

Well Name: BETONNIE TSOSIE WASH UNIT	Well Location: T23N / R8W / SEC 10 / NESE / 36.240989 / 107.661625	County or Parish/State: SAN JUAN / NM
Well Number: 110H	Type of Well: OIL WELL	Allottee or Tribe Name: NAVAJO NATION
Lease Number: NMNM76842	Unit or CA Name:	Unit or CA Number: NMNM135219A
US Well Number: 3004535513	Well Status: Drilling Shut In	Operator: DJR OPERATING LLC

Notice of Intent

Type of Submission: Notice of Intent	Type of Action Other
Date Sundry Submitted: 04/14/2021	Time Sundry Submitted: 11:22
Date proposed operation will begin: 04/14/2021	

Procedure Description: DJR Operating, LLC has an approved APD for the subject well which is part of DJR's undivided North Alamito Unit. In order to avoid well communication with two existing laterals on a neighboring pad DJR submits this sundry to change original drilling plan. Attached please find: - Updated C-102 Well Location and Dedication Plat reflecting revised BHL - Revised Drilling Plan - Revised Casing and Cement Assumptions - Revised Standard Planning Report - Revised Anti-Collision Report

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- BTWU_110H_ACR_Rev3_20210414112213.pdf
- BTWU_110H_SPR_Rev3_20210414112213.pdf
- BTWU_110H_C102_Well_Plat_20210414112213.pdf
- BTWU_110H_DPR_Rev3_20210414112213.pdf

Well Name: BETONNIE TSOSIE
WASH UNIT

Well Location: T23N / R8W / SEC 10 /
NESE / 36.240989 / 107.661625

County or Parish/State: SAN
JUAN / NM

Well Number: 110H

Type of Well: OIL WELL

Allottee or Tribe Name:
NAVAJO NATION

Lease Number: NMNM76842

Unit or CA Name:

Unit or CA Number:
NMNM135219A

US Well Number: 3004535513

Well Status: Drilling Shut In

Operator: DJR OPERATING LLC

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: SHAW-MARIE FORD

Signed on: APR 14, 2021 11:22 AM

Name: DJR OPERATING LLC

Title: Regulatory Specialist

Street Address: 1 Road 3263

City: Aztec

State: NM

Phone: (505) 632-3476

Email address: sford@djrlc.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: VIRGIL S LUCERO

BLM POC Title: PET

BLM POC Phone: 5055647752

BLM POC Email Address: VLUCERO@BLM.GOV

Disposition: Approved

Disposition Date: 05/13/2021

Signature: Virgil Lucero

DISTRICT I1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720**DISTRICT III**1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462State of New Mexico
Energy, Minerals & Natural Resources DepartmentForm C-102
Revised August 1, 2011Submit one copy to appropriate
District OfficeOIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 98175	³ Pool Name BETONNIE TSOSIE WASH UNIT MANCOS OIL POOL
⁴ Property Code	⁵ Property Name BETONNIE TSOSIE WASH UNIT	⁶ Well Number 110H
⁷ OGRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6933'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	10	23N	8W		2438'	SOUTH	480'	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

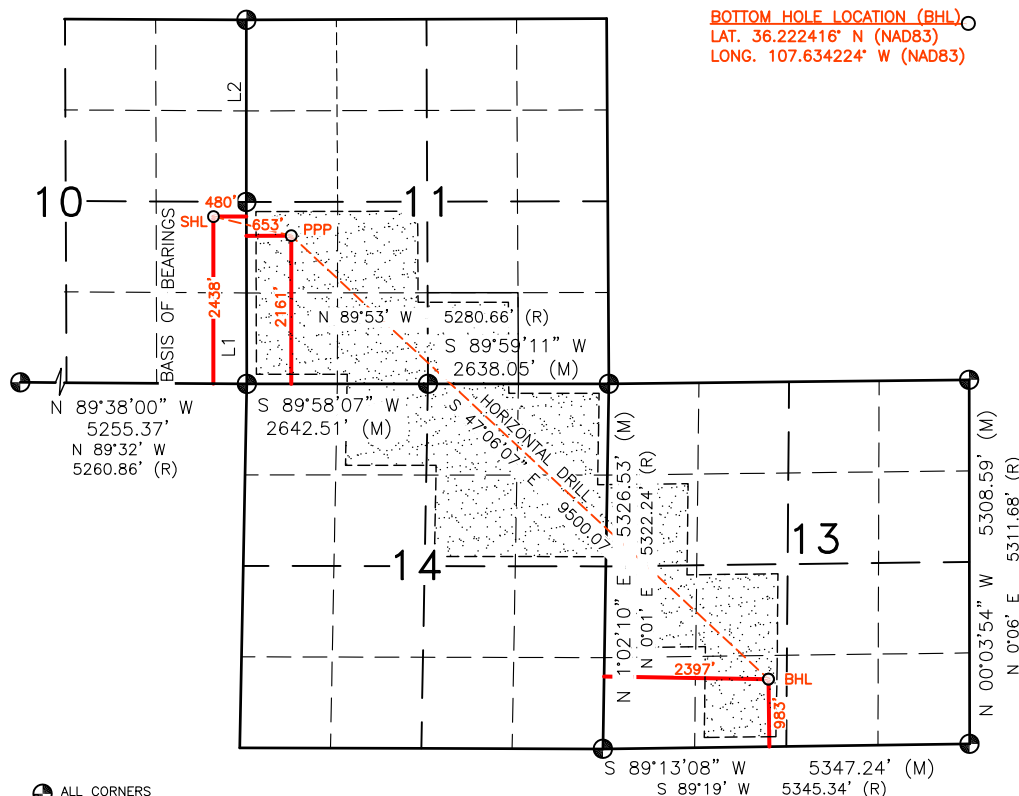
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	13	23N	8W		983'	SOUTH	2397'	WEST	SAN JUAN

¹² Dedicated Acres SEC 11: SW/SE & SW/4 (200 AC.); SEC 14: NE/NW, NE/4 (200 AC.); SEC 13: SW/NW, NW/SW, NE/SW & SE/SW (160 AC.) = 560 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13930, R-13930A
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

18

LINE TABLE
L1: N 00°09'22" W 2653.00'
L2: N 00°01'25" E 2655.84'
N 0°04' W 5304.42' (R)



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Shaw-Marie Ford 4/14/21
Signature Date

Shaw-Marie Ford
Printed Name
sford@djrlc.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
AUGUST 16, 2013

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number

11393

DISTRICT I

1625 N. French Dr., Hobbs, N.M. 88240
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State of New Mexico
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Santa Fe, NM 87505

☐ AMENDED REPORT

DJR OPERATING, LLC
BETONNIE TSOSIE WASH UNIT #110H

PENETRATED SPACING UNIT;

SEC 11: SW/SE & SW/4 (200 AC.);

SEC 14: NE/NW, NE/4 (200 AC.);

SEC 13: SW/NW, NW/SW, NE/SW & SE/SW (160 AC.)

= 560 ACRES TOTAL

13,137.00 ACRES - ALL SEC 18, T23N, R7W;

ALL 11, 13, 14, 21-23, 26-28, 33-35, T23N, R8W; ALL 3-5, 7,

8, 10, 6 (E/2 & SW/4), 9 (E/2 & NW/4), T22N R8W -

UNDIVIDED UNIT

NW CORNER SEC 11

LAT. 36.248866° N (NAD83)
LONG. 107.659979° W (NAD83)

W/4 CORNER SEC 11

LAT. 36.241571° N (NAD83)
LONG. 107.660000° W (NAD83)

SW CORNER SEC 11

LAT. 36.234283° N (NAD83)
LONG. 107.659990° W (NAD83)

S/4 CORNER SEC 11

LAT. 36.234273° N (NAD83)
LONG. 107.651030° W (NAD83)

NW CORNER SEC 13

LAT. 36.234261° N (NAD83)
LONG. 107.642085° W (NAD83)

SW CORNER SEC 13

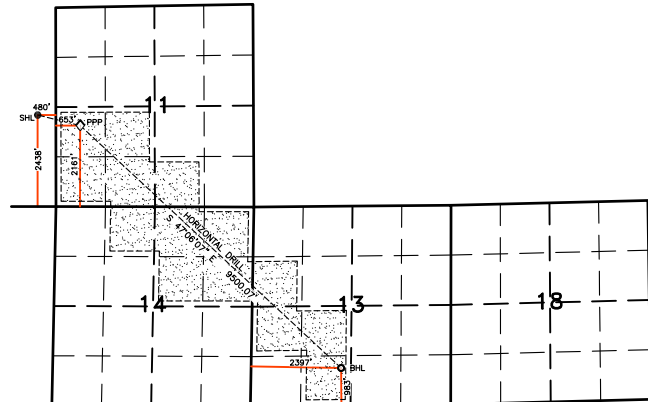
LAT. 36.219637° N (NAD83)
LONG. 107.642417° W (NAD83)

NE CORNER SEC 13

LAT. 36.234390° N (NAD83)
LONG. 107.624271° W (NAD83)

SE CORNER SEC 13

LAT. 36.219807° N (NAD83)
LONG. 107.624290° W (NAD83)



R 8 W
R 7 W

T 23 N
T 22 N

SURFACE LOCATION (SHL)

LAT. 36.240989° N (NAD83)
LONG. 107.661625° W (NAD83)

PPP/POE

LAT. 36.240217° N (NAD83)
LONG. 107.657780° W (NAD83)

BOTTOM HOLE LOCATION (BHL)

LAT. 36.222416° N (NAD83)
LONG. 107.634224° W (NAD83)

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Santa Fe, NM 87505

BLANCO WASH UNIT #110H

☐ AMENDED REPORT

3173.08 LINEAR FEET OF WELLBORE WITHIN
NMNM 076842

LOCATED IN THE NW/SW, NE/SW, SE/SW & SW/SE
OF SECTION 11,
T23N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2161	FSL	653	FWL	36.240217° N	107.657780° W
TO	0	FSL	2308	FEL	36.234272° N	107.649911° W

3103.15 LINEAR FEET OF WELLBORE WITHIN
NMNM 076842

LOCATED IN THE NW/NE, NE/NE & SE/NE
OF SECTION 14,
T23N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	0	FNL	2308	FEL	36.234272° N	107.649911° W
TO	2113	FNL	0	FEL	36.228457° N	107.642217° W

3223.84 LINEAR FEET OF WELLBORE WITHIN
NMNM 118132

LOCATED IN THE SW/NW, NW/SW, NE/SW &
SE/SW OF SECTION 13,
T23N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2113	FNL	0	FWL	36.228457° N	107.642217° W
TO	983	FSL	2397	FWL	36.222416° N	107.634224° W



DJR Operating

**Betonnies Tsosie Unit
I10 2308 Pad
110H**

**Original drilling
APD Rev 3**

Anticollision Report

12 April, 2021





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Reference	APD Rev 3		
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 10,000ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	4/12/2021		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0	15,228	APD Rev 3 (Original drilling)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured	Offset Measured	Distance		Separation Factor	Warning
	Depth (ft)	Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
I10 2308 Pad						
# 731H - Original drilling - APD Rev 3	400	400	60	58	24.811	CC
# 731H - Original drilling - APD Rev 3	430	430	60	57	22.809	ES
# 731H - Original drilling - APD Rev 3	15,000	15,473	1196	684	2.338	SF
M11 2308 Pad						
# 108H - Original drilling - As Drilled	5939	5377	1057	1002	19.330	CC, ES
# 108H - Original drilling - As Drilled	14,300	13,675	1861	1430	4.325	SF
# 728H - Original drilling - As Drilled	508	458	2188	2175	160.319	CC, ES
# 728H - Original drilling - As Drilled	14,500	12,047	3020	2606	7.290	SF

