

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico

Form C-101
Revised July 18, 2013

Energy Minerals and Natural Resources

Oil Conservation Division

☐ AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Northwind Midstream Partners, LLC 811 Louisiana Street, Suite 2500; Houston, TX 77002		² OGRID Number 331501
		³ API Number
⁴ Property Code	⁵ Property Name SALT CREEK AGI	⁶ Well No. 2

⁷ Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
E	21	26-S	36-E		2512	NORTH	311	WEST	LEA

⁸ Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
L	21	26-S	36-E		1455	SOUTH	842	WEST	LEA

⁹ Pool Information

Pool Name	Pool Code
AGI, DEVONIAN-FUSSELMAN	97834

Additional Well Information

¹¹ Work Type N	¹² Well Type I	¹³ Cable/Rotary R	¹⁴ Lease Type P	¹⁵ Ground Level Elevation 2930'
¹⁶ Multiple NO	¹⁷ Proposed Depth 18,650'	¹⁸ Formation FUSSELMAN	¹⁹ Contractor	²⁰ Spud Date AUG 1, 2024
Depth to Ground water APPROX. 175'		Distance from nearest fresh water well 0.57 mi		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits²¹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	26"	24"	186.4	2,080'	1,500	Surface
Intermediate	22"	20"	133	3,700'	1,430	Surface
Intermediate	17.5"	13.625"	88.2	5,325'	1,679	Surface
Intermediate	12.25"	9.625"	47	11,924'	774 bbls*	Surface
Production	8.5"	7"	32	17,634'	514 bbls*	Surface

Casing/Cement Program: Additional Comments

Production and 3rd Intermediate utilize corrosion-resistant casing and/or cement slurries. See attached well schematic for complete details.

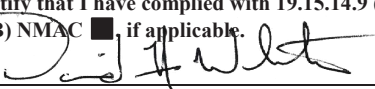
²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5,000	4,500	
Double Ram	10,000	9,500	

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I further certify that I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.

Signature:



Printed name: David A. White, P.G.

Title: Consultant to Northwind Midstream

E-mail Address: dwhite@geolex.com

Date: July 22, 2024

Phone: (505)842-8000

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date:

Expiration Date:

Conditions of Approval Attached

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
		98335	AGI; DELAWARE
Property Code	Property Name		Well Number
326981	SALT CREEK AGI		#2
OGRID No.	Operator Name		Elevation
373554	NORTHWIND MIDSTREAM PARTNERS, LLC		2930'

Surface Location

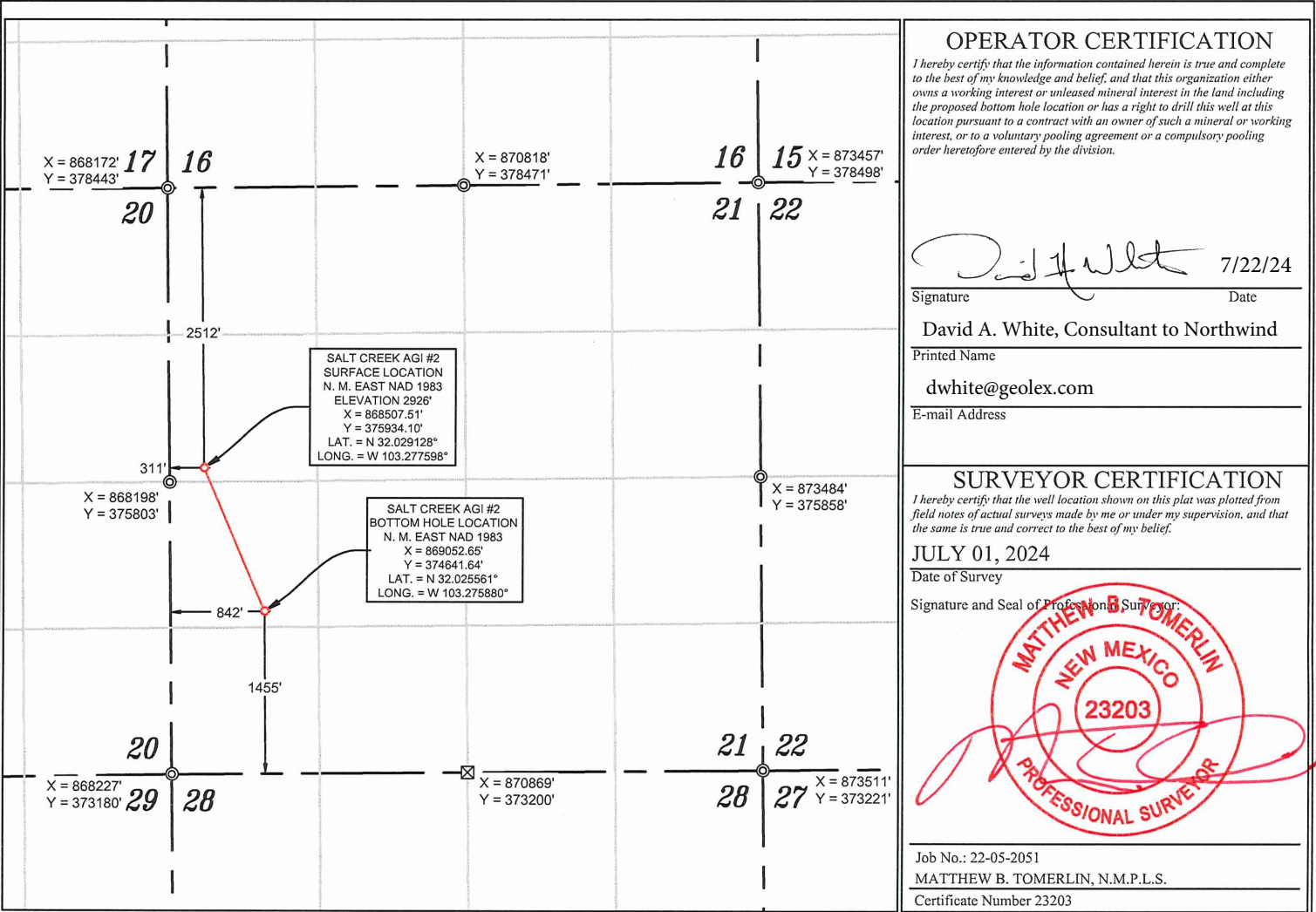
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	21	26 S	36 E		2512	NORTH	311	WEST	LEA

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
L	21	26 S	36 E		1455	SOUTH	842	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

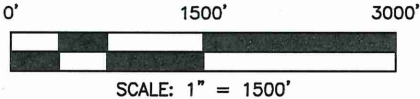
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



NAD 83 (SHL) 2752' FSL & 311' FWL
LATITUDE = 32.029128°
LONGITUDE = 103.277598°
NAD 27 (SHL)
LATITUDE = 32.029000°
LONGITUDE = 103.277141°
STATE PLANE NAD 83 (N.M. EAST)
N: 375934.10' E: 868507.51'
STATE PLANE NAD 27 (N.M. EAST)
N: 375876.59' E: 827318.96'

NAD 83 (BHL) 1455' FSL & 842' FWL
LATITUDE = 32.025561°
LONGITUDE = 103.275880°
NAD 27 (BHL)
LATITUDE = 32.025433°
LONGITUDE = 103.275424°
STATE PLANE NAD 83 (N.M. EAST)
N: 374641.64' E: 869052.65'
STATE PLANE NAD 27 (N.M. EAST)
N: 374584.17' E: 827864.05'

- © FND. U.S.G.L.O. MON. UNLESS OTHERWISE NOTED
- ☒ CALC. CORNER
- SHL/ KOP/ FTP / PPP/ LTP / BHL
- ▨ STATE OIL & GAS LEASE
- ▨ BLM OIL & GAS LEASE
- ▨ HORIZONTAL SPACING UNIT



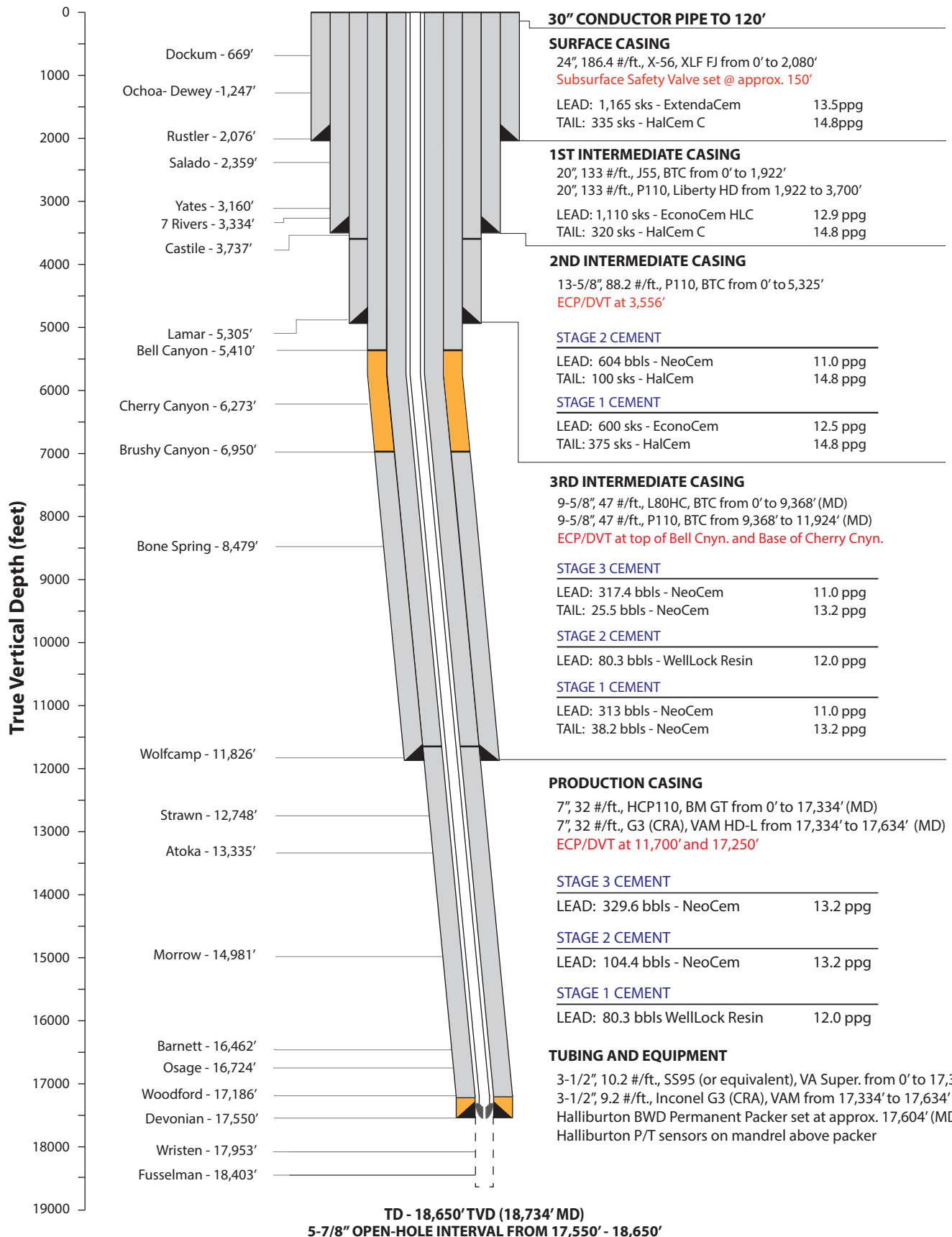
- NOTES
1. ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001).
2. THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING JULY, 2024. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS EASEMENT IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.
3. ELEVATIONS NAVD88, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.

ATTACHMENT A

PROPOSED WELL BORE DIAGRAM SALT CREEK AGI #2



DEVIATED WELL SCHEMATIC SALT CREEK AGI #2 (S21, T26S, R36E)

GEOLEX
INCORPORATED


All depths are approximate and subject to change based on drilling and geology encountered

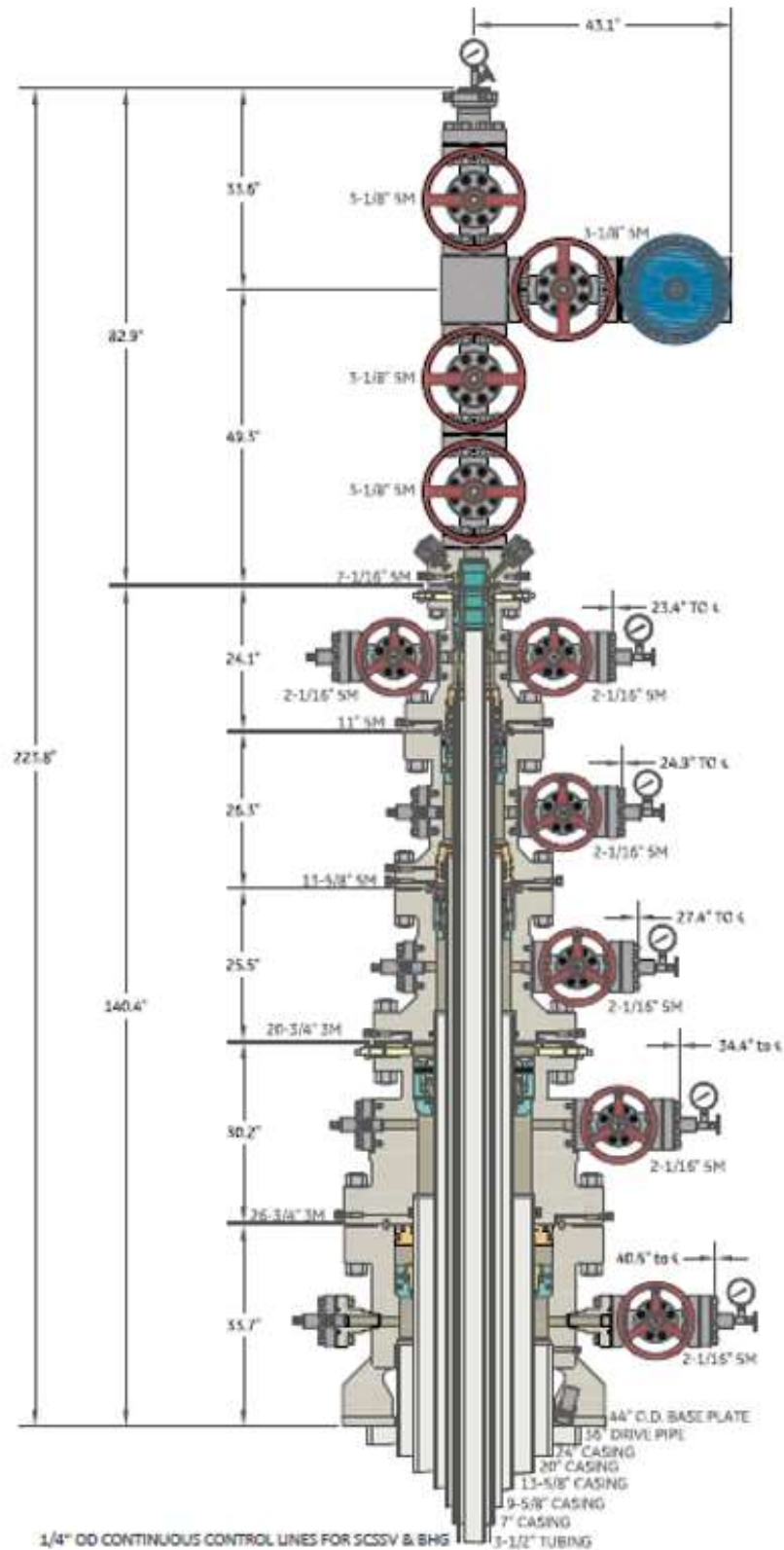
Revision 07/17/2024

ATTACHMENT B

EXAMPLE DRILLING PROGRAM SALT CREEK AGI #2

Drilling Program-Rev 2
Permian Oilfield Partners LLC
Northwind Midstream – Salt Creek AGI #2

API # TBD
NMOCD UIC Order #SWD-2580
Sec. 21, Twp. 26S, Rge 36E
Lea County, NM
SHL: Lat 32.029128, Lon -103.277598
BHL: Lat 32.025561, Lon -103.275880



Operations Contacts:

Name	Position	Office	Cell	Email
Northwind Team				
Ben Ahiabor			281-382-7785	ben@nwmidstream.com
Charlie Flynn				charlie@nwmidstream.com
Eric Miller				emiller@nwmidstream.com
Paul Mueller				pmueller@muelexp.com
POP Team				
Sean Puryear	Drilling Engineer		817-600-8772	spuryear@popmidstream.com
Tyler Ledlow	Drilling Engineer		575-964-4105	tledlow@popmidstream.com
Brian Baker	Drilling Manager		432-269-8633	bbaker@popmidstream.com
Gary Fisher	Geology, Regulatory	817-606-7630 (m)	720-315-8035 (m)	gfisher@popmidstream.com
NMOCD				
Gilbert Cordero	Staff Manager- Hobbs		575-626-0830	gilbert.cordero@state.nm.us
Gary Robinson	Field Inspector- Hobbs		575-263-4507	gary.robinson@state.nm.us
Emergency		911		
Lea County Sherrif's Office		575-396-3611		
Ambulance Service		575-395-2221		
Jal Fire Dept.		575-395-2221		
Winkler Co. Memorial	Hospital, Kermit	432-586-8299		
NM State Police		575-746-2703		

Data Distribution:

Name	Email	Daily Drilling Report	Daily Mud Report	Daily Directional Report	Daily Mud Log	Final Reports	Wireline Logs	Sundry Notices
Gary Fisher	gfisher@popmidstream.com	X	X	X	X	X	X	X
Brian Baker	bbaker@popmidstream.com	X	X	X	X	X	X	X
Tyler Ledlow	tledlow@popmidstream.com	X	X	X	X	X	X	X
Sean Puryear	spuryear@popmidstream.com	X	X	X	X	X	X	X

Driving Directions

From the intersection of 3rd Street and and Hwy 128 in Jal, NM, go south 8.5 mi on 3rd Street (turns into (205, Frying Pan Rd). Turn right (west) on Beckham Rd and go 1.4 mi. **Speed is limited to 20 mph and is enforced. Do not stray off designated roads.** Turn right (north), go 0.8 mi to Saulsbury Northwind Titan Treater sign. Turn right, go 0.3 mi to east gate of gas plant. Check in with gate guard and proceed along east fence of gas plant to location. Speed limited to 5 mph inside plant.

