

VERDAD RESOURCES

WATTENBERG FIELD

9N-59W-01 TIMBRO 0101 PAD

TIMBRO 0112-03H

Plan A

Design #1

Anticollision Summary Report

18 January, 2023

Anticollision Summary Report

Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well TIMBRO 0112-03H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 4959.00usft (RIG)
Reference Site:	9N-59W-01 TIMBRO 0101 PAD	MD Reference:	RKB = 20' @ 4959.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	TIMBRO 0112-03H	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	1/18/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
20.00	1,661.00	SLB MWD Surface Surveys (Plan A)	ISCWSA MWD	Fixed:v2:standard declination
1,661.00	16,827.52	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard 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						
10N-58W-30 Offsets Incomplete						
RAZOR FEDERAL 30L-1902 - FUNDARE PR Well - Actu						Out of range
RAZOR FEDERAL 30L-3101 - FUNDARE PR Well - Actu						Out of range
10N-59W-36 Offsets						
STATE #1 - US GOLD P&A Well - No Surveys						Out of range
TERRACE 36-11H - FUNDARE Original Wellbore - Actua						Out of range
TERRACE 36-11H - FUNDARE PR Sidetrack - Actual En						Out of range
TERRACE 36-32M - FUNDARE P&A Well - No Surveys						Out of range
WOLF 36-3624H - FUNDARE SI Well - Actual Ensign Su	6,115.77	10,300.00	688.71	599.44	7.715	CC, ES
WOLF 36-3624H - FUNDARE SI Well - Actual Ensign Su	6,200.00	10,300.00	698.14	606.16	7.590	SF
9N-58W-05 Offsets Incomplete						
HESTON LD06-620 - NBL Original Well (Grid to True) - A						Out of range
HESTON LD06-620 - NBL SI Sidetrack Well (Grid to True						Out of range
HESTON LD06-625 - NBL PR Well - Actual Sperry Surve						Out of range
HESTON LD06-630 - NBL PR Well - Actual Sperry Surve						Out of range
NUGENT LD06-655 - NBL PR Well - Actual SLB Surveys						Out of range
NUGENT LD06-665 - NBL PR Well - Actual SLB Surveys						Out of range
REAGAN LD06-675 - NBL PR Well - Actual BKR Survey						Out of range
REAGAN LD06-685 - NBL PR Well - Actual Gyrodata & S						Out of range
Timbro LD06-64HN - Noble PR Well - Actual DDC Surve						Out of range
9N-58W-07 Offsets Incomplete						
STRIPES FEDERAL LD18-785 - NBL PR Well - Actual B						Out of range
TIMBRO FEDERAL LD 07-78HN - NBL SI Well - Actual D						Out of range
9N-59W-01 Offsets						
BUCHER #1 - Todd Gross P&A Well - No Surveys	7,128.41	6,094.00	930.91	692.24	3.900	CC, ES
BUCHER #1 - Todd Gross P&A Well - No Surveys	7,200.00	6,094.00	933.66	693.25	3.884	SF
TIMBRO RANCH 1-41-9-59 - VERDAD Pilot Hole - Actua						Out of range
TIMBRO RANCH 1-41-9-59 - VERDAD PR Well - Actual						Out of range