Offset Design: I10 2308 Pad - # 731H - Original drilling - APD Rev 3													Offset Site Error: 0 ft	
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Offset Well Error: 0 ft	
Reference Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0	0	0	0	0	0	-28.45	53	-29	60					
100	100	100	100	0	0	-28.45	53	-29	60	60	0.27	223.282		
200	200	200	200	0	0	-28.45	53	-29	60	59	0.99	60.899		
300	300	300	300	1	1	-28.45	53	-29	60	58	1.70	35.258		
400	400	400	400	1	1	-28.45	53	-29	60	58	2.42	24.811 CC		
430	430	430	430	1	1	-28.31	53	-28	60	57	2.63	22.809 ES		
500	500	500	500	2	2	-108.26	54	-27	61	58	3.13	19.406		
600	600	599	599	2	2	-107.23	57	-23	63	59	3.83	16.488		
700	700	698	698	2	2	-106.25	63	-17	68	63	4.56	14.832		
800	799	797	796	3	3	-105.37	71	-8	74	69	5.32	13.909		
867	865	864	862	3	3	-104.85	77	0	79	73	5.86	13.545		
900	898	896	894	3	3	-104.55	81	4	82	76	6.12	13.424		
1000	997	995	991	3	4	-102.40	93	18	92	85	6.96	13.158		
1100	1096	1093	1086	4	4	-98.89	108	34	102	95	7.84	13.070		
1200	1194	1190	1180	4	4	-94.57	124	53	115	106	8.73	13.177		
1300	1293	1287	1273	5	5	-89.87	142	74	130	120	9.63	13.494		
1400	1392	1382	1363	5	6	-85.15	162	97	147	137	10.51	14.025		
1500	1491	1476	1451	6	6	-80.64	184	122	168	156	11.36	14.767		
1600	1590	1572	1540	6	7	-76.59	207	149	190	178	12.24	15.552		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: I10 2308 Pad - # 731H - Original drilling - APD Rev 3												Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF												Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
1700	1689	1668	1630	7	8	-73.37	231	176	214	201	13.12	16.287	
1800	1787	1765	1719	7	8	-70.79	254	203	238	224	14.00	16.969	
1900	1886	1862	1809	7	9	-68.68	278	230	262	247	14.88	17.598	
2000	1985	1958	1899	8	10	-66.93	301	257	286	271	15.75	18.175	
2100	2084	2055	1989	8	11	-65.45	324	284	311	294	16.63	18.704	
2200	2183	2151	2078	9	11	-64.19	348	311	336	318	17.51	19.189	
2300	2282	2248	2168	9	12	-63.10	371	338	361	343	18.39	19.635	
2400	2380	2345	2258	10	13	-62.16	395	365	386	367	19.26	20.045	
2500	2479	2441	2348	10	14	-61.33	418	392	411	391	20.14	20.422	
2600	2578	2538	2437	11	14	-60.59	442	419	437	416	21.02	20.771	
2700	2677	2635	2527	11	15	-59.94	465	446	462	440	21.90	21.094	
2800	2776	2731	2617	12	16	-59.35	489	473	487	465	22.78	21.394	
2900	2875	2828	2707	12	17	-58.82	512	500	513	489	23.66	21.673	
3000	2974	2924	2796	12	17	-58.34	536	527	538	514	24.55	21.933	
3100	3072	3021	2886	13	18	-57.91	559	554	564	538	25.43	22.175	
3200	3171	3118	2976	13	19	-57.51	583	581	589	563	26.31	22.402	
3300	3270	3214	3066	14	20	-57.14	606	608	615	588	27.19	22.615	
3400	3369	3311	3155	14	20	-56.81	630	635	641	613	28.08	22.815	
3500	3468	3407	3245	15	21	-56.50	653	662	666	637	28.96	23.003	
3600	3567	3504	3335	15	22	-56.21	677	689	692	662	29.85	23.180	
3700	3665	3601	3424	16	23	-55.95	700	716	717	687	30.73	23.347	
3800	3764	3697	3514	16	24	-55.70	723	743	743	712	31.61	23.505	
3900	3863	3794	3604	17	24	-55.47	747	770	769	736	32.50	23.655	
4000	3962	3890	3694	17	25	-55.25	770	797	794	761	33.39	23.797	
4100	4061	3987	3783	18	26	-55.05	794	824	820	786	34.27	23.931	
4200	4160	4084	3873	18	27	-54.86	817	851	846	811	35.16	24.059	
4300	4258	4180	3963	18	27	-54.68	841	877	872	836	36.04	24.181	
4400	4357	4277	4053	19	28	-54.51	864	904	897	860	36.93	24.297	
4500	4456	4373	4142	19	29	-54.35	888	931	923	885	37.82	24.407	
4600	4555	4470	4232	20	30	-54.20	911	958	949	910	38.70	24.513	
4700	4654	4567	4322	20	30	-54.05	935	985	974	935	39.59	24.614	
4784	4737	4648	4397	21	31	-53.94	954	1008	996	956	40.34	24.695	
4800	4753	4663	4412	21	31	-60.29	958	1012	1000	960	40.48	24.709	
4850	4802	4711	4456	21	32	-73.16	970	1026	1014	973	40.99	24.735	
4900	4850	4759	4500	21	32	-79.94	981	1039	1029	987	41.58	24.738	
4950	4897	4805	4543	22	32	-83.78	993	1052	1044	1002	42.25	24.717	
5000	4943	4851	4586	22	33	-86.10	1004	1065	1061	1018	43.00	24.675	
5050	4987	4894	4626	22	33	-87.52	1014	1077	1079	1035	43.82	24.615	
5100	5029	4937	4666	23	33	-88.37	1025	1089	1097	1053	44.72	24.540	
5150	5069	4977	4703	23	34	-88.79	1034	1100	1117	1071	45.68	24.454	
5200	5107	5015	4738	23	34	-88.88	1044	1111	1138	1091	46.71	24.363	
5250	5142	5067	4786	24	34	-89.21	1056	1125	1160	1112	47.97	24.182	
5300	5174	5244	4947	25	36	-92.87	1077	1196	1180	1130	50.20	23.516	
5350	5204	5500	5148	25	38	-95.84	1045	1348	1196	1144	51.74	23.117	
5400	5230	5810	5303	26	41	-95.26	914	1579	1203	1151	52.00	23.133	
5450	5252	6035	5335	26	43	-92.26	773	1749	1201	1148	52.52	22.866	
5500	5271	6081	5335	27	43	-91.98	742	1783	1197	1143	54.16	22.106	
5550	5286	6128	5334	28	44	-91.69	710	1818	1195	1139	55.87	21.385	
5600	5298	6177	5334	28	44	-91.44	676	1853	1193	1135	57.60	20.709	
5650	5306	6226	5334	29	45	-91.25	643	1889	1192	1132	59.38	20.069	
5700	5310	6276	5334	30	45	-91.15	609	1926	1191	1130	61.17	19.471	
5728	5310	6304	5333	31	46	-91.13	590	1946	1191	1129	62.16	19.161	



Lonestar Consulting, LLC

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Survey Program: 0-MWD+IGRF											Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
5728	5310	6304	5333	31	46	-91.13	590	1946	1191	1129	62.16	19.160
5800	5310	6376	5333	32	47	-91.13	541	1999	1191	1126	64.84	18.368
5900	5309	6476	5333	34	48	-91.12	472	2072	1191	1122	68.68	17.341
6000	5309	6576	5332	35	49	-91.12	404	2145	1191	1118	72.68	16.388
6100	5308	6676	5331	37	51	-91.12	336	2218	1191	1114	76.84	15.500
6200	5308	6776	5331	39	53	-91.11	268	2291	1191	1110	80.88	14.727
6300	5307	6876	5330	41	54	-91.11	200	2365	1191	1106	85.23	13.974
6400	5307	6976	5330	44	56	-91.11	131	2438	1191	1101	89.62	13.290
6500	5306	7076	5329	46	58	-91.10	63	2511	1191	1097	94.06	12.662
6600	5306	7176	5329	48	60	-91.10	-5	2584	1191	1092	98.56	12.084
6700	5305	7276	5328	50	62	-91.10	-73	2657	1191	1088	103.11	11.551
6800	5305	7376	5328	52	64	-91.09	-141	2730	1191	1083	107.70	11.059
6900	5304	7476	5327	55	66	-91.09	-210	2803	1191	1079	112.33	10.603
7000	5304	7576	5326	57	68	-91.09	-278	2877	1191	1074	116.99	10.181
7100	5303	7676	5326	59	70	-91.08	-346	2950	1191	1069	121.68	9.789
7200	5303	7776	5325	62	72	-91.08	-414	3023	1191	1065	126.39	9.423
7300	5302	7876	5325	64	74	-91.08	-482	3096	1191	1060	131.13	9.083
7400	5302	7976	5324	66	76	-91.08	-550	3169	1191	1055	135.89	8.765
7500	5301	8076	5324	69	78	-91.07	-619	3242	1191	1050	140.67	8.467
7600	5301	8176	5323	71	81	-91.07	-687	3315	1191	1046	145.46	8.188
7700	5300	8276	5323	73	83	-91.07	-755	3389	1191	1041	150.28	7.926
7800	5300	8376	5322	76	85	-91.06	-823	3462	1191	1036	155.10	7.679
7900	5299	8476	5322	78	87	-91.06	-891	3535	1191	1031	159.94	7.447
8000	5299	8576	5321	81	90	-91.06	-960	3608	1191	1026	164.78	7.228
8100	5299	8676	5320	83	92	-91.05	-1028	3681	1191	1021	169.64	7.021
8200	5298	8776	5320	85	94	-91.05	-1096	3754	1191	1017	174.51	6.825
8300	5298	8876	5319	88	97	-91.05	-1164	3827	1191	1012	179.39	6.640
8400	5297	8976	5319	90	99	-91.04	-1232	3901	1191	1007	184.27	6.464
8500	5297	9076	5318	93	101	-91.04	-1301	3974	1191	1002	189.16	6.297
8600	5296	9176	5318	95	104	-91.04	-1369	4047	1191	997	194.06	6.138
8700	5296	9276	5317	98	106	-91.03	-1437	4120	1191	992	198.97	5.986
8800	5295	9376	5317	100	108	-91.03	-1505	4193	1191	987	203.88	5.842
8900	5295	9476	5316	103	111	-91.03	-1573	4266	1191	982	208.80	5.705
9000	5294	9576	5315	105	113	-91.02	-1642	4339	1191	977	213.72	5.573
9100	5294	9676	5315	107	115	-91.02	-1710	4412	1191	972	218.65	5.448
9200	5293	9776	5314	110	118	-91.02	-1778	4486	1191	968	223.58	5.327
9300	5293	9876	5314	112	120	-91.01	-1846	4559	1191	963	228.51	5.212
9400	5292	9976	5313	115	122	-91.01	-1914	4632	1191	958	233.45	5.102
9500	5292	10,076	5313	117	125	-91.01	-1983	4705	1191	953	238.40	4.996
9600	5291	10,176	5312	120	127	-91.01	-2051	4778	1191	948	243.34	4.895
9700	5291	10,276	5312	122	130	-91.00	-2119	4851	1191	943	248.29	4.797
9800	5290	10,376	5311	125	132	-91.00	-2187	4924	1191	938	253.25	4.703
9900	5290	10,476	5310	127	135	-91.00	-2255	4998	1191	933	258.20	4.613
10,000	5289	10,576	5310	130	137	-90.99	-2324	5071	1191	928	263.16	4.526
10,100	5289	10,676	5309	132	139	-90.99	-2392	5144	1191	923	268.12	4.442
10,200	5288	10,776	5309	135	142	-90.99	-2460	5217	1191	918	273.09	4.362
10,300	5288	10,876	5308	137	144	-90.98	-2528	5290	1191	913	278.05	4.284
10,400	5287	10,976	5308	140	147	-90.98	-2596	5363	1191	908	283.02	4.209
10,500	5287	11,076	5307	142	149	-90.98	-2665	5436	1191	903	287.99	4.136
10,600	5286	11,176	5307	145	152	-90.97	-2733	5510	1191	898	292.96	4.066
10,700	5286	11,276	5306	147	154	-90.97	-2801	5583	1191	893	297.94	3.998
10,800	5285	11,376	5306	149	156	-90.97	-2869	5656	1191	888	302.91	3.932



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: I10 2308 Pad - # 731H - Original drilling - APD Rev 3													Offset Site Error:	0 ft		
Survey Program:		0-MWD+IGRF		Offset			Semi Major Axis			Offset Wellbore Centre			Rule Assigned:		Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning			
10,900	5285	11,476	5305	152	159	-90.96	-2937	5729	1191	883	307.89	3.869				
11,000	5284	11,576	5304	154	161	-90.96	-3006	5802	1191	878	312.87	3.807				
11,100	5284	11,676	5304	157	164	-90.96	-3074	5875	1191	873	317.85	3.748				
11,200	5284	11,776	5303	159	166	-90.95	-3142	5948	1191	868	322.83	3.690				
11,300	5283	11,876	5303	162	169	-90.95	-3210	6021	1191	863	327.82	3.634				
11,400	5283	11,976	5302	164	171	-90.95	-3278	6095	1191	858	332.80	3.579				
11,500	5282	12,076	5302	167	174	-90.94	-3347	6168	1191	853	337.79	3.526				
11,600	5282	12,176	5301	169	176	-90.94	-3415	6241	1191	848	342.78	3.475				
11,700	5281	12,276	5301	172	178	-90.94	-3483	6314	1191	843	347.76	3.425				
11,800	5281	12,376	5300	174	181	-90.94	-3551	6387	1191	838	352.75	3.377				
11,900	5280	12,476	5299	177	183	-90.93	-3619	6460	1191	833	357.75	3.330				
12,000	5280	12,576	5299	179	186	-90.93	-3687	6533	1191	828	362.74	3.284				
12,100	5279	12,676	5298	182	188	-90.93	-3756	6607	1191	823	367.73	3.239				
12,200	5279	12,776	5298	184	191	-90.92	-3824	6680	1191	818	372.72	3.196				
12,300	5278	12,876	5297	187	193	-90.92	-3892	6753	1191	813	377.72	3.154				
12,400	5278	12,976	5297	189	196	-90.92	-3960	6826	1191	808	382.71	3.112				
12,500	5277	13,076	5296	192	198	-90.91	-4028	6899	1191	803	387.71	3.072				
12,600	5277	13,176	5296	194	201	-90.91	-4097	6972	1191	798	392.71	3.033				
12,700	5276	13,276	5295	197	203	-90.91	-4165	7045	1191	793	397.71	2.995				
12,800	5276	13,376	5295	199	206	-90.90	-4233	7119	1191	789	402.70	2.958				
12,900	5275	13,476	5294	202	208	-90.90	-4301	7192	1191	784	407.70	2.922				
13,000	5275	13,576	5293	204	211	-90.90	-4369	7265	1191	779	412.70	2.886				
13,100	5274	13,676	5293	207	213	-90.89	-4438	7338	1191	774	417.70	2.852				
13,200	5274	13,776	5292	209	216	-90.89	-4506	7411	1191	769	422.71	2.818				
13,300	5273	13,876	5292	212	218	-90.89	-4574	7484	1191	764	427.71	2.785				
13,400	5273	13,976	5291	214	221	-90.88	-4642	7557	1191	759	432.71	2.753				
13,500	5272	14,076	5291	217	223	-90.88	-4710	7631	1191	754	437.71	2.721				
13,600	5272	14,176	5290	219	225	-90.88	-4779	7704	1191	749	442.72	2.691				
13,700	5271	14,276	5290	222	228	-90.87	-4847	7777	1191	744	447.72	2.661				
13,800	5271	14,376	5289	224	230	-90.87	-4915	7850	1191	739	452.73	2.631				
13,900	5270	14,476	5288	227	233	-90.87	-4983	7923	1191	734	457.73	2.602				
14,000	5270	14,576	5288	229	235	-90.87	-5051	7996	1191	729	462.74	2.574				
14,100	5269	14,676	5287	232	238	-90.86	-5120	8069	1191	723	467.75	2.547				
14,200	5269	14,776	5287	234	240	-90.86	-5188	8142	1191	718	472.75	2.520				
14,300	5268	14,876	5286	237	243	-90.86	-5256	8216	1191	713	477.76	2.493				
14,400	5268	14,976	5286	239	245	-90.85	-5324	8289	1191	708	482.77	2.468				
14,500	5268	15,076	5285	242	248	-90.85	-5392	8362	1191	703	487.78	2.442				
14,600	5267	15,176	5285	244	250	-90.85	-5461	8435	1191	698	492.78	2.417				
14,700	5267	15,276	5284	247	253	-90.84	-5529	8508	1191	693	497.79	2.393				
14,800	5266	15,376	5284	249	255	-90.84	-5597	8581	1191	688	502.80	2.369				
14,810	5266	15,386	5283	250	256	-90.84	-5603	8588	1191	688	503.28	2.367				
14,900	5266	15,473	5283	252	258	-90.84	-5663	8652	1191	683	507.83	2.346				
15,000	5265	15,473	5283	254	258	-90.84	-5663	8652	1196	684	511.52	2.338 SF				
15,100	5265	15,473	5283	257	258	-90.84	-5663	8652	1208	697	511.69	2.362				
15,200	5264	15,473	5283	259	258	-90.84	-5663	8652	1229	721	508.56	2.417				
15,228	5264	15,473	5283	260	258	-90.84	-5663	8652	1236	729	507.13	2.438				