Location Preparation

- Pad Construction:** Pad to be pre-built by Northwind.
- Road & Signage** Install T-post fence along road into location to prevent entry to existing gas plant. Ensure road is wide enough to allow truck traffic to pass in opposite directions, and that corners are large enough to allow semi-truck traffic to negotiate corner (approx. 30’ wide road, and angled on inside of corners). Install signage to direct traffic. Install well and location signage as per regulations.
- Fluid Storage:** Install 100’ x 100’ liner w/ berms in NW corner of location as per location diagram. Move in 10 fluid storage frac tanks on top of liner, manifold to East. Manifold tanks together into 2 groups of 5 tanks each. Fill assembled manifolds with fresh water to check for leaks.
- Cellar & Conductor:** 10’ dia x 12’ Deep tinhorn cellar. Drill & set 30” conductor @ 120’ (or until hit redbed).
- Conductor Hole size:** 42"
- Depth:** 100'
- Mud:** Fresh water native mud.
- Casing:** From 0' to 120' – (30" CSG)

Run 30" casing with open shoe.
- Cement:** Class A Ready Mix

Fill annulus down backside from TD to surface. Cut off casing 6” above cellar floor. Leave remnant on location for use as drilling riser.
- Wellhead:** Weld on **Capping Plate**

Vendors:

Vendor	Contact	Phone	Item
TBD			

MIRU Drilling Rig

- Drilling Rig:** MIRU TBD drilling rig. Confirm receipt of DP/DC/XO inspection reports to DS-1 Cat 4 standard. Confirm all DP S-135 grade. Confirm starting DP & DC count.
- Housing:** MIRU housing, sewer and water for company man, directional, mud & solids control personnel, and mud lab. MIRU mud logger trailer.
- Fluids & Transfer:** MIRU rental 4” transfer pump to be located on corner of liner. Build qty. 2, 4” poly lines w/ 4” Fig 100 hammer unions and bury 12” deep from edge of lined pad at transfer pump location to south end of rig mud pits. MIRU cement water frac tanks and manifold together. Fill cement water tanks with city fresh water. Fill fluid storage frac tanks 1 & 2 w/ fresh water. Fill pits with fresh water and circulate system to check for leaks.
- Solids Control:** MIRU solids control equipment & cuttings bins.
- Mud:** MIRU barite bins. Deliver fresh mud products to location as per mud program.

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

Surface Hole

Hole size: 17 ½", then ream to 27 ¼"

Depth: 2080'

Mud: Refer to attached mud program. Fresh water native spud mud. Need 28 to 36 visc. (mud weight not to exceed 9.4 ppg).

BHA #1:

1	17 ½" Bit
1	8" Bit Sub
1	17 ½" Vertical Scout
1	8" x 9 5/8" Combo Motor
1	8" Shock sub
1	8" Directional survey tool
1	17 ½" Roller Stabilizer
12	8" DC
1	XO
21	6 ½" DC
1	XO

BHA #2:

1	27 ¼" Reamer
1	8" Bit Sub
1	8" DC
1	8" Shock sub
1	8" Directional survey tool
1	25 ¾" 4 blade stabilizer
11	8" DC
1	XO
21	6 ½" DC
1	XO

Shaker Screens: 120's

Tubulars:

Item type	Casing	Drill Pipe
Size	24"	5"
Weight (#/ft)	186.4	19.5
Grade	X-65	S-135
Thread	XLF	4 1/2 IF
ID (in)	22.500	4.276 (2.750 conn)
Burst (psi)	3250	17105
Collapse (psi)	1049	15672
Tension (klbs)	1709	712
Min MU Torque (ft-lb)	30,600	
Rec. Torque (ft-lb)		38044
Max MU Torque (ft-lb)	108,000	

Drilling:

Weld 30" drilling conductor with flow nipple onto the 30" conductor pipe at surface. **Notify NMOCD prior to spudding well and in sufficient time to witness cementing of surface casing. Ensure mudloggers MIRU and ready to log from surface.** Run 17 ½" bit, BHA #1 w/ Vertical Scout, directional survey tool and 5" DP to 2080' casing point. **Deviation not to exceed 3°.** Seepage should be controllable with LCM sweeps. Pump heavy LCM sweep and circulate hole clean. TOOH. Run 27 ¼" reamer, BHA #2 w/ survey tool and 5" DP to casing point. After drilling to 2080', pump heavy LCM sweep and circulate hole clean. TOOH to run casing. Clean, drift & tally casing.

Casing:

From 0' to 2080' – (24" 186.4# X-65 XLF CSG) **NOTE have FC/FS welded by NOV prior to pipe delivery.**

Fill casing with drilling fluid as needed. RU 50 T Crane, casing crew & run 24" float shoe, 1 jt 24" 186.4# X-65 XLF casing, and 24" float collar. Thread lock float shoe, float collar, and next 2 jts. Run remainder of 24" 186.4# X-65 XLF casing to surface. Centralizers to go in the middle of the first joint, on the second coupling and the fourth coupling. Float equipment should be PDC drillable. After getting casing to TD, RU API Bowl and false table. TIH w/ 5" DP and sting in adaptor. Sting into shoe.

Cement:

Lead: 1165 sks ExtendaCem + Additives @ 13.5 ppg

Tail: 335 sks HalCem + Additives @ 14.8 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, TIH w/ 5" DP and tag in adaptor. Sting into shoe. RU cementers and cement as prescribed. If cement **does not** circulate, notify NMOCD. If

cement **does** circulate, sting out of adapter & circulate out cement. TOH w/ DP. WOC 24 hours (subject to change based on cement lab report). Run wireline cement bond log to verify sufficient cement placement. When sufficient bond confirmed, cut off conductor & casing and weld on 24" wellhead. NU 24" conductor w/ rotating head.

Wellhead: 26 ¾" 3M rated conventional weld on type wellhead

BOPE: 26 ¾" 3M rated weld on flange, conductor & rotating head.

BOPE Testing: None

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

First Intermediate Hole**Hole size:** 22"**Depth:** 3700'**Mud:** Refer to attached mud program. Saturated Brine with 29 to 31 visc. (Mud weight not to exceed 10.3 ppg). **Severe lost circulation is possible.****BHA:**

1	22" Bit
1	8" Bit Sub
1	22" Vertical Scout RSS
1	8" x 9 5/8" Combo Motor
1	8" Shock sub
1	8" Directional survey tool
1	22" Roller Stabilizer
12	8" DC
1	XO
21	6 1/2" DC
1	XO

ADD HOC TOOL HERE**Shaker Screens:** 120's**Tubulars:**

Item type	Casing	Casing	Drill Pipe
Size	20"	20"	5"
Weight (#/ft)	133	133	19.5
Grade	P-110	J-55	S-135
Thread	Liberty LD	BTC	4 1/2 IF
ID (in)	18.73	18.73	4.276
Burst (psi)	6120	3060	17105
Collapse (psi)	1600	1500	15672
Tension (klbs)	4249	2125	712
Min MU Torque (ft-lb)	29,800	To Diamond	38044
Max MU Torque (ft-lb)	35,800		

Drilling: Ensure 24" riser w/weld on diverter & rotating head is installed prior to TIH. Run 22" bit, BHA w/survey tool and 5" DP to casing point. Saturated brine water will be used to minimize washout in salt sections. **Deviation not to exceed 3°.** Seepage should be controllable with LCM sweeps. After drilling to 3700', pump heavy LCM sweep and circulate hole clean. TOOH to run casing. Clean, drift & tally casing.

Casing: From 1922' to 3700' – (20" 133# P-110 Liberty LD CSG)
From 0' to 1922' – (20" 133# J-55 BTC CSG)

Fill casing with drilling fluid every 20 jts or less as needed. Run float shoe, 1 jt 20" 133# P-110 Liberty LD casing, float collar, & remainder jts 20" 133# P-110 Liberty LD casing. Run XO and 20" 133# J-55 BTC jts to surface. **Thread - lock guide shoe and first 2 joints.** Centralizers will go in the middle of the first joint, on the second coupling on the fourth coupling, and every 4th joint thereafter. Float equipment should be PDC drillable. After getting casing to TD, RU API Bowl and false table. TIH w/ 5" DP and sting in adaptor. Sting into shoe.

Cement: Lead: 1110 sks EconoCem HLC + Additives @ 12.9 ppg
Tail: 320 sks HalCem C + Additives @ 14.8 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, displace casing volume with the rig pump. Take returns to cellar. RU cementers and cement as per cement recommendation. If cement **does not** circulate, notify NMOCD. If cement **does** circulate, test floats, set slips, sting out of adapter & circulate out cement. WOC 24 hours (subject to change based on cement lab report). Run wireline cement bond log to verify sufficient cement placement. When sufficient bond confirmed, cut off casing and install 26 ¾" x 20 ¾" slip type casing spool. NU 20 ¾" x 20" riser w/weld on diverter & rotating head.

Wellhead: 26 ¾" x 20 ¾" 3M rated slip type casing spool

BOPE: 20 ¾" x 20" riser w/weld on diverter & rotating head

BOPE Testing: None

Second Intermediate Hole**Hole size:** 17 ½"**Depth:** 5325'**Mud:** Refer to attached mud program. Fresh water native mud. Need 28 to 36 visc.
Mud weight not to exceed 8.8 ppg.**BHA:**

1	17 ½" Bit
1	8" Bit Sub
1	17 ½" Vertical Scout
1	8" x 9 5/8" Combo Motor
1	8" DC
1	8" Shock sub
1	8" Directional survey tool
1	17 ½" Roller Stabilizer
5	8" DC
1	XO
15	6 ½" DC
1	XO

Shaker Screens: 170's**Tubulars:**

Item type	Casing	Drill Pipe
Size	13 ⅝"	5"
Weight (#/ft)	88.2	19.5
Grade	HCQ-125	S-135
Thread	BTC	4 1/2 IF
ID (in)	12.375	4.276
Burst (psi)	10030	
Collapse (psi)	5930	
Tension (klbs)	2163	
MU Torque (ft-lb)	To diamond	
Max Torque (ft-lb)		

- Drilling:** Ensure 20 ¾" x 20" riser w/weld on diverter & rotating head are NU. Run 17 ½" bit, BHA w/survey tool and 5" DP to 5325' casing point. In the event of partial losses, seepage should be controllable with LCM sweeps. **Deviation not to exceed 3°.** After drilling to 5325', pump heavy LCM sweep and circulate hole clean. TOOH to run casing. Clean, drift & tally casing.
- Casing:** From 0' to 5325' – (13 ⅝" 88.2# HCQ-125 BTC CSG) **(ECP/DV tool @ 3556')**
- Fill casing with drilling fluid every 20 jts or less as needed.** Run float shoe, 1 jt 13 ⅝" 88.2# HCQ-125 BTC casing, float collar, ~1730' - 13 ⅝" 88.2# HCQ-125 BTC casing, **ECP/DV TOOL**, and remainder of 13 ⅝" 88.2# HCQ-125 casing to surface. **Thread - lock guide shoe and first 2 joints.** Run centralizers in the middle of 1st joint, top of 2nd joint, then every 3rd joint thereafter. Ensure one centralizer on first full joint below DV tool and one centralizer on first full joint above DV tool. Float equipment should be PDC drillable.
- Cement:**
- Stage 1: Lead: 625 sks EconoCem + Additives @ 12.5 ppg
- Tail: 375 sks HalCem + Additives @ 14.8 ppg
- ECP/DV TOOL @ 3700'**
- Stage 2: Lead: 1355 sks NeoCem + Additives @ 11.0 ppg
- Tail: 100 sks HalCem + Additives @ 14.8 ppg
- Notify NMOCD in sufficient time to witness cementing of casing.** After getting casing to TD, displace casing volume with the rig pump. RU cementers and cement as per recommendation. If cement **does not** circulate, notify NMOCD. If cement **does** circulate, ND 20 ¾" x 20" riser, set slips, NU 20 ¾" x 20" riser and WOC 24 hours (subject to change based on cement lab report). **NOTE: (DV-ECP Tool @ 3700' TVD.** Run 12 ¼" bit, BHA & 5" DP back to surface. Drill out DV-ECP tool and float collar. Do not drill float shoe. Use caution when drilling DV tools & float equipment to avoid damaging bit. **Test casing to 1500 psi for 30 mins with rig pump.** TOOH for bond log. Run wireline cement bond log to verify sufficient cement placement. When sufficient bond confirmed, ND 20 ¾" x 20" riser w/weld on diverter & rotating head, cut off casing & NU 20 ¾" x 13 ⅝" casing spool, DSA, BOPE, 10K choke system, & vent/panic/flare system.
- Wellhead:** 20 ¾" x 13 ⅝" 5M rated casing spool
- BOPE:** 13 ⅝" 10M rated triple ram BOP stack w/ 13 ⅝" 5M DSA, 5M rated annular & MPD.

BOPE Testing: **Test BOP Rams to 10000 psi & Annular to 5000 psi with third party. Test all lines to pump valves, and lines to chokes to 10000 psi.**

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

Third Intermediate Hole**Hole size:** 12 ¼"**Depth:** 11879' TVD, 11928' MD

Mud: Refer to attached mud program. Cut Brine 9.3 to 9.4 ppg, 29 to 34 visc. Mud weight to be adjusted as required to keep acid gas from surface, prepare for 12.5 ppg. **Active acid gas injection zone from 5000'-7500' TVD, ~400' to south. Gas plume not expected to be present at this location but is possible. Adjust mud weight on drill out to prevent acid gas influx. Seepage is preferable to influx. Run H2S scavenger and maintain pH at 10.5-11.**

BHA:

1	12 ¼" Bit
1	8" Bit Sub
1	12 ¼" Scout RSS
1	8" Straight Motor
1	8" Shock sub
1	8" Directional survey tool
1	12 ¼" Roller Stabilizer
12	8" DC
1	XO
21	6 ½" DC
1	XO

Shaker Screens: 170's

Tubulars:

Item type	Casing	Casing	Drill Pipe
Size	9 5/8"	9 5/8"	5"
Weight (#/ft)	47	47	19.5
Grade	HCL-80	HPP-110	S-135
Thread	BTC	BTC	4 1/2 IF
ID (in)	8.681	8.681	4.276 (2.750 conn)
Burst (psi)	6870	9440	17105
Collapse (psi)	5740	7100	15672
Tension (klbs)	1086	1493	712
MU Torque (ft-lb)	To diamond	To diamond	
Rec Torque (ft-lb)	47	47	38044
Max Torque (ft-lb)			

Drilling:

Ensure 13 5/8" triple ram BOP stack, 5M rated annular & high pressure dual element MPD system are NU & Tested to 10000 psi. **Ensure flare is installed and running. H₂S monitors and related safety equipment will be operational, with safety supervisor on duty, before drilling out 13 5/8" casing shoe.** Run 12 1/4" bit, BHA w/ RSS, survey tools & 5" DP back to surface. **Before drilling 20' into formation, perform a FIT to 11.5 ppg mud equivalent.** Drill out with viscous cut brine and circulate through steel pits. **Build to 6.9° tangent @ 157.13° azimuth, at 1.5°/100 ft as per directional plan. Maintain 6.9° tangent until casing point.** Utilize mud cleaning equipment to keep fluid as clean as possible. Monitor pH hourly & maintain @ 10.5-11. Seepage should be controllable with LCM sweeps. After drilling to 11879' TVD (11924' MD), pump heavy LCM sweep and circulate hole clean. TOOH. **Run OH logs (GR-SONIC-CAL-RES).** Clean, drift & tally casing.

Casing:

From 9332' to 11879' TVD, 11928' MD – (9 5/8" 47# HPP-110 BTC CSG)
 From 0' to 9332' TVD, 9368' MD – (9 5/8" 47# HCL-80 BTC CSG)
(ECP/DV tools @ 6950' TVD, 6959' MD and 5500' TVD, 5500' MD)

Fill casing with drilling fluid every 20 jts or less as needed. Run float shoe, 1 jt 9 5/8" 47# HPP-110 BTC casing, float collar, ~4900' - 9 5/8" 47# HPP-110 BTC casing, **ECP/DV TOOL**, ~3500' - 9 5/8" 47# HCL-80 BTC casing, **ECP/DV TOOL** & 9 5/8" 47# HCL-80 BTC casing to surface. **Thread - lock guide shoe and first 2 joints.** Run centralizers in the middle of 1st joint, top of 2nd joint, then centralizers every 3rd joint. Ensure one centralizer on joint below each DV tool and one centralizer on joint above each DV tool. Float equipment should be PDC drillable.

Cement:

Stage 1: Lead: 710 sks NeoCem + Additives @ 11.0 ppg

Tail: 150 sks NeoCem + Additives @ 13.2 ppg

ECP/DV TOOL @ 6950' TVD, 6959' MD

Stage 2: Lead: 80.3 bbls Well Lock resin at 12.0 ppg

ECP/DV TOOL @ 5500' TVD, 5500' MD

Stage 3: Lead: 740 sks NeoCem + Additives @ 11.0 ppg

Tail: 100 sks NeoCem + Additives @ 13.2 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, displace casing volume with the rig pump. RU cementers and cement as per recommendation. If cement **does not** circulate, notify NMOCD. If cement **does** circulate, ND 13 5/8" BOPE & 13 5/8" DSA, set slips, NU 13 5/8" BOPE & 13 5/8" DSA and WOC 24 hours (subject to change based on cement lab report). PU 8 1/2" bit, BHA and 5" DP to surface. Drill out DV-ECP tools and float collar.

NOTE: (DV-ECP Tools @ 5500' TVD, 5500' MD and 6950' TVD, 6959' MD. Do not drill float shoe. Use caution when drilling DV tools & float equipment to avoid damaging bit. **Test casing to 2384 psi for 30 mins with rig pump.** Run wireline ultrasonic cement bond log to verify sufficient cement placement. When sufficient bond confirmed, ND 13 5/8" BOPE & 13 5/8" DSA, cut off casing & NU 13 5/8" x 11" casing spool w/ 13 5/8" BOPE & 11" DSA.

Wellhead: 13 5/8" x 11" 5M rated casing spool

BOPE: 13 5/8" 10M psi rated triple ram BOP stack w/10M 13 5/8" x 5M 11" DSA, 5M annular & rotating head.

BOPE Testing: Test BOP Rams to 10000 psi & Annular to 5000 psi with third party. Test all lines to pump valves, and lines to chokes to 10000 psi.

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

Production Hole**Hole size:** 8 ½"**Depth:** 17560' TVD, 17634' MD

Mud: Refer to attached mud program. Mud up to 12.0 to 12.5 ppg OBM. Expect to increase weight to 14.0-14.7 ppg as required for well control. Mud properties may have to be adjusted as needed for hole conditions.

