

SRC ENERGY

**WELD COUNTY (NAD83, TRUE NORTH)
6N-66W-18 LINCOLN STATE 3-18 PAD
LINCOLN STATE 1N-17C-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	15,426.78	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 - Actua	6,652.92	12,010.00	2,470.83	2,331.52	17.736	CC, ES
Simonsen-Schaefer 7E-203 - PDC Energy PR Well - Actua	6,750.00	12,010.00	2,479.49	2,339.04	17.653	SF
Simonsen-Schaefer 7E-423 - PDC Energy PR Well - Actua	6,745.73	11,988.00	1,981.23	1,854.72	15.661	CC
Simonsen-Schaefer 7E-423 - PDC Energy PR Well - Actua	6,750.00	11,988.00	1,981.25	1,854.65	15.649	ES
Simonsen-Schaefer 7E-423 - PDC Energy PR Well - Actua	6,900.00	11,988.00	2,003.28	1,873.43	15.428	SF
Simonsen-Schaefer 7J-243 - PDC Energy PR Well - Actua	6,722.76	11,830.00	1,754.58	1,633.95	14.545	CC, ES
Simonsen-Schaefer 7J-243 - PDC Energy PR Well - Actua	6,900.00	11,830.00	1,783.48	1,658.98	14.325	SF
Simonsen-Schaefer 7J-403 - PDC Planned Well - Planne	6,824.00	11,938.00	1,491.61	1,393.62	15.222	CC
Simonsen-Schaefer 7J-403 - PDC Planned Well - Planne	6,850.00	11,938.00	1,492.24	1,393.32	15.086	ES
Simonsen-Schaefer 7J-403 - PDC Planned Well - Planne	7,150.00	11,938.00	1,585.19	1,475.15	14.406	SF
Simonsen-Schaefer 7M-243 - PDC Planned Well - Plann	6,992.80	11,983.00	1,046.32	1,002.64	23.955	CC
Simonsen-Schaefer 7M-243 - PDC Planned Well - Plann	7,000.00	11,983.00	1,046.36	1,002.54	23.883	ES
Simonsen-Schaefer 7M-243 - PDC Planned Well - Plann	7,900.00	11,983.00	1,470.23	1,365.85	14.086	SF
6N-66W-07 Offsets Incomplete						
FRYE 1 - Marlin Oil AB Well - No Surveys	4,632.57	4,481.00	1,980.20	1,812.63	11.817	CC, ES, SF
FRYE-SWANSON-FRYE 1 - PDC Energy AB Well - Actua	9,691.30	7,131.03	1,175.72	1,077.81	12.009	CC
FRYE-SWANSON-FRYE 1 - PDC Energy AB Well - Actua	9,700.00	7,131.36	1,175.75	1,077.58	11.976	ES
FRYE-SWANSON-FRYE 1 - PDC Energy AB Well - Actua	9,900.00	7,138.88	1,194.07	1,090.99	11.583	SF
HERGERT 1 - Frizzell AB Well - No Surveys	6,545.63	6,541.61	2,162.06	1,916.51	8.805	CC
HERGERT 1 - Frizzell AB Well - No Surveys	6,600.00	6,604.39	2,163.99	1,916.09	8.729	ES
HERGERT 1 - Frizzell AB Well - No Surveys	6,800.00	6,786.05	2,204.27	1,949.38	8.648	SF
Schaefer 34-7D - PDC Energy PR Well - Actual Ensign S	8,260.44	7,355.79	1,203.92	1,118.41	14.079	CC
Schaefer 34-7D - PDC Energy PR Well - Actual Ensign S	8,300.00	7,355.53	1,204.57	1,118.00	13.914	ES
Schaefer 34-7D - PDC Energy PR Well - Actual Ensign S	8,500.00	7,354.23	1,227.52	1,136.51	13.488	SF
Schaefer 43-7D - PDC Energy PR Well - Actual Ensign S	9,603.65	7,255.58	2,382.87	2,282.19	23.669	CC
Schaefer 43-7D - PDC Energy PR Well - Actual Ensign S	9,700.00	7,253.42	2,384.82	2,281.35	23.050	ES
Schaefer 43-7D - PDC Energy PR Well - Actual Ensign S	10,500.00	7,233.82	2,545.80	2,423.52	20.820	SF
Schaefer 7DD - PDC Energy PR Well - Actual Ensign Su	8,838.94	7,285.99	1,853.25	1,768.78	21.940	CC
Schaefer 7DD - PDC Energy PR Well - Actual Ensign Su	8,900.00	7,285.87	1,854.26	1,768.33	21.578	ES
Schaefer 7DD - PDC Energy PR Well - Actual Ensign Su	9,400.00	7,284.89	1,936.32	1,840.98	20.310	SF
Schaefer 7TD - PDC Energy PR Well - Actual Ensign Sur	8,780.50	7,240.02	635.14	551.76	7.618	CC
Schaefer 7TD - PDC Energy PR Well - Actual Ensign Sur	8,800.00	7,240.21	635.44	551.27	7.550	ES