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 108H - Original drilling - As Drilled													Offset Site Error:	0 ft
Survey Program: 14-INCLINOMETER, 445-MWD+HDGM, 4746-MWD+HDGM, 5962-MWD+HDGM													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	0	0	0	0	162.46	-2100	664	2203					
100	100	61	61	0	1	162.46	-2100	664	2202	2201	1.56	1,409.857		
200	200	161	161	0	4	162.46	-2100	664	2202	2198	4.96	444.269		
300	300	261	261	1	8	162.46	-2100	664	2202	2194	8.35	263.677		
400	400	360	360	1	10	162.46	-2100	664	2202	2191	11.71	188.161		
428	428	646	645	1	12	162.44	-2084	659	2201	2187	13.42	164.044		
430	430	648	647	1	12	162.44	-2084	659	2201	2187	13.42	163.925		
500	500	827	825	2	12	82.03	-2060	653	2192	2178	13.68	160.149		
600	600	1248	1232	2	13	83.07	-1963	620	2165	2151	14.07	153.817		
700	700	1371	1349	2	13	84.06	-1927	608	2133	2118	14.51	147.024		
800	799	1439	1413	3	13	85.00	-1907	601	2100	2085	14.97	140.280		
867	865	1514	1485	3	13	85.79	-1884	594	2078	2063	15.30	135.811		
900	898	1552	1521	3	13	85.97	-1872	590	2067	2052	15.47	133.641		
1000	997	1686	1647	3	14	86.65	-1830	577	2033	2017	15.99	127.115		
1100	1096	1762	1719	4	14	87.06	-1806	569	1998	1981	16.54	120.758		
1200	1194	1820	1774	4	14	87.37	-1788	563	1964	1947	17.11	114.789		
1300	1293	1897	1847	5	14	87.80	-1765	556	1933	1915	17.70	109.203		
1400	1392	1979	1925	5	14	88.25	-1742	548	1901	1883	18.29	103.928		
1500	1491	2146	2083	6	15	89.18	-1691	534	1870	1851	18.90	98.914		
1600	1590	2221	2154	6	15	89.62	-1667	527	1835	1816	19.53	93.982		
1700	1689	2284	2214	7	15	90.00	-1647	521	1803	1783	20.17	89.380		
1800	1787	2381	2306	7	16	90.64	-1618	511	1771	1750	20.82	85.057		
1900	1886	2462	2383	7	16	91.21	-1594	503	1740	1718	21.48	80.990		
2000	1985	2619	2531	8	17	92.26	-1544	489	1707	1685	22.14	77.091		
2100	2084	2725	2631	8	17	92.99	-1509	479	1672	1650	22.81	73.305		
2200	2183	2790	2691	9	17	93.46	-1487	473	1638	1615	23.52	69.662		
2300	2282	2853	2751	9	18	93.95	-1467	467	1606	1582	24.23	66.294		
2400	2380	2941	2834	10	18	94.65	-1441	459	1576	1551	24.94	63.174		
2500	2479	3016	2906	10	18	95.26	-1418	452	1546	1520	25.67	60.231		
2600	2578	3095	2981	11	19	95.91	-1396	445	1517	1491	26.39	57.494		
2700	2677	3220	3100	11	19	96.96	-1358	435	1488	1461	27.11	54.895		
2800	2776	3295	3171	12	19	97.60	-1336	429	1460	1432	27.86	52.388		
2900	2875	3418	3289	12	20	98.69	-1300	420	1432	1403	28.59	50.086		
3000	2974	3506	3372	12	20	99.46	-1273	414	1402	1373	29.35	47.782		
3100	3072	3589	3451	13	21	100.22	-1247	408	1374	1344	30.12	45.610		
3200	3171	3674	3532	13	21	101.06	-1222	402	1346	1315	30.90	43.562		
3300	3270	3769	3622	14	22	102.12	-1194	393	1319	1287	31.69	41.627		
3400	3369	3860	3708	14	22	103.19	-1167	383	1292	1260	32.49	39.774		
3500	3468	3977	3819	15	23	104.66	-1131	371	1265	1232	33.29	38.002		
3600	3567	4053	3891	15	23	105.66	-1108	363	1238	1204	34.13	36.280		
3700	3665	4166	3998	16	24	107.21	-1074	350	1213	1178	34.95	34.696		
3800	3764	4266	4092	16	24	108.66	-1042	339	1186	1150	35.81	33.116		
3900	3863	4341	4162	17	24	109.79	-1018	331	1160	1124	36.70	31.610		
4000	3962	4426	4244	17	25	111.10	-992	322	1137	1099	37.59	30.233		
4100	4061	4493	4307	18	25	112.10	-973	315	1115	1076	38.50	28.961		
4200	4160	4557	4369	18	25	113.00	-957	310	1097	1058	39.37	27.866		
4300	4258	4593	4404	18	26	113.43	-950	309	1083	1043	40.16	26.977		
4400	4357	4644	4455	19	26	113.84	-943	310	1074	1034	40.85	26.302		
4500	4456	4683	4493	19	26	113.98	-939	314	1070	1029	41.40	25.848		
4537	4493	4710	4520	20	26	113.99	-938	318	1070	1028	41.57	25.729		
4600	4555	4746	4555	20	26	113.92	-938	324	1071	1029	41.83	25.599		
4700	4654	4780	4588	20	26	113.75	-940	332	1077	1035	42.03	25.618		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 108H - Original drilling - As Drilled													Offset Site Error:	0 ft
Survey Program:		14-INCLINOMETER, 445-MWD+HDGM, 4746-MWD+HDGM, 5962-MWD+HDGM							Rule Assigned:				Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4784	4737	4809	4616	21	26	113.53	-944	339	1086	1044	42.08	25.804		
4800	4753	4809	4616	21	26	106.63	-944	339	1088	1046	42.06	25.872		
4850	4802	4838	4643	21	26	91.94	-948	347	1094	1052	42.12	25.979		
4900	4850	4873	4676	21	26	83.58	-956	358	1100	1058	42.25	26.046		
4950	4897	4873	4676	22	26	78.45	-956	358	1105	1063	42.19	26.198		
5000	4943	4896	4698	22	26	74.96	-962	365	1110	1067	42.29	26.243		
5050	4987	4936	4733	22	26	72.56	-974	379	1114	1071	42.53	26.183		
5100	5029	4936	4733	23	26	70.73	-974	379	1116	1074	42.52	26.252		
5150	5069	4974	4766	23	25	69.59	-987	394	1118	1075	42.85	26.093		
5200	5107	4999	4786	23	25	68.77	-996	404	1119	1075	43.11	25.948		
5250	5142	5035	4816	24	25	68.40	-1010	419	1118	1075	43.53	25.686		
5300	5174	5062	4837	25	25	68.23	-1021	431	1116	1072	43.93	25.415		
5350	5204	5093	4861	25	25	68.37	-1034	446	1114	1069	44.43	25.067		
5400	5230	5125	4886	26	25	68.79	-1048	461	1110	1065	45.02	24.659		
5450	5252	5150	4904	26	25	69.32	-1060	473	1106	1060	45.63	24.231		
5500	5271	5188	4932	27	25	70.34	-1078	491	1100	1054	46.44	23.697		
5550	5286	5208	4946	28	25	71.14	-1088	501	1094	1047	47.16	23.205		
5600	5298	5232	4964	28	25	72.22	-1100	512	1088	1040	48.01	22.662		
5650	5306	5251	4977	29	25	73.27	-1110	521	1081	1032	48.86	22.128		
5700	5310	5276	4995	30	25	74.65	-1123	534	1074	1024	49.86	21.548		
5728	5310	5287	5003	31	25	75.38	-1129	539	1070	1020	50.40	21.238		
5800	5310	5314	5021	32	25	76.36	-1144	551	1062	1011	51.82	20.503		
5900	5309	5354	5047	34	25	77.82	-1168	570	1057	1003	53.82	19.639		
5939	5309	5377	5062	34	25	78.62	-1182	581	1057	1002	54.67	19.330	CC, ES	
6000	5309	5394	5072	35	25	79.20	-1192	589	1058	1003	55.77	18.978		
6100	5308	5440	5098	37	24	80.70	-1223	610	1066	1008	57.70	18.476		
6200	5308	5503	5130	39	24	82.50	-1268	641	1079	1019	59.78	18.053		
6300	5307	5604	5172	41	25	84.83	-1344	695	1094	1032	62.42	17.533		
6400	5307	5722	5204	44	25	86.64	-1434	763	1109	1044	65.49	16.941		
6500	5306	5867	5229	46	26	88.00	-1544	854	1122	1052	69.32	16.182		
6600	5306	5991	5242	48	26	88.71	-1637	936	1131	1059	72.29	15.643		
6700	5305	6088	5249	50	26	89.12	-1708	1000	1139	1064	74.71	15.243		
6800	5305	6165	5252	52	27	89.26	-1765	1051	1148	1071	77.06	14.903		
6900	5304	6276	5251	55	27	89.26	-1849	1125	1159	1079	80.14	14.459		
7000	5304	6405	5251	57	28	89.28	-1945	1212	1167	1083	83.87	13.910		
7100	5303	6479	5251	59	29	89.32	-1999	1261	1175	1088	86.70	13.550		
7200	5303	6574	5251	62	30	89.34	-2070	1324	1184	1094	90.12	13.144		
7300	5302	6703	5250	64	32	89.35	-2166	1411	1193	1098	94.60	12.611		
7400	5302	6790	5251	66	33	89.38	-2230	1470	1200	1102	98.14	12.231		
7500	5301	6872	5250	69	35	89.37	-2291	1525	1209	1108	101.63	11.899		
7600	5301	6981	5247	71	37	89.27	-2372	1597	1219	1113	105.98	11.499		
7700	5300	7065	5246	73	38	89.25	-2435	1653	1228	1118	109.67	11.198		
7800	5300	7173	5246	76	40	89.26	-2516	1724	1238	1124	114.18	10.843		
7900	5299	7251	5245	78	42	89.23	-2575	1775	1248	1130	117.78	10.598		
8000	5299	7360	5242	81	44	89.15	-2658	1846	1259	1137	122.47	10.284		
8100	5299	7490	5242	83	46	89.18	-2754	1933	1268	1140	127.95	9.912		
8200	5298	7580	5243	85	48	89.23	-2821	1993	1277	1145	132.14	9.662		
8300	5298	7662	5243	88	50	89.28	-2883	2048	1286	1150	136.07	9.452		
8400	5297	7773	5242	90	52	89.27	-2966	2121	1296	1155	141.05	9.191		
8500	5297	7877	5243	93	55	89.33	-3043	2191	1304	1158	145.86	8.940		
8600	5296	7940	5243	95	56	89.35	-3090	2232	1314	1165	149.11	8.815		
8700	5296	8029	5243	98	58	89.37	-3159	2290	1327	1173	153.32	8.652		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 108H - Original drilling - As Drilled													Offset Site Error: 0 ft	
Survey Program: Reference		14-INCLINOMETER, 445-MWD+HDGM, 4746-MWD+HDGM, 5962-MWD+HDGM							Rule Assigned:				Offset Well Error: 0 ft	
Measured Depth (ft)	Vertical Depth (ft)	Offset		Semi Major Axis		Offset Wellbore Centre			Distance				Warning	
		Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8800	5295	8151	5243	100	61	89.39	-3251	2368	1338	1179	158.85	8.423		
8900	5295	8213	5243	103	62	89.42	-3299	2409	1350	1188	162.02	8.332		
9000	5294	8279	5243	105	64	89.43	-3350	2450	1365	1199	165.22	8.260		
9100	5294	8397	5241	107	66	89.37	-3443	2523	1380	1209	170.68	8.086		
9200	5293	8519	5240	110	69	89.36	-3537	2600	1393	1217	176.33	7.901		
9300	5293	8661	5240	112	72	89.39	-3646	2693	1405	1222	182.82	7.683		
9400	5292	8815	5238	115	76	89.37	-3758	2797	1412	1222	189.64	7.444		
9500	5292	8908	5237	117	78	89.35	-3826	2861	1418	1224	194.27	7.299		
9600	5291	8989	5237	120	80	89.35	-3885	2916	1425	1227	198.46	7.180		
9700	5291	9072	5236	122	82	89.34	-3947	2972	1433	1231	202.66	7.073		
9800	5290	9163	5235	125	84	89.31	-4015	3032	1443	1235	207.17	6.964		
9900	5290	9264	5234	127	87	89.30	-4090	3100	1452	1240	212.07	6.846		
10,000	5289	9337	5233	130	88	89.30	-4145	3147	1462	1246	215.82	6.775		
10,100	5289	9450	5233	132	91	89.31	-4231	3221	1473	1252	221.22	6.659		
10,200	5288	9562	5233	135	94	89.34	-4315	3295	1483	1256	226.59	6.544		
10,300	5288	9646	5233	137	96	89.35	-4378	3351	1493	1262	230.82	6.467		
10,400	5287	9759	5233	140	99	89.39	-4463	3425	1503	1266	236.26	6.360		
10,500	5287	9853	5233	142	101	89.41	-4533	3488	1512	1272	240.93	6.278		
10,600	5286	9951	5233	145	103	89.42	-4607	3552	1523	1277	245.71	6.198		
10,700	5286	10,038	5233	147	105	89.43	-4673	3609	1533	1283	250.11	6.130		
10,800	5285	10,118	5232	149	107	89.44	-4733	3661	1545	1291	254.09	6.080		
10,900	5285	10,211	5232	152	109	89.45	-4805	3720	1557	1298	258.68	6.019		
11,000	5284	10,299	5231	154	112	89.43	-4873	3777	1570	1307	263.02	5.969		
11,100	5284	10,441	5230	157	115	89.42	-4981	3868	1582	1312	269.76	5.864		
11,200	5284	10,590	5231	159	119	89.49	-5092	3967	1591	1314	276.64	5.750		
11,300	5283	10,760	5230	162	123	89.49	-5214	4086	1595	1311	284.04	5.615		
11,400	5283	10,839	5228	164	125	89.45	-5269	4142	1598	1310	288.38	5.542		
11,500	5282	10,941	5226	167	127	89.38	-5342	4214	1603	1309	293.48	5.461		
11,600	5282	11,048	5223	169	130	89.30	-5418	4289	1606	1308	298.70	5.378		
11,700	5281	11,128	5222	172	132	89.26	-5475	4345	1611	1308	303.06	5.316		
11,800	5281	11,226	5223	174	135	89.31	-5545	4413	1616	1308	308.01	5.246		
11,900	5280	11,297	5221	177	136	89.29	-5597	4463	1622	1310	311.97	5.199		
12,000	5280	11,350	5220	179	138	89.25	-5636	4498	1630	1315	315.05	5.174		
12,100	5279	11,478	5219	182	141	89.22	-5732	4583	1640	1318	321.15	5.106		
12,200	5279	11,566	5218	184	143	89.23	-5797	4643	1647	1322	325.65	5.059		
12,300	5278	11,634	5218	187	145	89.24	-5848	4687	1657	1328	329.23	5.034		
12,400	5278	11,724	5216	189	147	89.19	-5916	4746	1668	1335	333.71	4.999		
12,500	5277	11,820	5213	192	149	89.11	-5989	4808	1680	1341	338.47	4.963		
12,600	5277	11,939	5211	194	152	89.05	-6079	4887	1690	1346	344.28	4.909		
12,700	5276	12,008	5210	197	154	89.05	-6131	4931	1701	1353	347.81	4.892		
12,800	5276	12,107	5210	199	156	89.06	-6207	4995	1714	1361	352.67	4.859		
12,900	5275	12,248	5212	202	160	89.17	-6313	5087	1724	1365	359.50	4.796		
13,000	5275	12,330	5214	204	162	89.25	-6376	5141	1734	1371	363.70	4.769		
13,100	5274	12,409	5215	207	164	89.29	-6435	5192	1746	1378	367.67	4.748		
13,200	5274	12,535	5214	209	167	89.27	-6531	5274	1757	1384	373.80	4.701		
13,300	5273	12,671	5213	212	170	89.29	-6633	5365	1767	1386	380.32	4.645		
13,400	5273	12,783	5213	214	173	89.29	-6715	5441	1774	1388	385.79	4.598		
13,500	5272	12,846	5212	217	175	89.28	-6762	5483	1782	1393	389.27	4.579		
13,600	5272	12,927	5212	219	177	89.29	-6823	5536	1793	1399	393.40	4.556		
13,700	5271	13,015	5212	222	179	89.33	-6890	5594	1803	1405	397.84	4.533		
13,800	5271	13,114	5212	224	181	89.33	-6964	5658	1815	1412	402.71	4.506		
13,900	5270	13,236	5209	227	184	89.26	-7057	5737	1826	1417	408.66	4.467		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 108H - Original drilling - As Drilled												Offset Site Error:	0 ft
Survey Program: 14-INCLINOMETER, 445-MWD+HDGM, 4746-MWD+HDGM, 5962-MWD+HDGM												Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
14,000	5270	13,365	5206	229	187	89.19	-7153	5824	1834	1420	414.90	4.421	
14,100	5269	13,442	5205	232	189	89.17	-7211	5875	1844	1425	418.91	4.401	
14,200	5269	13,566	5203	234	192	89.13	-7303	5957	1853	1428	424.89	4.361	
14,300	5268	13,675	5200	237	195	89.06	-7383	6031	1861	1430	430.26	4.325 SF	
14,400	5268	13,675	5200	239	195	89.06	-7383	6031	1871	1441	430.70	4.345	
14,500	5268	13,675	5200	242	195	89.06	-7383	6031	1887	1457	429.95	4.389	