BHA:

1	8 ½" Bit
1	6" Bit Sub
1	8 ½" Scout RSS
1	6" Straight Motor
1	6 ¼" Shock sub
1	6 ¼" Directional survey tool
1	8 ½" Roller Stabilizer
27	6 ½" DC
1	XO

Shaker Screens: 170's**Tubulars:**

Item type	Casing	Casing	Drill Pipe	Drill Pipe	Drill Collar
Size	7"	7"	5"	4"	4 ⅞"
Weight (#/ft)	32#	32#	19.5	15.91	44
Grade	ECP-110	G3 CRA	S-135	S-135	S-135
Thread	VAMTOP	VAMTOP	4 1/2 IF	XT-39	XT-39
ID (in)	6.094	6.094	4.276 (2.750 conn)	2.963	2.963
Burst (psi)	14160	12460	17105		
Collapse (psi)	11710	10780	15672	19,490	
Tension (klbs)	1165	1025	712	20,140	
Min MU Torque (ft-lb)	17,650	17,650		404	664
Rec Torque (ft-lb)			38044	22,850	17,000
Max MU Torque (ft-lb)	21,450	21,450		25,150	20,300

Drilling: Ensure 13 5/8" 10M rated triple ram BOP stack, 5M rated annular & MPD system are NU & tested. Ensure H₂S monitors and related safety equipment are operational before drilling out shoe. PU 8 1/2" bit, BHA w/ RSS, survey tools and 5" drill pipe back to surface. TIH to shoe and displace hole with OBM. Drill out with OBM and circulate through steel pits. **Before drilling 20' into formation, perform a FIT to 14.0 ppg mud equivalent. Maintain 6.9° tangent until top of Woodford then decrease deviation at 1.5°/100 ft. to casing point below top of Devonian.** Utilize mud cleaning equipment to keep fluid as clean as possible. When nearing the top of the Devonian formation, slow ROP to 20 fph. Upon seeing drilling break at Devonian top, stop drilling & circulate samples to surface. If samples do not indicate good carbonate, continue drilling 5' & circ samples until clean dolomite/lime is observed. After drilling to TD (est. 17560' TVD, 17634' MD), pump heavy LCM sweep and circulate hole clean. TOOH. Run OH logs (GR-DENS-NEU-SONIC-CAL- RES-FMI-CORES). Pu 8 1/2" bit, BHA & 5" DP back to surface. Pump heavy LCM sweep and circulate hole clean. TOOH & LDDP to run casing. Clean drift and tally casing.

Casing: From 17260' to 17560' TVD, 17334'-17634' MD – (7" 32# G3 CRA VAMTOP CSG) From 0' to 17260' TVD, 17334' MD – (7" 32# ECP-110 VAMTOP CSG) **(ECP/DV tools @ 15080' TVD, 15154' MD & 17260', 17334' MD)**

Fill casing with drilling fluid every 20 jts or less as needed. Float shoe, 1 jt 7" 32# G3 CRA VAMTOP casing, CRA float collar, remainder of 7" 32# G3 CRA VAMTOP casing, ~2250' 7" 32# ECP-110 VAMTOP casing, **ECP/DV TOOL**, and remainder of 7" 32# ECP-110 VAMTOP casing to surface. **Thread - lock guide shoe and first 2 joints.** Run two carbon steel stop collars on top of float collar, top of 3rd joint, top of 4th joint, and top of 6th joint. Run centralizers in the middle of 1st joint, top of 2nd joint, then every 3rd coupling thereafter. Float equipment should be PDC drillable.

Cement:

Stage 1:

Lead: 10.6 bbls Well Lock Resin + Additives @ 12.0 ppg possible chase plug w/ CorrosaCem depending on shoe track solution

ECP/DV TOOL @ 17260' TVD, 17334' MD

Stage 2:

Lead: 655 sks NeoCem + Additives @ 13.2 ppg

ECP/DV TOOL @ 11850' TVD, 11900' MD

Stage 3:

Lead: 11320 sks NeoCem + Additives @ 13.2 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, displace casing volume with the rig pump. RU cementers and

cement as per recommendation. If cement **does not** circulate, notify NMOCD. If cement **does** circulate, ND 13 5/8" BOPE & 11" DSA, set slips, & NU 13 5/8" BOPE & 11" DSA. WOC 24 hours (subject to change based on cement lab report). PU 5 7/8" bit, BHA and 4" DP to surface. Drill out DV-ECP tools and float collar. **NOTE: DV-ECP Tools @ 11850' TVD, 11900' MD and 17260' TVD, 16334' MD.** Do not drill float shoe. Use caution when drilling DV tools & float equipment to avoid damaging bit. **Test casing to 3512 psi for 30 mins with rig pump. Displace OBM. Replace w/ FW.** Run wireline ultrasonic cement bond log to verify sufficient cement placement. When sufficient bond confirmed, ND 13 5/8" BOPE, cutoff casing & NU 13 5/8" BOPE.

- Wellhead:** 13 5/8" x 11" 5M rated Vault drilling spool
- BOPE:** 13 5/8" 10M psi rated triple ram BOP stack w/10M 13 5/8" x 5M 11" DSA, 5M annular & rotating head.
- BOPE Testing:** Test BOP Rams to 10000 psi & Annular to 5000 psi with third party.

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

Open Injection Hole**Hole size:** 5 7/8"**Depth:** 18,650' TVD, 18734' MD

Mud: Refer to attached mud program. Cut Brine 8.4 to 8.6 ppg, 29 to 32 visc. Mud weight not to exceed 9.0 ppg. Mud properties may have to be adjusted as needed for hole conditions. **Lost circulation possible.**

BHA:

1	5 7/8" Bit
1	4 7/8" Bit Sub
1	4 7/8" 1.5° Motor
1	4 7/8" MWD Tools w/ GR
21	4 7/8" DC
1	XO

Shaker Screens: 170's**Tubulars:**

Item type	Drill Pipe	Drill Collar
Size (in)	4"	4 7/8"
Weight (#/ft)	15.91	44
Grade	S-135	S-135
Thread	XT-39	XT-39
ID (in)	2.963	2.963
Burst (psi)	19,490	
Collapse (psi)	20,140	
Tension (klbs)	403,500	663,700
Min MU Torque (ft-lb)	22,850	17,000
Max MU Torque (ft-lb)	25,150	20,300

Drilling: Ensure 13 7/8" 10M rated triple ram BOP stack, 5M rated annular & MPD system are NU & tested. Ensure H₂S monitors and related safety equipment are

operational before drilling out 7" casing shoe. PU 5 7/8" bit, BHA, survey tools & 4" XT39 DP or equivalent back to surface. **Before drilling 20' into formation, perform a FIT to 9.0 ppg mud equivalent. Deviation not to exceed 3°.** Utilize mud cleaning equipment to keep fluid as clean as possible. Drill to 18650' TVD, 18734' MD, pump heavy LCM sweep and circulate hole clean. **DO NOT DRILL INTO MONTOYA FORMATION (Limestone – may see CHERT RETURNS prior to Montoya).** TOOH. Spot 10# brine as necessary to kill well. Run OH logs (GR-DEN-NEU-SONIC-CAL-RES-FMI-PRES-TEMP-CORES).

Wellhead: No Change in wellhead required

BOPE: 13 5/8" 10M psi rated triple ram BOP stack, 10M rated 13 5/8" X 11" 5M DSA, annular & rotating head.

BOPE Testing: Test BOP Rams to 10000 psi & Annular to 5000 psi with third party.

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

Completion

Stimulation: PU 7" test packer, 4" XT39 DP or equivalent & 5" DP back to surface. Set test packer at ~17500' TVD, 17600' MD (depth may adjust depending on actual casing set depths). Pump acid and SRT as per design (TBD, 40K gal 15% HCl + salt block). Unseat test packer and TOO. LD test packer & PU 5 7/8" bit, BHA & 4" XT39 DP back to surface. Pump FW and circulate hole clean. TOO, LDDP.

Packer: 7" x 3 1/2" Inconel 925 permanent packer w/ X profile nipple

Packer Fluid: Diesel, with anti-corrosion additives

Packer Setting: MIRU wireline truck. PU Setting Tool, CCL & 3 1/2" x 7" Perma-Pak Packer with 1 jt 3 1/2" 9.3# G3 CRA tubing tail pipe & pump out plug. RIH on wireline to packer setting depth (~17500' TVD, 17600' MD, < 100' to 7" csg shoe req'd) & set packer. POOH & RDMO wireline truck. **ND 13 5/8" BOPE stack & NU 7 1/16" 5M rated hydraulic double ram BOP w/5M rated annular.**

Tubing:

Item type	Tubing	Tubing
Size (in)	3 1/2	3 1/2
Weight (#/ft)	10.2	9.3
Grade	SS-95	G3 CRA
Thread	VA Super	VAMTOP
ID (in)	2.922	2.992
Burst (psi)	13720	13970
Collapse (psi)	14390	13530
Tension (klbs)	277	285
Min MU Torque (ft-lb)		2860
Nom MU Torque (ft-lb)	3020	
Max MU Torque (ft-lb)		3480

From 0' to ~17200' TVD, 17100' MD (3 1/2" 10.2# SS-95 VA Superior)

From 17200 to 17500', 17300'-17600' MD (3 1/2" 9.3# G3 CRA VAMTOP)

Note: Subsurface safety valve w/ X profile nipple (SSSV) set @ 150', and bottomhole pressure-temperature annular and tubing gauges will be run concurrently with tubing. Each tubing connection to be pressure tested at time of assembly using 3rd party internal helium test equipment. Clean, drift & tally tubing.

Clean, drift & tally tubing. RU casing crew w/ torque turn. Run **self ratcheting** packer seal assembly, P-T mandrel assembly and control line, 300' of 3 1/2" 9.3#

G3-125 CRA VAMTOP tubing, 3 ½” VAMTOP x VA Super crossover, ~17150’ of 3 ½” 10.2# SS-95 VA Super tubing, SSSV & control line, 3 ½” 10.2# SS-95 VA Super tubing to surface & tubing hanger as per design. PU landing joint and space out packer to correspond with proper landing depth. **Confirm drag on tubing prior to tagging packer.** Lightly tag packer to confirm space out. Reverse circulate diesel packer fluid down backside & up tubing. Pump 25% excess. Once backside is displaced, sting into packer & set weight on packer as per Halliburton packer representative specifications. ND BOP & set well head slips with remaining string weight. ND 7 ½” BOPE & NU 7 ½” x 3 ⅛” 5M injection head. Pressure test annulus to 500 psi minimum for 30 minutes using rig pump. 10% deviation from initial pressure is maximum allowable in 1st 15 minutes, 0 psi thereafter. **Function test SSSV, & P-T gauges and all associated surface equipment prior to releasing vendor crews and RDMO.**

Note: Schedule MIT with Gary Robinson, NMOCD Hobbs (575)-263-4507, as soon as possible.

Wellhead: Vault 7 ½” 10M x 3 ⅛” 10M injection tree

Critical Vendors:

Vendor	Contact	Phone	Cell	Item
TBD				

Company: Northwind Midstream
Well: Salt Creek AGI #2
County: Lea County, New Mexico (NAD 83)
Rig: 25' KB
Wellbore: Wellbore #1
Design: Design #3
Date: 9:50, June 14 2024

WELL DETAILS: Salt Creek AGI #2

+N/-S
0.00

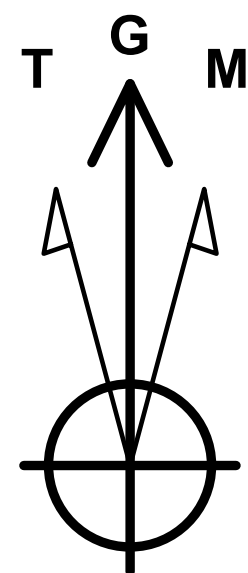
+E/-W
0.00

GL @ 2924.00
Northing
375934.10

Well @ 2949.00usft (25' KB)
Easting
868507.51

Latitude
32.029128

Longitude
-103.277598



Azimuths to Grid North
True North: -0.56°
Magnetic North: 5.57°

Magnetic Field
Strength: 47096.0nT
Dip Angle: 59.52°
Date: 5/7/2024
Model: HDGM2024

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

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.000	0.00	KOP, 1.50°/100' Build
5862.14	6.93	157.13	5861.01	-25.73	10.85	1.50	157.131	27.92	Hold 6.93° Inc, 157.13° Azm
17021.69	6.93	157.13	16938.99	-1266.73	534.28	0.00	0.000	1374.79	Begin 1.50°/100' Drop
17483.83	0.00	0.00	17400.00	-1292.46	545.13	1.50	180.000	1402.72	Begin Vertical Hold
18733.83	0.00	0.00	18650.00	-1292.46	545.13	0.00	0.000	1402.72	PBHL

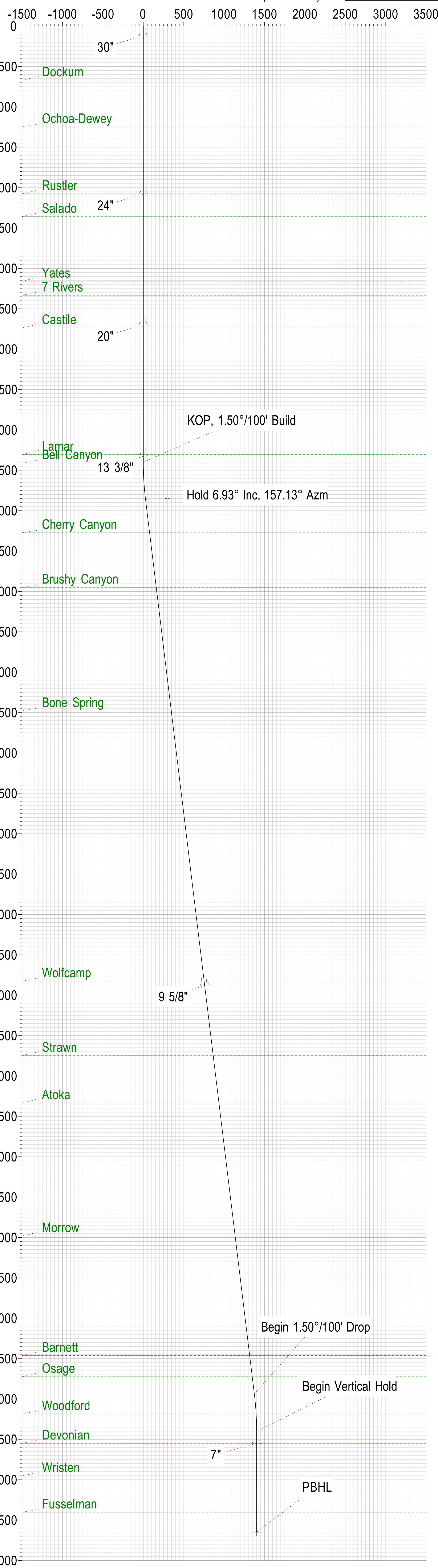
Targets

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL	18650.00	-1292.46	545.13	374641.64	869052.65	32.025561	-103.275880

SURVEY PROGRAM

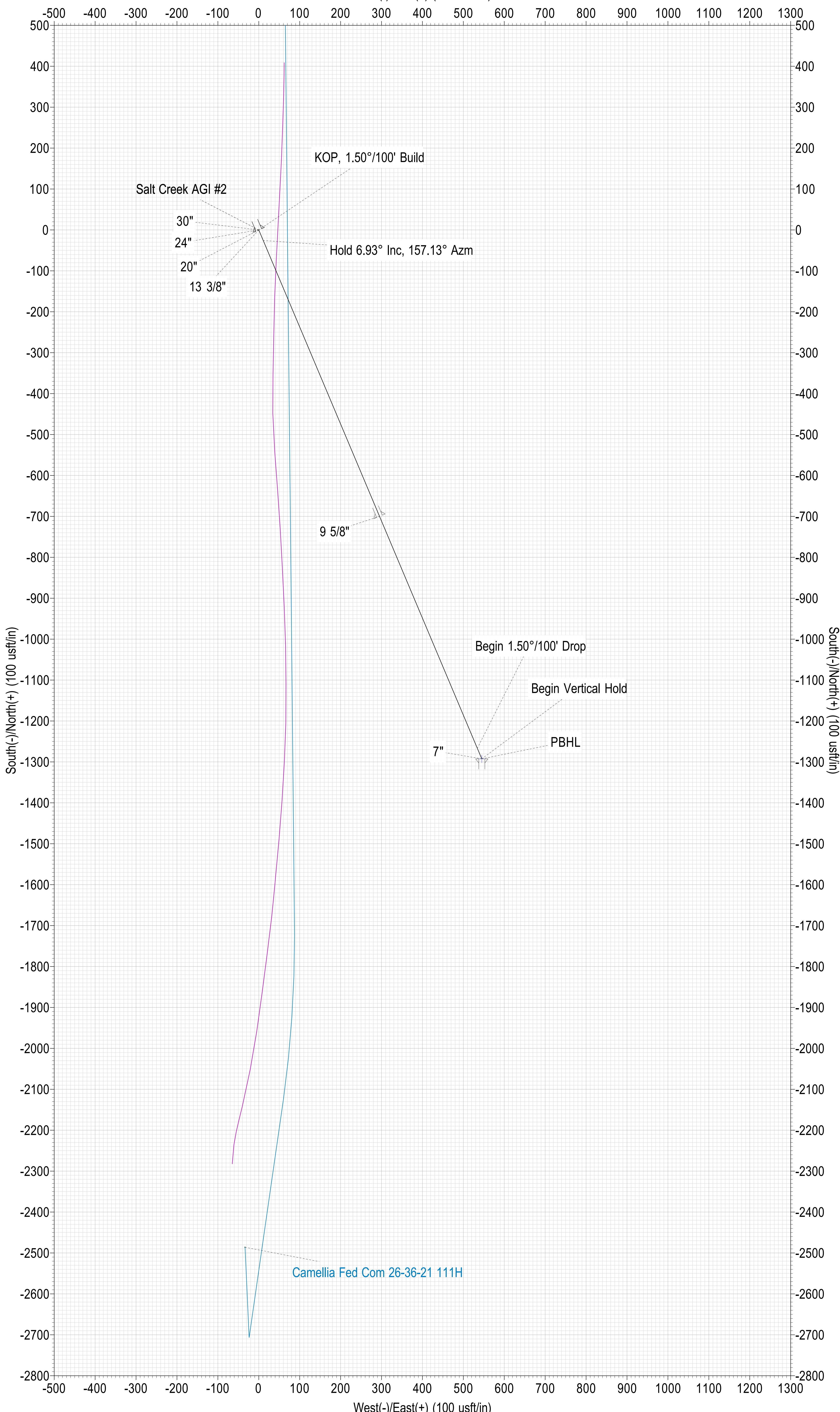
Depth From	Depth To	Survey/Plan	Tool
0.00	18733.83	Design #3 (Wellbore #1)	MWD+HRGM