Schaefer 7TD - PDC Energy PR Well - Actual Ensign Sur	8,900.00	7,241.16	646.28	559.03	7.408	SF
Schaefer 7XD - PDC Energy PR Well - Actual Ensign Su	10,254.34	7,233.15	1,836.42	1,706.88	14.176	CC
Schaefer 7XD - PDC Energy PR Well - Actual Ensign Su	10,300.00	7,234.88	1,836.99	1,705.95	14.019	ES
Schaefer 7XD - PDC Energy PR Well - Actual Ensign Su	10,700.00	7,250.97	1,889.65	1,748.30	13.368	SF
6N-66W-08 Offsets Incomplete						
Booth U-8-7HN - Bayswater Planned Well - Planned Ens	8,110.46	16,217.20	1,336.96	999.50	3.962	CC, ES, SF
Booth V-8-7HN - Bayswater Planned Well - Planned Ensi	8,105.63	16,303.30	1,036.18	699.05	3.074	CC, ES, SF
Booth W-8-7HC - Bayswater Planned Well - Planned Ens	8,102.96	16,403.96	846.45	511.44	2.527	CC, ES, SF
Booth X-8-7HN - Bayswater Planned Well - Planned Ensi	8,101.42	16,250.51	678.82	343.40	2.024	CC, ES, SF
HERGERT 8-33 - SRC Energy PR Well - No Surveys	11,117.44	7,105.21	1,053.96	680.26	2.820	CC, ES
HERGERT 8-33 - SRC Energy PR Well - No Surveys	11,200.00	7,105.51	1,057.18	681.24	2.812	SF
HERGERT 8-34 - SRC Energy PR Well - No Surveys	12,273.82	7,102.55	1,027.15	619.61	2.520	CC
HERGERT 8-34 - SRC Energy PR Well - No Surveys	12,300.00	7,102.46	1,027.48	619.17	2.516	ES, SF
HERGERT 8-43 - SRC Energy PR Well - No Surveys	13,787.93	7,102.01	1,047.04	594.97	2.316	CC
HERGERT 8-43 - SRC Energy PR Well - No Surveys	13,800.00	7,101.96	1,047.11	594.67	2.314	ES, SF

Summary							
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)		Separation Factor	Warning	
Offset Well - Wellbore - Design							
6N-66W-09 Offsets Incomplete							
Circle B 6-66-9-0164CH - SRC Energy PR Well - Actual S	15,427.23	11,895.00	1,400.51	1,147.43	5.534	CC, ES, SF	
LOVELY 14-9 - Bill Barrett AB Well - No Surveys	15,427.23	7,106.00	1,357.87	887.15	2.885	CC, ES, SF	
6N-66W-16 Offsets Incomplete							
STATE-HOPPE 16-3 - Noble Energy PR Well - Actual VE	15,427.23	7,082.33	1,692.50	1,447.24	6.901	CC, ES, SF	
6N-66W-17 Offsets Incomplete							
ANTELOPE 1-17 - Apache AB Well - No Surveys	12,197.29	7,078.17	1,391.43	987.01	3.441	CC	
ANTELOPE 1-17 - Apache AB Well - No Surveys	12,200.00	7,078.18	1,391.44	986.94	3.440	ES	
ANTELOPE 1-17 - Apache AB Well - No Surveys	12,300.00	7,078.54	1,395.22	988.37	3.429	SF	
FRANK KEMP 1 - UK Operator AB Well - No Surveys	13,485.40	4,850.00	3,493.18	3,207.09	12.210	CC	
FRANK KEMP 1 - UK Operator AB Well - No Surveys	13,600.00	4,850.00	3,495.06	3,206.41	12.108	ES	
FRANK KEMP 1 - UK Operator AB Well - No Surveys	14,200.00	4,850.00	3,565.53	3,264.90	11.860	SF	
Fritzler 17-32-12 - GWOG PR Well - Actual Ensign Surve	14,207.41	7,498.57	2,036.50	1,794.13	8.402	CC	
Fritzler 17-32-12 - GWOG PR Well - Actual Ensign Surve	14,300.00	7,498.00	2,038.60	1,792.94	8.298	ES	
Fritzler 17-32-12 - GWOG PR Well - Actual Ensign Surve	14,600.00	7,496.15	2,073.99	1,820.43	8.179	SF	
Fritzler 17-42-11 - GWOG PR Well - Actual Ensign Surve	15,427.23	7,470.59	2,052.44	1,772.84	7.341	CC, ES, SF	
FRITZLER 43-17 - GWOG PR Well - Actual Ensign Surve	14,829.27	7,294.63	2,675.99	2,421.72	10.524	CC	
FRITZLER 43-17 - GWOG PR Well - Actual Ensign Surve	14,900.00	7,293.86	2,676.92	2,420.69	10.447	ES	
FRITZLER 43-17 - GWOG PR Well - Actual Ensign Surve	15,300.00	7,289.52	2,717.07	2,452.51	10.270	SF	
