

VERDAD RESOURCES

WATTENBERG FIELD

1N-64W-19 CHIVE & SHALLOT PAD

CHIVE 2536-17H

Plan A

Design #1

Anticollision Summary Report

19 May, 2023

Anticollision Summary Report

Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well CHIVE 2536-17H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 5031.00usft (RIG)
Reference Site:	1N-64W-19 CHIVE & SHALLOT PAD	MD Reference:	RKB = 20' @ 5031.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CHIVE 2536-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

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 centre distance of 1,500.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Added to Error Values

Survey Tool Program	Date	5/15/2023			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	2,070.00	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination	
2,070.00	17,685.56	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
1N-64W-19 CHIVE & SHALLOT PAD						
CHIVE 2536-10H - Plan A - Design #1	200.00	200.00	112.00	104.43	14.797	CC, ES
CHIVE 2536-10H - Plan A - Design #1	2,000.00	1,892.54	306.85	284.04	13.452	SF
CHIVE 2536-11H - Plan A - Design #1	200.00	200.00	95.99	88.43	12.683	CC, ES
CHIVE 2536-11H - Plan A - Design #1	1,900.00	1,816.23	255.34	234.06	12.004	SF
CHIVE 2536-12H - Plan A - Design #1	207.94	207.94	79.99	72.42	10.562	CC, ES
CHIVE 2536-12H - Plan A - Design #1	1,900.00	1,830.80	224.99	203.44	10.438	SF
CHIVE 2536-13H - Plan A - Design #1	203.51	203.51	63.99	56.42	8.453	CC, ES
CHIVE 2536-13H - Plan A - Design #1	300.00	299.16	64.26	56.61	8.397	SF
CHIVE 2536-14H - Plan A - Design #1	208.33	208.33	47.99	40.42	6.336	CC
CHIVE 2536-14H - Plan A - Design #1	300.00	299.70	48.06	40.40	6.278	ES, SF
CHIVE 2536-15H - Plan A - Design #1	216.60	216.60	32.00	24.42	4.222	CC
CHIVE 2536-15H - Plan A - Design #1	300.00	299.80	32.00	24.35	4.181	ES
CHIVE 2536-15H - Plan A - Design #1	17,685.56	18,175.36	1,233.20	676.75	2.216	SF
CHIVE 2536-16H - Plan A - Design #1	302.00	302.00	16.00	8.34	2.090	CC, ES
CHIVE 2536-16H - Plan A - Design #1	17,685.56	17,916.60	616.62	61.44	1.111	Level 2, SF
SHALLOT 1930-18H - Plan A - Design #1	340.00	340.00	16.00	8.30	2.077	CC, ES, SF
SHALLOT 1930-19H - Plan A - Design #1	340.00	340.00	32.00	24.30	4.155	CC, ES, SF
SHALLOT 1930-20H - Plan A - Design #1	340.00	340.00	48.00	40.30	6.232	CC, ES, SF
SHALLOT 1930-21H - Plan A - Design #1	302.37	302.37	64.00	56.35	8.358	CC
SHALLOT 1930-21H - Plan A - Design #1	340.00	339.91	64.01	56.31	8.311	ES, SF
SHALLOT 1930-22H - Plan A - Design #1	300.00	300.00	80.00	72.35	10.451	CC, ES
SHALLOT 1930-22H - Plan A - Design #1	340.00	339.29	80.18	72.47	10.411	SF
SHALLOT 1930-23H - Plan A - Design #1	203.39	203.39	96.00	88.43	12.681	CC, ES
SHALLOT 1930-23H - Plan A - Design #1	340.00	338.21	96.64	88.94	12.552	SF
SHALLOT 1930-24H - Plan A - Design #1	200.00	200.00	112.01	104.44	14.799	CC, ES
SHALLOT 1930-24H - Plan A - Design #1	300.00	297.35	112.95	105.30	14.762	SF
1N-64W-19 Offsets						
STEVENS #1 - KPK P/A Well - No Surveys						Out of range
WEIMER #1 - Petro-American Energy D/A Well - No Sur						Out of range