Vertical Section at 157.13° (500 usft/in)



To convert a Magnetic Direction to a Grid Direction, Add 5.573°
To convert a Magnetic Direction to a True Direction, Add 6.133° East
To convert a True Direction to a Grid Direction, Subtract 0.560°

West(-)/East(+) (100 usft/in)





Northwind Midstream

Lea County, New Mexico (NAD 83)

Salt Creek

Salt Creek AGI #2

Wellbore #1

Plan: Design #3

Standard Planning Report

14 June, 2024





MS Directional Planning Report



Database:	Conroe DB	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Company:	Northwind Midstream	TVD Reference:	Well @ 2949.00usft (25' KB)
Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Project	Lea County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Salt Creek				
Site Position:		Northing:	375,824.32 usft	Latitude:	32.028828
From:	Map	Easting:	868,443.19 usft	Longitude:	-103.277809
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well	Salt Creek AGI #2					
Well Position	+N/-S	0.00 usft	Northing:	375,934.10 usft	Latitude:	32.029128
	+E/-W	0.00 usft	Easting:	868,507.51 usft	Longitude:	-103.277598
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,924.00 usft
Grid Convergence:		0.560 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2024	5/7/2024	6.133	59.517	47,096.000

Design	Design #3				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	157.13	

Plan Survey Tool Program	Date	6/14/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,733.83	Design #3 (Wellbore #1)	MWD+HRGM	
				OWSG MWD + HRGM	

Plan Sections											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000		
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.000		
5,862.14	6.93	157.13	5,861.01	-25.73	10.85	1.50	1.50	0.00	157.131		
17,021.69	6.93	157.13	16,938.99	-1,266.73	534.28	0.00	0.00	0.00	0.000		
17,483.83	0.00	0.00	17,400.00	-1,292.46	545.13	1.50	-1.50	0.00	180.000		
18,733.83	0.00	0.00	18,650.00	-1,292.46	545.13	0.00	0.00	0.00	0.000	PBHL v3 - Salt Creek	



MS Directional Planning Report



Database:	Conroe DB	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Company:	Northwind Midstream	TVD Reference:	Well @ 2949.00usft (25' KB)
Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
30"									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
669.00	0.00	0.00	669.00	0.00	0.00	0.00	0.00	0.00	0.00
Dockum									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,247.00	0.00	0.00	1,247.00	0.00	0.00	0.00	0.00	0.00	0.00
Ochoa-Dewey									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,076.00	0.00	0.00	2,076.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
2,080.00	0.00	0.00	2,080.00	0.00	0.00	0.00	0.00	0.00	0.00
24"									
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,359.00	0.00	0.00	2,359.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,160.00	0.00	0.00	3,160.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,334.00	0.00	0.00	3,334.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Rivers									
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00



MS Directional Planning Report



Database:	Conroe DB	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Company:	Northwind Midstream	TVD Reference:	Well @ 2949.00usft (25' KB)
Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
20"										
3,737.00	0.00	0.00	3,737.00	0.00	0.00	0.00	0.00	0.00	0.00	
Castile										
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,305.00	0.00	0.00	5,305.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lamar										
5,325.00	0.00	0.00	5,325.00	0.00	0.00	0.00	0.00	0.00	0.00	
13 3/8"										
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP, 1.50°/100' Build										
5,410.00	0.15	157.13	5,410.00	-0.01	0.01	0.01	1.50	1.50	0.00	
Bell Canyon										
5,500.00	1.50	157.13	5,499.99	-1.21	0.51	1.31	1.50	1.50	0.00	
5,600.00	3.00	157.13	5,599.91	-4.82	2.03	5.23	1.50	1.50	0.00	
5,700.00	4.50	157.13	5,699.69	-10.85	4.58	11.77	1.50	1.50	0.00	
5,800.00	6.00	157.13	5,799.27	-19.28	8.13	20.92	1.50	1.50	0.00	
5,862.14	6.93	157.13	5,861.01	-25.73	10.85	27.92	1.50	1.50	0.00	
Hold 6.93° Inc, 157.13° Azm										
5,900.00	6.93	157.13	5,898.60	-29.94	12.63	32.49	0.00	0.00	0.00	
6,000.00	6.93	157.13	5,997.87	-41.06	17.32	44.56	0.00	0.00	0.00	
6,100.00	6.93	157.13	6,097.13	-52.18	22.01	56.63	0.00	0.00	0.00	
6,200.00	6.93	157.13	6,196.40	-63.30	26.70	68.70	0.00	0.00	0.00	
6,277.16	6.93	157.13	6,273.00	-71.88	30.32	78.01	0.00	0.00	0.00	
Cherry Canyon										
6,300.00	6.93	157.13	6,295.67	-74.42	31.39	80.77	0.00	0.00	0.00	
6,400.00	6.93	157.13	6,394.94	-85.54	36.08	92.84	0.00	0.00	0.00	
6,500.00	6.93	157.13	6,494.21	-96.66	40.77	104.91	0.00	0.00	0.00	
6,600.00	6.93	157.13	6,593.48	-107.78	45.46	116.98	0.00	0.00	0.00	
6,700.00	6.93	157.13	6,692.75	-118.90	50.15	129.05	0.00	0.00	0.00	
6,800.00	6.93	157.13	6,792.02	-130.02	54.84	141.12	0.00	0.00	0.00	
6,900.00	6.93	157.13	6,891.29	-141.14	59.53	153.18	0.00	0.00	0.00	
6,959.15	6.93	157.13	6,950.00	-147.72	62.31	160.32	0.00	0.00	0.00	
Brushy Canyon										
7,000.00	6.93	157.13	6,990.56	-152.26	64.22	165.25	0.00	0.00	0.00	
7,100.00	6.93	157.13	7,089.82	-163.38	68.91	177.32	0.00	0.00	0.00	
7,200.00	6.93	157.13	7,189.09	-174.50	73.60	189.39	0.00	0.00	0.00	
7,300.00	6.93	157.13	7,288.36	-185.63	78.29	201.46	0.00	0.00	0.00	



MS Directional Planning Report



Database:	Conroe DB	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Company:	Northwind Midstream	TVD Reference:	Well @ 2949.00usft (25' KB)
Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,400.00	6.93	157.13	7,387.63	-196.75	82.98	213.53	0.00	0.00	0.00
7,500.00	6.93	157.13	7,486.90	-207.87	87.67	225.60	0.00	0.00	0.00
7,600.00	6.93	157.13	7,586.17	-218.99	92.36	237.67	0.00	0.00	0.00
7,700.00	6.93	157.13	7,685.44	-230.11	97.05	249.74	0.00	0.00	0.00
7,800.00	6.93	157.13	7,784.71	-241.23	101.75	261.81	0.00	0.00	0.00
7,900.00	6.93	157.13	7,883.98	-252.35	106.44	273.88	0.00	0.00	0.00
8,000.00	6.93	157.13	7,983.25	-263.47	111.13	285.95	0.00	0.00	0.00
8,100.00	6.93	157.13	8,082.51	-274.59	115.82	298.01	0.00	0.00	0.00
8,200.00	6.93	157.13	8,181.78	-285.71	120.51	310.08	0.00	0.00	0.00
8,300.00	6.93	157.13	8,281.05	-296.83	125.20	322.15	0.00	0.00	0.00
8,400.00	6.93	157.13	8,380.32	-307.95	129.89	334.22	0.00	0.00	0.00
8,499.41	6.93	157.13	8,479.00	-319.01	134.55	346.22	0.00	0.00	0.00
Bone Spring									
8,500.00	6.93	157.13	8,479.59	-319.07	134.58	346.29	0.00	0.00	0.00
8,600.00	6.93	157.13	8,578.86	-330.19	139.27	358.36	0.00	0.00	0.00
8,700.00	6.93	157.13	8,678.13	-341.31	143.96	370.43	0.00	0.00	0.00
8,800.00	6.93	157.13	8,777.40	-352.43	148.65	382.50	0.00	0.00	0.00
8,900.00	6.93	157.13	8,876.67	-363.55	153.34	394.57	0.00	0.00	0.00
9,000.00	6.93	157.13	8,975.94	-374.67	158.03	406.64	0.00	0.00	0.00
9,100.00	6.93	157.13	9,075.20	-385.79	162.72	418.71	0.00	0.00	0.00
9,200.00	6.93	157.13	9,174.47	-396.92	167.41	430.78	0.00	0.00	0.00
9,300.00	6.93	157.13	9,273.74	-408.04	172.10	442.85	0.00	0.00	0.00
9,400.00	6.93	157.13	9,373.01	-419.16	176.79	454.91	0.00	0.00	0.00
9,500.00	6.93	157.13	9,472.28	-430.28	181.48	466.98	0.00	0.00	0.00
9,600.00	6.93	157.13	9,571.55	-441.40	186.17	479.05	0.00	0.00	0.00
9,700.00	6.93	157.13	9,670.82	-452.52	190.86	491.12	0.00	0.00	0.00
9,800.00	6.93	157.13	9,770.09	-463.64	195.55	503.19	0.00	0.00	0.00
9,900.00	6.93	157.13	9,869.36	-474.76	200.24	515.26	0.00	0.00	0.00
10,000.00	6.93	157.13	9,968.63	-485.88	204.93	527.33	0.00	0.00	0.00
10,100.00	6.93	157.13	10,067.89	-497.00	209.63	539.40	0.00	0.00	0.00
10,200.00	6.93	157.13	10,167.16	-508.12	214.32	551.47	0.00	0.00	0.00
10,300.00	6.93	157.13	10,266.43	-519.24	219.01	563.54	0.00	0.00	0.00
10,400.00	6.93	157.13	10,365.70	-530.36	223.70	575.61	0.00	0.00	0.00
10,500.00	6.93	157.13	10,464.97	-541.48	228.39	587.68	0.00	0.00	0.00
10,600.00	6.93	157.13	10,564.24	-552.60	233.08	599.75	0.00	0.00	0.00
10,700.00	6.93	157.13	10,663.51	-563.72	237.77	611.81	0.00	0.00	0.00
10,800.00	6.93	157.13	10,762.78	-574.84	242.46	623.88	0.00	0.00	0.00
10,900.00	6.93	157.13	10,862.05	-585.96	247.15	635.95	0.00	0.00	0.00
11,000.00	6.93	157.13	10,961.32	-597.08	251.84	648.02	0.00	0.00	0.00
11,100.00	6.93	157.13	11,060.58	-608.21	256.53	660.09	0.00	0.00	0.00
11,200.00	6.93	157.13	11,159.85	-619.33	261.22	672.16	0.00	0.00	0.00
11,300.00	6.93	157.13	11,259.12	-630.45	265.91	684.23	0.00	0.00	0.00
11,400.00	6.93	157.13	11,358.39	-641.57	270.60	696.30	0.00	0.00	0.00
11,500.00	6.93	157.13	11,457.66	-652.69	275.29	708.37	0.00	0.00	0.00
11,600.00	6.93	157.13	11,556.93	-663.81	279.98	720.44	0.00	0.00	0.00
11,700.00	6.93	157.13	11,656.20	-674.93	284.67	732.51	0.00	0.00	0.00
11,800.00	6.93	157.13	11,755.47	-686.05	289.36	744.58	0.00	0.00	0.00
11,871.05	6.93	157.13	11,826.00	-693.95	292.70	753.15	0.00	0.00	0.00
Wolfcamp									
11,900.00	6.93	157.13	11,854.74	-697.17	294.05	756.65	0.00	0.00	0.00
11,924.44	6.93	157.13	11,879.00	-699.89	295.20	759.60	0.00	0.00	0.00
9 5/8"									
12,000.00	6.93	157.13	11,954.01	-708.29	298.74	768.71	0.00	0.00	0.00



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Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,100.00	6.93	157.13	12,053.27	-719.41	303.43	780.78	0.00	0.00	0.00
12,200.00	6.93	157.13	12,152.54	-730.53	308.12	792.85	0.00	0.00	0.00
12,300.00	6.93	157.13	12,251.81	-741.65	312.81	804.92	0.00	0.00	0.00
12,400.00	6.93	157.13	12,351.08	-752.77	317.51	816.99	0.00	0.00	0.00
12,500.00	6.93	157.13	12,450.35	-763.89	322.20	829.06	0.00	0.00	0.00
12,600.00	6.93	157.13	12,549.62	-775.01	326.89	841.13	0.00	0.00	0.00
12,700.00	6.93	157.13	12,648.89	-786.13	331.58	853.20	0.00	0.00	0.00
12,799.84	6.93	157.13	12,748.00	-797.24	336.26	865.25	0.00	0.00	0.00
Strawn									
12,800.00	6.93	157.13	12,748.16	-797.25	336.27	865.27	0.00	0.00	0.00
12,900.00	6.93	157.13	12,847.43	-808.37	340.96	877.34	0.00	0.00	0.00
13,000.00	6.93	157.13	12,946.70	-819.50	345.65	889.41	0.00	0.00	0.00
13,100.00	6.93	157.13	13,045.96	-830.62	350.34	901.48	0.00	0.00	0.00
13,200.00	6.93	157.13	13,145.23	-841.74	355.03	913.55	0.00	0.00	0.00
13,300.00	6.93	157.13	13,244.50	-852.86	359.72	925.61	0.00	0.00	0.00
13,391.16	6.93	157.13	13,335.00	-862.99	363.99	936.62	0.00	0.00	0.00
Atoka									
13,400.00	6.93	157.13	13,343.77	-863.98	364.41	937.68	0.00	0.00	0.00
13,500.00	6.93	157.13	13,443.04	-875.10	369.10	949.75	0.00	0.00	0.00
13,600.00	6.93	157.13	13,542.31	-886.22	373.79	961.82	0.00	0.00	0.00
13,700.00	6.93	157.13	13,641.58	-897.34	378.48	973.89	0.00	0.00	0.00
13,800.00	6.93	157.13	13,740.85	-908.46	383.17	985.96	0.00	0.00	0.00
13,900.00	6.93	157.13	13,840.12	-919.58	387.86	998.03	0.00	0.00	0.00
14,000.00	6.93	157.13	13,939.39	-930.70	392.55	1,010.10	0.00	0.00	0.00
14,100.00	6.93	157.13	14,038.65	-941.82	397.24	1,022.17	0.00	0.00	0.00
14,200.00	6.93	157.13	14,137.92	-952.94	401.93	1,034.24	0.00	0.00	0.00
14,300.00	6.93	157.13	14,237.19	-964.06	406.62	1,046.31	0.00	0.00	0.00
14,400.00	6.93	157.13	14,336.46	-975.18	411.31	1,058.38	0.00	0.00	0.00
14,500.00	6.93	157.13	14,435.73	-986.30	416.00	1,070.45	0.00	0.00	0.00
14,600.00	6.93	157.13	14,535.00	-997.42	420.69	1,082.51	0.00	0.00	0.00
14,700.00	6.93	157.13	14,634.27	-1,008.54	425.38	1,094.58	0.00	0.00	0.00
14,800.00	6.93	157.13	14,733.54	-1,019.66	430.08	1,106.65	0.00	0.00	0.00
14,900.00	6.93	157.13	14,832.81	-1,030.79	434.77	1,118.72	0.00	0.00	0.00
14,500.00	6.93	157.13	14,435.73	-986.30	416.00	1,070.45	0.00	0.00	0.00
14,600.00	6.93	157.13	14,535.00	-997.42	420.69	1,082.51	0.00	0.00	0.00
14,700.00	6.93	157.13	14,634.27	-1,008.54	425.38	1,094.58	0.00	0.00	0.00
14,800.00	6.93	157.13	14,733.54	-1,019.66	430.08	1,106.65	0.00	0.00	0.00
14,900.00	6.93	157.13	14,832.81	-1,030.79	434.77	1,118.72	0.00	0.00	0.00
15,000.00	6.93	157.13	14,932.08	-1,041.91	439.46	1,130.79	0.00	0.00	0.00
15,049.29	6.93	157.13	14,981.00	-1,047.39	441.77	1,136.74	0.00	0.00	0.00
Morrow									
15,100.00	6.93	157.13	15,031.34	-1,053.03	444.15	1,142.86	0.00	0.00	0.00
15,200.00	6.93	157.13	15,130.61	-1,064.15	448.84	1,154.93	0.00	0.00	0.00
15,300.00	6.93	157.13	15,229.88	-1,075.27	453.53	1,167.00	0.00	0.00	0.00
15,400.00	6.93	157.13	15,329.15	-1,086.39	458.22	1,179.07	0.00	0.00	0.00
15,500.00	6.93	157.13	15,428.42	-1,097.51	462.91	1,191.14	0.00	0.00	0.00
15,600.00	6.93	157.13	15,527.69	-1,108.63	467.60	1,203.21	0.00	0.00	0.00
15,700.00	6.93	157.13	15,626.96	-1,119.75	472.29	1,215.28	0.00	0.00	0.00
15,800.00	6.93	157.13	15,726.23	-1,130.87	476.98	1,227.35	0.00	0.00	0.00
15,900.00	6.93	157.13	15,825.50	-1,141.99	481.67	1,239.41	0.00	0.00	0.00
16,000.00	6.93	157.13	15,924.77	-1,153.11	486.36	1,251.48	0.00	0.00	0.00
16,100.00	6.93	157.13	16,024.03	-1,164.23	491.05	1,263.55	0.00	0.00	0.00
16,200.00	6.93	157.13	16,123.30	-1,175.35	495.74	1,275.62	0.00	0.00	0.00
16,300.00	6.93	157.13	16,222.57	-1,186.47	500.43	1,287.69	0.00	0.00	0.00
16,400.00	6.93	157.13	16,321.84	-1,197.59	505.12	1,299.76	0.00	0.00	0.00
16,500.00	6.93	157.13	16,421.11	-1,208.71	509.81	1,311.83	0.00	0.00	0.00
16,541.19	6.93	157.13	16,462.00	-1,213.29	511.74	1,316.80	0.00	0.00	0.00
Barnett									