HERGERT 17-21 - SRC Energy PR Well - No Surveys	12,431.32	7,105.98	120.78	-291.51	0.293	Level 1, CC, ES, SF	
HERGERT 17-22 - Noble Energy PR Well - Actual VES S	11,041.56	7,101.63	441.34	300.63	3.137	CC, ES, SF	
HERGERT 17-25 - SRC Energy PR Well - No Surveys	11,507.90	7,100.36	928.12	543.15	2.411	CC, ES, SF	
MCGLOTHLIN 17-11 - SRC Energy PR Well - No Survey	14,748.17	7,077.51	103.73	-375.78	0.216	Level 1, CC, ES, SF	
MCGLOTHLIN 17-12 - SRC Energy SI Well - No Surveys	13,659.53	7,075.52	78.18	-369.18	0.175	Level 1, CC, ES, SF	
MCGLOTHLIN 17-42 - SRC Energy PR Well - No Survey	13,622.28	7,056.39	2,712.28	2,266.70	6.087	CC	
MCGLOTHLIN 17-42 - SRC Energy PR Well - No Survey	13,700.00	7,056.67	2,713.40	2,265.67	6.060	ES	
MCGLOTHLIN 17-42 - SRC Energy PR Well - No Survey	13,900.00	7,057.41	2,726.46	2,273.98	6.025	SF	
McGlothlin 8-6-17 - GWOG PR Well - Actual MS Energy	15,411.05	7,342.64	3,310.67	3,037.63	12.126	CC	
McGlothlin 8-6-17 - GWOG PR Well - Actual MS Energy	15,427.23	7,342.48	3,310.71	3,037.25	12.107	ES, SF	
SCHAEFFER 17-31 - SRC Energy PR Well - No Surveys	12,355.09	7,054.74	2,883.00	2,474.77	7.062	CC	
SCHAEFFER 17-31 - SRC Energy PR Well - No Surveys	12,400.00	7,054.91	2,883.35	2,473.85	7.041	ES	
SCHAEFFER 17-31 - SRC Energy PR Well - No Surveys	12,800.00	7,056.37	2,917.13	2,498.13	6.962	SF	
SCHAEFFER 17-32 - SRC Energy PR Well - No Surveys	10,860.33	7,052.27	2,909.83	2,545.53	7.988	CC	
SCHAEFFER 17-32 - SRC Energy PR Well - No Surveys	10,900.00	7,052.41	2,910.10	2,544.68	7.964	ES	
SCHAEFFER 17-32 - SRC Energy PR Well - No Surveys	11,300.00	7,053.88	2,942.86	2,567.41	7.838	SF	
ULRICH PC I 17-07D - SRC Energy PR Well - Actual Ens	13,542.82	7,238.03	1,420.17	1,192.50	6.238	CC	
ULRICH PC I 17-07D - SRC Energy PR Well - Actual Ens	13,600.00	7,236.83	1,421.32	1,192.26	6.205	ES	
ULRICH PC I 17-07D - SRC Energy PR Well - Actual Ens	13,700.00	7,234.72	1,428.84	1,198.18	6.195	SF	
ULRICH PC I 17-08 - SRC Energy PR Well - No Surveys	14,711.34	7,068.38	1,353.03	874.93	2.830	CC, ES	
ULRICH PC I 17-08 - SRC Energy PR Well - No Surveys	14,800.00	7,068.70	1,355.93	875.86	2.824	SF	
ULRICH PC I 17-17D - SRC Energy PR Well - Actual Ens	14,007.19	7,251.43	530.51	296.70	2.269	CC, ES, 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-66W-18 LINCOLN STATE 3-18 PAD						
LINCOLN 30C-13-M - Wellbore #1 - Design #1	7,580.21	7,283.81	172.27	127.90	3.882	CC, ES
LINCOLN 30C-13-M - Wellbore #1 - Design #1	7,600.00	7,267.92	172.66	127.92	3.859	SF
LINCOLN 30N-13B-M - Wellbore #1 - Design #1	313.99	309.98	184.22	176.56	24.032	CC, ES
LINCOLN 30N-13B-M - Wellbore #1 - Design #1	7,300.00	7,435.98	377.38	334.76	8.855	SF
LINCOLN 31C-13-M - Wellbore #1 - Design #1	250.00	248.00	205.77	198.16	27.063	CC, ES
LINCOLN 31C-13-M - Wellbore #1 - Design #1	8,200.00	6,920.07	1,247.57	1,192.58	22.690	SF
LINCOLN 31N-13B-M - Wellbore #1 - Design #1	250.00	248.00	196.93	189.33	25.901	CC, ES
LINCOLN 31N-13B-M - Wellbore #1 - Design #1	8,000.00	6,920.74	1,042.86	993.33	21.054	SF
LINCOLN 31N-13C-M - Wellbore #1 - Design #1	250.00	248.00	189.55	181.95	24.930	CC, ES
LINCOLN 31N-13C-M - Wellbore #1 - Design #1	7,700.00	7,114.89	673.94	629.41	15.134	SF
LINCOLN 32C-13-M - Wellbore #1 - Design #1	250.00	248.00	254.30	246.69	33.445	CC, ES