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Site Error:	0.00 usft	North Reference:	True
Reference Well:	TIMBRO 0112-03H	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						
9N-59W-01 TIMBRO 0101 PAD						
TIMBRO 0112-01H - Plan A - Actual SLB Surveys	228.74	228.84	31.03	23.42	4.076	CC
TIMBRO 0112-01H - Plan A - Actual SLB Surveys	257.00	256.88	31.05	23.41	4.066	ES
TIMBRO 0112-01H - Plan A - Actual SLB Surveys	286.00	285.74	31.11	23.45	4.059	SF
TIMBRO 0112-01H - Plan A - Design #1	228.74	228.84	31.03	23.42	4.076	CC
TIMBRO 0112-01H - Plan A - Design #1	257.00	256.88	31.05	23.41	4.066	ES
TIMBRO 0112-01H - Plan A - Design #1	286.00	285.74	31.11	23.45	4.059	SF
TIMBRO 0112-02H - Plan A - Actual SLB Surveys	20.00	20.00	16.06			
TIMBRO 0112-02H - Plan A - Actual SLB Surveys	169.00	168.96	16.10	8.52	2.126	ES
TIMBRO 0112-02H - Plan A - Actual SLB Surveys	197.00	196.95	16.13	8.53	2.124	SF
TIMBRO 0112-02H - Plan A - Design #1	20.00	20.00	16.06			
TIMBRO 0112-02H - Plan A - Design #1	169.00	168.96	16.10	8.52	2.126	ES
TIMBRO 0112-02H - Plan A - Design #1	16,827.52	17,020.37	624.71	136.91	1.281	Level 3, SF
TIMBRO 0112-03H - Plan A - Actual SLB Surveys	2,000.00	1,722.00	277.98	268.78	30.192	CC, ES, SF
TIMBRO 0112-04H - Plan A - Actual SLB Surveys	20.00	20.00	15.52			
TIMBRO 0112-04H - Plan A - Actual SLB Surveys	499.83	500.54	16.38	8.40	2.054	SF
TIMBRO 0112-04H - Plan A - Design #1	20.00	20.00	15.52			
TIMBRO 0112-04H - Plan A - Design #1	16,827.52	16,662.37	624.77	138.59	1.285	Level 3, SF
TIMBRO 0112-05H - Plan A - Actual SLB Surveys	20.00	20.00	31.85			
TIMBRO 0112-05H - Plan A - Actual SLB Surveys	169.00	168.92	32.04	24.47	4.233	SF
TIMBRO 0112-05H - Plan A - Design #1	20.00	20.00	31.85			
TIMBRO 0112-05H - Plan A - Design #1	16,827.52	16,561.78	1,249.13	762.80	2.568	SF
TIMBRO 0112-06H - Plan A - Actual SLB Surveys	20.00	20.00	47.92			
TIMBRO 0112-06H - Plan A - Design #1	20.00	20.00	47.92			
TIMBRO 0112-07H - Plan A - Actual SLB Surveys	20.00	20.00	63.70			
TIMBRO 0112-07H - Plan A - Design #1	20.00	20.00	63.70			
TIMBRO 0112-08H - Plan A - Actual SLB Surveys	20.00	20.00	80.04			
TIMBRO 0112-08H - Plan A - Actual SLB Surveys	257.00	256.21	80.89	73.25	10.585	SF
TIMBRO 0112-08H - Plan A - Design #1	20.00	20.00	80.04			
TIMBRO 0112-08H - Plan A - Design #1	257.00	256.21	80.89	73.25	10.585	SF
TIMBRO 3625-12H - Plan A - Design #1	20.00	20.00	144.01			
TIMBRO 3625-12H - Plan A - Design #1	405.00	404.99	145.86	138.07	18.723	SF
TIMBRO 3625-13H - Plan A - Design #1	20.00	20.00	160.08			
TIMBRO 3625-13H - Plan A - Design #1	435.00	434.97	162.88	155.03	20.740	SF
TIMBRO 3625-14H - Plan A - Design #1	20.00	20.00	176.14			
TIMBRO 3625-14H - Plan A - Design #1	465.00	464.95	180.03	172.12	22.773	SF
TIMBRO 3625-15H - Plan A - Design #1	20.00	20.00	191.92			
TIMBRO 3625-15H - Plan A - Design #1	257.00	253.61	192.55	184.93	25.266	SF
TIMBRO 3636-09H - Plan A - Design #1	20.00	20.00	96.10			
TIMBRO 3636-09H - Plan A - Design #1	3,000.00	3,037.90	358.46	320.46	9.433	SF
TIMBRO 3636-10H - Plan A - Design #1	20.00	20.00	111.89			
TIMBRO 3636-10H - Plan A - Design #1	6,300.00	6,388.23	481.42	412.58	6.993	SF
TIMBRO 3636-11H - Plan A - Design #1	6,379.22	6,425.78	107.87	65.15	2.525	CC
TIMBRO 3636-11H - Plan A - Design #1	6,400.00	6,414.12	109.19	65.01	2.472	ES, SF
9N-59W-02 Offsets Incomplete						
HAMLIN 1 - SNYDER P&A Well - No Surveys						Out of range
MCCLEMENT 1 - TEKOil P&A Well - No Surveys						Out of range
WILDHORSE 02-0214H - FUNDARE PR Well - Actual E						Out of range
9N-59W-11 Offsets Incomplete						
Johnny Federal LC11-715 - NBL PR Well - Actual BKR S						Out of range
Ringo Federal LC23-720 - NBL PR Well - Actual BKR Su						Out of range