MS Directional Planning Report



Database:	Conroe DB	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Company:	Northwind Midstream	TVD Reference:	Well @ 2949.00usft (25' KB)
Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,600.00	6.93	157.13	16,520.38	-1,219.83	514.50	1,323.90	0.00	0.00	0.00
16,700.00	6.93	157.13	16,619.65	-1,230.95	519.19	1,335.97	0.00	0.00	0.00
16,800.00	6.93	157.13	16,718.92	-1,242.08	523.88	1,348.04	0.00	0.00	0.00
16,805.12	6.93	157.13	16,724.00	-1,242.64	524.12	1,348.66	0.00	0.00	0.00
Osage									
16,900.00	6.93	157.13	16,818.19	-1,253.20	528.57	1,360.11	0.00	0.00	0.00
17,000.00	6.93	157.13	16,917.46	-1,264.32	533.26	1,372.18	0.00	0.00	0.00
17,021.69	6.93	157.13	16,938.99	-1,266.73	534.28	1,374.79	0.00	0.00	0.00
Begin 1.50°/100' Drop									
17,100.00	5.76	157.13	17,016.82	-1,274.70	537.65	1,383.45	1.50	-1.50	0.00
17,200.00	4.26	157.13	17,116.43	-1,282.74	541.04	1,392.18	1.50	-1.50	0.00
17,269.72	3.21	157.13	17,186.00	-1,286.93	542.80	1,396.72	1.50	-1.50	0.00
Woodford									
17,300.00	2.76	157.13	17,216.24	-1,288.38	543.41	1,398.29	1.50	-1.50	0.00
17,400.00	1.26	157.13	17,316.18	-1,291.61	544.78	1,401.80	1.50	-1.50	0.00
17,483.83	0.00	0.00	17,400.00	-1,292.46	545.13	1,402.72	1.50	-1.50	0.00
Begin Vertical Hold									
17,500.00	0.00	0.00	17,416.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
17,600.00	0.00	0.00	17,516.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
17,633.83	0.00	0.00	17,550.00	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
Devonian - 7"									
17,700.00	0.00	0.00	17,616.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
17,800.00	0.00	0.00	17,716.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
17,900.00	0.00	0.00	17,816.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,000.00	0.00	0.00	17,916.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,036.83	0.00	0.00	17,953.00	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
Wristen									
18,100.00	0.00	0.00	18,016.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,200.00	0.00	0.00	18,116.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,300.00	0.00	0.00	18,216.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,400.00	0.00	0.00	18,316.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,486.83	0.00	0.00	18,403.00	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
Fusselman									
18,500.00	0.00	0.00	18,416.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,600.00	0.00	0.00	18,516.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,700.00	0.00	0.00	18,616.17	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
18,733.83	0.00	0.00	18,650.00	-1,292.46	545.13	1,402.72	0.00	0.00	0.00
PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL v3 - Salt Creek	0.00	0.00	18,650.00	-1,292.46	545.13	374,641.64	869,052.65	32.025561	-103.275880
- plan hits target center									
- Point									



MS Directional Planning Report



Database:	Conroe DB	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Company:	Northwind Midstream	TVD Reference:	Well @ 2949.00usft (25' KB)
Project:	Lea County, New Mexico (NAD 83)	MD Reference:	Well @ 2949.00usft (25' KB)
Site:	Salt Creek	North Reference:	Grid
Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
120.00	120.00	30"	30	36
2,080.00	2,080.00	24"	24	30
3,700.00	3,700.00	20"	20	26
5,325.00	5,325.00	13 3/8"	13-3/8	17-1/2
11,924.44	11,879.00	9 5/8"	9-5/8	12-1/4
17,633.83	17,550.00	7"	7	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
669.00	669.00	Dockum		0.000	
1,247.00	1,247.00	Ochoa-Dewey		0.000	
2,076.00	2,076.00	Rustler		0.000	
2,359.00	2,359.00	Salado		0.000	
3,160.00	3,160.00	Yates		0.000	
3,334.00	3,334.00	7 Rivers		0.000	
3,737.00	3,737.00	Castile		0.000	
5,305.00	5,305.00	Lamar		0.000	
5,410.00	5,410.00	Bell Canyon		0.000	
6,277.16	6,273.00	Cherry Canyon		0.000	
6,959.15	6,950.00	Brushy Canyon		0.000	
8,499.41	8,479.00	Bone Spring		0.000	
11,871.05	11,826.00	Wolfcamp		0.000	
12,799.84	12,748.00	Strawn		0.000	
13,391.16	13,335.00	Atoka		0.000	
15,049.29	14,981.00	Morrow		0.000	
16,541.19	16,462.00	Barnett		0.000	
16,805.12	16,724.00	Osage		0.000	
17,269.72	17,186.00	Woodford		0.000	
17,633.83	17,550.00	Devonian		0.000	
18,036.83	17,953.00	Wristen		0.000	
18,486.83	18,403.00	Fusselman		0.000	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,400.00	5,400.00	0.00	0.00	KOP, 1.50°/100' Build
5,862.14	5,861.01	-25.73	10.85	Hold 6.93° Inc, 157.13° Azm
17,021.69	16,938.99	-1,266.73	534.28	Begin 1.50°/100' Drop
17,483.83	17,400.00	-1,292.46	545.13	Begin Vertical Hold
18,733.83	18,650.00	-1,292.46	545.13	PBHL



Northwind Midstream

Lea County, New Mexico (NAD 83)

Salt Creek

Salt Creek AGI #2

Wellbore #1

Design #3

Anticollision Report

14 June, 2024





MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Reference	Design #3
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD + Stations Interval 100.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 10,000.00usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	6/14/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,733.83	Design #3 (Wellbore #1)	MWD+HRGM	OWSG MWD + HRGM	

Summary										
				Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)		Distance Between Ellipses (usft)	Separation Factor	Warning
Site Name	Offset Well - Wellbore - Design									
Salt Creek (Offsets)										
	Camellia Fed Com 26-36-21 111H - Wellbore #1 - Design			12,184.66	13,892.76	230.13	136.97	2.470	CC, ES, SF	
	Camellia Fed Com 26-36-21 121H - Wellbore #2 - Survey			12,351.36	14,136.17	261.36	168.95	2.828	CC, ES, SF	

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 111H - Wellbore #1 - Design #1													Offset Site Error: 0.00 usft		
Survey Program: 0-MWD+HRGM				Reference Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.00	0.00	2.00	0.00	0.00	0.00	-179.228	-2,486.10	-33.51	2,486.33						
100.00	100.00	102.00	100.00	0.13	0.14	-179.228	-2,486.10	-33.51	2,486.33	2,486.05	0.27	9,126.182			
200.00	200.00	202.00	200.00	0.49	0.50	-179.228	-2,486.10	-33.51	2,486.33	2,485.34	0.99	2,513.009			
300.00	300.00	302.00	300.00	0.85	0.85	-179.228	-2,486.10	-33.51	2,486.33	2,484.62	1.71	1,457.123			
400.00	400.00	402.00	400.00	1.21	1.21	-179.228	-2,486.10	-33.51	2,486.33	2,483.90	2.42	1,026.022			
500.00	500.00	502.00	500.00	1.57	1.57	-179.228	-2,486.10	-33.51	2,486.33	2,483.19	3.14	791.770			
600.00	600.00	602.00	600.00	1.93	1.93	-179.228	-2,486.10	-33.51	2,486.33	2,482.47	3.86	644.601			
700.00	700.00	702.00	700.00	2.29	2.29	-179.228	-2,486.10	-33.51	2,486.33	2,481.75	4.57	543.566			
800.00	800.00	802.00	800.00	2.64	2.65	-179.228	-2,486.10	-33.51	2,486.33	2,481.03	5.29	469.912			
900.00	900.00	902.00	900.00	3.00	3.01	-179.228	-2,486.10	-33.51	2,486.33	2,480.32	6.01	413.837			
1,000.00	1,000.00	1,002.00	1,000.00	3.36	3.36	-179.228	-2,486.10	-33.51	2,486.33	2,479.60	6.72	369.718			
1,100.00	1,100.00	1,102.00	1,100.00	3.72	3.72	-179.228	-2,486.10	-33.51	2,486.33	2,478.88	7.44	334.100			
1,200.00	1,200.00	1,202.00	1,200.00	4.08	4.08	-179.228	-2,486.10	-33.51	2,486.33	2,478.17	8.16	304.741			
1,300.00	1,300.00	1,302.00	1,300.00	4.44	4.44	-179.228	-2,486.10	-33.51	2,486.33	2,477.45	8.88	280.126			
1,400.00	1,400.00	1,402.00	1,400.00	4.79	4.80	-179.228	-2,486.10	-33.51	2,486.33	2,476.73	9.59	259.189			
1,500.00	1,500.00	1,502.00	1,500.00	5.15	5.16	-179.228	-2,486.10	-33.51	2,486.33	2,476.02	10.31	241.165			
1,600.00	1,600.00	1,602.00	1,600.00	5.51	5.52	-179.228	-2,486.10	-33.51	2,486.33	2,475.30	11.03	225.485			
1,700.00	1,700.00	1,702.00	1,700.00	5.87	5.87	-179.228	-2,486.10	-33.51	2,486.33	2,474.58	11.74	211.719			
1,800.00	1,800.00	1,802.00	1,800.00	6.23	6.23	-179.228	-2,486.10	-33.51	2,486.33	2,473.87	12.46	199.537			
1,900.00	1,900.00	1,902.00	1,900.00	6.59	6.59	-179.228	-2,486.10	-33.51	2,486.33	2,473.15	13.18	188.681			
1,915.99	1,915.99	1,917.99	1,915.99	6.64	6.65	-179.228	-2,486.10	-33.51	2,486.33	2,473.03	13.29	187.054			
2,000.00	2,000.00	2,000.00	1,998.00	6.95	6.94	-179.228	-2,486.10	-33.51	2,486.33	2,472.44	13.89	179.037			
2,100.00	2,100.00	2,054.61	2,052.61	7.30	7.13	-179.228	-2,486.62	-33.49	2,487.30	2,472.87	14.43	172.376			
2,200.00	2,200.00	2,100.00	2,097.98	7.66	7.28	-179.230	-2,487.85	-33.43	2,490.16	2,475.23	14.93	166.741			
2,300.00	2,300.00	2,164.30	2,162.21	8.02	7.49	-179.234	-2,490.81	-33.30	2,494.84	2,479.35	15.49	161.041			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 111H - Wellbore #1 - Design #1

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Survey Program: 0-MWD+HRGM		Reference Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
2,400.00	2,400.00	2,258.99	2,256.74	8.38	7.80	-179.241	-2,496.24	-33.05	2,500.57	2,484.41	16.16	154.759	
2,500.00	2,500.00	2,358.82	2,356.41	8.74	8.13	-179.249	-2,501.96	-32.79	2,506.29	2,489.45	16.84	148.796	
2,600.00	2,600.00	2,458.66	2,456.08	9.10	8.46	-179.257	-2,507.69	-32.53	2,512.02	2,494.49	17.53	143.273	
2,700.00	2,700.00	2,558.49	2,555.75	9.45	8.79	-179.264	-2,513.41	-32.27	2,517.75	2,499.53	18.22	138.153	
2,800.00	2,800.00	2,658.33	2,655.42	9.81	9.13	-179.272	-2,519.13	-32.01	2,523.48	2,504.56	18.92	133.392	
2,900.00	2,900.00	2,758.16	2,755.09	10.17	9.47	-179.279	-2,524.86	-31.75	2,529.21	2,509.60	19.61	128.956	
3,000.00	3,000.00	2,858.00	2,854.76	10.53	9.81	-179.287	-2,530.58	-31.49	2,534.94	2,514.63	20.31	124.814	
3,100.00	3,100.00	2,957.83	2,954.43	10.89	10.16	-179.294	-2,536.30	-31.23	2,540.67	2,519.66	21.01	120.938	
3,200.00	3,200.00	3,057.67	3,054.10	11.25	10.50	-179.302	-2,542.03	-30.97	2,546.40	2,524.69	21.71	117.304	
3,300.00	3,300.00	3,157.50	3,153.77	11.61	10.85	-179.309	-2,547.75	-30.71	2,552.13	2,529.72	22.41	113.891	
3,400.00	3,400.00	3,257.34	3,253.45	11.96	11.20	-179.317	-2,553.48	-30.45	2,557.86	2,534.75	23.11	110.679	
3,500.00	3,500.00	3,357.17	3,353.12	12.32	11.55	-179.324	-2,559.20	-30.19	2,563.59	2,539.77	23.81	107.653	
3,600.00	3,600.00	3,457.01	3,452.79	12.68	11.90	-179.331	-2,564.92	-29.93	2,569.32	2,544.80	24.52	104.796	
3,700.00	3,700.00	3,556.84	3,552.46	13.04	12.25	-179.339	-2,570.65	-29.67	2,575.05	2,549.83	25.22	102.095	
3,800.00	3,800.00	3,656.68	3,652.13	13.40	12.60	-179.346	-2,576.37	-29.41	2,580.78	2,554.85	25.93	99.539	
3,900.00	3,900.00	3,756.51	3,751.80	13.76	12.95	-179.353	-2,582.09	-29.15	2,586.51	2,559.87	26.63	97.115	
4,000.00	4,000.00	3,856.35	3,851.47	14.11	13.31	-179.360	-2,587.82	-28.89	2,592.24	2,564.90	27.34	94.814	
4,100.00	4,100.00	3,956.18	3,951.14	14.47	13.66	-179.367	-2,593.54	-28.63	2,597.97	2,569.92	28.05	92.627	
4,200.00	4,200.00	4,056.02	4,050.81	14.83	14.02	-179.375	-2,599.26	-28.37	2,603.70	2,574.94	28.76	90.546	
4,300.00	4,300.00	4,155.85	4,150.48	15.19	14.37	-179.382	-2,604.99	-28.11	2,609.43	2,579.96	29.46	88.563	
4,400.00	4,400.00	4,255.69	4,250.15	15.55	14.73	-179.389	-2,610.71	-27.86	2,615.16	2,584.98	30.17	86.672	
4,500.00	4,500.00	4,355.52	4,349.82	15.91	15.09	-179.396	-2,616.44	-27.60	2,620.89	2,590.00	30.88	84.867	
4,600.00	4,600.00	4,455.36	4,449.49	16.27	15.45	-179.403	-2,622.16	-27.34	2,626.62	2,595.02	31.59	83.141	
4,700.00	4,700.00	4,555.19	4,549.16	16.62	15.80	-179.410	-2,627.88	-27.08	2,632.35	2,600.04	32.30	81.491	
4,800.00	4,800.00	4,655.03	4,648.83	16.98	16.16	-179.417	-2,633.61	-26.82	2,638.08	2,605.06	33.01	79.911	
4,900.00	4,900.00	4,754.86	4,748.50	17.34	16.52	-179.424	-2,639.33	-26.56	2,643.81	2,610.08	33.72	78.396	
5,000.00	5,000.00	4,854.70	4,848.18	17.70	16.88	-179.430	-2,645.05	-26.30	2,649.54	2,615.10	34.43	76.943	
5,100.00	5,100.00	4,954.54	4,947.85	18.06	17.24	-179.437	-2,650.78	-26.04	2,655.27	2,620.12	35.15	75.549	
5,200.00	5,200.00	5,054.37	5,047.52	18.42	17.60	-179.444	-2,656.50	-25.78	2,661.00	2,625.14	35.86	74.209	
5,300.00	5,300.00	5,154.21	5,147.19	18.77	17.96	-179.451	-2,662.22	-25.52	2,666.73	2,630.16	36.57	72.921	
5,400.00	5,400.00	5,254.04	5,246.86	19.13	18.32	-179.458	-2,667.95	-25.26	2,672.46	2,635.18	37.28	71.682	
5,500.00	5,499.99	5,353.94	5,346.59	19.47	18.68	23.389	-2,673.67	-25.00	2,676.99	2,639.01	37.98	70.489	
5,600.00	5,599.91	5,453.90	5,446.39	19.80	19.05	23.403	-2,679.41	-24.74	2,679.12	2,640.46	38.66	69.306	
5,700.00	5,699.69	5,553.87	5,546.20	20.12	19.41	23.453	-2,685.14	-24.48	2,678.85	2,639.51	39.34	68.100	
5,800.00	5,799.27	5,653.78	5,645.94	20.45	19.77	23.540	-2,690.86	-24.22	2,676.18	2,636.16	40.02	66.874	
5,862.14	5,861.01	5,715.79	5,707.85	20.65	19.99	23.613	-2,694.42	-24.05	2,673.31	2,632.87	40.44	66.103	
5,900.00	5,898.60	5,753.56	5,745.56	20.78	20.13	23.650	-2,696.59	-23.96	2,671.29	2,630.59	40.70	65.634	
6,000.00	5,997.87	6,004.88	5,996.64	21.10	21.03	23.901	-2,706.36	-23.51	2,665.62	2,623.69	41.93	63.573	
6,100.00	6,097.13	6,105.38	6,097.13	21.44	21.37	24.007	-2,706.36	-23.51	2,654.57	2,611.97	42.60	62.313	
6,200.00	6,196.40	6,204.65	6,196.40	21.77	21.70	24.114	-2,706.36	-23.51	2,643.54	2,600.27	43.27	61.095	
6,300.00	6,295.67	6,303.91	6,295.67	22.10	22.04	24.221	-2,706.36	-23.51	2,632.51	2,588.57	43.94	59.912	
6,400.00	6,394.94	6,403.18	6,394.94	22.44	22.37	24.329	-2,706.36	-23.51	2,621.50	2,576.89	44.61	58.762	
6,500.00	6,494.21	6,502.45	6,494.21	22.78	22.71	24.438	-2,706.36	-23.51	2,610.49	2,565.20	45.29	57.644	
6,600.00	6,593.48	6,601.72	6,593.48	23.12	23.05	24.548	-2,706.36	-23.51	2,599.49	2,553.53	45.96	56.557	
6,700.00	6,692.75	6,700.99	6,692.75	23.46	23.39	24.659	-2,706.36	-23.51	2,588.51	2,541.87	46.64	55.500	
6,800.00	6,792.02	6,800.26	6,792.02	23.81	23.73	24.771	-2,706.36	-23.51	2,577.53	2,530.21	47.32	54.472	
6,900.00	6,891.29	6,899.53	6,891.29	24.16	24.07	24.883	-2,706.36	-23.51	2,566.56	2,518.56	48.00	53.471	
7,000.00	6,990.56	6,998.80	6,990.56	24.50	24.41	24.997	-2,706.36	-23.51	2,555.60	2,506.92	48.68	52.497	
7,100.00	7,089.82	7,098.07	7,089.82	24.85	24.75	25.112	-2,706.36	-23.51	2,544.66	2,495.29	49.36	51.549	
7,200.00	7,189.09	7,197.34	7,189.09	25.20	25.09	25.227	-2,706.36	-23.51	2,533.72	2,483.67	50.05	50.625	
7,300.00	7,288.36	7,296.60	7,288.36	25.56	25.43	25.344	-2,706.36	-23.51	2,522.79	2,472.06	50.73	49.726	
7,400.00	7,387.63	7,395.87	7,387.63	25.91	25.77	25.462	-2,706.36	-23.51	2,511.87	2,460.45	51.42	48.849	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 111H - Wellbore #1 - Design #1