LINCOLN 32C-13-M - Wellbore #1 - Design #1	8,900.00	6,821.77	2,245.65	2,172.69	30.781	SF
LINCOLN 32N-13B-M - Wellbore #1 - Design #1	250.00	248.00	240.65	233.04	31.650	CC, ES
LINCOLN 32N-13B-M - Wellbore #1 - Design #1	8,700.00	6,730.51	2,013.86	1,947.06	30.149	SF
LINCOLN 4C-13-M - Wellbore #1 - Design #1	250.00	248.00	184.33	176.73	24.243	CC, ES
LINCOLN 4C-13-M - Wellbore #1 - Design #1	7,700.00	7,165.88	481.69	436.86	10.744	SF
LINCOLN 4N-13B-M - Wellbore #1 - Design #1	250.00	248.00	180.91	173.31	23.794	CC, ES
LINCOLN 4N-13B-M - Wellbore #1 - Design #1	7,199.49	7,471.72	221.29	179.61	5.309	SF
LINCOLN 4N-13C-M - Wellbore #1 - Design #1	7,356.02	7,412.15	33.03	-8.98	0.786	Level 1, CC, ES, SF
LINCOLN 5N-13A-M - Wellbore #1 - Design #1	250.00	248.00	216.33	208.73	28.452	CC, ES
LINCOLN 5N-13A-M - Wellbore #1 - Design #1	300.00	294.68	216.97	209.32	28.372	SF
LINCOLN 5N-13C-M - Wellbore #1 - Design #1	250.00	248.00	227.96	220.35	29.981	CC, ES
LINCOLN 5N-13C-M - Wellbore #1 - Design #1	8,500.00	6,800.00	1,729.13	1,667.03	27.845	SF
LINCOLN STATE 1C-17-M - Wellbore #1 - Design #1	363.50	365.28	19.63	11.90	2.541	CC
LINCOLN STATE 1C-17-M - Wellbore #1 - Design #1	15,423.25	15,511.15	237.49	-204.83	0.537	Level 1, ES, SF
LINCOLN STATE 1N-17B-M - Wellbore #1 - Design #1	255.29	256.36	39.71	32.10	5.218	CC
LINCOLN STATE 1N-17B-M - Wellbore #1 - Design #1	15,426.78	15,357.29	457.17	-9.57	0.979	Level 1, ES, SF
LINCOLN STATE 26C-17-M - Wellbore #1 - Design #1	200.00	200.00	40.07	32.51	5.296	CC
LINCOLN STATE 26C-17-M - Wellbore #1 - Design #1	15,427.23	15,549.17	471.57	-12.59	0.974	Level 1, ES, SF
LINCOLN STATE 26N-17B-M - Wellbore #1 - Design #1	451.08	449.68	19.99	12.14	2.547	CC
LINCOLN STATE 26N-17B-M - Wellbore #1 - Design #1	15,427.23	15,361.07	241.34	-246.47	0.495	Level 1, ES, SF
LINCOLN STATE 40C-17-M - Wellbore #1 - Design #1	250.00	251.00	159.94	152.33	21.031	CC, ES
LINCOLN STATE 40C-17-M - Wellbore #1 - Design #1	15,427.23	15,603.94	1,747.64	1,247.70	3.496	SF
LINCOLN STATE 40N-17C-M - Wellbore #1 - Design #1	250.00	251.00	179.97	172.36	23.666	CC, ES
LINCOLN STATE 40N-17C-M - Wellbore #1 - Design #1	15,427.23	15,544.22	1,965.05	1,464.21	3.924	SF
LINCOLN STATE 41N-17A-M - Wellbore #1 - Design #1	250.00	251.00	59.75	52.14	7.857	CC, ES
LINCOLN STATE 41N-17A-M - Wellbore #1 - Design #1	15,426.78	15,231.51	673.09	192.17	1.400	Level 3, SF
LINCOLN STATE 41N-17B-M - Wellbore #1 - Design #1	250.00	251.00	99.82	92.22	13.127	CC, ES
LINCOLN STATE 41N-17B-M - Wellbore #1 - Design #1	15,426.78	15,368.22	1,088.89	589.94	2.182	SF
LINCOLN STATE 41N-17C-M - Wellbore #1 - Design #1	250.00	251.00	79.78	72.18	10.491	CC, ES
LINCOLN STATE 41N-17C-M - Wellbore #1 - Design #1	15,426.78	15,514.64	872.63	375.95	1.757	SF
LINCOLN STATE 8C-17-M - Wellbore #1 - Design #1	250.00	251.00	119.86	112.25	15.761	CC, ES
LINCOLN STATE 8C-17-M - Wellbore #1 - Design #1	15,427.23	15,552.45	1,264.24	765.76	2.536	SF
LINCOLN STATE 8N-17B-M - Wellbore #1 - Design #1	250.00	251.00	139.90	132.29	18.396	CC, ES
LINCOLN STATE 8N-17B-M - Wellbore #1 - Design #1	15,426.78	15,414.73	1,527.90	1,027.99	3.056	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 Offsets Incomplete						
ANTELOPE 1 - Marlin Oil AB Sussex Well - No Surveys	4,500.00	4,420.97	2,706.06	2,540.65	16.359	ES