14,600	5267	13,675	5200	244	195	89.06	-7383	6031	1908	1480	428.08	4.457	
14,700	5267	13,675	5200	247	195	89.06	-7383	6031	1934	1509	425.17	4.548	
14,800	5266	13,675	5200	249	195	89.06	-7383	6031	1964	1543	421.33	4.663	
14,900	5266	13,675	5200	252	195	89.06	-7383	6031	2000	1583	416.67	4.799	
15,000	5265	13,675	5200	254	195	89.06	-7383	6031	2039	1628	411.32	4.957	
15,100	5265	13,675	5200	257	195	89.06	-7383	6031	2083	1677	405.39	5.137	
15,200	5264	13,675	5200	259	195	89.06	-7383	6031	2130	1731	399.01	5.338	
15,228	5264	13,675	5200	260	195	89.06	-7383	6031	2144	1747	397.15	5.398	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 728H - Original drilling - As Drilled													Offset Site Error:	0 ft
Survey Program: 14-INCLINOMETER, 377-MWD+HDGM, 4431-MWD+HDGM, 5653-MWD+HDGM													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	0	0	0	0	161.74	-2078	686	2189					
100	100	61	61	0	1	161.74	-2078	686	2188	2187	1.56	1,400.838		
200	200	161	161	0	4	161.74	-2078	686	2188	2183	4.96	441.427		
300	300	261	261	1	8	161.74	-2078	686	2188	2180	8.35	261.992		
400	400	361	361	1	11	161.74	-2078	686	2188	2177	11.75	186.274		
402	402	363	363	1	11	161.74	-2078	686	2188	2177	11.82	185.079		
430	430	391	391	1	11	161.74	-2078	686	2188	2176	12.55	174.399		
500	500	445	445	2	12	81.10	-2078	686	2188	2175	13.62	160.667		
508	508	458	458	2	12	81.11	-2078	686	2188	2175	13.65	160.319 CC, ES		
600	600	506	506	2	12	81.15	-2079	686	2189	2175	13.97	156.662		
700	700	566	566	2	12	81.24	-2081	686	2191	2177	14.34	152.832		
800	799	627	627	3	12	81.39	-2084	685	2195	2180	14.72	149.101		
867	865	665	665	3	12	81.50	-2087	685	2198	2183	14.99	146.636		
900	898	688	688	3	12	81.62	-2089	684	2200	2184	15.12	145.432		
1000	997	749	748	3	12	81.95	-2096	682	2206	2191	15.55	141.913		
1100	1096	809	808	4	12	82.30	-2103	680	2215	2199	15.98	138.627		
1200	1194	869	867	4	12	82.66	-2112	677	2226	2209	16.42	135.574		
1300	1293	931	928	5	12	83.04	-2122	674	2238	2221	16.86	132.733		
1400	1392	965	961	5	12	83.25	-2128	673	2252	2235	17.27	130.454		
1500	1491	1010	1006	6	12	83.55	-2137	670	2269	2252	17.68	128.347		
1600	1590	1052	1046	6	12	83.82	-2146	668	2289	2271	18.09	126.545		
1700	1689	1113	1106	7	12	84.21	-2161	666	2310	2292	18.53	124.700		
1800	1787	1156	1147	7	12	84.49	-2173	664	2334	2315	18.93	123.321		
1900	1886	1207	1195	7	12	84.80	-2187	662	2360	2340	19.34	122.030		
2000	1985	1270	1256	8	13	85.18	-2205	661	2387	2367	19.78	120.681		
2100	2084	1380	1361	8	13	85.81	-2238	659	2415	2395	20.37	118.582		
2200	2183	1492	1468	9	13	86.42	-2270	658	2442	2421	20.98	116.427		
2300	2282	1585	1558	9	13	86.95	-2296	655	2469	2448	21.54	114.624		
2400	2380	1661	1630	10	13	87.39	-2318	652	2497	2475	22.06	113.202		
2500	2479	1724	1691	10	13	87.76	-2337	650	2526	2503	22.53	112.099		
2600	2578	1869	1829	11	14	88.53	-2380	646	2554	2531	23.32	109.538		
2700	2677	1978	1933	11	14	89.09	-2410	643	2582	2558	23.98	107.657		
2800	2776	2032	1985	12	14	89.37	-2425	641	2610	2585	24.44	106.778		
2900	2875	2100	2050	12	14	89.75	-2446	638	2639	2614	24.95	105.747		
3000	2974	2193	2138	12	15	90.28	-2474	633	2669	2644	25.58	104.339		
3100	3072	2318	2258	13	15	90.97	-2512	626	2699	2673	26.36	102.387		
3200	3171	2425	2360	13	16	91.52	-2542	620	2728	2701	27.06	100.798		
3300	3270	2482	2414	14	16	91.81	-2559	617	2758	2730	27.55	100.094		
3400	3369	2566	2494	14	16	92.23	-2585	613	2788	2760	28.16	99.003		
3500	3468	2630	2555	15	16	92.53	-2604	611	2820	2791	28.68	98.303		
3600	3567	2762	2680	15	17	93.13	-2645	606	2852	2822	29.54	96.532		
3700	3665	2928	2840	16	17	93.84	-2693	601	2882	2851	30.57	94.256		
3800	3764	3009	2917	16	18	94.18	-2715	598	2910	2879	31.19	93.303		
3900	3863	3077	2982	17	18	94.47	-2734	596	2940	2908	31.75	92.596		
4000	3962	3157	3059	17	18	94.81	-2758	592	2970	2938	32.38	91.745		
4100	4061	3286	3183	18	19	95.35	-2795	587	3001	2967	33.25	90.231		
4200	4160	3358	3251	18	19	95.63	-2815	585	3030	2997	33.84	89.553		
4300	4258	3435	3325	18	20	95.93	-2838	582	3062	3027	34.46	88.845		
4400	4357	3574	3459	19	20	96.45	-2877	578	3091	3056	35.41	87.310		
4500	4456	3678	3558	19	21	96.81	-2906	575	3122	3086	36.17	86.303		
4600	4555	3737	3615	20	21	97.02	-2923	574	3152	3115	36.70	85.885		
4700	4654	3844	3717	20	21	97.38	-2954	571	3183	3146	37.49	84.900		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 728H - Original drilling - As Drilled													Offset Site Error: 0 ft	
Survey Program: Reference		14-INCLINOMETER, 377-MWD+HDGM, 4431-MWD+HDGM, 5653-MWD+HDGM								Rule Assigned:		Offset Well Error: 0 ft		
Measured Depth (ft)	Vertical Depth (ft)	Offset		Semi Major Axis		Offset Wellbore Centre			Distance				Warning	
		Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4784	4737	3901	3771	21	22	97.56	-2970	570	3209	3171	37.98	84.491		
4800	4753	3909	3779	21	22	90.54	-2972	570	3214	3176	38.06	84.444		
4850	4802	3966	3834	21	22	75.91	-2989	568	3227	3189	38.50	83.824		
4900	4850	4016	3881	21	22	67.70	-3003	566	3238	3199	38.93	83.178		
4950	4897	4053	3917	22	22	62.66	-3014	565	3246	3206	39.31	82.564		
5000	4943	4095	3957	22	23	59.46	-3026	563	3251	3211	39.75	81.782		
5050	4987	4134	3995	22	23	57.38	-3037	562	3254	3214	40.22	80.908		
5100	5029	4167	4026	23	23	56.03	-3047	560	3254	3213	40.67	80.007		
5150	5069	4214	4071	23	23	55.40	-3061	559	3251	3210	41.24	78.840		
5200	5107	4344	4196	23	24	56.13	-3097	555	3246	3203	42.32	76.688		
5250	5142	4385	4235	24	24	56.41	-3108	554	3237	3194	42.90	75.444		
5300	5174	4420	4269	25	24	56.98	-3117	552	3226	3182	43.46	74.222		
5350	5204	4447	4295	25	24	57.79	-3124	551	3213	3169	44.01	73.007		
5400	5230	4470	4317	26	24	58.83	-3131	550	3198	3153	44.56	71.761		
5450	5252	4493	4339	26	24	60.15	-3137	549	3181	3136	45.15	70.443		
5500	5271	4493	4339	27	24	61.35	-3137	549	3162	3116	45.72	69.160		
5550	5286	4515	4360	28	24	63.17	-3143	548	3142	3095	46.39	67.721		
5600	5298	4524	4369	28	24	65.01	-3145	547	3120	3073	47.07	66.295		
5650	5306	4531	4376	29	24	67.05	-3147	547	3097	3050	47.77	64.842		
5700	5310	4537	4381	30	24	69.28	-3149	546	3073	3025	48.50	63.373		
5728	5310	4539	4383	31	24	70.59	-3149	546	3060	3011	48.91	62.552		
5800	5310	4557	4401	32	24	70.98	-3155	545	3024	2974	50.08	60.391		
5900	5309	4557	4401	34	24	70.98	-3155	545	2977	2926	51.70	57.587		
6000	5309	4557	4401	35	24	70.98	-3155	545	2933	2879	53.43	54.894		
6100	5308	4570	4413	37	24	71.26	-3158	544	2891	2836	55.32	52.267		
6200	5308	4582	4424	39	24	71.50	-3162	544	2852	2795	57.29	49.788		
6300	5307	4594	4436	41	24	71.76	-3165	543	2817	2757	59.36	47.453		
6400	5307	4607	4448	44	24	72.05	-3169	542	2784	2722	61.50	45.266		
6500	5306	4623	4463	46	24	72.38	-3174	542	2754	2690	63.72	43.223		
6600	5306	4649	4489	48	24	72.95	-3182	541	2728	2662	66.07	41.289		
6700	5305	4678	4516	50	24	73.56	-3191	540	2705	2636	68.47	39.500		
6800	5305	4700	4537	52	25	74.02	-3198	540	2685	2614	70.86	37.887		
6900	5304	4720	4556	55	25	74.46	-3204	539	2668	2595	73.26	36.422		
7000	5304	4741	4575	57	25	74.89	-3210	539	2656	2580	75.67	35.096		
7100	5303	4768	4601	59	25	75.47	-3219	539	2646	2568	78.11	33.878		
7200	5303	4840	4670	62	25	77.00	-3242	541	2640	2560	80.90	32.640		
7300	5302	4948	4769	64	25	79.21	-3281	554	2637	2553	83.94	31.417		
7364	5302	4978	4796	65	25	79.80	-3293	559	2637	2551	85.58	30.808		
7400	5302	4996	4813	66	25	80.16	-3300	563	2637	2550	86.52	30.477		
7500	5301	5042	4853	69	25	81.05	-3319	573	2639	2550	89.05	29.639		
7600	5301	5089	4893	71	26	81.95	-3340	584	2645	2553	91.56	28.887		
7700	5300	5136	4933	73	26	82.82	-3362	597	2653	2559	94.03	28.218		
7800	5300	5181	4970	76	26	83.65	-3384	610	2665	2568	96.45	27.627		
7900	5299	5331	5085	78	27	86.17	-3464	663	2677	2577	99.96	26.781		
8000	5299	5735	5214	81	30	89.00	-3743	906	2689	2582	107.06	25.117		
8100	5299	5841	5220	83	31	89.14	-3818	982	2692	2581	110.63	24.330		
8200	5298	5904	5221	85	32	89.17	-3862	1027	2695	2581	113.81	23.678		
8300	5298	6001	5220	88	33	89.17	-3931	1094	2699	2582	117.58	22.957		
8400	5297	6131	5220	90	35	89.17	-4023	1186	2703	2581	122.05	22.144		
8500	5297	6228	5219	93	36	89.17	-4091	1255	2706	2580	126.13	21.451		
8600	5296	6340	5219	95	38	89.19	-4170	1335	2709	2578	130.61	20.738		
8700	5296	6407	5219	98	39	89.19	-4218	1382	2712	2578	134.29	20.196		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 728H - Original drilling - As Drilled													Offset Site Error: 0 ft	
Survey Program: Reference		14-INCLINOMETER, 377-MWD+HDGM, 4431-MWD+HDGM, 5653-MWD+HDGM						Rule Assigned:		Offset Well Error: 0 ft				
Offset		Semi Major Axis		Offset Wellbore Centre		Distance				Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8800	5295	6450	5218	100	40	89.18	-4248	1412	2717	2580	137.45	19.768		
8900	5295	6533	5216	103	41	89.15	-4309	1469	2724	2582	141.50	19.249		
9000	5294	6672	5214	105	44	89.12	-4410	1564	2730	2583	146.84	18.592		
9100	5294	6785	5211	107	46	89.08	-4491	1643	2735	2583	151.71	18.028		
9200	5293	6973	5208	110	50	89.03	-4622	1778	2737	2578	158.39	17.278		
9300	5293	7010	5207	112	51	89.02	-4648	1804	2739	2578	161.62	16.950		
9400	5292	7069	5205	115	52	88.98	-4691	1845	2744	2579	165.32	16.598		
9500	5292	7164	5203	117	54	88.94	-4759	1911	2749	2580	169.90	16.182		
9600	5291	7307	5202	120	58	88.94	-4861	2011	2754	2578	175.75	15.671		
9700	5291	7375	5202	122	59	88.95	-4910	2059	2758	2579	179.73	15.348		
9800	5290	7443	5202	125	61	88.97	-4959	2106	2764	2580	183.67	15.049		
9900	5290	7529	5202	127	63	88.98	-5021	2165	2770	2582	188.10	14.728		
10,000	5289	7590	5203	130	64	88.99	-5066	2207	2777	2586	191.83	14.479		
10,100	5289	7651	5202	132	65	89.00	-5111	2247	2787	2591	195.51	14.253		
10,200	5288	7717	5203	135	67	89.01	-5162	2291	2797	2598	199.31	14.033		
10,300	5288	7827	5203	137	69	89.04	-5244	2362	2807	2603	204.38	13.736		
10,400	5287	8170	5203	140	78	89.07	-5492	2599	2813	2597	215.91	13.027		
10,500	5287	8237	5204	142	79	89.09	-5539	2647	2815	2595	220.02	12.794		
10,600	5286	8355	5206	145	82	89.14	-5621	2731	2817	2592	225.44	12.497		
10,700	5286	8424	5207	147	84	89.18	-5670	2780	2820	2591	229.58	12.284		
10,800	5285	8508	5208	149	86	89.20	-5729	2840	2824	2590	234.13	12.060		
10,900	5285	8580	5207	152	88	89.20	-5781	2890	2828	2590	238.31	11.867		
11,000	5284	8675	5207	154	90	89.20	-5849	2957	2833	2590	243.13	11.652		
11,100	5284	8789	5207	157	93	89.22	-5931	3036	2838	2589	248.48	11.420		
11,200	5284	8939	5208	159	96	89.25	-6037	3142	2842	2587	254.81	11.152		
11,300	5283	8997	5208	162	98	89.27	-6078	3183	2845	2586	258.66	10.999		
11,400	5283	9109	5209	164	101	89.30	-6158	3262	2849	2585	263.98	10.793		
11,500	5282	9210	5210	167	103	89.32	-6230	3333	2853	2584	269.01	10.606		
11,600	5282	9284	5210	169	105	89.33	-6282	3385	2857	2584	273.26	10.455		
11,700	5281	9387	5210	172	108	89.34	-6355	3457	2862	2583	278.34	10.281		
11,800	5281	9460	5210	174	109	89.35	-6408	3508	2867	2584	282.57	10.145		
11,900	5280	9563	5209	177	112	89.35	-6482	3580	2872	2584	287.65	9.984		
12,000	5280	9635	5209	179	114	89.35	-6534	3629	2878	2586	291.79	9.863		
12,100	5279	9756	5209	182	117	89.36	-6622	3712	2884	2586	297.40	9.696		
12,200	5279	9827	5209	184	119	89.37	-6673	3761	2890	2588	301.53	9.584		
12,300	5278	9990	5209	187	123	89.39	-6791	3874	2896	2587	308.37	9.390		
12,400	5278	10,074	5208	189	125	89.38	-6851	3932	2901	2588	312.92	9.269		
12,500	5277	10,189	5207	192	128	89.38	-6934	4013	2905	2587	318.39	9.124		
12,600	5277	10,259	5207	194	129	89.38	-6984	4062	2910	2587	322.53	9.022		
12,700	5276	10,331	5207	197	131	89.38	-7036	4111	2916	2589	326.67	8.926		
12,800	5276	10,442	5207	199	134	89.41	-7116	4188	2922	2590	332.02	8.801		
12,900	5275	10,558	5209	202	137	89.45	-7200	4268	2928	2590	337.52	8.674		
13,000	5275	10,638	5210	204	139	89.48	-7258	4323	2934	2592	341.92	8.580		
13,100	5274	10,737	5209	207	141	89.47	-7330	4391	2940	2593	346.89	8.475		
13,200	5274	10,853	5207	209	144	89.45	-7414	4471	2946	2593	352.40	8.359		
13,300	5273	10,978	5207	212	147	89.45	-7504	4558	2951	2593	358.18	8.240		
13,400	5273	11,053	5207	214	149	89.46	-7558	4610	2957	2594	362.45	8.158		
13,500	5272	11,163	5206	217	152	89.46	-7637	4686	2962	2594	367.77	8.054		
13,600	5272	11,311	5204	219	156	89.43	-7743	4790	2966	2592	374.22	7.926		
13,700	5271	11,372	5203	222	157	89.42	-7787	4833	2970	2592	378.14	7.856		
13,800	5271	11,466	5202	224	160	89.41	-7854	4898	2976	2593	382.99	7.769		
13,900	5270	11,528	5201	227	161	89.39	-7898	4941	2981	2594	386.84	7.706		