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Reference Site:	1N-64W-19 CHIVE & SHALLOT PAD	MD Reference:	RKB = 20' @ 5031.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CHIVE 2536-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

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						
1N-64W-19 ONION 1907 PAD						
ONION 1907-01H - VERDAD PR Well - Actual SLB Surv	206.36	207.37	200.05	192.49	26.439	CC, ES
ONION 1907-01H - VERDAD PR Well - Actual SLB Surv	400.00	396.64	202.85	195.08	26.107	SF
ONION 1907-02H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	200.02			
ONION 1907-02H - VERDAD PR Well - Actual SLB Surv	400.00	397.29	202.93	195.18	26.175	SF
ONION 1907-03H - VERDAD PR Well - Actual SLB Surv	149.91	150.91	200.66	193.12	26.618	CC, ES
ONION 1907-03H - VERDAD PR Well - Actual SLB Surv	400.00	399.27	201.72	193.97	26.023	SF
ONION 1907-04H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	202.74			
ONION 1907-04H - VERDAD PR Well - Actual SLB Surv	400.00	399.42	204.73	196.99	26.433	SF
ONION 1907-05H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	205.97			
ONION 1907-05H - VERDAD PR Well - Actual SLB Surv	500.00	500.18	211.61	203.72	26.832	SF
ONION 1907-06H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	210.38			
ONION 1907-06H - VERDAD PR Well - Actual SLB Surv	400.00	399.62	212.72	204.97	27.472	SF
ONION 1907-07H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	215.88			
ONION 1907-07H - VERDAD PR Well - Actual SLB Surv	400.00	398.12	217.22	209.48	28.059	SF
ONION 1907-08H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	222.40			
ONION 1907-08H - VERDAD PR Well - Actual SLB Surv	300.00	294.71	223.65	216.03	29.335	SF
ONION 1907-09H - VERDAD PR Well - Actual SLB Surv	0.00	1.00	229.83			
ONION 1907-09H - VERDAD PR Well - Actual SLB Surv	186.27	187.27	229.86	222.30	30.427	ES
ONION 1907-09H - VERDAD PR Well - Actual SLB Surv	340.00	336.06	231.24	223.56	30.110	SF
1N-64W-30 Offsets						
ANDREWS #13 - Verdad P&A Well - No Surveys						Out of range
ARNOLD #31 - Verdad P&A Well - No Surveys						Out of range
1N-64W-31 Offsets						
UPRR TIPPETT #1 - Rocky Mtn P&A Well - No Surveys						Out of range
1N-65W-12 SAFI 1224 PAD						
SAFI 1224-02H - Verdad PR Well - Actual SLB Surveys						Out of range
SAFI 1224-04H - Verdad PR Well - Actual SLB Surveys						Out of range
SAFI 1224-06H - Verdad PR Well - Actual SLB Surveys						Out of range
SAFI 1224-08H - Verdad PR Well - Actual SLB Surveys						Out of range
SAFI 1224-10H - Verdad PR Well - Actual SLB Surveys						Out of range
SAFI 1224-12H - Verdad PR Well - Actual SLB Surveys	7,400.00	18,108.00	673.84	432.64	2.794	SF
SAFI 1224-12H - Verdad PR Well - Actual SLB Surveys	7,450.00	18,108.00	668.88	430.62	2.807	ES
SAFI 1224-12H - Verdad PR Well - Actual SLB Surveys	7,461.19	18,108.00	668.71	431.34	2.817	CC
SAFI 1224-14H - Verdad PR Well - Actual SLB Surveys	7,310.38	18,176.00	587.76	361.26	2.595	CC
SAFI 1224-14H - Verdad PR Well - Actual SLB Surveys	7,350.00	18,176.00	589.78	358.23	2.547	ES
SAFI 1224-14H - Verdad PR Well - Actual SLB Surveys	7,400.00	18,176.00	598.03	361.88	2.532	SF
1N-65W-24 Offsets						
Meehl 01N-65W-24-2N - Verdad SI Well - Actual Ensign	7,609.83	7,015.65	1,339.22	1,261.22	17.169	CC
Meehl 01N-65W-24-2N - Verdad SI Well - Actual Ensign	7,650.00	7,007.14	1,340.31	1,260.67	16.830	ES
Meehl 01N-65W-24-2N - Verdad SI Well - Actual Ensign	8,000.00	6,912.96	1,432.02	1,340.08	15.575	SF
1N-65W-25 Offsets						
HSR OLIPHANT #3-25 - Mountain Petroleum P&A Well -						Out of range
HSR-AMEN #11-25 - KMG P&A Well - No Surveys						Out of range
HSR-HAFFNER #2-25 - HSR P&A Well - No Surveys	8,084.37	6,959.00	1,182.26	876.76	3.870	CC
HSR-HAFFNER #2-25 - HSR P&A Well - No Surveys	8,100.00	6,959.00	1,182.36	875.98	3.859	ES
HSR-HAFFNER #2-25 - HSR P&A Well - No Surveys	8,300.00	6,959.00	1,201.76	884.81	3.792	SF