ANTELOPE 1 - Marlin Oil AB Sussex Well - No Surveys	4,600.00	4,435.00	2,707.50	2,541.44	16.304	SF
ANTELOPE 1 - Marlin Oil AB Sussex Well - No Surveys	9,580.38	4,435.00	2,641.29	2,604.29	71.381	CC
CARLSON 18-41 - Noble Energy SI Well - No Surveys	9,629.91	7,054.76	2,923.85	2,595.28	8.899	CC
CARLSON 18-41 - Noble Energy SI Well - No Surveys	9,700.00	7,055.01	2,924.69	2,594.16	8.849	ES
CARLSON 18-41 - Noble Energy SI Well - No Surveys	10,200.00	7,056.85	2,978.91	2,635.91	8.685	SF
CARLSON 33-18 - GWOG PR Well - No Surveys	250.00	209.00	2,349.65	2,339.02	221.019	CC
CARLSON 33-18 - GWOG PR Well - No Surveys	8,300.00	7,079.88	2,409.34	2,117.57	8.258	ES
CARLSON 33-18 - GWOG PR Well - No Surveys	8,700.00	7,081.35	2,453.43	2,151.80	8.134	SF
DICKERSON 1 - Stuarco AB Sussex Well - No Surveys	5,000.00	4,854.00	2,902.97	2,721.13	15.964	SF
DICKERSON 1 - Stuarco AB Sussex Well - No Surveys	9,489.70	4,854.00	2,619.27	2,481.14	18.963	CC
DICKERSON 1 - Stuarco AB Sussex Well - No Surveys	9,500.00	4,854.00	2,619.29	2,481.00	18.942	ES
DUNBAR 18-31 - Noble Energy AB Well - Actual VES Su	305.83	305.61	2,539.93	2,532.46	340.252	CC, ES
DUNBAR 18-31 - Noble Energy AB Well - Actual VES Su	9,500.00	6,950.16	4,279.36	4,210.12	61.807	SF
KOCHERT 11-18 - SRC Energy SI Well - No Surveys	5,638.61	5,618.81	1,704.09	1,493.43	8.089	CC
KOCHERT 11-18 - SRC Energy SI Well - No Surveys	6,513.89	6,508.04	1,705.19	1,460.72	6.975	ES
KOCHERT 11-18 - SRC Energy SI Well - No Surveys	6,700.00	6,675.06	1,732.60	1,481.77	6.908	SF
KOCHERT 12-18 - SRC Energy SI Well - No Surveys	250.00	220.00	2,010.36	1,999.39	183.249	CC
KOCHERT 12-18 - SRC Energy SI Well - No Surveys	3,200.00	3,163.14	2,108.92	1,990.81	17.854	ES
KOCHERT 12-18 - SRC Energy SI Well - No Surveys	6,750.00	6,700.74	2,283.41	2,031.71	9.072	SF
PEXOIL MURPHY & DICKERSON 1 - Pexoil AB Sussex	250.00	205.00	1,509.74	1,499.23	143.663	CC
PEXOIL MURPHY & DICKERSON 1 - Pexoil AB Sussex	450.00	405.16	1,514.44	1,497.20	87.805	ES
PEXOIL MURPHY & DICKERSON 1 - Pexoil AB Sussex	4,500.00	4,421.00	1,718.07	1,552.84	10.398	SF
R A 1 - Francis Energy AB Well - No Surveys	250.00	220.00	3,035.00	3,024.03	276.648	CC
R A 1 - Francis Energy AB Well - No Surveys	400.00	369.93	3,037.94	3,021.94	189.839	ES
R A 1 - Francis Energy AB Well - No Surveys	6,950.00	6,871.21	3,473.49	3,215.38	13.457	SF
TIGGES 18-11 - SRC Energy PR Well - No Surveys	9,352.34	7,082.74	312.53	-9.03	0.972	Level 1, CC, ES, SF
TIGGES 18-13 - SRC Energy PR Well - No Surveys	8,240.61	7,082.67	1,277.83	987.49	4.401	CC
TIGGES 18-13 - SRC Energy PR Well - No Surveys	8,300.00	7,082.88	1,279.21	987.40	4.384	ES
TIGGES 18-13 - SRC Energy PR Well - No Surveys	8,400.00	7,083.25	1,287.73	993.62	4.378	SF
TIGGES 18-14 - SRC Energy PR Well - No Surveys	9,467.55	7,064.16	1,620.19	1,295.97	4.997	CC
TIGGES 18-14 - SRC Energy PR Well - No Surveys	9,500.00	7,064.28	1,620.51	1,295.42	4.985	ES
TIGGES 18-14 - SRC Energy PR Well - No Surveys	9,600.00	7,064.65	1,625.59	1,297.98	4.962	SF
TIGGES 18-15 - SRC Energy PR Well - No Surveys	8,765.32	7,075.59	783.34	478.75	2.572	CC
TIGGES 18-15 - SRC Energy PR Well - No Surveys	8,800.00	7,075.72	784.11	478.69	2.567	ES, SF
TIGGES 31-18 - SRC Energy SI Well - No Surveys	8,262.11	7,082.74	344.36	53.44	1.184	Level 2, CC, ES, SF