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Survey Program: 0-MWD+HRGM		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
7,500.00	7,486.90	7,495.14	7,486.90	26.26	26.11	25.580	-2,706.36	-23.51	2,500.97	2,448.86	52.11	47.995	
7,600.00	7,586.17	7,594.41	7,586.17	26.62	26.45	25.700	-2,706.36	-23.51	2,490.07	2,437.27	52.80	47.162	
7,700.00	7,685.44	7,693.68	7,685.44	26.98	26.80	25.821	-2,706.36	-23.51	2,479.19	2,425.70	53.49	46.349	
7,800.00	7,784.71	7,792.95	7,784.71	27.33	27.14	25.943	-2,706.36	-23.51	2,468.31	2,414.13	54.18	45.557	
7,900.00	7,883.98	7,892.22	7,883.98	27.69	27.48	26.066	-2,706.36	-23.51	2,457.45	2,402.58	54.87	44.784	
8,000.00	7,983.25	7,991.49	7,983.25	28.05	27.83	26.190	-2,706.36	-23.51	2,446.60	2,391.03	55.57	44.030	
8,100.00	8,082.51	8,090.76	8,082.51	28.42	28.17	26.315	-2,706.36	-23.51	2,435.76	2,379.50	56.26	43.294	
8,200.00	8,181.78	8,190.03	8,181.78	28.78	28.51	26.441	-2,706.36	-23.51	2,424.93	2,367.97	56.96	42.575	
8,300.00	8,281.05	8,289.29	8,281.05	29.14	28.86	26.569	-2,706.36	-23.51	2,414.12	2,356.46	57.65	41.873	
8,400.00	8,380.32	8,388.56	8,380.32	29.50	29.20	26.697	-2,706.36	-23.51	2,403.31	2,344.96	58.35	41.188	
8,500.00	8,479.59	8,487.83	8,479.59	29.87	29.55	26.827	-2,706.36	-23.51	2,392.52	2,333.47	59.05	40.518	
8,600.00	8,578.86	8,587.10	8,578.86	30.24	29.89	26.958	-2,706.36	-23.51	2,381.74	2,321.99	59.75	39.864	
8,700.00	8,678.13	8,686.37	8,678.13	30.60	30.24	27.090	-2,706.36	-23.51	2,370.97	2,310.52	60.45	39.224	
8,800.00	8,777.40	8,785.64	8,777.40	30.97	30.58	27.223	-2,706.36	-23.51	2,360.22	2,299.07	61.15	38.599	
8,900.00	8,876.67	8,884.91	8,876.67	31.34	30.93	27.357	-2,706.36	-23.51	2,349.47	2,287.62	61.85	37.987	
9,000.00	8,975.94	8,984.18	8,975.94	31.71	31.28	27.493	-2,706.36	-23.51	2,338.74	2,276.19	62.55	37.389	
9,100.00	9,075.20	9,083.45	9,075.20	32.08	31.62	27.630	-2,706.36	-23.51	2,328.03	2,264.77	63.25	36.805	
9,200.00	9,174.47	9,182.72	9,174.47	32.45	31.97	27.768	-2,706.36	-23.51	2,317.32	2,253.37	63.96	36.232	
9,300.00	9,273.74	9,281.98	9,273.74	32.82	32.32	27.907	-2,706.36	-23.51	2,306.63	2,241.97	64.66	35.673	
9,400.00	9,373.01	9,381.25	9,373.01	33.19	32.66	28.048	-2,706.36	-23.51	2,295.96	2,230.59	65.37	35.125	
9,500.00	9,472.28	9,480.52	9,472.28	33.56	33.01	28.190	-2,706.36	-23.51	2,285.30	2,219.23	66.07	34.588	
9,600.00	9,571.55	9,579.79	9,571.55	33.93	33.36	28.334	-2,706.36	-23.51	2,274.65	2,207.87	66.78	34.063	
9,700.00	9,670.82	9,679.06	9,670.82	34.31	33.71	28.478	-2,706.36	-23.51	2,264.02	2,196.53	67.48	33.548	
9,800.00	9,770.09	9,778.33	9,770.09	34.68	34.05	28.624	-2,706.36	-23.51	2,253.40	2,185.20	68.19	33.045	
9,900.00	9,869.36	9,877.60	9,869.36	35.05	34.40	28.772	-2,706.36	-23.51	2,242.79	2,173.89	68.90	32.551	
10,000.00	9,968.63	14,136.73	12,147.92	35.43	51.60	158.929	-487.19	75.06	2,183.16	2,132.94	50.22	43.472	
10,100.00	10,067.89	14,125.56	12,147.92	35.80	51.51	157.588	-498.36	75.17	2,084.36	2,033.84	50.52	41.259	
10,200.00	10,167.16	14,114.39	12,147.92	36.18	51.42	156.180	-509.53	75.28	1,985.63	1,934.80	50.83	39.065	
10,300.00	10,266.43	14,103.23	12,147.92	36.55	51.33	154.702	-520.69	75.40	1,886.96	1,835.81	51.15	36.892	
10,400.00	10,365.70	14,092.06	12,147.92	36.93	51.24	153.152	-531.86	75.51	1,788.37	1,736.88	51.48	34.738	
10,500.00	10,464.97	14,080.89	12,147.92	37.31	51.15	151.527	-543.03	75.62	1,689.87	1,638.03	51.83	32.604	
10,600.00	10,564.24	14,069.72	12,147.92	37.69	51.06	149.822	-554.20	75.73	1,591.47	1,539.28	52.20	30.489	
10,700.00	10,663.51	14,058.56	12,147.92	38.06	50.97	148.037	-565.36	75.85	1,493.21	1,440.63	52.59	28.394	
10,800.00	10,762.78	14,047.39	12,147.92	38.44	50.88	146.169	-576.53	75.96	1,395.11	1,342.10	53.01	26.320	
10,900.00	10,862.05	14,036.22	12,147.92	38.82	50.79	144.215	-587.70	76.07	1,297.20	1,243.74	53.46	24.264	
11,000.00	10,961.32	14,025.05	12,147.92	39.20	50.70	142.175	-598.86	76.19	1,199.53	1,145.57	53.96	22.228	
11,100.00	11,060.58	14,013.89	12,147.92	39.58	50.62	140.049	-610.03	76.30	1,102.17	1,047.64	54.53	20.212	
11,200.00	11,159.85	14,002.72	12,147.92	39.96	50.53	137.836	-621.20	76.41	1,005.20	950.01	55.19	18.214	
11,300.00	11,259.12	13,991.55	12,147.92	40.34	50.44	135.540	-632.36	76.53	908.75	852.78	55.97	16.236	
11,400.00	11,358.39	13,980.38	12,147.92	40.72	50.36	133.163	-643.53	76.64	813.00	756.07	56.94	14.279	
11,500.00	11,457.66	13,969.22	12,147.92	41.10	50.27	130.708	-654.70	76.75	718.24	660.06	58.18	12.345	
11,600.00	11,556.93	13,958.05	12,147.92	41.48	50.19	128.182	-665.86	76.87	624.92	565.06	59.86	10.440	
11,700.00	11,656.20	13,946.88	12,147.92	41.86	50.10	125.592	-677.03	76.98	533.79	471.55	62.23	8.577	
11,800.00	11,755.47	13,935.71	12,147.92	42.24	50.01	122.945	-688.20	77.09	446.18	380.42	65.76	6.785	
11,900.00	11,854.74	13,924.55	12,147.92	42.63	49.93	120.253	-699.36	77.20	364.67	293.50	71.17	5.124	
12,000.00	11,954.01	13,913.38	12,147.92	43.01	49.84	117.526	-710.53	77.32	294.34	215.15	79.19	3.717	
12,100.00	12,053.27	13,902.21	12,147.92	43.39	49.76	114.775	-721.70	77.43	245.03	156.35	88.68	2.763	
12,184.66	12,137.31	13,892.76	12,147.92	43.71	49.69	112.437	-731.15	77.53	230.13	136.97	93.17	2.470 CC, ES, SF	
12,200.00	12,152.54	13,891.04	12,147.92	43.77	49.68	112.013	-732.87	77.54	230.64	137.42	93.22	2.474	
12,300.00	12,251.81	13,879.88	12,147.92	44.16	49.59	109.254	-744.03	77.66	257.10	168.76	88.33	2.910	
12,400.00	12,351.08	13,868.71	12,147.92	44.54	49.51	106.509	-755.20	77.77	314.25	234.07	80.19	3.919	
12,500.00	12,450.35	13,857.54	12,147.92	44.92	49.43	103.791	-766.37	77.88	388.79	315.04	73.75	5.272	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 111H - Wellbore #1 - Design #1

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Survey Program: 0-MWD+HRGM		Reference Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,600.00	12,549.62	13,846.37	12,147.92	45.31	49.35	101.111	-777.53	78.00	472.57	403.03	69.54	6.796	
12,700.00	12,648.89	13,835.21	12,147.92	45.69	49.27	98.481	-788.70	78.11	561.45	494.56	66.89	8.394	
12,800.00	12,748.16	13,824.04	12,147.92	46.08	49.18	95.910	-799.87	78.22	653.36	588.14	65.23	10.017	
12,900.00	12,847.43	13,812.87	12,147.92	46.46	49.10	93.405	-811.03	78.33	747.19	683.00	64.18	11.641	
13,000.00	12,946.70	13,801.70	12,147.92	46.84	49.02	90.974	-822.20	78.45	842.29	778.75	63.54	13.256	
13,100.00	13,045.96	13,790.54	12,147.92	47.23	48.94	88.621	-833.37	78.56	938.28	875.11	63.17	14.854	
13,200.00	13,145.23	13,779.37	12,147.92	47.61	48.86	86.350	-844.53	78.67	1,034.90	971.93	62.97	16.435	
13,300.00	13,244.50	13,768.20	12,147.92	48.00	48.78	84.164	-855.70	78.79	1,132.00	1,069.10	62.90	17.996	
13,400.00	13,343.77	13,757.04	12,147.92	48.39	48.70	82.064	-866.87	78.90	1,229.47	1,166.54	62.93	19.537	
13,500.00	13,443.04	13,745.87	12,147.92	48.77	48.63	80.051	-878.03	79.01	1,327.22	1,264.19	63.03	21.058	
13,600.00	13,542.31	13,734.70	12,147.92	49.16	48.55	78.123	-889.20	79.13	1,425.19	1,362.01	63.18	22.559	
13,700.00	13,641.58	13,723.53	12,147.92	49.54	48.47	76.280	-900.37	79.24	1,523.35	1,459.98	63.37	24.040	
13,800.00	13,740.85	13,712.37	12,147.92	49.93	48.39	74.520	-911.53	79.35	1,621.65	1,558.06	63.59	25.502	
13,900.00	13,840.12	13,701.20	12,147.92	50.32	48.31	72.840	-922.70	79.47	1,720.08	1,656.24	63.84	26.943	
14,000.00	13,939.39	13,690.03	12,147.92	50.70	48.24	71.238	-933.87	79.58	1,818.61	1,754.49	64.11	28.365	
14,100.00	14,038.65	13,678.86	12,147.92	51.09	48.16	69.711	-945.04	79.69	1,917.22	1,852.82	64.41	29.767	
14,200.00	14,137.92	13,667.70	12,147.92	51.48	48.09	68.255	-956.20	79.80	2,015.91	1,951.20	64.72	31.151	
14,300.00	14,237.19	13,656.53	12,147.92	51.86	48.01	66.868	-967.37	79.92	2,114.67	2,049.63	65.04	32.515	
14,400.00	14,336.46	13,645.36	12,147.92	52.25	47.94	65.546	-978.54	80.03	2,213.48	2,148.11	65.37	33.861	
14,500.00	14,435.73	13,634.19	12,147.92	52.64	47.86	64.286	-989.70	80.14	2,312.34	2,246.62	65.71	35.188	
14,600.00	14,535.00	13,623.03	12,147.92	53.03	47.79	63.085	-1,000.87	80.26	2,411.24	2,345.17	66.07	36.497	
14,700.00	14,634.27	13,611.86	12,147.92	53.41	47.71	61.940	-1,012.04	80.37	2,510.18	2,443.75	66.43	37.788	
14,800.00	14,733.54	13,600.69	12,147.92	53.80	47.64	60.848	-1,023.20	80.48	2,609.15	2,542.35	66.80	39.061	
14,900.00	14,832.81	13,589.52	12,147.92	54.19	47.57	59.806	-1,034.37	80.60	2,708.15	2,640.98	67.17	40.316	
15,000.00	14,932.08	13,578.36	12,147.92	54.58	47.50	58.812	-1,045.54	80.71	2,807.18	2,739.62	67.56	41.552	
15,100.00	15,031.34	13,567.19	12,147.92	54.97	47.43	57.862	-1,056.70	80.82	2,906.23	2,838.28	67.95	42.772	
15,200.00	15,130.61	13,556.02	12,147.92	55.35	47.35	56.954	-1,067.87	80.93	3,005.30	2,936.96	68.34	43.974	
15,300.00	15,229.88	13,544.85	12,147.92	55.74	47.28	56.087	-1,079.04	81.05	3,104.40	3,035.65	68.74	45.159	
15,400.00	15,329.15	13,533.69	12,147.92	56.13	47.21	55.257	-1,090.20	81.16	3,203.51	3,134.36	69.15	46.327	
15,500.00	15,428.42	13,522.52	12,147.92	56.52	47.14	54.463	-1,101.37	81.27	3,302.63	3,233.07	69.56	47.479	
15,600.00	15,527.69	13,511.35	12,147.92	56.91	47.07	53.702	-1,112.54	81.39	3,401.77	3,331.79	69.98	48.614	
15,700.00	15,626.96	13,500.18	12,147.92	57.30	47.00	52.974	-1,123.71	81.50	3,500.92	3,430.53	70.40	49.732	
15,800.00	15,726.23	13,489.02	12,147.92	57.69	46.93	52.275	-1,134.87	81.61	3,600.09	3,529.27	70.82	50.833	
15,900.00	15,825.50	13,477.85	12,147.92	58.08	46.87	51.605	-1,146.04	81.73	3,699.27	3,628.01	71.25	51.918	
16,000.00	15,924.77	13,466.68	12,147.92	58.47	46.80	50.962	-1,157.21	81.84	3,798.45	3,726.77	71.69	52.987	
16,100.00	16,024.03	13,455.51	12,147.92	58.86	46.73	50.345	-1,168.37	81.95	3,897.65	3,825.53	72.12	54.041	
16,200.00	16,123.30	13,444.35	12,147.92	59.25	46.66	49.751	-1,179.54	82.07	3,996.86	3,924.29	72.57	55.079	
16,300.00	16,222.57	13,433.18	12,147.92	59.63	46.60	49.181	-1,190.71	82.18	4,096.07	4,023.06	73.01	56.101	
16,400.00	16,321.84	13,422.01	12,147.92	60.02	46.53	48.632	-1,201.87	82.29	4,195.29	4,121.83	73.46	57.109	
16,500.00	16,421.11	13,410.84	12,147.92	60.41	46.46	48.104	-1,213.04	82.40	4,294.52	4,220.60	73.91	58.101	
16,600.00	16,520.38	13,399.68	12,147.92	60.80	46.40	47.595	-1,224.21	82.52	4,393.75	4,319.38	74.37	59.078	
16,700.00	16,619.65	13,388.51	12,147.92	61.19	46.33	47.105	-1,235.37	82.63	4,492.99	4,418.16	74.83	60.040	
16,800.00	16,718.92	13,377.34	12,147.92	61.58	46.27	46.632	-1,246.54	82.74	4,592.24	4,516.94	75.30	60.986	
16,900.00	16,818.19	13,366.18	12,147.92	61.98	46.21	46.176	-1,257.71	82.86	4,691.49	4,615.72	75.77	61.918	
17,000.00	16,917.46	13,355.01	12,147.92	62.37	46.15	45.736	-1,268.87	82.97	4,790.75	4,714.51	76.24	62.836	
17,021.69	16,938.99	13,352.59	12,147.92	62.45	46.13	45.643	-1,271.30	82.99	4,812.28	4,735.94	76.34	63.033	
17,100.00	17,016.82	13,344.58	12,147.92	62.75	46.09	53.007	-1,279.30	83.08	4,890.08	4,813.36	76.72	63.739	
17,200.00	17,116.43	13,336.50	12,147.92	63.13	46.04	65.213	-1,287.38	83.16	4,989.57	4,912.36	77.21	64.625	
17,300.00	17,216.24	13,330.84	12,147.92	63.49	46.01	80.734	-1,293.04	83.21	5,089.18	5,011.47	77.71	65.493	
17,400.00	17,316.18	13,327.60	12,147.92	63.85	45.99	98.208	-1,296.28	83.25	5,188.83	5,110.62	78.21	66.342	
17,483.83	17,400.00	13,326.75	12,147.92	64.13	45.99	-90.580	-1,297.13	83.26	5,272.36	5,193.71	78.64	67.040	
17,500.00	17,416.17	13,326.75	12,147.92	64.18	45.99	-90.580	-1,297.13	83.26	5,288.46	5,209.74	78.73	67.173	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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Page 5