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Reference Well:	TIMBRO 0112-03H	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						
9N-59W-12 Offsets						
BEST #1 - DUNWICK P&A Well - No Surveys	16,428.92	5,968.00	167.74	-276.18	0.378	Level 1, CC, ES, SF
TIMBRO LC12-78HN - NBL PR Well - Actual DDC Surve	12,127.25	6,164.00	904.52	741.55	5.550	CC
TIMBRO LC12-78HN - NBL PR Well - Actual DDC Surve	16,400.00	10,400.00	1,025.70	678.92	2.958	ES, SF
9N-59W-13 Offsets						
TIMBRO LC13-72HN - NBL PR Well - Actual DDC Surve						Out of range
9N-59W-24 Offsets Incomplete						
Timbro LC13-73HN - Noble PR Well - Actual Sperry Surv						Out of range
Timbro LC13-74-1HN - Noble PR Well - Actual Sperry Su						Out of range
Timbro LC13-74HN - Noble PR Well - Actual Sperry Surv						Out of range
Timbro LC13-75-1HN - Noble PR Well - Actual Sperry Su	16,827.52	10,390.00	1,438.86	1,129.70	4.654	CC, ES, SF
Timbro LC13-75HN - Noble T/A Well - Actual Ensign Sur	16,827.52	10,388.00	1,185.28	911.93	4.336	CC, ES, SF
Timbro LC13-76-1HN - Noble PR Well - Actual Ensign Su	16,827.52	10,339.00	1,017.13	796.86	4.618	CC, ES, SF
Timbro LC13-76HN - Noble PR Well - Actual Ensign Surv	16,827.52	10,420.00	895.61	779.82	7.735	CC, ES, SF
Timbro LC13-77-1HN - Noble Original Well - Actual Ensig						Out of range
Timbro LC13-77-1HN - Noble PR Sidetrack Well - Actual	16,827.52	10,290.00	893.70	818.83	11.937	CC, ES, SF
WINCHESTER FEDERAL LC24-715 - Noble PR Well - A						Out of range

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Reference Well:	TIMBRO 0112-03H	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' @ 4959.00usft (RIG)