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Anticollision Report



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Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Offset Design: M11 2308 Pad - # 728H - Original drilling - As Drilled											Offset Site Error:	0 ft
Survey Program: 14-INCLINOMETER, 377-MWD+HDGM, 4431-MWD+HDGM, 5653-MWD+HDGM											Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	
14,000	5270	11,647	5199	229	164	89.37	-7985	5023	2988	2595	392.46	7.613
14,100	5269	11,779	5198	232	168	89.37	-8079	5115	2992	2594	398.46	7.509
14,200	5269	11,842	5197	234	169	89.35	-8125	5158	2998	2595	402.37	7.450
14,300	5268	11,893	5196	237	171	89.35	-8163	5193	3005	2599	405.82	7.404
14,400	5268	12,012	5196	239	174	89.35	-8250	5274	3012	2601	411.46	7.321
14,500	5268	12,047	5196	242	174	89.36	-8275	5298	3020	2606	414.26	7.290 SF
14,600	5267	12,047	5196	244	174	89.36	-8275	5298	3031	2615	415.52	7.293
14,700	5267	12,047	5196	247	174	89.36	-8275	5298	3044	2628	416.32	7.313
14,800	5266	12,047	5196	249	174	89.36	-8275	5298	3062	2645	416.70	7.348
14,900	5266	12,047	5196	252	174	89.36	-8275	5298	3082	2665	416.64	7.397
15,000	5265	12,047	5196	254	174	89.36	-8275	5298	3105	2689	416.18	7.462
15,100	5265	12,047	5196	257	174	89.36	-8275	5298	3132	2717	415.33	7.541
15,200	5264	12,047	5196	259	174	89.36	-8275	5298	3161	2747	414.12	7.634
15,228	5264	12,047	5196	260	174	89.36	-8275	5298	3170	2756	413.72	7.662



Lonestar Consulting, LLC
Anticollision Report



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Reference Site:	I10 2308 Pad	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
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Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6933' & RKB 25' @ 6958ft (Aztec)

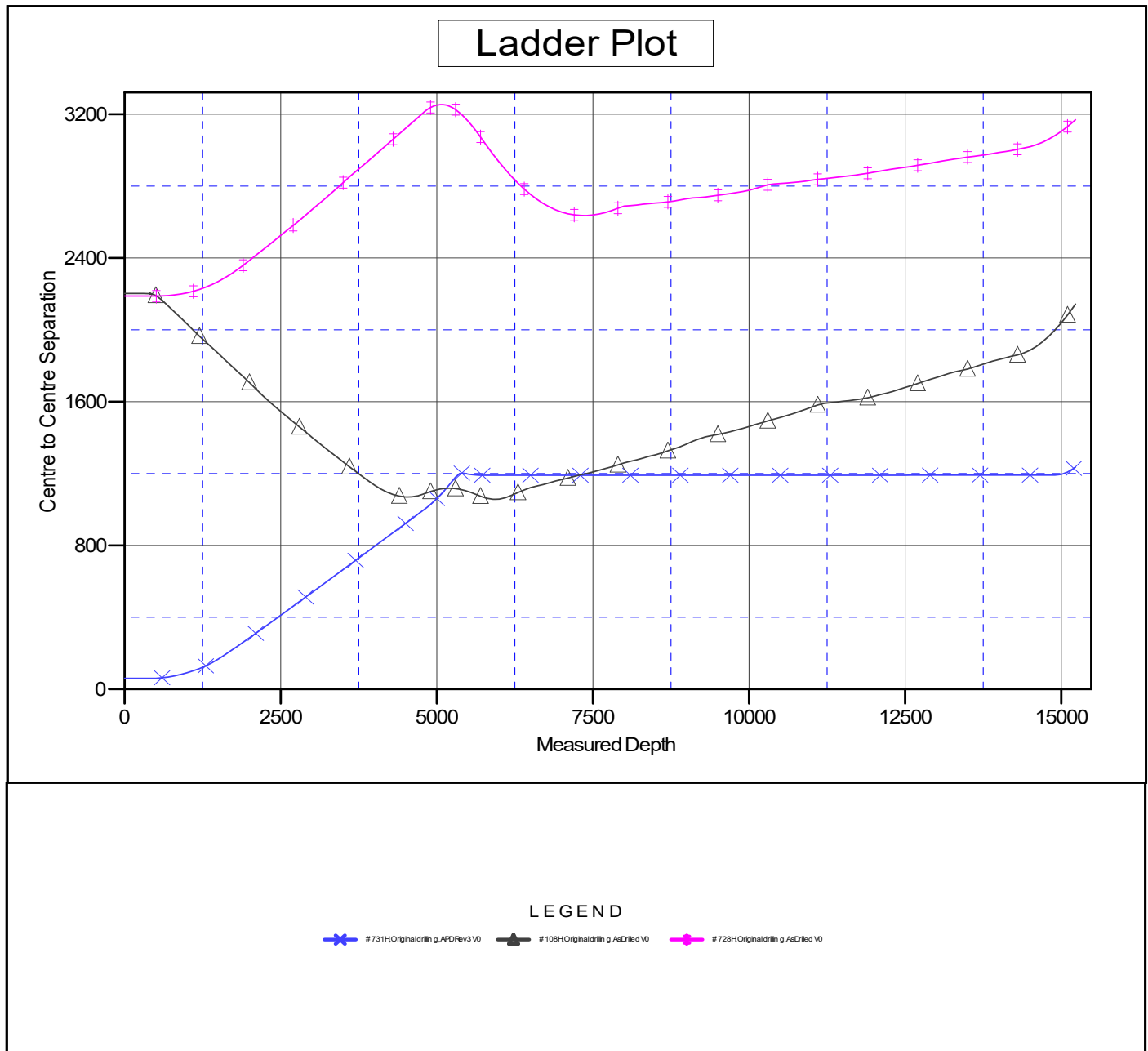
Coordinates are relative to: # 110H

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, New Mexico Western Zone

Central Meridian is -107.8333334

Grid Convergence at Surface is: 0.10°





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 110H
Project:	Betonne Tsoie Unit	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
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Site Error:	0 ft	North Reference:	True
Reference Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD Rev 3	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6933' & RKB 25' @ 6958ft (Aztec)

Offset Depths are relative to Offset Datum

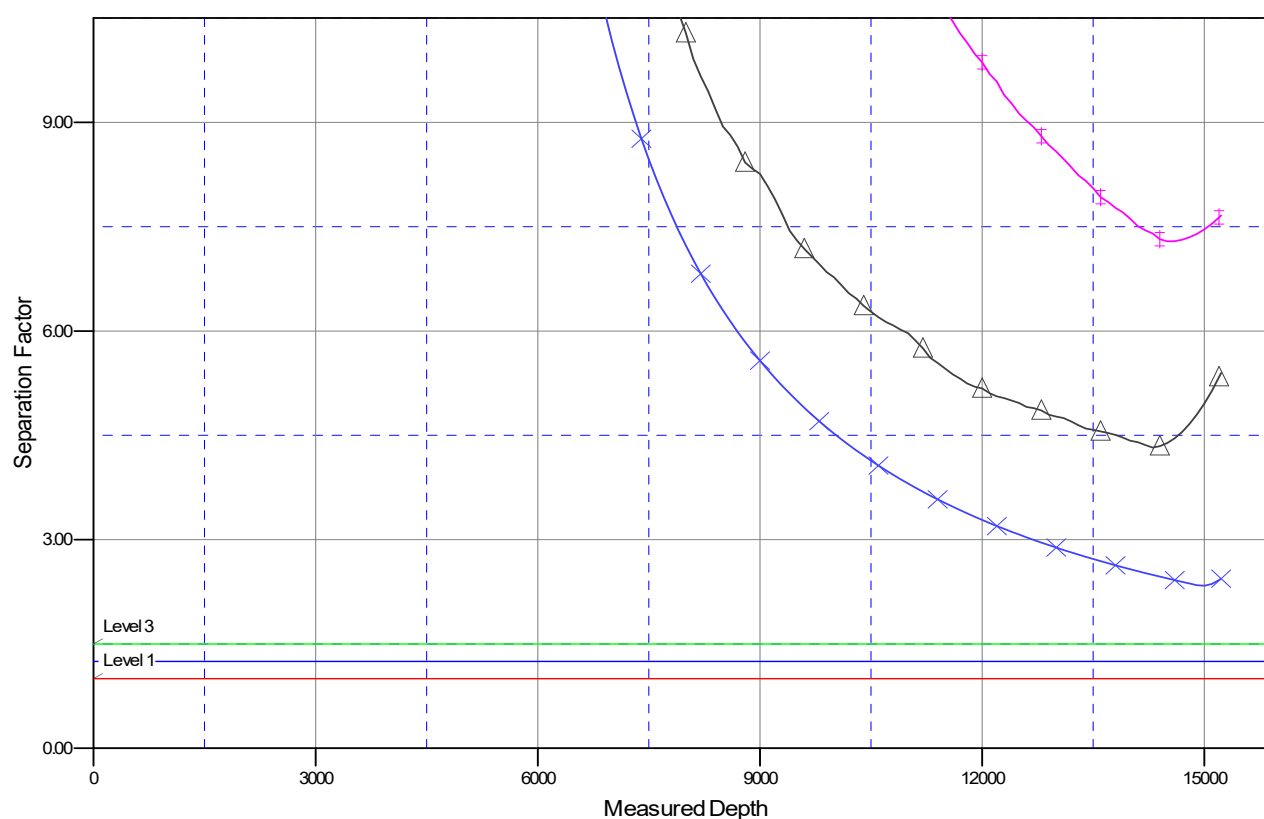
Central Meridian is -107.8333334

Coordinates are relative to: # 110H

Coordinate System is US State Plane 1983, New Mexico Western Zone

Grid Convergence at Surface is: 0.10°

Separation Factor Plot



LEGEND

✕ #731HOriginaldrilling.gAPDRev3V0
 ▲ #108HOriginaldrilling.gAsDrilledV0
 ■ #728HOriginaldrilling.gAsDrilledV0