WALKER 11-18 - Petro Canada AB Well - No Surveys	250.00	228.00	1,816.85	1,805.63	161.917	CC
WALKER 11-18 - Petro Canada AB Well - No Surveys	6,513.89	6,476.96	1,901.77	1,658.43	7.815	ES
WALKER 11-18 - Petro Canada AB Well - No Surveys	6,700.00	6,660.06	1,931.01	1,680.75	7.716	SF
Walker-Shands 18-18 - SRC Energy PR Well - Actual En	1,128.27	1,108.71	125.81	97.30	4.413	CC, ES, SF
Walker-Shands 3-18 - SRC Energy PR Well - No Surveys	2,487.89	2,459.77	114.72	22.47	1.244	Level 2, CC
Walker-Shands 3-18 - SRC Energy PR Well - No Surveys	3,500.00	3,469.41	134.71	5.20	1.040	Level 2, ES
Walker-Shands 3-18 - SRC Energy PR Well - No Surveys	3,600.00	3,569.16	138.49	5.26	1.040	Level 2, SF
Walker-Shands 6-18 - SRC Energy PR Well - Actual Ens	1,494.64	1,477.47	90.44	60.19	2.990	CC
Walker-Shands 6-18 - SRC Energy PR Well - Actual Ens	1,500.00	1,482.72	90.45	60.18	2.988	ES, SF
6N-67W-10 Offsets Incomplete						
Bower FD 11-322HC - GWOG Planned Well - Planned G	6,580.83	13,035.16	8,302.29	8,254.18	172.549	CC, ES
Bower FD 11-322HC - GWOG Planned Well - Planned G	6,600.00	13,035.16	8,302.60	8,254.48	172.529	SF
Bower FD 11-322HN - GWOG Planned Well - Planned G	6,566.89	12,854.66	8,280.62	8,233.30	174.990	CC, ES
Bower FD 11-322HN - GWOG Planned Well - Planned G	6,650.00	12,854.66	8,286.35	8,238.98	174.921	SF
Bower FD 11-359HN - GWOG Planned Well - Planned G	6,571.74	13,026.84	8,238.08	8,189.01	167.901	CC, ES
Bower FD 11-359HN - GWOG Planned Well - Planned G	6,750.00	13,026.84	8,264.46	8,215.13	167.524	SF
Bower FD 11-362HC - GWOG Planned Well - Planned G	6,577.81	13,174.35	8,222.99	8,170.07	155.384	CC, ES
Bower FD 11-362HC - GWOG Planned Well - Planned G	6,800.00	13,174.35	8,263.94	8,210.55	154.785	SF
Bower FD 11-362HN - GWOG Planned Well - Planned G	6,563.38	13,011.68	8,193.12	8,137.50	147.289	CC, ES
Bower FD 11-362HN - GWOG Planned Well - Planned G	6,800.00	13,011.68	8,239.57	8,183.35	146.539	SF
MILLER 1 - GWOG AB Well - Actual VES Surveys	6,522.35	6,471.56	8,396.89	8,367.11	281.922	CC, ES
MILLER 1 - GWOG AB Well - Actual VES Surveys	7,400.00	7,101.14	8,905.63	8,871.24	258.890	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-67W-12 Offsets Incomplete						
FLOCKHART 12-43(DIR) - SRC Energy SI Well - Actual E	1,906.39	1,729.78	4,321.45	4,304.54	255.643	CC
FLOCKHART 12-43(DIR) - SRC Energy SI Well - Actual E	2,000.00	1,775.35	4,321.81	4,304.16	244.777	ES
FLOCKHART 12-43(DIR) - SRC Energy SI Well - Actual E	6,300.00	6,405.55	4,605.85	4,428.78	26.011	SF
FLOCKHART 12-44 - SRC Energy PR Well - No Surveys	6,534.13	6,530.14	3,092.43	2,847.23	12.612	CC
FLOCKHART 12-44 - SRC Energy PR Well - No Surveys	6,550.00	6,545.96	3,092.61	2,846.81	12.582	ES
FLOCKHART 12-44 - SRC Energy PR Well - No Surveys	6,850.00	6,830.16	3,163.87	2,907.22	12.328	SF
Knievel 14-12D - PDC Energy PR Well - Actual Ensign S	619.80	426.90	5,812.76	5,804.90	739.575	CC, ES
Knievel 14-12D - PDC Energy PR Well - Actual Ensign S	6,800.00	7,067.76	7,030.48	6,979.30	137.389	SF
Knievel 24-12D - PDC Energy PR Well - Actual Ensign S	6,520.79	6,586.87	5,667.55	5,617.11	112.379	CC, ES
Knievel 24-12D - PDC Energy PR Well - Actual Ensign S	6,800.00	6,851.42	5,726.97	5,675.56	111.387	SF
Simonsen 12E-223 - PDC Planned Well - Planned Ensign	6,565.46	11,562.40	7,545.80	7,419.58	59.785	CC, ES