Offset Depths are relative to Offset Datum

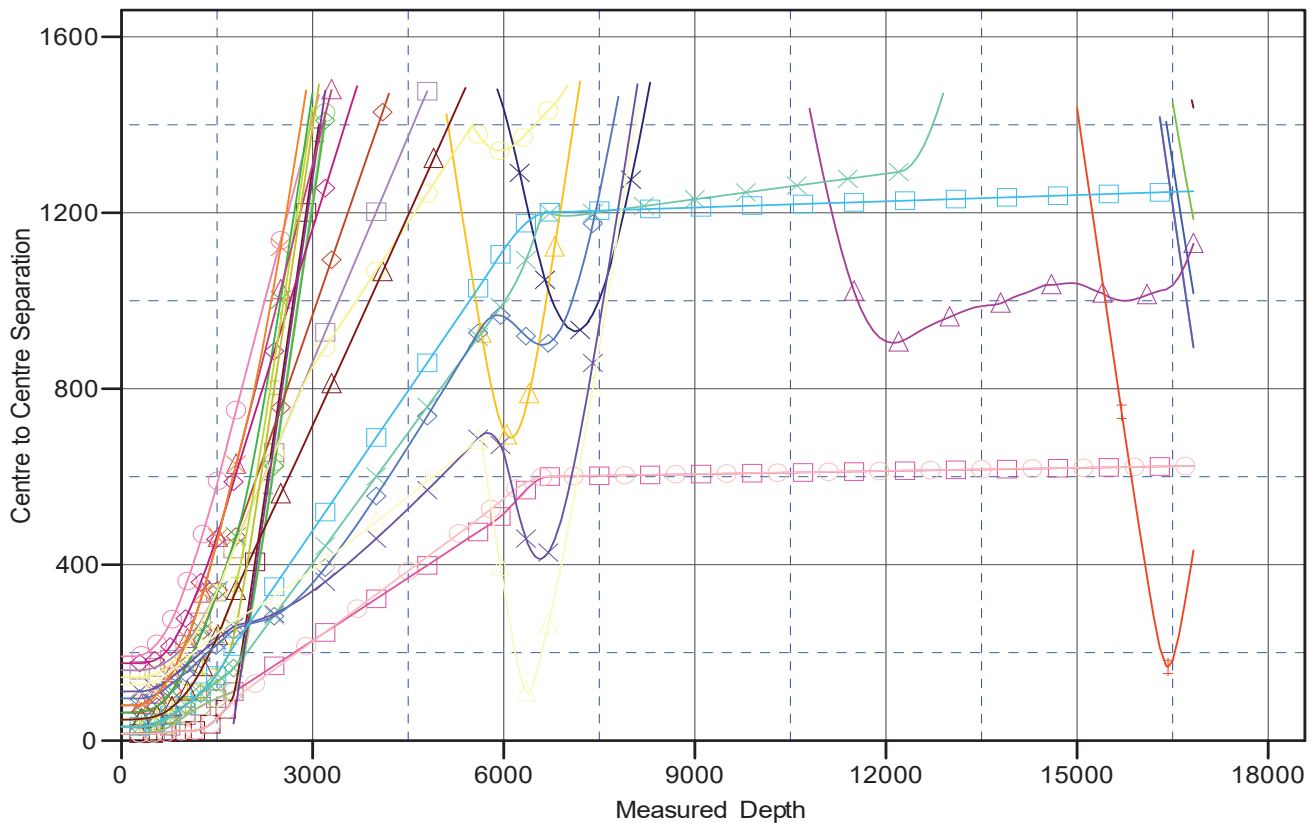
Central Meridian is -105.500000

Coordinates are relative to: TIMBRO 0112-03H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 1.02°