Rev 3



DRILLING PLAN

Bettonie Tsoie 110H

San Juan County, New Mexico

Surface Location

480-ft FEL & 2438-ft FSL
 Sec 10 T23N R8W
 Graded Elevation 6933' MSL
 RKB Elevation 6958' (25' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2409890° N
 Longitude 107.6616250° W

Kick Off Point for Horizontal Build Curve

4784-ft MD
 4737-ft TVD

Local Coordinates (from SHL)

102-ft North
 620-ft East

Heel Location (Pay zone entry)

653-ft FWL & 2161-ft FSL
 Sec 11 T23N R8W

Heel Geographical Coordinates (NAD-83)

Latitude 36.24021701° N
 Longitude 107.65777949° W

Bottom Hole Location (TD)

2397-ft FWL & 983-ft FSL
 Sec 13 T23N R8W

BHL Geographical Coordinates (NAD-83)

Latitude 36.22241569° N
 Longitude 107.6342244° W

Well objectives

This well is planned as a 9500-ft lateral in the Gallup C sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C horizontal objective is 141°F. Bottom hole pressure in the Gallup C is forecast to be 1985 psi.

Formation Tops (Sd = Sand; Sh = Shale; Siltstone = Slt, Coal = C; W = water; O = oil; G = gas; NP = no penetration)

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	1040	1036	Sd	W	8.3	8.4 – 8.8
Kirtland	1143	1138	Sh	-	8.3	8.4 – 8.8
Fruitland	1316	1309	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1652	1641	Sd	W	8.3	9.0 - 9.5
Lewis	1870	1857	Sh	-		9.0 - 9.5
Chacra	2430	2410	Sd	-	8.3	9.0 - 9.5
Menefee	3220	3191	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4086	4047	Sd	-	8.3	9.0 - 9.5
Mancos	4274	4233	Sh	-		9.0 - 9.5
Mancos Silt	4578	4533	Slt	O/G	6.6	9.0 - 9.5
Gallup A	5095	5025	Slt	O/G	6.6	9.0 - 9.5
Gallup B	5148	5068	Sd	O/G	6.6	8.8 - 9.0
Gallup C	5277	5160	Sd	O/G	6.6	8.8 - 9.0
Target	5728	5310	Sd	O/G	6.6	8.8 - 9.0

Casing Program

Casing OD	Hole Size	Weight (#/ft)	Grade	Coupling	MD Top	MD Bottom	TVD Top	TVD Bottom	Top of Cement
9-5/8"	12-1/4"	36	K-55	STC	surf	380	surf	380	surface
7"	8-3/4"	26	K-55	LTC	surf	5669	surf	5308	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5389	15228	5224	5264	5389

Note: all casing will be new

Rev 3



Casing Design Load Cases

		Casing String		
Description		9-5/8" Surface	7" Intermediate	4-1/2" Production Liner
Collapse	Full internal evacuation ¹	✓	✓	✓
	Cementing	✓	✓	✓
Burst	Pressure test	✓ ²	✓ ²	✓
	Gas kick		✓ ³	
	Fracture at shoe, 1/3 BHP at surface		✓ ⁴	
	Injection down casing			✓ ⁵
Axial	Dynamic load on casing coupling ⁶	✓	✓	✓
Axial	Overpull ⁷	✓	✓	✓

Note

- 1 Fluid level at shoe, air column to surface, pore pressure outside
- 2 Tested to 80% of minimum internal yield with freshwater inside, pore pressure outside
- 3 50 bbl kick at TD, 0.50 ppg intensity, 4" drill pipe, 9.0 ppg mud, fracture gradient at shoe
- 4 2060 psi BHP, 687 psi surface pressure, 12.5 ppg EMW shoe integrity
- 5 Surface stimulation pressure of 8000 psi on 8.3 ppg fluid column. Stimulation will be down frac string, so load does not apply to 7" intermediate casing.
- 6 Shock load from abrupt pipe deceleration, evaluated against coupling rating
- 7 Overpull values as follows: Surface casing 20,000 lbs, Intermediate & Production 100,000 lbs

Casing Design Factors

		Design Factors			
Casing string	Casing OD	Burst	Collapse	Axial	Triaxial
Surface	9-5/8"	1.25	13.38	8.16	1.56
Intermediate	7"	1.25	1.50	1.68	1.34
Production liner	4-1/2"	1.37	3.68	1.88	1.69

Cement Design

9-5/8" Surface Casing

	Lead
Name	Redi-Mix
Type	I-II
Planned top	Surface
Density (ppg)	14.50
Yield (cf/sx)	1.61
Mix water (gal/sx)	7.41
Volume (sx)	114
Volume (bbls)	33
Volume (cu. ft.)	185
Excess %	50

7" Intermediate Casing

	Lead	Tail
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	4284-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	417	222
Volume (bbls)	174	59
Volume (cu.ft.)	975	332
Excess %	55	55



Rev 3

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5389-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	827
Volume (bbls)	230
Volume (cu.ft)	1293
Excess %	40

Wellhead & Pressure Control

The well head will be an 11" 5M multi-bowl system. A 3M BOPE conforming to Onshore Order #2 will be installed on the surface casing. The BOP and accumulator will meet API 16D and 16E respectively.

A PVT mud monitoring system and a trip tank will be rigged up and operational for all hole intervals. An electronic geolograph will be employed to monitor and record drilling data (ROP, WOB, SPM, Pressure, RPM and torque).

Mud Program

Surface hole will be drilled with a fresh water, native mud system. In intermediate hole, a low weight 7% KCl LSND drilling fluid will be used, with KCl providing chemical stability for the young shales and clays present in the interval. In production hole a LSND system with polymer and lubricant additives is programmed. Sufficient drill water and mud additives will be on hand to maintain adequate pit volumes and maintain well control.

Hole Section	Fluid type	Interval (MD)	Density (ppg)	Funnel Viscosity	Yield Point	Fluid Loss (cc/30 min)
Surface	Fresh water spud mud	0 – 380	8.4 – 8.8	32 – 44	2 – 12	NC
Intermediate	7% KCl Low solids, non-dispersed	380 – 5669	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5669 – 15228	8.8 – 9.2	34 – 38	6 – 8	6 – 8

Cores, tests and logs

Wellbore surveying: Drift (inclination only) surveys will be obtained in surface hole. MWD directional surveys will be taken in intermediate and production hole.

Logging while drilling: None in surface hole. MWD GR in intermediate and production hole.

Mud logging: a two-person mud logging unit with C1 – C4 gas analysis will be operational in intermediate and production hole.

Electric logging: No open hole electric logs are programmed. A cased hole GR/CCL will be run during completions for perforating depth control.

Cuttings and drilling fluids management

A closed loop, steel tank-based circulating system will be used. In addition to the rig solids control equipment, a dewatering centrifuge and chemical flocculation system will be operational to strip solids from the whole mud. All solids will be collected in 3-sided bins and will then be put into transports with a bucket loader. Drying agents will be used if necessary. The solids will be taken to a licensed commercial disposal facility. Whole mud will be dewatered back to drill water and used as make up for subsequent wells or hauled off for disposal. A diagram of the closed loop system is included.

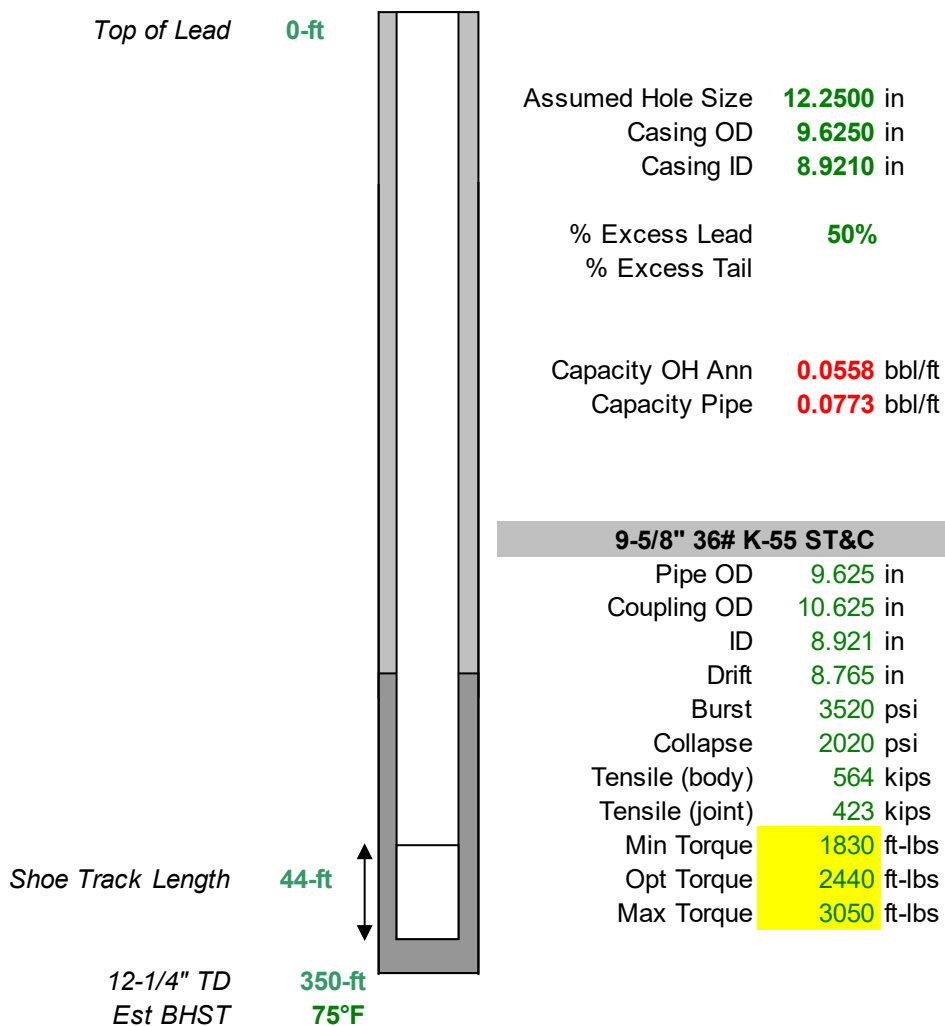
Completion

It is envisioned that this well will be completed with a multi-stage sand frac, using the plug and perf technique. After drilling out the plugs, the current plan is to install a 2-7/8" plunger-assisted gas lift tubing string. The stimulation and completion plan will be sundried at a later date.

Rev 3



9-5/8" Surface Casing & Cementing



Lead Slurry

Properties

Redi Mix Type I/ii	Density	14.50 ppg
20% Fly Ash	Yield	1.61 cf/sk
	Total Mix Fluid	7.41 gal/sk
	Est pump time (70Bc)	NA
	8-hr compressive	475 psi
	24-hr compressive	1375 psi

Tail Slurry

Properties

None	Density	ppg
	Yield	cf/sk
	Total Mix Fluid	gal/sk
	Est pump time (70Bc)	
	50 psi strength in	
	24/72 hr strength	psi

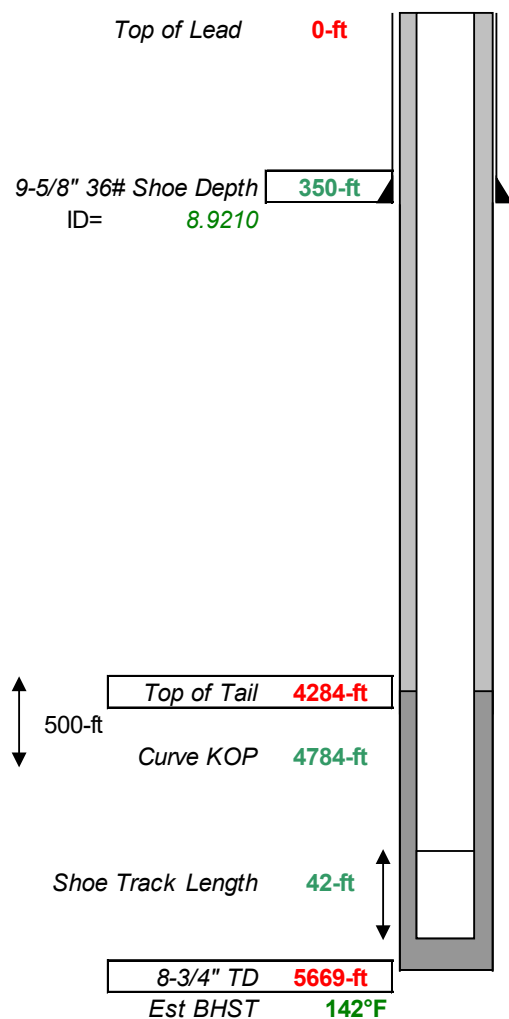
Volumes

Lead Volume	33 bbls	114 sx
Tail Volume	bbls	sx
Displacement	24 bbls	
Total Volume	56 bbls	

Rev 3



7" Intermediate Casing & Cementing Bettonie Tsosie 110H



Assumed Hole Size Lead	8.7500	in
Assumed Hole Size Tail	8.7500	in
Casing OD	7.0000	in
Casing ID	6.2760	in

% OH Excess Lead	55%
% OH Excess Tail	55%

Capacity CH Ann	0.0297	bbl/ft
Capacity OH Ann Lead	0.0268	bbl/ft
Capacity OH Ann Tail	0.0268	bbl/ft
Capacity Pipe	0.0383	bbl/ft