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Site Error:	0.00 usft	North Reference:	True
Reference Well:	CHIVE 2536-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

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						
1N-65W-36 Offsets						
ACCO TERRA STATE #18-36 - Kerr McGee PR Well - N						Out of range
ACCO-TERRA-STATE ET AL #41 - Kerr McGee PR Well	13,966.49	6,963.00	976.40	538.98	2.232	CC
ACCO-TERRA-STATE ET AL #41 - Kerr McGee PR Well	14,000.00	6,963.00	976.97	537.35	2.222	ES
ACCO-TERRA-STATE ET AL #41 - Kerr McGee PR Well	14,100.00	6,963.00	985.48	540.62	2.215	SF
RUEBEL ET AL #36-1 - KPK PR Well - No Surveys	17,065.51	6,958.00	503.49	-5.65	0.989	Level 1, CC
RUEBEL ET AL #36-1 - KPK PR Well - No Surveys	17,100.00	6,958.00	504.67	-7.73	0.985	Level 1, ES, SF
STATE #36-2 - KPK P&A Well - No Surveys						Out of range

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Reference Site:	1N-64W-19 CHIVE & SHALLOT PAD	MD Reference:	RKB = 20' @ 5031.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CHIVE 2536-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 5031.00usft (RIG)

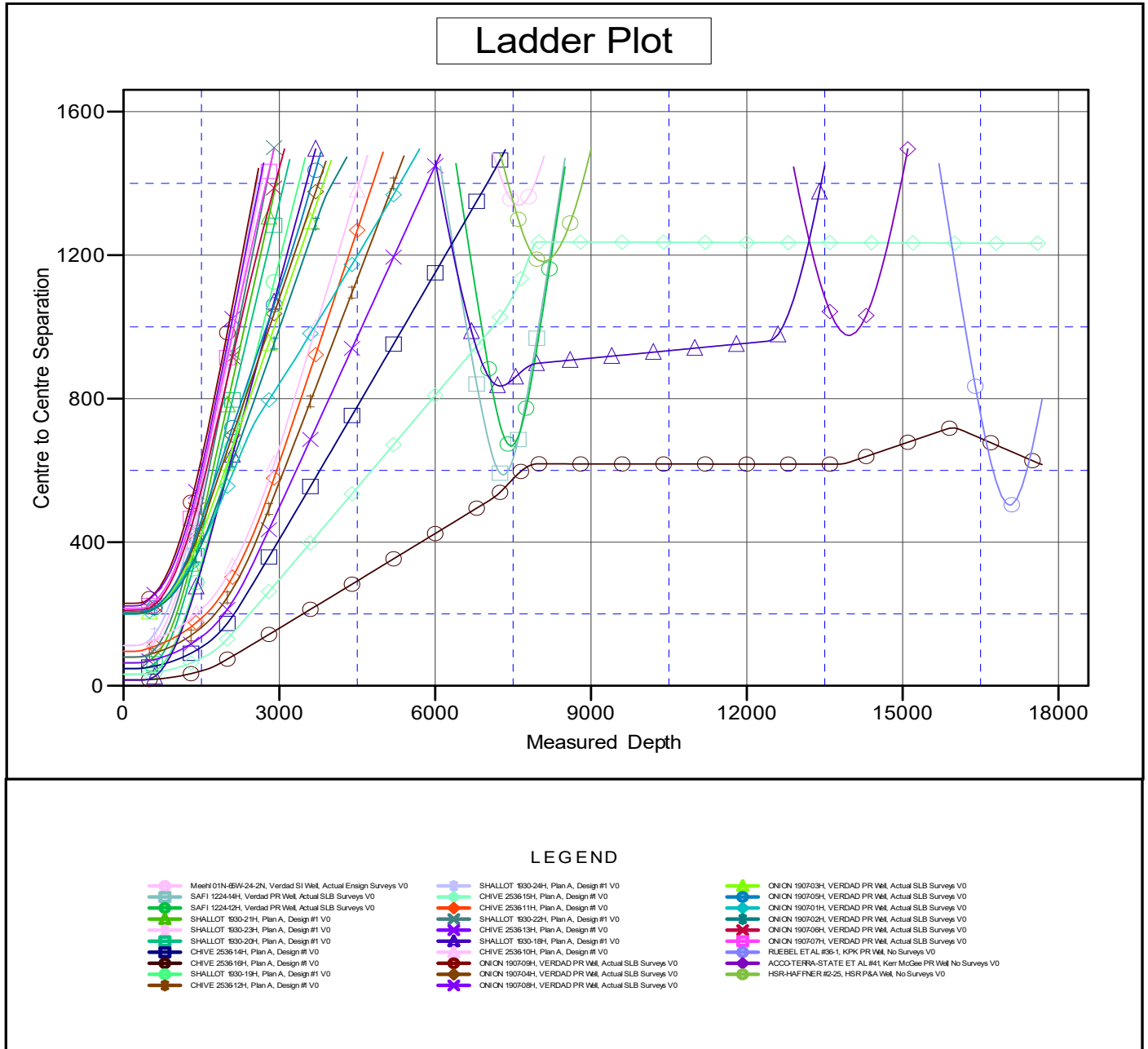
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: CHIVE 2536-17H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°



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Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well CHIVE 2536-17H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 5031.00usft (RIG)
Reference Site:	1N-64W-19 CHIVE & SHALLOT PAD	MD Reference:	RKB = 20' @ 5031.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CHIVE 2536-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 5031.00usft (RIG)