Ladder Plot



LEGEND

TIMBRO LC3-75-1H-N, Noble PR Well, Actual Sperry Surveys (Grid to True) V0	TIMBRO 0112-04H, Plan A, Actual SLB Surveys V0	TIMBRO 326-10H, Plan A, Design#1 V0
TIMBRO LC3-76-1H-N, Noble PR Well, Actual Ensign Surveys (Grid to True) V0	TIMBRO 0112-04H, Plan A, Design#1 V0	TIMBRO 0112-09H, Plan A, Actual SLB Surveys V0
TIMBRO LC3-76-1H-N, Noble PR Well, Actual Ensign Surveys (Grid to True) V0	TIMBRO 0112-01H, Plan A, Actual SLB Surveys V0	TIMBRO 0112-09H, Plan A, Design#1 V0
TIMBRO LC3-76-1H-N, Noble T/A Well, Actual Ensign Surveys (Grid to True) V0	TIMBRO 0112-01H, Plan A, Design#1 V0	TIMBRO 326-09H, Plan A, Design#1 V0
TIMBRO LC3-77-1H-N, Noble PR Siderack Well, Actual Ensign Surveys (Grid to True) V0	TIMBRO 325-13H, Plan A, Design#1 V0	TIMBRO 0112-08H, Plan A, Design#1 V0
TIMBRO LC3-78-1H-N, NBL PR Well, Actual DDC Surveys (Grid to True) V0	TIMBRO 325-15H, Plan A, Design#1 V0	TIMBRO 0112-08H, Plan A, Actual SLB Surveys V0
BEST #1, DUNWICK P&A Well, No Surveys V0	TIMBRO 0112-07H, Plan A, Design#1 V0	TIMBRO 0112-08H, Plan A, Actual SLB Surveys V0
WOLF 35-32H, FUNDARE SI Well, Actual Ensign Surveys V0	TIMBRO 0112-07H, Plan A, Actual SLB Surveys V0	TIMBRO 0112-09H, Plan A, Design#1 V0
BUCHER #1, Todd Gross P&A Well, No Surveys V0	TIMBRO 325-12H, Plan A, Design#1 V0	
TIMBRO 0112-02H, Plan A, Design#1 V0	TIMBRO 325-14H, Plan A, Design#1 V0	
TIMBRO 0112-02H, Plan A, Actual SLB Surveys V0	TIMBRO 0112-03H, Plan A, Actual SLB Surveys V0	

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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' @ 4959.00usft (RIG)