Simonsen 12E-223 - PDC Planned Well - Planned Ensign	6,700.00	11,562.40	7,561.00	7,434.33	59.692	SF
Simonsen 12J-243 - PDC Energy PR Well - Actual Ensig	6,573.21	11,570.00	6,497.92	6,366.44	49.421	CC, ES
Simonsen 12J-243 - PDC Energy PR Well - Actual Ensig	6,650.00	11,570.00	6,502.93	6,371.19	49.360	SF
6N-67W-13 Offsets Incomplete						
FREE ENTERPRISE 1-13 - McGarvey-Stark AB Sussex	250.00	202.00	5,367.16	5,356.74	515.187	CC
FREE ENTERPRISE 1-13 - McGarvey-Stark AB Sussex	4,500.00	4,441.97	5,489.10	5,322.98	33.043	ES
FREE ENTERPRISE 1-13 - McGarvey-Stark AB Sussex	4,700.00	4,500.00	5,497.11	5,328.52	32.607	SF
KADLUB/MILLER 1 - Mission Oil AB Well - No Surveys	6,515.51	6,486.57	7,046.55	6,802.85	28.914	CC
KADLUB/MILLER 1 - Mission Oil AB Well - No Surveys	6,550.00	6,520.96	7,047.49	6,802.48	28.764	ES
KADLUB/MILLER 1 - Mission Oil AB Well - No Surveys	7,100.00	7,008.75	7,296.61	7,033.08	27.688	SF
KADLUB-MILLER 2 - Bonanza Creek AB Well - No Surve	250.00	269.00	5,804.42	5,791.88	463.004	CC
KADLUB-MILLER 2 - Bonanza Creek AB Well - No Surve	6,550.00	6,553.96	5,847.27	5,601.09	23.752	ES
KADLUB-MILLER 2 - Bonanza Creek AB Well - No Surve	7,050.00	7,007.59	6,059.69	5,796.36	23.012	SF
KREYKES 13-11 - Noble Energy SI Well - No Surveys	6,513.89	6,509.04	3,153.64	2,909.14	12.898	ES
KREYKES 13-11 - Noble Energy SI Well - No Surveys	6,514.22	6,508.72	3,153.64	2,909.15	12.899	CC
KREYKES 13-11 - Noble Energy SI Well - No Surveys	6,800.00	6,767.05	3,216.71	2,962.39	12.648	SF
KREYKES 13-13 - Noble Energy SI Well - No Surveys	250.00	242.00	4,663.69	4,652.03	399.822	CC
KREYKES 13-13 - Noble Energy SI Well - No Surveys	6,513.89	6,509.04	4,736.90	4,492.41	19.374	ES
KREYKES 13-13 - Noble Energy SI Well - No Surveys	6,950.00	6,906.79	4,881.71	4,622.16	18.808	SF
KREYKES 13-14 - Noble Energy SI Well - No Surveys	250.00	230.00	3,068.32	3,057.04	271.923	CC
KREYKES 13-14 - Noble Energy SI Well - No Surveys	6,513.89	6,478.96	3,196.61	2,953.21	13.133	ES
KREYKES 13-14 - Noble Energy SI Well - No Surveys	6,800.00	6,755.05	3,261.47	3,007.64	12.849	SF
KREYKES 13-15 - Noble Energy SI Well - No Surveys	250.00	247.00	3,778.00	3,766.17	319.509	CC
KREYKES 13-15 - Noble Energy SI Well - No Surveys	6,513.89	6,504.04	3,825.15	3,580.83	15.656	ES
KREYKES 13-15 - Noble Energy SI Well - No Surveys	6,850.00	6,816.16	3,913.62	3,657.47	15.279	SF
PITNER 13-12 - Noble Energy SI Well - No Surveys	6,515.74	6,517.80	4,200.61	3,955.80	17.159	CC
PITNER 13-12 - Noble Energy SI Well - No Surveys	6,550.00	6,551.96	4,201.54	3,955.43	17.072	ES
PITNER 13-12 - Noble Energy SI Well - No Surveys	6,800.00	6,807.95	4,263.07	4,007.30	16.667	SF
Rubyanna 13C-25W - Extraction PR Well - Actual BHI Su	6,489.26	6,843.00	3,316.61	3,265.76	65.218	CC
Rubyanna 13C-25W - Extraction PR Well - Actual BHI Su	6,500.00	6,843.00	3,316.63	3,265.75	65.187	ES
Rubyanna 13C-25W - Extraction PR Well - Actual BHI Su	6,700.00	6,888.06	3,340.92	3,289.38	64.826	SF
RUBYANNA 13NC-26W - Extraction PR Well - Actual BH	6,491.40	6,780.00	3,624.12	3,576.89	76.737	CC
RUBYANNA 13NC-26W - Extraction PR Well - Actual BH	6,500.00	6,780.00	3,624.13	3,576.88	76.701	ES
RUBYANNA 13NC-26W - Extraction PR Well - Actual BH	6,650.00	6,811.00	3,636.81	3,589.05	76.149	SF