Offset Depths are relative to Offset Datum

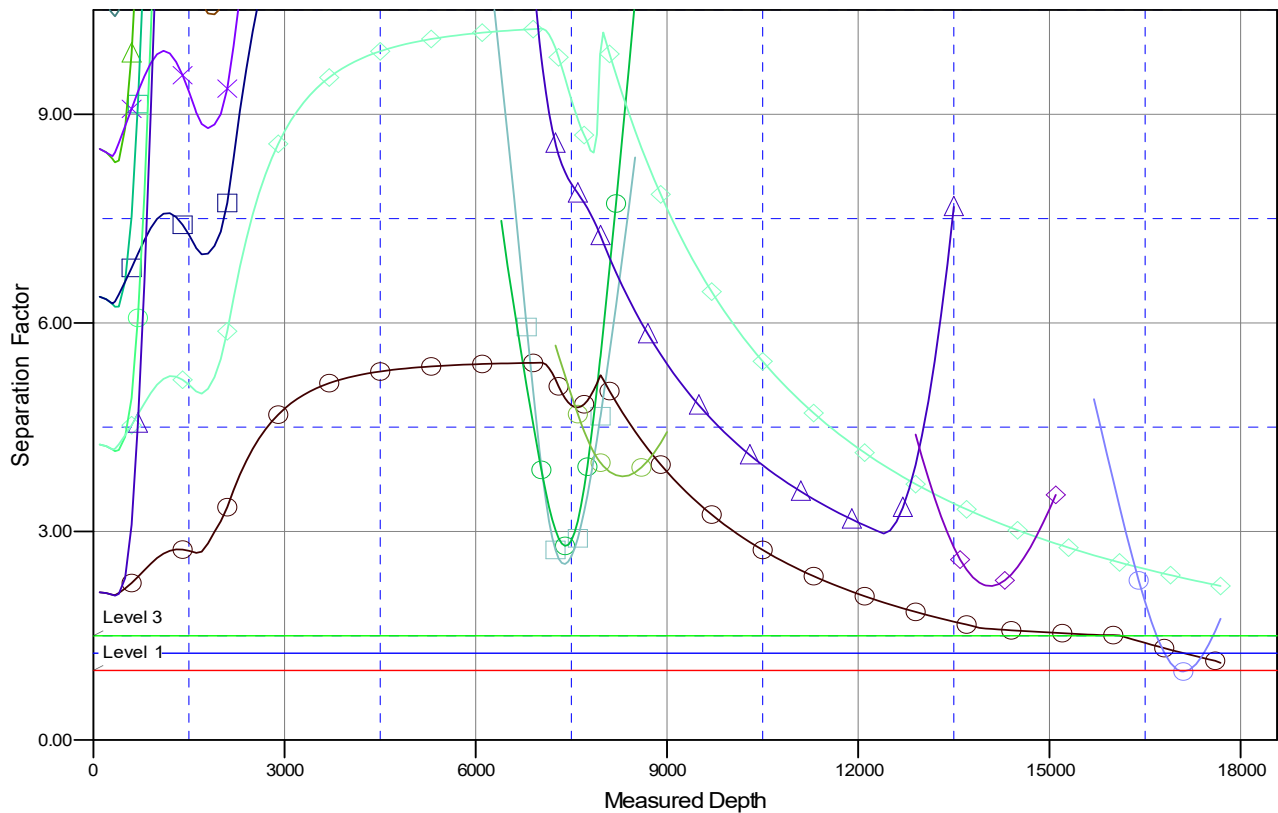
Central Meridian is -105.500000

Coordinates are relative to: CHIVE 2536-17H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

Separation Factor Plot



LEGEND

<ul style="list-style-type: none"> Meer01N-64W-24-2N, Verdad SI Well, Actual Ensign Surveys V0 SAFI 1224-14H, Verdad PR Well, Actual SLB Surveys V0 SAFI 1224-12H, Verdad PR Well, Actual SLB Surveys V0 SHALLOT 1930-21H, Plan A, Design #1 V0 SHALLOT 1930-23H, Plan A, Design #1 V0 SHALLOT 1930-20H, Plan A, Design #1 V0 CHIVE 2536-14H, Plan A, Design #1 V0 CHIVE 2536-16H, Plan A, Design #1 V0 SHALLOT 1930-19H, Plan A, Design #1 V0 CHIVE 2536-12H, Plan A, Design #1 V0 	<ul style="list-style-type: none"> SHALLOT 1930-24H, Plan A, Design #1 V0 CHIVE 2536-15H, Plan A, Design #1 V0 CHIVE 2536-11H, Plan A, Design #1 V0 SHALLOT 1930-22H, Plan A, Design #1 V0 CHIVE 2536-13H, Plan A, Design #1 V0 SHALLOT 1930-18H, Plan A, Design #1 V0 CHIVE 2536-10H, Plan A, Design #1 V0 ONION 190709H, VERDAD PR Well, Actual SLB Surveys V0 SHALLOT 1930-19H, Plan A, Design #1 V0 ONION 190708H, VERDAD PR Well, Actual SLB Surveys V0 	<ul style="list-style-type: none"> ONION 190703H, VERDAD PR Well, Actual SLB Surveys V0 ONION 190705H, VERDAD PR Well, Actual SLB Surveys V0 ONION 190701H, VERDAD PR Well, Actual SLB Surveys V0 ONION 190702H, VERDAD PR Well, Actual SLB Surveys V0 ONION 190706H, VERDAD PR Well, Actual SLB Surveys V0 ONION 190707H, VERDAD PR Well, Actual SLB Surveys V0 RUEBEL ETAL #36-1, KPK PR Well, No Surveys V0 ACCO-TERRA-STATE ET AL #41, Kerr McGee PR Well No Surveys V0 HSR-HAFNER #2-25, HSR P&A Well, No Surveys V0
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