Offset Depths are relative to Offset Datum

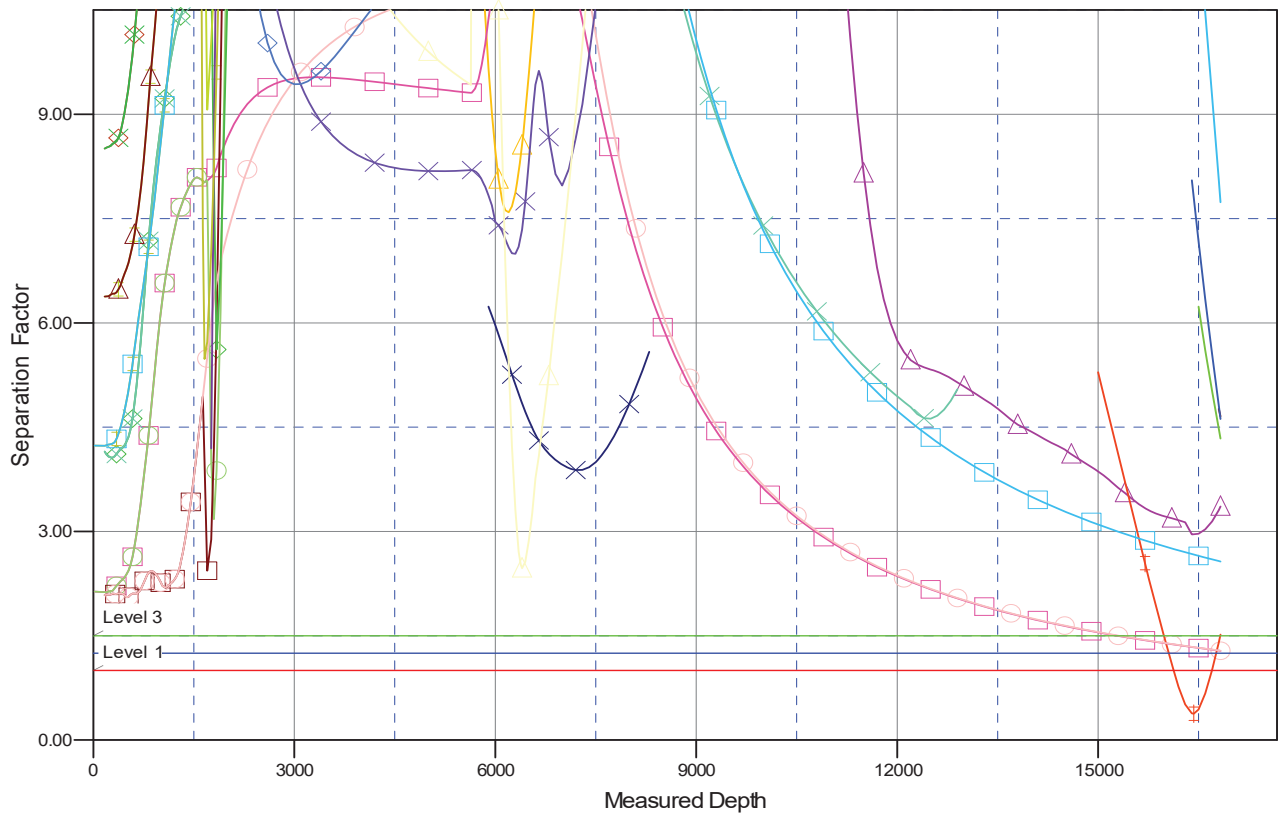
Central Meridian is -105.500000

Coordinates are relative to: TIMBRO 0112-03H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 1.02°

Separation Factor Plot



LEGEND

<ul style="list-style-type: none"> Timbrow 75-19H, Noble PR Well, Actual Sperry Surveys (Grid to True) V0 Timbrow 75-19H, Noble PR Well, Actual Ensign Surveys (Grid to True) V0 Timbrow 75-19H, Noble PR Well, Actual Ensign Surveys (Grid to True) V0 Timbrow 75-19H, Noble T/A Well, Actual Ensign Surveys (Grid to True) V0 Timbrow 75-19H, Noble T/A Well, Actual Ensign Surveys (Grid to True) V0 Timbrow 75-19H, Noble PR Siderack Well, Actual Ensign Surveys (Grid to True) V0 Timbrow 75-19H, NBL PR Well, Actual DDC Surveys (Grid to True) V0 BEST #1, DUNNICK P&A Well, No Surveys V0 WOLF 35-39H, FUNDARE SI Well, Actual Ensign Surveys V0 BUCHER #1, Todd Gross P&A Well, No Surveys V0 TIMBRO 0112-02H, Plan A, Design#1 V0 TIMBRO 0112-02H, Plan A, Actual SLB Surveys V0 	<ul style="list-style-type: none"> TIMBRO 0112-04H, Plan A, Actual SLB Surveys V0 TIMBRO 0112-04H, Plan A, Design#1 V0 TIMBRO 0112-01H, Plan A, Actual SLB Surveys V0 TIMBRO 0112-01H, Plan A, Design#1 V0 TIMBRO 325-13H, Plan A, Design#1 V0 TIMBRO 325-15H, Plan A, Design#1 V0 TIMBRO 0112-07H, Plan A, Design#1 V0 TIMBRO 0112-07H, Plan A, Actual SLB Surveys V0 TIMBRO 325-12H, Plan A, Design#1 V0 TIMBRO 325-14H, Plan A, Design#1 V0 TIMBRO 0112-03H, Plan A, Actual SLB Surveys V0 	<ul style="list-style-type: none"> TIMBRO 326-10H, Plan A, Design#1 V0 TIMBRO 0112-08H, Plan A, Actual SLB Surveys V0 TIMBRO 0112-08H, Plan A, Design#1 V0 TIMBRO 326-09H, Plan A, Design#1 V0 TIMBRO 0112-08H, Plan A, Design#1 V0 TIMBRO 0112-08H, Plan A, Actual SLB Surveys V0 TIMBRO 0112-08H, Plan A, Actual SLB Surveys V0 TIMBRO 0112-08H, Plan A, Design#1 V0 TIMBRO 326-11H, Plan A, Design#1 V0
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