STROMBERGER 13-31 - Noble Energy PR Well - Actual	100.00	37.67	6,460.47	6,453.12	878.554	CC, ES
STROMBERGER 13-31 - Noble Energy PR Well - Actual	10,400.00	7,076.09	9,986.47	9,938.72	209.147	SF
STROMBERGER 13-32 - Noble Energy PR Well - Actual	100.00	42.39	7,526.43	7,519.08	1,023.503	CC, ES
STROMBERGER 13-32 - Noble Energy PR Well - Actual	8,200.00	8,200.00	8,960.11	8,922.86	240.555	SF
YANCEY 1 - Chandler AB Well - No Surveys	6,514.29	6,487.35	3,093.17	2,849.44	12.691	CC
YANCEY 1 - Chandler AB Well - No Surveys	6,550.00	6,522.96	3,094.17	2,849.09	12.625	ES
YANCEY 1 - Chandler AB Well - No Surveys	6,800.00	6,763.05	3,156.22	2,902.04	12.417	SF

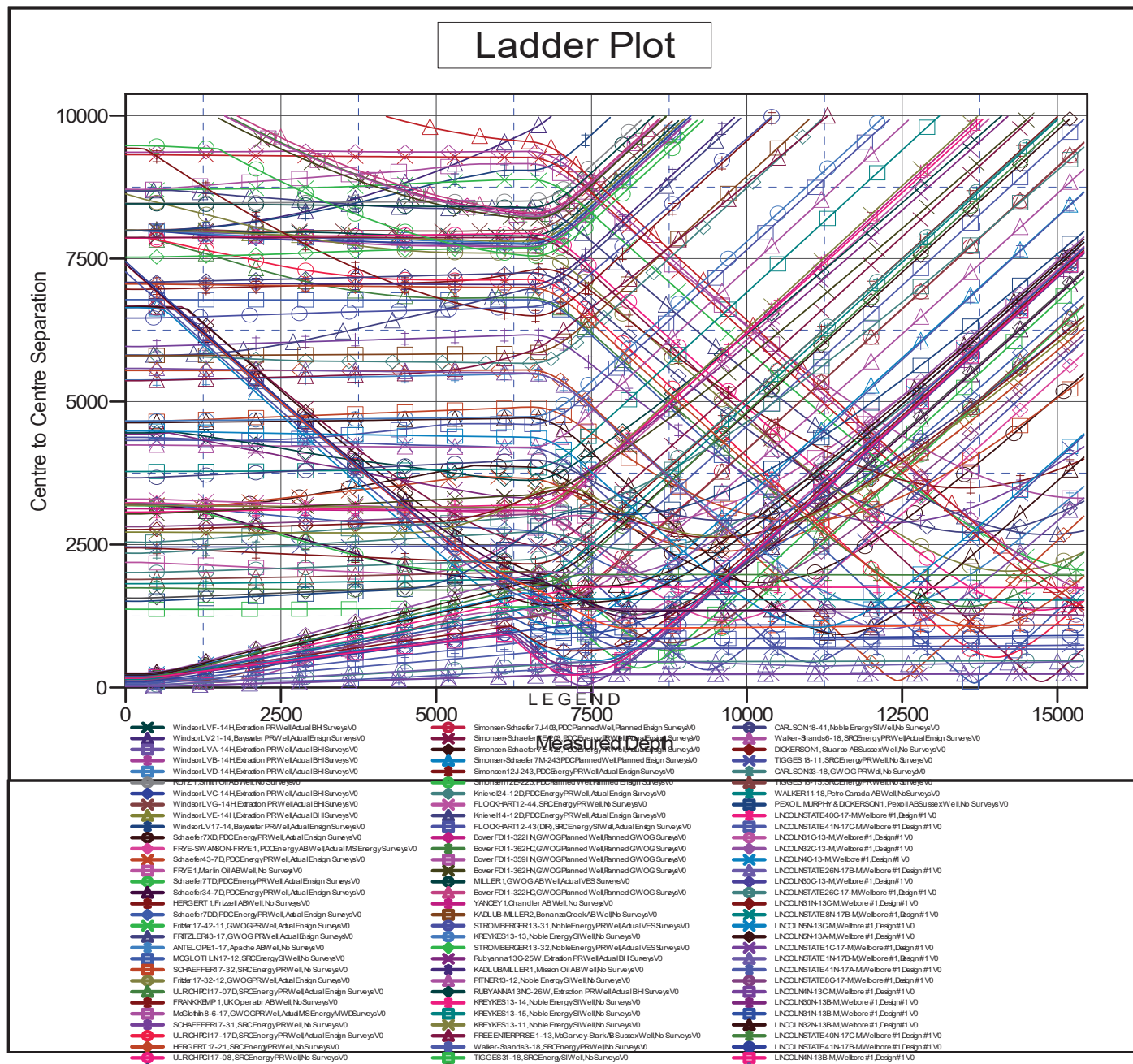
Summary

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	250.00	241.00	8,469.07	8,457.44	728.051	CC
RUTZ 1 - Smith Oil AB Well - No Surveys	6,550.00	6,525.96	8,509.25	8,264.06	34.705	ES
RUTZ 1 - Smith Oil AB Well - No Surveys	7,100.00	7,003.75	8,760.09	8,496.81	33.272	SF
Windsor LV 17-14 - Bayswater PR Well - Actual Ensign S	0.00	0.00	7,987.01			
Windsor LV 17-14 - Bayswater PR Well - Actual Ensign S	7,050.00	7,060.86	9,259.87	9,222.51	247.863	SF
Windsor LV 21-14 - Bayswater PR Well - Actual Ensign S	0.00	0.00	7,989.20			
Windsor LV 21-14 - Bayswater PR Well - Actual Ensign S	6,850.00	1,570.00	9,985.98	9,964.43	463.325	SF
Windsor LV A-14H - Extraction PR Well - Actual BHI Surv	6,511.24	6,539.09	7,712.71	7,669.25	177.488	CC
Windsor LV A-14H - Extraction PR Well - Actual BHI Surv	6,513.89	6,539.98	7,712.71	7,669.24	177.445	ES
Windsor LV A-14H - Extraction PR Well - Actual BHI Surv	6,750.00	6,591.00	7,758.40	7,714.18	175.448	SF
Windsor LV B-14H - Extraction PR Well - Actual BHI Surv	6,519.13	6,590.00	7,700.42	7,662.15	201.211	CC, ES
Windsor LV B-14H - Extraction PR Well - Actual BHI Surv	6,900.00	6,684.00	7,818.20	7,778.82	198.553	SF
Windsor LV C-14H - Extraction PR Well - Actual BHI Surv	6,404.57	6,401.00	7,752.31	7,718.82	231.447	CC, ES
Windsor LV C-14H - Extraction PR Well - Actual BHI Surv	6,950.00	6,495.00	7,911.62	7,876.56	225.643	SF
Windsor LV D-14H - Extraction PR Well - Actual BHI Surv	6,486.55	6,495.00	7,771.69	7,738.98	237.543	CC
Windsor LV D-14H - Extraction PR Well - Actual BHI Surv	6,513.89	6,495.00	7,771.74	7,738.95	237.024	ES
Windsor LV D-14H - Extraction PR Well - Actual BHI Surv	6,850.00	6,495.00	7,865.74	7,832.18	234.359	SF
Windsor LV E-14H - Extraction PR Well - Actual BHI Surv	6,221.24	6,270.77	7,804.10	7,770.69	233.573	CC, ES
Windsor LV E-14H - Extraction PR Well - Actual BHI Surv	6,850.00	6,355.64	7,909.85	7,874.71	225.084	SF
Windsor LV F-14H - Extraction PR Well - Actual BHI Surv	6,477.23	6,588.00	7,896.90	7,857.89	202.422	CC
Windsor LV F-14H - Extraction PR Well - Actual BHI Surv	6,500.00	6,588.00	7,896.94	7,857.86	202.106	ES
Windsor LV F-14H - Extraction PR Well - Actual BHI Surv	6,800.00	6,682.00	7,963.87	7,923.80	198.733	SF
Windsor LV G-14H - Extraction PR Well - Actual BHI Surv	2,253.70	2,291.00	7,974.89	7,959.36	513.613	CC
Windsor LV G-14H - Extraction PR Well - Actual BHI Surv	5,300.00	5,453.49	7,980.56	7,943.16	213.362	ES
Windsor LV G-14H - Extraction PR Well - Actual BHI Surv	6,750.00	6,587.00	8,046.37	8,000.47	175.303	SF

Coordinates are relative to: LINCOLN STATE 1N-17C-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°