7" 26# K-55 LT&C

Pipe OD	7.000	in
Weight	26	lbs/ft
Grade	K-55	
Coupling	LTC	
Coupling OD	7.656	in
ID	6.276	in
Drift	6.151	in
Burst	4980	psi
Collapse	4320	psi
Tensile (body)	415	kips
Tensile (joint)	401	kips
Min Torque	3008	ft-lbs
Opt Torque	4010	ft-lbs
Max Torque	5013	ft-lbs

BJ Lead Slurry

Properties	
Type III	Density 12.30 ppg
BA-90 5 lb/sx%	Yield 2.3404 cf/sk
KCI 3.00%	Total Mix Fluid 13.26 gal/sk
GW-86 0.10%	Thickening Time 3:11 hr:min
FL-66 0.20%	Time to 50 psi (80°F) 5:10 hr:min
R-3 0.50%	24-hr UCA (80°F) 659 psi
FP-25 0.30%	

BJ Tail Slurry

Properties	
G+Pozz 50:50	Density 13.50 ppg
BA-90 3 lb/sx	Yield 1.4946 cf/sk
FL-66 0.40%	Total Mix Fluid 7.24 gal/sk
FP-25 0.30%	Thickening Time 3:26 hr:min
Sod. Met 0.50%	Time to 50 psi (135°F) 2:55 hr:min
Gyp 3.00%	Time to 500 psi (135°F) 6:40 hr:min

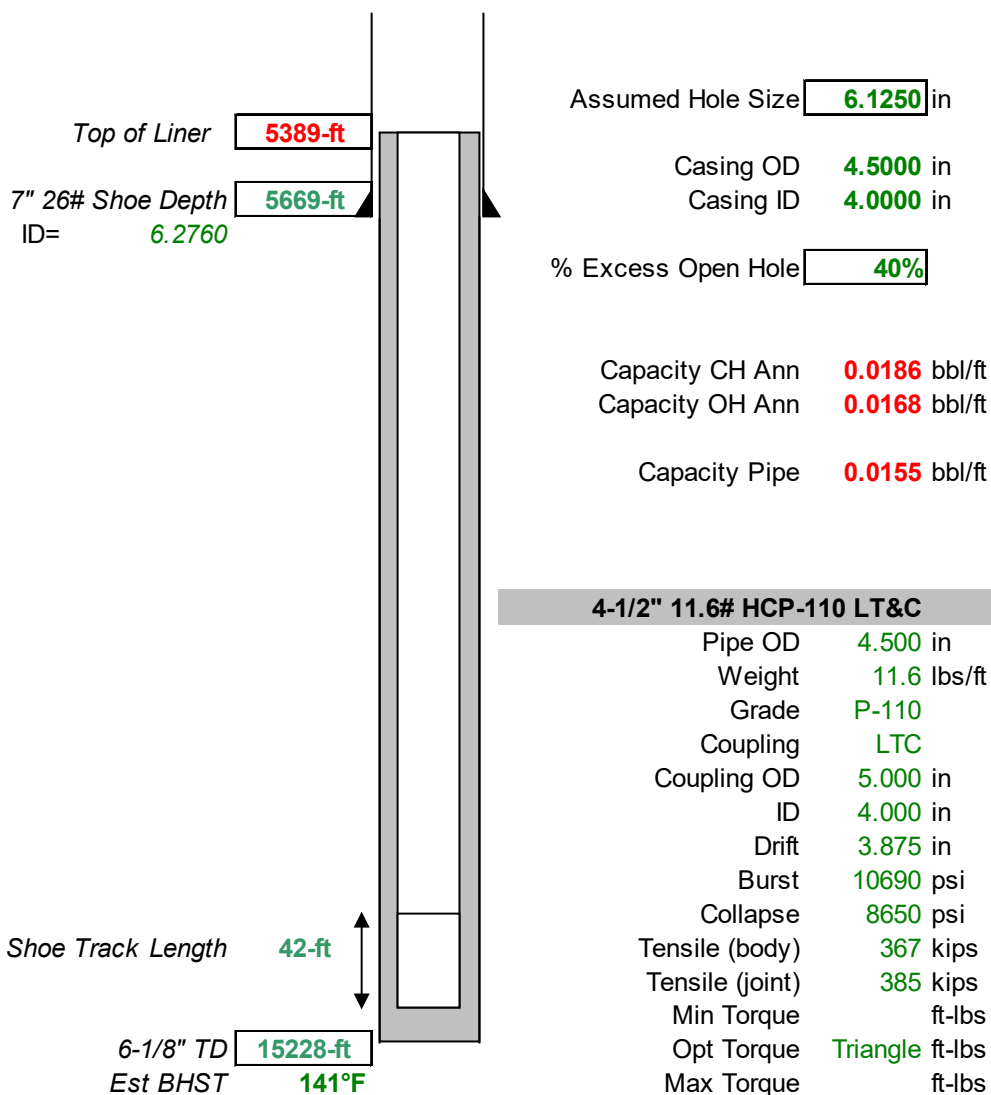
Volumes

Lead Volume	174 bbls	417 sx
Tail Volume	59 bbls	222 sx
Approx Displacement	215 bbls	
Total Volume	448 bbls	

Rev 3



4-1/2" Liner Cementing Bettonie Tsosie 110H



BJ Lead Slurry		Properties	
G+Pozz	50:50	Density	13.30 ppg
BA-90	3 lb/sx	Yield	1.5629 cf/sk
GW-86	0.10%	Total Mix Fluid	7.70 gal/sk
R-3	0.40%	Thickening Time	6:04 hr:min
FP-25	30.00%	Time to 50 psi (147°F)	7:15 hr:min
FL-24	0.40%	24-hr UCA (147°F)	1293 psi
Gel	4.00%		
Volumes			
Lead Volume	230 bbls	827 sx	
Approx Displacement	165 bbls		
Total Volume	395 bbls		



Company: DJR Operating
Project: Betonnie Tsosie Unit
Site: I10 2308 Pad
Well: # 110H
Wellbore: Original drilling
Design: APD Rev 3

PROJECT DETAILS: Betonnie Tsosie Unit

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Local North: True



WELL DETAILS: # 110H

GL 6933' & RKB 25' @ 6958ft (Aztec 1000)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0	0	1907063.16	2773725.87	36.2409890	-107.6616250

Plan: APD Rev 3 (# 110H/Original drilling)

Created By: Janie Collins Date: 14:51, April 12 2021

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
110H heel rev 3	5310	-281	1134	1906784.17	2774860.37	36.2402170	-107.6577795
110H toe rev 3	5264	-6760	8082	1900317.52	2781819.81	36.2224157	-107.6342244

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	Target
0	0.00	0.00	0	0	0	0.00	0.00	0	
430	0.00	0.00	430	0	0	0.00	0.00	0	
867	8.74	80.66	865	5	33	2.00	80.66	22	
4784	8.74	80.66	4737	102	620	0.00	0.00	410	
5728	90.28	133.00	5310	-281	1134	9.00	52.63	1050	110H heel rev 3
15228	90.28	133.00	5264	-6760	8082	0.00	0.00	10536	110H toe rev 3



Azimuths to True North
Magnetic North: 8

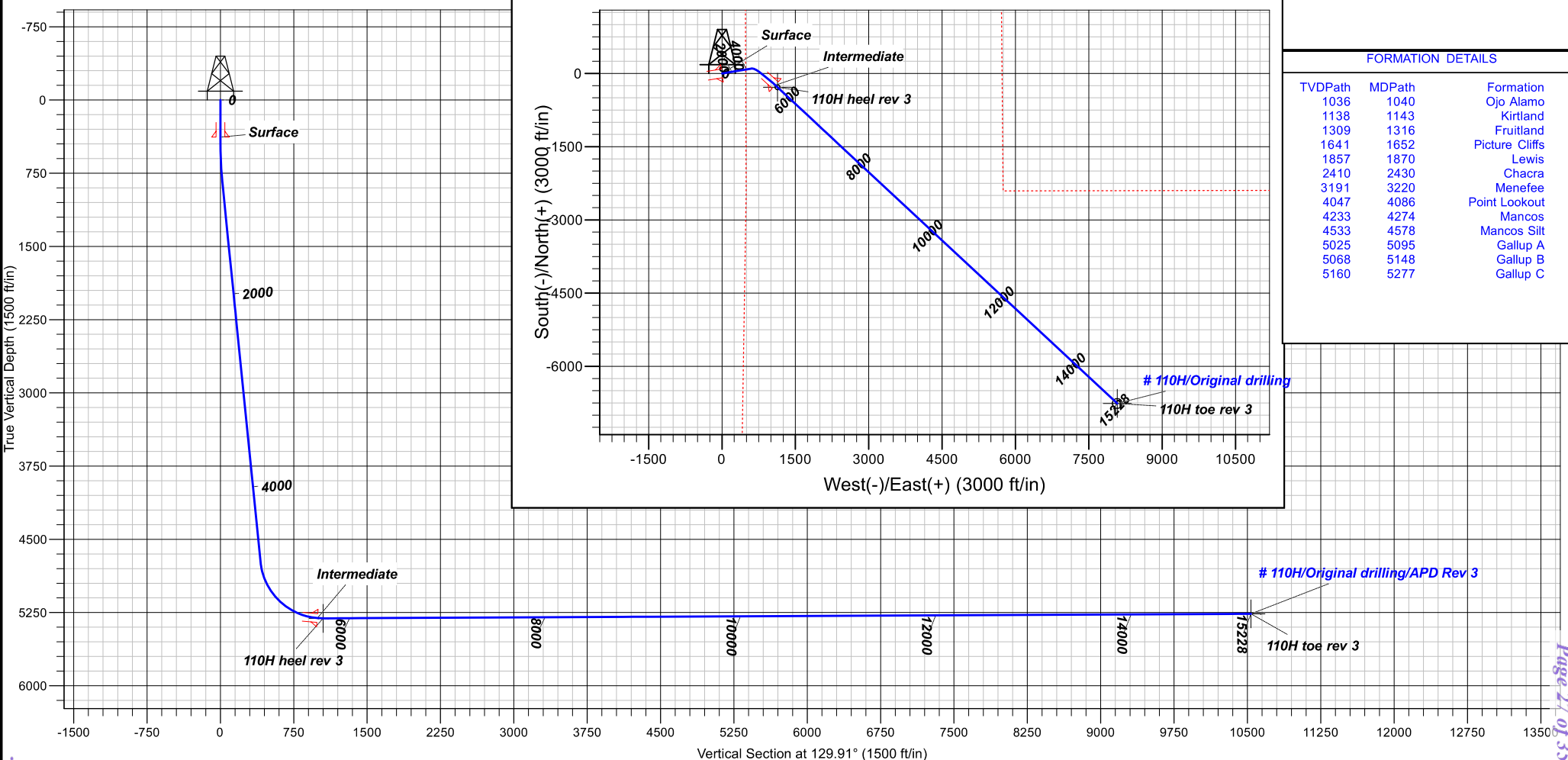
Magnetic Field
Strength: 49268
Dip Angle: 62
Date: 1/21/2021
Model: HDGM2021_FIT

CASING DETAILS

TVD	MD	Na
380	380	Surface
5308	5669	Intermediate

FORMATION DETAILS

TVDPATH	MDPATH	FORMATION
1036	1040	Ojo Alamo
1138	1143	Kirtland
1309	1316	Fruitland
1641	1652	Picture Cliffs
1857	1870	Lewis
2410	2430	Chacra
3191	3220	Menefee
4047	4086	Point Lookout
4233	4274	Mancos
4533	4578	Mancos Silt
5025	5095	Gallup A
5068	5148	Gallup B
5160	5277	Gallup C





DJR Operating

Bettonie Tsosie Unit

I10 2308 Pad

110H

Original drilling

Plan: APD Rev 3

Standard Planning Report

12 April, 2021





Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 110H
Company:	DJR Operating	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Project:	Betonne Tsoie Unit	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site:	I10 2308 Pad	North Reference:	True
Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD Rev 3		

Project	Betonne Tsoie Unit		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	I10 2308 Pad			
Site Position:		Northing:	1,907,115.89 usft	Latitude: 36.2411340
From:	Lat/Long	Easting:	2,773,697.18 usft	Longitude: -107.6617220
Position Uncertainty:	0 ft	Slot Radius:	13.20 in	Grid Convergence: 0.10 °

Well	# 110H			
Well Position	+N/-S	-53 ft	Northing:	1,907,063.16 usft
	+E/-W	29 ft	Easting:	2,773,725.88 usft
Position Uncertainty		0 ft	Wellhead Elevation:	Ground Level: 6933 ft

Wellbore	Original drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021_FILE	1/21/2021	8.62	62.75	49,268.30000000

Design	APD Rev 3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0	0	0	129.91

Plan Survey Tool Program	Date	4/12/2021		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0	15,228	APD Rev 3 (Original drilling)	MWD+IGRF
				OWSG MWD + IGRF or WMM

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0	0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	
430	0.00	0.00	430	0	0	0.00	0.00	0.00	0.00	
867	8.74	80.66	865	5	33	2.00	2.00	0.00	80.66	
4784	8.74	80.66	4737	102	620	0.00	0.00	0.00	0.00	
5728	90.28	133.00	5310	-281	1134	9.00	8.64	5.55	52.63	110H heel rev 3
15,228	90.28	133.00	5264	-6760	8082	0.00	0.00	0.00	0.00	110H toe rev 3



