence at Surface is: 0.44°