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 110H
Company:	DJR Operating	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Project:	Betonne Tsoie Unit	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site:	I10 2308 Pad	North Reference:	True
Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD Rev 3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0	0.00	0.00	0	0	0	0	0.00	0.00	0.00
100	0.00	0.00	100	0	0	0	0.00	0.00	0.00
200	0.00	0.00	200	0	0	0	0.00	0.00	0.00
300	0.00	0.00	300	0	0	0	0.00	0.00	0.00
400	0.00	0.00	400	0	0	0	0.00	0.00	0.00
430	0.00	0.00	430	0	0	0	0.00	0.00	0.00
500	1.40	80.66	500	0	1	1	2.00	2.00	0.00
600	3.40	80.66	600	1	5	3	2.00	2.00	0.00
700	5.40	80.66	700	2	13	8	2.00	2.00	0.00
800	7.40	80.66	799	4	24	16	2.00	2.00	0.00
867	8.74	80.66	865	5	33	22	2.00	2.00	0.00
900	8.74	80.66	898	6	38	25	0.00	0.00	0.00
1000	8.74	80.66	997	9	53	35	0.00	0.00	0.00
1100	8.74	80.66	1096	11	68	45	0.00	0.00	0.00
1200	8.74	80.66	1194	14	83	55	0.00	0.00	0.00
1300	8.74	80.66	1293	16	98	65	0.00	0.00	0.00
1400	8.74	80.66	1392	19	113	75	0.00	0.00	0.00
1500	8.74	80.66	1491	21	128	85	0.00	0.00	0.00
1600	8.74	80.66	1590	23	143	94	0.00	0.00	0.00
1700	8.74	80.66	1689	26	158	104	0.00	0.00	0.00
1800	8.74	80.66	1787	28	173	114	0.00	0.00	0.00
1900	8.74	80.66	1886	31	188	124	0.00	0.00	0.00
2000	8.74	80.66	1985	33	203	134	0.00	0.00	0.00
2100	8.74	80.66	2084	36	218	144	0.00	0.00	0.00
2200	8.74	80.66	2183	38	233	154	0.00	0.00	0.00
2300	8.74	80.66	2282	41	248	164	0.00	0.00	0.00
2400	8.74	80.66	2380	43	263	174	0.00	0.00	0.00
2500	8.74	80.66	2479	46	278	184	0.00	0.00	0.00
2600	8.74	80.66	2578	48	293	194	0.00	0.00	0.00
2700	8.74	80.66	2677	51	308	204	0.00	0.00	0.00
2800	8.74	80.66	2776	53	323	213	0.00	0.00	0.00
2900	8.74	80.66	2875	56	338	223	0.00	0.00	0.00
3000	8.74	80.66	2974	58	353	233	0.00	0.00	0.00
3100	8.74	80.66	3072	61	368	243	0.00	0.00	0.00
3200	8.74	80.66	3171	63	383	253	0.00	0.00	0.00
3300	8.74	80.66	3270	65	398	263	0.00	0.00	0.00
3400	8.74	80.66	3369	68	413	273	0.00	0.00	0.00
3500	8.74	80.66	3468	70	428	283	0.00	0.00	0.00
3600	8.74	80.66	3567	73	443	293	0.00	0.00	0.00
3700	8.74	80.66	3665	75	458	303	0.00	0.00	0.00
3800	8.74	80.66	3764	78	473	313	0.00	0.00	0.00
3900	8.74	80.66	3863	80	488	323	0.00	0.00	0.00
4000	8.74	80.66	3962	83	503	333	0.00	0.00	0.00
4100	8.74	80.66	4061	85	518	342	0.00	0.00	0.00
4200	8.74	80.66	4160	88	533	352	0.00	0.00	0.00
4300	8.74	80.66	4258	90	548	362	0.00	0.00	0.00
4400	8.74	80.66	4357	93	563	372	0.00	0.00	0.00
4500	8.74	80.66	4456	95	578	382	0.00	0.00	0.00
4600	8.74	80.66	4555	98	593	392	0.00	0.00	0.00
4700	8.74	80.66	4654	100	608	402	0.00	0.00	0.00
4784	8.74	80.66	4737	102	620	410	0.00	0.00	0.00
4800	9.69	87.48	4753	102	623	412	9.00	5.88	42.61
4900	17.20	109.81	4850	98	645	432	9.00	7.51	22.33
5000	25.67	118.30	4943	82	678	467	9.00	8.47	8.49



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 110H
Company:	DJR Operating	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Project:	Betonnies Tsosie Unit	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site:	I10 2308 Pad	North Reference:	True
Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD Rev 3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5100	34.40	122.73	5029	57	721	517	9.00	8.73	4.43
5200	43.22	125.53	5107	22	773	579	9.00	8.83	2.80
5300	52.10	127.53	5174	-22	832	653	9.00	8.88	2.00
5400	61.01	129.10	5230	-74	898	736	9.00	8.90	1.57
5500	69.93	130.42	5271	-132	967	827	9.00	8.92	1.32
5600	78.86	131.59	5298	-195	1040	923	9.00	8.93	1.18
5700	87.79	132.70	5310	-262	1114	1022	9.00	8.93	1.10
5728	90.28	133.00	5310	-281	1134	1050	9.00	8.93	1.09
5800	90.28	133.00	5310	-330	1187	1122	0.00	0.00	0.00
5900	90.28	133.00	5309	-398	1260	1222	0.00	0.00	0.00
6000	90.28	133.00	5309	-467	1333	1322	0.00	0.00	0.00
6100	90.28	133.00	5308	-535	1406	1422	0.00	0.00	0.00
6200	90.28	133.00	5308	-603	1479	1522	0.00	0.00	0.00
6300	90.28	133.00	5307	-671	1552	1621	0.00	0.00	0.00
6400	90.28	133.00	5307	-739	1626	1721	0.00	0.00	0.00
6500	90.28	133.00	5306	-808	1699	1821	0.00	0.00	0.00
6600	90.28	133.00	5306	-876	1772	1921	0.00	0.00	0.00
6700	90.28	133.00	5305	-944	1845	2021	0.00	0.00	0.00
6800	90.28	133.00	5305	-1012	1918	2121	0.00	0.00	0.00
6900	90.28	133.00	5304	-1080	1991	2221	0.00	0.00	0.00
7000	90.28	133.00	5304	-1149	2064	2320	0.00	0.00	0.00
7100	90.28	133.00	5303	-1217	2138	2420	0.00	0.00	0.00
7200	90.28	133.00	5303	-1285	2211	2520	0.00	0.00	0.00
7300	90.28	133.00	5302	-1353	2284	2620	0.00	0.00	0.00
7400	90.28	133.00	5302	-1421	2357	2720	0.00	0.00	0.00
7500	90.28	133.00	5301	-1490	2430	2820	0.00	0.00	0.00
7600	90.28	133.00	5301	-1558	2503	2920	0.00	0.00	0.00
7700	90.28	133.00	5300	-1626	2576	3019	0.00	0.00	0.00
7800	90.28	133.00	5300	-1694	2649	3119	0.00	0.00	0.00
7900	90.28	133.00	5299	-1762	2723	3219	0.00	0.00	0.00
8000	90.28	133.00	5299	-1831	2796	3319	0.00	0.00	0.00
8100	90.28	133.00	5299	-1899	2869	3419	0.00	0.00	0.00
8200	90.28	133.00	5298	-1967	2942	3519	0.00	0.00	0.00
8300	90.28	133.00	5298	-2035	3015	3619	0.00	0.00	0.00
8400	90.28	133.00	5297	-2103	3088	3718	0.00	0.00	0.00
8500	90.28	133.00	5297	-2172	3161	3818	0.00	0.00	0.00
8600	90.28	133.00	5296	-2240	3235	3918	0.00	0.00	0.00
8700	90.28	133.00	5296	-2308	3308	4018	0.00	0.00	0.00
8800	90.28	133.00	5295	-2376	3381	4118	0.00	0.00	0.00
8900	90.28	133.00	5295	-2444	3454	4218	0.00	0.00	0.00
9000	90.28	133.00	5294	-2513	3527	4317	0.00	0.00	0.00
9100	90.28	133.00	5294	-2581	3600	4417	0.00	0.00	0.00
9200	90.28	133.00	5293	-2649	3673	4517	0.00	0.00	0.00
9300	90.28	133.00	5293	-2717	3746	4617	0.00	0.00	0.00
9400	90.28	133.00	5292	-2785	3820	4717	0.00	0.00	0.00
9500	90.28	133.00	5292	-2854	3893	4817	0.00	0.00	0.00
9600	90.28	133.00	5291	-2922	3966	4917	0.00	0.00	0.00
9700	90.28	133.00	5291	-2990	4039	5016	0.00	0.00	0.00
9800	90.28	133.00	5290	-3058	4112	5116	0.00	0.00	0.00
9900	90.28	133.00	5290	-3126	4185	5216	0.00	0.00	0.00
10,000	90.28	133.00	5289	-3195	4258	5316	0.00	0.00	0.00
10,100	90.28	133.00	5289	-3263	4332	5416	0.00	0.00	0.00
10,200	90.28	133.00	5288	-3331	4405	5516	0.00	0.00	0.00
10,300	90.28	133.00	5288	-3399	4478	5616	0.00	0.00	0.00



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 110H
Company:	DJR Operating	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Project:	Betonne Tsoie Unit	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site:	I10 2308 Pad	North Reference:	True
Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD Rev 3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,400	90.28	133.00	5287	-3467	4551	5715	0.00	0.00	0.00	
10,500	90.28	133.00	5287	-3536	4624	5815	0.00	0.00	0.00	
10,600	90.28	133.00	5286	-3604	4697	5915	0.00	0.00	0.00	
10,700	90.28	133.00	5286	-3672	4770	6015	0.00	0.00	0.00	
10,800	90.28	133.00	5285	-3740	4844	6115	0.00	0.00	0.00	
10,900	90.28	133.00	5285	-3808	4917	6215	0.00	0.00	0.00	
11,000	90.28	133.00	5284	-3877	4990	6315	0.00	0.00	0.00	
11,100	90.28	133.00	5284	-3945	5063	6414	0.00	0.00	0.00	
11,200	90.28	133.00	5284	-4013	5136	6514	0.00	0.00	0.00	
11,300	90.28	133.00	5283	-4081	5209	6614	0.00	0.00	0.00	
11,400	90.28	133.00	5283	-4149	5282	6714	0.00	0.00	0.00	
11,500	90.28	133.00	5282	-4218	5355	6814	0.00	0.00	0.00	
11,600	90.28	133.00	5282	-4286	5429	6914	0.00	0.00	0.00	
11,700	90.28	133.00	5281	-4354	5502	7014	0.00	0.00	0.00	
11,800	90.28	133.00	5281	-4422	5575	7113	0.00	0.00	0.00	
11,900	90.28	133.00	5280	-4490	5648	7213	0.00	0.00	0.00	
12,000	90.28	133.00	5280	-4559	5721	7313	0.00	0.00	0.00	
12,100	90.28	133.00	5279	-4627	5794	7413	0.00	0.00	0.00	
12,200	90.28	133.00	5279	-4695	5867	7513	0.00	0.00	0.00	
12,300	90.28	133.00	5278	-4763	5941	7613	0.00	0.00	0.00	
12,400	90.28	133.00	5278	-4831	6014	7712	0.00	0.00	0.00	
12,500	90.28	133.00	5277	-4899	6087	7812	0.00	0.00	0.00	
12,600	90.28	133.00	5277	-4968	6160	7912	0.00	0.00	0.00	
12,700	90.28	133.00	5276	-5036	6233	8012	0.00	0.00	0.00	
12,800	90.28	133.00	5276	-5104	6306	8112	0.00	0.00	0.00	
12,900	90.28	133.00	5275	-5172	6379	8212	0.00	0.00	0.00	
13,000	90.28	133.00	5275	-5240	6452	8312	0.00	0.00	0.00	
13,100	90.28	133.00	5274	-5309	6526	8411	0.00	0.00	0.00	
13,200	90.28	133.00	5274	-5377	6599	8511	0.00	0.00	0.00	
13,300	90.28	133.00	5273	-5445	6672	8611	0.00	0.00	0.00	
13,400	90.28	133.00	5273	-5513	6745	8711	0.00	0.00	0.00	
13,500	90.28	133.00	5272	-5581	6818	8811	0.00	0.00	0.00	
13,600	90.28	133.00	5272	-5650	6891	8911	0.00	0.00	0.00	
13,700	90.28	133.00	5271	-5718	6964	9011	0.00	0.00	0.00	
13,800	90.28	133.00	5271	-5786	7038	9110	0.00	0.00	0.00	
13,900	90.28	133.00	5270	-5854	7111	9210	0.00	0.00	0.00	
14,000	90.28	133.00	5270	-5922	7184	9310	0.00	0.00	0.00	
14,100	90.28	133.00	5269	-5991	7257	9410	0.00	0.00	0.00	
14,200	90.28	133.00	5269	-6059	7330	9510	0.00	0.00	0.00	
14,300	90.28	133.00	5268	-6127	7403	9610	0.00	0.00	0.00	
14,400	90.28	133.00	5268	-6195	7476	9710	0.00	0.00	0.00	
14,500	90.28	133.00	5268	-6263	7550	9809	0.00	0.00	0.00	
14,600	90.28	133.00	5267	-6332	7623	9909	0.00	0.00	0.00	
14,700	90.28	133.00	5267	-6400	7696	10,009	0.00	0.00	0.00	
14,800	90.28	133.00	5266	-6468	7769	10,109	0.00	0.00	0.00	
14,900	90.28	133.00	5266	-6536	7842	10,209	0.00	0.00	0.00	
15,000	90.28	133.00	5265	-6604	7915	10,309	0.00	0.00	0.00	
15,100	90.28	133.00	5265	-6673	7988	10,409	0.00	0.00	0.00	
15,200	90.28	133.00	5264	-6741	8061	10,508	0.00	0.00	0.00	
15,228	90.28	133.00	5264	-6760	8082	10,536	0.00	0.00	0.00	



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 110H
Company:	DJR Operating	TVD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Project:	Betonne Tsose Unit	MD Reference:	GL 6933' & RKB 25' @ 6958ft (Aztec 1000)
Site:	I10 2308 Pad	North Reference:	True
Well:	# 110H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD Rev 3		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
110H toe rev 3	0.00	0.00	5264	-6760	8082	1,900,317.52	2,781,819.81	36.2224157	-107.6342244
- plan hits target center									
- Circle (radius 100)									
110H heel rev 3	0.00	0.00	5310	-281	1134	1,906,784.17	2,774,860.37	36.2402170	-107.6577795
- plan hits target center									
- Circle (radius 50)									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)	Name		(in)	(in)
380	380	Surface		9.63	12.25
5669	5308	Intermediate		7.00	8.75

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)	Name	Lithology	(°)	(°)
1040	1036	Ojo Alamo		0.00	0.00
1143	1138	Kirtland		0.00	0.00
1316	1309	Fruitland		0.00	0.00
1652	1641	Picture Cliffs		0.00	0.00
1870	1857	Lewis		0.00	0.00
2430	2410	Chacra		0.00	0.00
3220	3191	Menefee		0.00	0.00
4086	4047	Point Lookout		0.00	0.00
4274	4233	Mancos		0.00	0.00
4578	4533	Mancos Silt		0.00	0.00
5095	5025	Gallup A		0.00	0.00
5148	5068	Gallup B		0.00	0.00
5277	5160	Gallup C		0.00	0.00

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
4750	4726	-223	392	KOP	
5473	5261	-501	716	Top of liner	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
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Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 28231

COMMENTS

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM 87410	OGRID: 371838
	Action Number: 28231
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 5/17/2021	5/17/2021

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	Action Number: 28231
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CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	5/17/2021