COMPASS 5000.15 Build 91E



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 111H - Wellbore #1 - Design #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Rule Assigned:			Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,600.00	17,516.17	13,326.75	12,147.92	64.50	45.99	-90.580	-1,297.13	83.26	5,388.09	5,308.84	79.25	67.989	
17,700.00	17,616.17	13,326.75	12,147.92	64.83	45.99	-90.580	-1,297.13	83.26	5,487.73	5,407.95	79.77	68.790	
17,800.00	17,716.17	13,326.75	12,147.92	65.15	45.99	-90.580	-1,297.13	83.26	5,587.38	5,507.08	80.30	69.579	
17,900.00	17,816.17	13,326.75	12,147.92	65.47	45.99	-90.580	-1,297.13	83.26	5,687.04	5,606.21	80.84	70.353	
18,000.00	17,916.17	13,326.75	12,147.92	65.80	45.99	-90.580	-1,297.13	83.26	5,786.72	5,705.35	81.37	71.115	
18,100.00	18,016.17	13,326.75	12,147.92	66.12	45.99	-90.580	-1,297.13	83.26	5,886.40	5,804.49	81.91	71.864	
18,200.00	18,116.17	13,326.75	12,147.92	66.45	45.99	-90.580	-1,297.13	83.26	5,986.10	5,903.65	82.45	72.600	
18,300.00	18,216.17	13,326.75	12,147.92	66.77	45.99	-90.580	-1,297.13	83.26	6,085.81	6,002.81	83.00	73.324	
18,400.00	18,316.17	13,326.75	12,147.92	67.10	45.99	-90.580	-1,297.13	83.26	6,185.52	6,101.98	83.55	74.035	
18,500.00	18,416.17	13,326.75	12,147.92	67.42	45.99	-90.580	-1,297.13	83.26	6,285.25	6,201.15	84.10	74.734	
18,600.00	18,516.17	13,326.75	12,147.92	67.75	45.99	-90.580	-1,297.13	83.26	6,384.98	6,300.32	84.66	75.420	
18,700.00	18,616.17	13,326.75	12,147.92	68.07	45.99	-90.580	-1,297.13	83.26	6,484.73	6,399.51	85.22	76.095	
18,733.83	18,650.00	13,326.75	12,147.92	68.18	45.99	-90.580	-1,297.13	83.26	6,518.47	6,433.06	85.41	76.321	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 121H - Wellbore #2 - Surveys													Offset Site Error:
Survey Program: 58-MWD+IFR1, 11786-MWD+HRGM, 12651-MWD+HRGM													Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference Offset (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	-2.00	0.00	0.00	-179.683	-2,485.80	-13.77	2,485.84				
100.00	100.00	100.04	98.04	0.13	0.20	-179.680	-2,485.96	-13.88	2,486.00	2,485.66	0.34	7,332.742	
200.00	200.00	229.50	227.49	0.49	0.66	-179.671	-2,485.34	-14.27	2,485.54	2,484.38	1.15	2,156.867	
300.00	300.00	321.10	319.09	0.85	0.98	-179.669	-2,484.38	-14.34	2,484.50	2,482.66	1.83	1,355.665	
400.00	400.00	431.46	429.44	1.21	1.37	-179.673	-2,483.86	-14.19	2,484.08	2,481.50	2.58	963.739	
500.00	500.00	523.91	521.89	1.57	1.69	-179.681	-2,483.01	-13.84	2,483.14	2,479.88	3.26	760.922	
600.00	600.00	609.85	607.83	1.93	2.00	-179.682	-2,482.34	-13.76	2,482.39	2,478.47	3.93	632.302	
700.00	700.00	713.47	711.45	2.29	2.36	-179.653	-2,482.15	-15.02	2,482.22	2,477.57	4.65	534.120	
769.12	769.12	771.15	769.12	2.53	2.56	-179.634	-2,481.92	-15.85	2,481.98	2,476.88	5.10	487.127	
800.00	800.00	793.26	791.22	2.64	2.64	-179.631	-2,481.96	-15.99	2,482.03	2,476.75	5.28	469.896	
900.00	900.00	870.48	868.44	3.00	2.90	-179.633	-2,482.64	-15.90	2,482.89	2,476.99	5.90	420.491	
1,000.00	1,000.00	955.98	953.93	3.36	3.20	-179.633	-2,484.02	-15.91	2,484.50	2,477.94	6.56	379.005	
1,100.00	1,100.00	1,065.88	1,063.81	3.72	3.58	-179.643	-2,486.06	-15.51	2,486.37	2,479.08	7.29	340.911	
1,200.00	1,200.00	1,156.39	1,154.30	4.08	3.89	-179.681	-2,487.35	-13.85	2,487.81	2,479.84	7.97	312.327	
1,300.00	1,300.00	1,234.24	1,232.08	4.44	4.16	-179.741	-2,489.15	-11.26	2,490.10	2,481.51	8.59	289.739	
1,400.00	1,400.00	1,312.92	1,310.65	4.79	4.44	-179.818	-2,491.64	-7.91	2,493.26	2,484.03	9.23	270.235	
1,500.00	1,500.00	1,418.29	1,415.82	5.15	4.81	-179.934	-2,495.62	-2.87	2,497.04	2,487.09	9.95	250.835	
1,600.00	1,600.00	1,508.66	1,506.08	5.51	5.13	179.989	-2,498.62	0.49	2,500.39	2,489.76	10.63	235.205	
1,700.00	1,700.00	1,611.92	1,609.20	5.87	5.49	179.911	-2,502.67	3.87	2,504.32	2,492.96	11.35	220.562	
1,800.00	1,800.00	1,739.92	1,737.13	6.23	5.95	179.868	-2,506.60	5.77	2,507.40	2,495.23	12.17	206.077	
1,900.00	1,900.00	1,826.47	1,823.64	6.59	6.25	179.868	-2,509.09	5.80	2,510.26	2,497.43	12.83	195.663	
2,000.00	2,000.00	1,950.38	1,947.50	6.95	6.69	179.868	-2,512.24	5.78	2,512.80	2,499.17	13.63	184.392	
2,100.00	2,100.00	2,056.85	2,053.96	7.30	7.07	179.857	-2,514.20	6.29	2,514.62	2,500.26	14.36	175.072	
2,200.00	2,200.00	2,086.00	2,083.10	7.66	7.17	179.856	-2,514.74	6.32	2,517.47	2,502.65	14.82	169.908	
2,300.00	2,300.00	2,178.54	2,175.58	8.02	7.50	179.879	-2,517.92	5.33	2,520.99	2,505.49	15.50	162.847	
2,400.00	2,400.00	2,275.00	2,271.78	8.38	7.84	179.950	-2,524.19	2.19	2,527.45	2,511.25	16.20	156.040	
2,500.00	2,500.00	2,275.00	2,271.78	8.74	7.84	179.950	-2,524.19	2.19	2,534.49	2,517.97	16.52	153.403	
2,600.00	2,600.00	2,347.95	2,344.34	9.10	8.10	-179.970	-2,530.80	-1.31	2,543.68	2,526.56	17.12	148.547	
2,700.00	2,700.00	2,406.74	2,402.70	9.45	8.31	-179.897	-2,537.16	-4.57	2,554.53	2,536.86	17.66	144.610	
2,800.00	2,800.00	2,464.00	2,459.40	9.81	8.51	-179.817	-2,544.25	-8.13	2,566.96	2,548.76	18.19	141.085	
2,900.00	2,900.00	2,547.82	2,542.27	10.17	8.81	-179.694	-2,555.54	-13.64	2,580.49	2,561.65	18.84	136.998	
3,000.00	3,000.00	2,644.36	2,637.67	10.53	9.16	-179.556	-2,568.93	-19.92	2,594.44	2,574.90	19.53	132.821	
3,100.00	3,100.00	2,737.82	2,730.03	10.89	9.50	-179.428	-2,582.00	-25.76	2,608.50	2,588.28	20.22	129.014	
3,200.00	3,200.00	2,837.50	2,828.55	11.25	9.87	-179.305	-2,596.06	-31.49	2,622.69	2,601.76	20.93	125.290	
3,300.00	3,300.00	2,942.39	2,932.25	11.61	10.25	-179.182	-2,610.72	-37.27	2,636.76	2,615.08	21.67	121.670	
3,400.00	3,400.00	3,062.84	3,051.39	11.96	10.69	-179.034	-2,627.00	-44.28	2,650.40	2,627.92	22.48	117.901	
3,500.00	3,500.00	3,241.80	3,228.96	12.32	11.35	-178.888	-2,647.96	-51.38	2,662.29	2,638.75	23.54	113.103	
3,600.00	3,600.00	3,392.40	3,378.90	12.68	11.90	-178.844	-2,661.74	-53.69	2,671.45	2,646.98	24.47	109.192	
3,700.00	3,700.00	3,527.54	3,513.66	13.04	12.39	-178.833	-2,671.83	-54.44	2,678.87	2,653.55	25.32	105.785	
3,800.00	3,800.00	3,623.18	3,609.05	13.40	12.74	-178.861	-2,678.60	-53.26	2,685.93	2,659.90	26.02	103.211	
3,900.00	3,900.00	3,720.27	3,705.90	13.76	13.09	-178.854	-2,685.51	-53.73	2,693.05	2,666.32	26.73	100.752	
4,000.00	4,000.00	3,813.94	3,799.30	14.11	13.43	-178.834	-2,692.39	-54.80	2,700.41	2,672.99	27.42	98.475	
4,100.00	4,100.00	3,917.64	3,902.71	14.47	13.81	-178.813	-2,700.01	-55.96	2,707.79	2,679.63	28.16	96.173	
4,200.00	4,200.00	4,020.99	4,005.78	14.83	14.19	-178.783	-2,707.41	-57.54	2,714.98	2,686.09	28.89	93.985	
4,300.00	4,300.00	4,129.25	4,113.76	15.19	14.58	-178.736	-2,715.01	-59.91	2,722.05	2,692.41	29.64	91.842	
4,400.00	4,400.00	4,383.50	4,367.65	15.55	15.50	-178.671	-2,726.79	-63.24	2,727.72	2,696.80	30.92	88.211	
4,500.00	4,500.00	4,511.99	4,496.14	15.91	15.95	-178.677	-2,727.30	-62.98	2,728.03	2,696.30	31.73	85.986	
4,600.00	4,600.00	4,615.02	4,599.16	16.27	16.30	-178.677	-2,727.41	-63.00	2,728.14	2,695.70	32.44	84.088	
4,700.00	4,700.00	4,712.77	4,696.92	16.62	16.64	-178.674	-2,727.45	-63.12	2,728.19	2,695.04	33.14	82.315	
4,800.00	4,800.00	4,810.54	4,794.68	16.98	16.99	-178.673	-2,727.61	-63.20	2,728.35	2,694.50	33.85	80.607	
4,900.00	4,900.00	4,910.88	4,895.03	17.34	17.34	-178.670	-2,727.80	-63.32	2,728.54	2,693.98	34.56	78.949	
5,000.00	5,000.00	5,019.81	5,003.96	17.70	17.72	-178.669	-2,727.82	-63.37	2,728.56	2,693.27	35.29	77.318	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 121H - Wellbore #2 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 58-MWD+IFR1, 11786-MWD+HRGM, 12651-MWD+HRGM							Rule Assigned:			Offset Well Error:				0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.00	5,100.00	5,118.13	5,102.27	18.06	18.04	-178.672	-2,727.72	-63.23	2,728.46	2,692.48	35.98	75.836		
5,200.00	5,200.00	5,220.00	5,204.14	18.42	18.38	-178.673	-2,727.57	-63.18	2,728.30	2,691.62	36.68	74.382		
5,244.22	5,244.22	5,260.06	5,244.20	18.57	18.52	-178.673	-2,727.54	-63.18	2,728.27	2,691.29	36.98	73.784		
5,300.00	5,300.00	5,312.60	5,296.74	18.77	18.70	-178.675	-2,727.59	-63.11	2,728.32	2,690.96	37.36	73.033		
5,400.00	5,400.00	5,415.44	5,399.59	19.13	19.06	-178.673	-2,727.62	-63.20	2,728.35	2,690.28	38.07	71.662		
5,500.00	5,499.99	5,513.32	5,497.47	19.47	19.40	24.217	-2,727.70	-63.32	2,727.25	2,688.49	38.76	70.371		
5,600.00	5,599.91	5,614.14	5,598.29	19.80	19.75	24.274	-2,727.73	-63.38	2,723.70	2,684.27	39.43	69.077		
5,700.00	5,699.69	5,711.90	5,696.05	20.12	20.09	24.365	-2,727.88	-63.34	2,717.88	2,677.78	40.10	67.784		
5,800.00	5,799.27	5,813.87	5,798.02	20.45	20.44	24.500	-2,727.93	-63.46	2,709.60	2,668.82	40.78	66.449		
5,862.14	5,861.01	5,875.31	5,859.46	20.65	20.66	24.603	-2,727.97	-63.54	2,703.27	2,662.07	41.19	65.623		
5,900.00	5,898.60	5,915.61	5,899.76	20.78	20.80	24.648	-2,727.97	-63.60	2,699.11	2,657.65	41.46	65.108		
6,000.00	5,997.87	6,012.23	5,996.38	21.10	21.13	24.755	-2,727.90	-63.73	2,688.06	2,645.95	42.12	63.823		
6,100.00	6,097.13	6,111.87	6,096.01	21.44	21.47	24.864	-2,728.03	-63.75	2,677.23	2,634.44	42.79	62.564		
6,200.00	6,196.40	6,209.96	6,194.11	21.77	21.81	24.974	-2,728.03	-63.87	2,666.27	2,622.80	43.46	61.346		
6,300.00	6,295.67	6,307.53	6,291.68	22.10	22.16	25.079	-2,728.18	-63.75	2,655.47	2,611.33	44.13	60.167		
6,400.00	6,394.94	6,406.29	6,390.43	22.44	22.50	25.186	-2,728.33	-63.60	2,644.68	2,599.86	44.81	59.014		
6,500.00	6,494.21	6,504.41	6,488.56	22.78	22.85	25.295	-2,728.52	-63.56	2,633.94	2,588.44	45.49	57.896		
6,600.00	6,593.48	6,608.46	6,592.61	23.12	23.21	25.415	-2,728.67	-63.67	2,623.16	2,576.97	46.19	56.787		
6,700.00	6,692.75	6,715.09	6,699.24	23.46	23.58	25.538	-2,728.56	-63.71	2,612.15	2,565.26	46.89	55.707		
6,800.00	6,792.02	6,804.72	6,788.86	23.81	23.89	25.640	-2,728.50	-63.65	2,601.18	2,553.64	47.54	54.715		
6,900.00	6,891.29	6,901.90	6,886.05	24.16	24.23	25.754	-2,728.66	-63.73	2,590.46	2,542.24	48.22	53.717		
7,000.00	6,990.56	7,009.81	6,993.95	24.50	24.60	25.880	-2,728.70	-63.67	2,579.61	2,530.67	48.93	52.717		
7,100.00	7,089.82	7,109.95	7,094.09	24.85	24.94	25.999	-2,728.54	-63.69	2,568.58	2,518.97	49.61	51.773		
7,200.00	7,189.09	7,206.90	7,191.04	25.20	25.27	26.119	-2,728.39	-63.91	2,557.59	2,507.30	50.29	50.861		
7,300.00	7,288.36	7,300.89	7,285.04	25.56	25.60	26.236	-2,728.44	-64.10	2,546.80	2,495.84	50.96	49.979		
7,400.00	7,387.63	7,403.20	7,387.34	25.91	25.95	26.358	-2,728.50	-64.00	2,536.01	2,484.36	51.66	49.095		
7,500.00	7,486.90	7,500.78	7,484.93	26.26	26.29	26.480	-2,728.53	-64.11	2,525.23	2,472.89	52.34	48.248		
7,600.00	7,586.17	7,598.07	7,582.22	26.62	26.64	26.604	-2,728.63	-64.29	2,514.53	2,461.51	53.03	47.420		
7,700.00	7,685.44	7,700.36	7,684.50	26.98	26.99	26.732	-2,728.80	-64.33	2,503.90	2,450.17	53.73	46.602		
7,800.00	7,784.71	7,801.74	7,785.88	27.33	27.34	26.858	-2,728.69	-64.28	2,493.00	2,438.57	54.42	45.807		
7,900.00	7,883.98	7,900.32	7,884.46	27.69	27.68	26.980	-2,728.75	-64.17	2,482.27	2,427.16	55.11	45.042		
8,000.00	7,983.25	8,003.03	7,987.18	28.05	28.03	27.113	-2,728.61	-64.22	2,471.38	2,415.57	55.81	44.283		
8,100.00	8,082.51	8,107.95	8,092.10	28.42	28.39	27.240	-2,728.39	-63.86	2,460.39	2,403.88	56.51	43.539		
8,200.00	8,181.78	8,211.53	8,195.67	28.78	28.74	27.358	-2,727.93	-63.11	2,449.15	2,391.94	57.21	42.811		
8,300.00	8,281.05	8,311.32	8,295.45	29.14	29.08	27.465	-2,727.42	-62.04	2,437.84	2,379.94	57.90	42.105		
8,400.00	8,380.32	8,409.30	8,393.43	29.50	29.41	27.565	-2,726.96	-60.77	2,426.55	2,367.97	58.58	41.419		
8,500.00	8,479.59	8,506.27	8,490.38	29.87	29.74	27.669	-2,726.57	-59.67	2,415.35	2,356.08	59.27	40.752		
8,600.00	8,578.86	8,610.30	8,594.41	30.24	30.10	27.791	-2,726.08	-58.87	2,404.12	2,344.14	59.97	40.086		
8,700.00	8,678.13	8,722.44	8,706.54	30.60	30.48	27.930	-2,725.08	-58.26	2,392.49	2,331.80	60.70	39.417		
8,800.00	8,777.40	8,826.85	8,810.94	30.97	30.83	28.069	-2,723.73	-57.95	2,380.52	2,319.12	61.40	38.771		
8,900.00	8,876.67	8,927.13	8,911.22	31.34	31.17	28.214	-2,722.25	-58.09	2,368.40	2,306.31	62.09	38.143		
9,000.00	8,975.94	9,024.64	9,008.71	31.71	31.51	28.371	-2,720.80	-58.82	2,356.36	2,293.58	62.78	37.533		
9,100.00	9,075.20	9,108.41	9,092.47	32.08	31.79	28.517	-2,719.63	-59.86	2,344.49	2,281.05	63.44	36.958		
9,200.00	9,174.47	9,188.85	9,172.91	32.45	32.08	28.636	-2,719.52	-60.03	2,333.71	2,269.63	64.09	36.414		
9,300.00	9,273.74	9,288.07	9,272.13	32.82	32.43	28.779	-2,719.58	-60.05	2,323.18	2,258.38	64.79	35.855		
9,400.00	9,373.01	9,387.29	9,371.35	33.19	32.78	28.922	-2,719.65	-60.05	2,312.66	2,247.16	65.50	35.307		
9,500.00	9,472.28	9,486.51	9,470.57	33.56	33.13	29.067	-2,719.73	-60.05	2,302.16	2,235.95	66.21	34.771		
9,600.00	9,571.55	9,585.74	9,569.79	33.93	33.48	29.213	-2,719.81	-60.02	2,291.67	2,224.76	66.92	34.247		
9,700.00	9,670.82	9,685.15	9,669.20	34.31	33.83	29.359	-2,719.88	-59.99	2,281.20	2,213.58	67.62	33.733		
9,800.00	9,770.09	9,784.66	9,768.72	34.68	34.18	29.508	-2,719.95	-59.96	2,270.74	2,202.40	68.33	33.230		
9,900.00	9,869.36	9,884.17	9,868.23	35.05	34.53	29.657	-2,720.01	-59.92	2,260.28	2,191.24	69.04	32.737		
10,000.00	9,968.63	9,983.68	9,967.73	35.43	34.88	29.809	-2,720.06	-59.89	2,249.82	2,180.07	69.75	32.254		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 121H - Wellbore #2 - Surveys												Offset Site Error:	0.00 usft
Survey Program: 58-MWD+IFR1, 11786-MWD+HRGM, 12651-MWD+HRGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.00	10,067.89	14,546.00	12,285.66	35.80	51.50	167.277	-353.55	34.85	2,229.26	2,178.82	50.44	44.195	
10,200.00	10,167.16	14,546.00	12,285.66	36.18	51.50	167.277	-353.55	34.85	2,131.69	2,080.83	50.87	41.908	
10,300.00	10,266.43	14,546.00	12,285.66	36.55	51.50	167.277	-353.55	34.85	2,034.36	1,983.05	51.31	39.646	
10,400.00	10,365.70	14,438.71	12,291.76	36.93	50.59	158.277	-460.64	34.67	1,936.56	1,885.54	51.02	37.956	
10,500.00	10,464.97	14,421.04	12,292.44	37.31	50.45	156.506	-478.29	35.26	1,838.73	1,787.38	51.35	35.805	
10,600.00	10,564.24	14,403.32	12,293.12	37.69	50.30	154.632	-495.98	36.05	1,741.00	1,689.29	51.70	33.673	
10,700.00	10,663.51	14,385.55	12,293.80	38.06	50.16	152.647	-513.70	37.04	1,643.37	1,591.30	52.07	31.560	
10,800.00	10,762.78	14,367.74	12,294.48	38.44	50.01	150.543	-531.46	38.23	1,545.87	1,493.40	52.46	29.466	
10,900.00	10,862.05	14,356.00	12,294.92	38.82	49.92	149.089	-543.16	39.12	1,448.53	1,395.61	52.92	27.370	
11,000.00	10,961.32	14,356.00	12,294.92	39.20	49.92	149.089	-543.16	39.12	1,351.54	1,298.03	53.51	25.256	
11,100.00	11,060.58	14,334.53	12,295.85	39.58	49.75	146.265	-564.55	40.80	1,254.72	1,200.72	54.00	23.235	
11,200.00	11,159.85	14,324.41	12,296.37	39.96	49.67	144.854	-574.63	41.58	1,158.41	1,103.76	54.65	21.199	
11,300.00	11,259.12	14,313.64	12,296.98	40.34	49.58	143.294	-585.35	42.39	1,062.61	1,007.23	55.38	19.188	
11,400.00	11,358.39	14,302.16	12,297.69	40.72	49.49	141.565	-596.78	43.23	967.47	911.22	56.24	17.202	
11,500.00	11,457.66	14,289.89	12,298.53	41.10	49.39	139.641	-608.98	44.12	873.16	815.89	57.28	15.245	
11,600.00	11,556.93	14,276.76	12,299.51	41.48	49.29	137.493	-622.04	45.05	779.98	721.41	58.56	13.318	
11,700.00	11,656.20	14,261.00	12,300.81	41.86	49.16	134.796	-637.71	46.14	688.33	628.13	60.20	11.433	
11,800.00	11,755.47	14,245.60	12,302.16	42.24	49.05	132.040	-653.02	47.19	598.85	536.42	62.43	9.593	
11,900.00	11,854.74	14,227.46	12,303.84	42.63	48.91	128.649	-671.03	48.42	512.56	447.07	65.49	7.826	
12,000.00	11,954.01	14,208.46	12,305.69	43.01	48.76	124.945	-689.90	49.71	431.32	361.45	69.87	6.173	
12,100.00	12,053.27	14,188.55	12,307.74	43.39	48.61	120.917	-709.66	51.06	358.52	282.45	76.07	4.713	
12,200.00	12,152.54	14,166.00	12,310.17	43.77	48.44	116.220	-732.02	52.59	300.25	216.32	83.93	3.578	
12,300.00	12,251.81	14,146.89	12,312.31	44.16	48.30	112.164	-750.98	53.82	266.13	175.20	90.92	2.927	
12,351.36	12,302.80	14,136.17	12,313.52	44.35	48.22	109.876	-761.61	54.47	261.36	168.95	92.41	2.828 CC, ES, SF	
12,400.00	12,351.08	14,125.97	12,314.68	44.54	48.15	107.699	-771.73	55.06	265.64	173.72	91.92	2.890	
12,500.00	12,450.35	14,104.83	12,317.10	44.92	47.99	103.218	-792.70	56.17	298.92	212.36	86.56	3.453	
12,600.00	12,549.62	14,083.47	12,319.58	45.31	47.84	98.784	-813.89	57.16	356.62	276.94	79.69	4.475	
12,700.00	12,648.89	14,071.00	12,321.05	45.69	47.75	96.260	-826.26	57.68	429.08	355.00	74.08	5.792	
12,800.00	12,748.16	14,049.14	12,323.32	46.08	47.59	91.965	-847.98	58.59	510.06	439.81	70.25	7.261	
12,900.00	12,847.43	14,036.61	12,324.35	46.46	47.51	89.579	-860.46	59.16	596.44	528.80	67.63	8.819	
13,000.00	12,946.70	14,025.85	12,325.07	46.84	47.43	87.584	-871.18	59.67	686.20	620.31	65.89	10.414	
13,100.00	13,045.96	14,016.53	12,325.58	47.23	47.37	85.895	-880.47	60.12	778.24	713.49	64.75	12.018	
13,200.00	13,145.23	14,008.38	12,325.94	47.61	47.31	84.450	-888.60	60.54	871.87	807.85	64.02	13.619	
13,300.00	13,244.50	14,001.19	12,326.19	48.00	47.26	83.200	-895.78	60.91	966.66	903.09	63.57	15.207	
13,400.00	13,343.77	13,976.00	12,326.53	48.39	47.08	79.018	-920.93	62.30	1,062.69	999.38	63.31	16.787	
13,500.00	13,443.04	13,976.00	12,326.53	48.77	47.08	79.018	-920.93	62.30	1,158.81	1,095.61	63.19	18.338	
13,600.00	13,542.31	13,976.00	12,326.53	49.16	47.08	79.018	-920.93	62.30	1,255.53	1,192.34	63.20	19.868	
13,700.00	13,641.58	13,976.00	12,326.53	49.54	47.08	79.018	-920.93	62.30	1,352.73	1,289.45	63.29	21.375	
13,800.00	13,740.85	13,880.00	12,330.14	49.93	46.44	66.317	-1,016.77	65.59	1,450.06	1,386.68	63.38	22.879	
13,900.00	13,840.12	13,880.00	12,330.14	50.32	46.44	66.317	-1,016.77	65.59	1,547.04	1,483.50	63.53	24.351	
14,000.00	13,939.39	13,880.00	12,330.14	50.70	46.44	66.317	-1,016.77	65.59	1,644.37	1,580.64	63.73	25.800	
14,100.00	14,038.65	13,880.00	12,330.14	51.09	46.44	66.317	-1,016.77	65.59	1,742.02	1,678.04	63.98	27.228	
14,200.00	14,137.92	13,848.05	12,332.20	51.48	46.24	63.111	-1,048.65	65.93	1,839.21	1,774.97	64.24	28.632	
14,300.00	14,237.19	13,841.84	12,332.50	51.86	46.21	62.530	-1,054.86	66.00	1,937.04	1,872.51	64.53	30.020	
14,400.00	14,336.46	13,836.01	12,332.76	52.25	46.17	61.997	-1,060.68	66.05	2,035.03	1,970.20	64.83	31.388	
14,500.00	14,435.73	13,830.52	12,332.97	52.64	46.14	61.506	-1,066.16	66.11	2,133.17	2,068.01	65.16	32.737	
14,600.00	14,535.00	13,825.36	12,333.14	53.03	46.11	61.053	-1,071.33	66.16	2,231.44	2,165.94	65.50	34.065	
14,700.00	14,634.27	13,820.48	12,333.29	53.41	46.09	60.633	-1,076.20	66.21	2,329.83	2,263.96	65.86	35.374	
14,800.00	14,733.54	13,786.00	12,333.75	53.80	46.00	57.866	-1,110.67	66.52	2,428.87	2,362.69	66.18	36.699	
14,900.00	14,832.81	13,786.00	12,333.75	54.19	46.00	57.866	-1,110.67	66.52	2,527.30	2,460.74	66.57	37.966	
15,000.00	14,932.08	13,786.00	12,333.75	54.58	46.00	57.866	-1,110.67	66.52	2,625.85	2,558.89	66.96	39.214	
15,100.00	15,031.34	13,786.00	12,333.75	54.97	46.00	57.866	-1,110.67	66.52	2,724.50	2,657.14	67.37	40.442	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report



Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Offset Design: Salt Creek (Offsets) - Camellia Fed Com 26-36-21 121H - Wellbore #2 - Surveys												Offset Site Error:	0.00 usft
Survey Program: 58-MWD+IFR1, 11786-MWD+HRGM, 12651-MWD+HRGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)					
15,200.00	15,130.61	13,786.00	12,333.75	55.35	46.00	57.866	-1,110.67	66.52	2,823.25	2,755.47	67.78	41.650	
15,300.00	15,229.88	13,785.55	12,333.76	55.74	46.00	57.833	-1,111.12	66.52	2,922.09	2,853.88	68.21	42.841	
15,400.00	15,329.15	13,773.16	12,333.92	56.13	45.99	56.941	-1,123.51	66.47	3,020.97	2,952.36	68.61	44.030	
15,500.00	15,428.42	13,760.78	12,334.08	56.52	45.98	56.090	-1,135.89	66.42	3,119.88	3,050.85	69.02	45.201	
15,600.00	15,527.69	13,797.20	12,333.78	56.91	46.01	58.729	-1,099.47	66.41	3,219.02	3,149.46	69.55	46.280	
15,700.00	15,626.96	13,720.83	12,334.31	57.30	45.96	53.558	-1,175.84	66.52	3,318.03	3,248.21	69.82	47.520	
15,800.00	15,726.23	13,691.00	12,334.98	57.69	45.94	51.935	-1,205.66	66.14	3,416.86	3,346.65	70.21	48.665	
15,900.00	15,825.50	13,672.80	12,335.46	58.08	45.93	51.037	-1,223.85	65.76	3,515.68	3,445.05	70.63	49.774	
16,000.00	15,924.77	13,662.16	12,335.74	58.47	45.93	50.543	-1,234.48	65.47	3,614.53	3,543.46	71.07	50.857	
16,100.00	16,024.03	13,651.60	12,336.02	58.86	45.92	50.074	-1,245.03	65.14	3,713.41	3,641.89	71.52	51.924	
16,200.00	16,123.30	13,641.12	12,336.29	59.25	45.92	49.629	-1,255.50	64.75	3,812.30	3,740.34	71.96	52.975	
16,300.00	16,222.57	13,630.72	12,336.55	59.63	45.91	49.207	-1,265.89	64.32	3,911.22	3,838.80	72.42	54.009	
16,400.00	16,321.84	13,620.40	12,336.81	60.02	45.91	48.805	-1,276.19	63.85	4,010.16	3,937.28	72.87	55.028	
16,500.00	16,421.11	13,610.16	12,337.07	60.41	45.90	48.423	-1,286.42	63.33	4,109.11	4,035.78	73.34	56.031	
16,600.00	16,520.38	13,602.69	12,337.25	60.80	45.90	48.155	-1,293.87	62.93	4,208.08	4,134.28	73.81	57.015	
16,700.00	16,619.65	13,583.28	12,337.73	61.19	45.89	47.493	-1,313.24	61.78	4,307.06	4,232.80	74.26	57.999	
16,800.00	16,718.92	13,563.44	12,338.25	61.58	45.88	46.856	-1,333.05	60.61	4,406.03	4,331.31	74.72	58.969	
16,900.00	16,818.19	13,543.14	12,338.82	61.98	45.87	46.244	-1,353.30	59.39	4,504.98	4,429.81	75.18	59.925	
17,000.00	16,917.46	13,522.39	12,339.43	62.37	45.86	45.654	-1,374.00	58.14	4,603.92	4,528.28	75.64	60.867	
17,021.69	16,938.99	13,517.82	12,339.57	62.45	45.86	45.529	-1,378.56	57.87	4,625.38	4,549.64	75.74	61.069	
17,100.00	17,016.82	13,502.25	12,340.05	62.75	45.85	51.250	-1,394.10	56.92	4,702.92	4,626.82	76.11	61.794	
17,200.00	17,116.43	13,502.00	12,340.06	63.13	45.85	61.162	-1,394.34	56.90	4,802.14	4,725.53	76.61	62.681	
17,300.00	17,216.24	13,502.00	12,340.06	63.49	45.85	73.686	-1,394.34	56.90	4,901.54	4,824.41	77.12	63.555	
17,400.00	17,316.18	13,502.00	12,340.06	63.85	45.85	88.328	-1,394.34	56.90	5,001.03	4,923.40	77.64	64.417	
17,483.83	17,400.00	13,502.00	12,340.06	64.13	45.85	-101.788	-1,394.34	56.90	5,084.46	5,006.39	78.07	65.130	
17,500.00	17,416.17	13,502.00	12,340.06	64.18	45.85	-101.788	-1,394.34	56.90	5,100.55	5,022.40	78.15	65.266	
17,600.00	17,516.17	13,502.00	12,340.06	64.50	45.85	-101.788	-1,394.34	56.90	5,200.08	5,121.42	78.67	66.102	
17,700.00	17,616.17	13,502.00	12,340.06	64.83	45.85	-101.788	-1,394.34	56.90	5,299.63	5,220.44	79.19	66.923	
17,800.00	17,716.17	13,480.03	12,340.73	65.15	45.84	-104.189	-1,416.26	55.48	5,399.12	5,319.44	79.68	67.763	
17,900.00	17,816.17	13,478.40	12,340.78	65.47	45.84	-104.364	-1,417.88	55.36	5,498.68	5,418.48	80.20	68.559	
18,000.00	17,916.17	13,476.80	12,340.82	65.80	45.84	-104.536	-1,419.48	55.25	5,598.27	5,517.53	80.73	69.343	
18,100.00	18,016.17	13,475.22	12,340.87	66.12	45.84	-104.706	-1,421.06	55.14	5,697.87	5,616.60	81.27	70.113	
18,200.00	18,116.17	13,473.65	12,340.91	66.45	45.84	-104.873	-1,422.62	55.03	5,797.48	5,715.67	81.80	70.870	
18,300.00	18,216.17	13,472.11	12,340.96	66.77	45.84	-105.038	-1,424.16	54.92	5,897.10	5,814.75	82.35	71.614	
18,400.00	18,316.17	13,470.59	12,341.00	67.10	45.84	-105.200	-1,425.68	54.81	5,996.73	5,913.84	82.89	72.345	
18,500.00	18,416.17	13,469.08	12,341.04	67.42	45.83	-105.360	-1,427.18	54.70	6,096.38	6,012.94	83.44	73.064	
18,600.00	18,516.17	13,467.59	12,341.09	67.75	45.83	-105.518	-1,428.66	54.59	6,196.04	6,112.05	83.99	73.770	
18,700.00	18,616.17	13,466.12	12,341.13	68.07	45.83	-105.673	-1,430.12	54.49	6,295.70	6,211.16	84.55	74.465	
18,733.83	18,650.00	13,465.63	12,341.14	68.18	45.83	-105.725	-1,430.62	54.45	6,329.42	6,244.69	84.73	74.697	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



MS Directional Anticollision Report

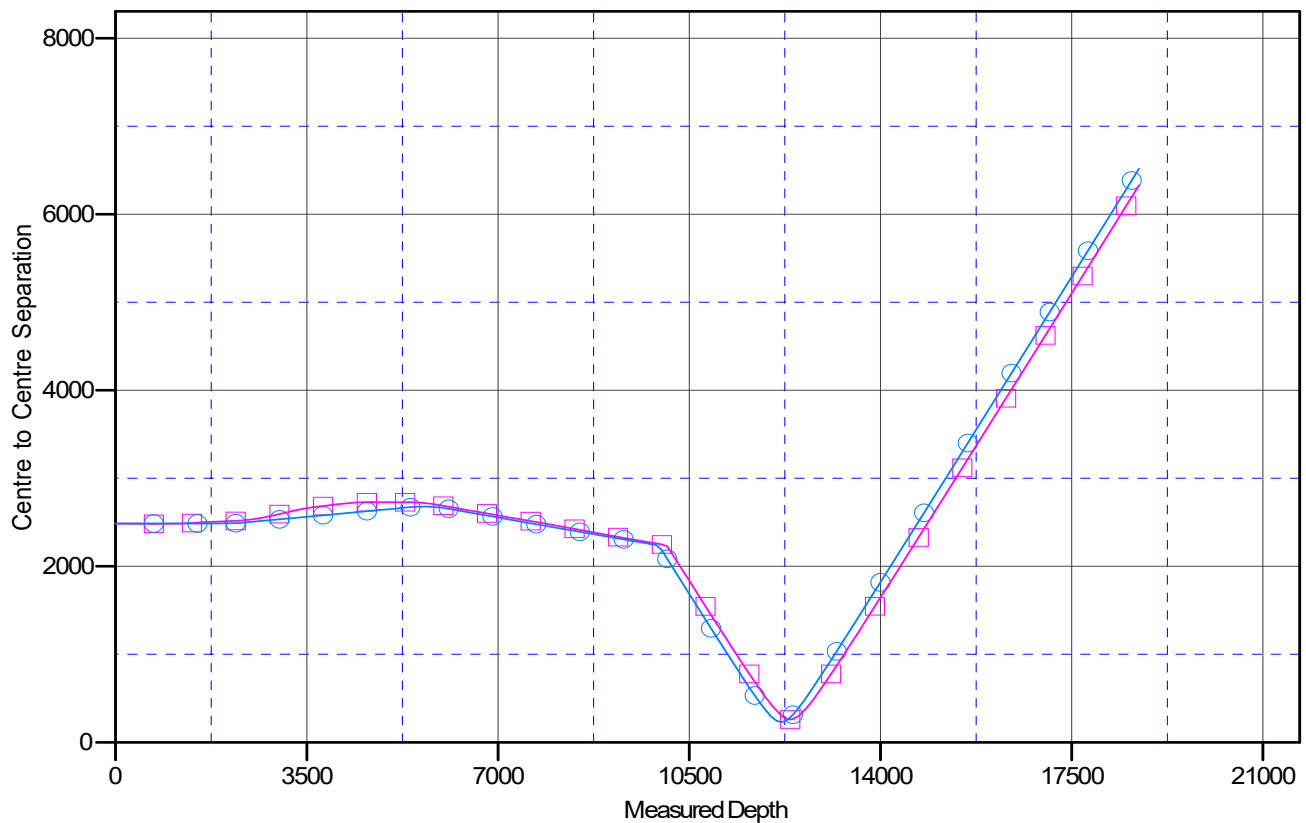


Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Reference Depths are relative to Well @ 2949.00usft (25' KB)
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Salt Creek AGI #2
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.560°

Ladder Plot



LEGEND

Camellia Fed Com 26-36-21 121H, Wellbore #2, Surveys V0
 Camellia Fed Com 26-36-21 111H, Wellbore #1, Design #1 V0



MS Directional Anticollision Report

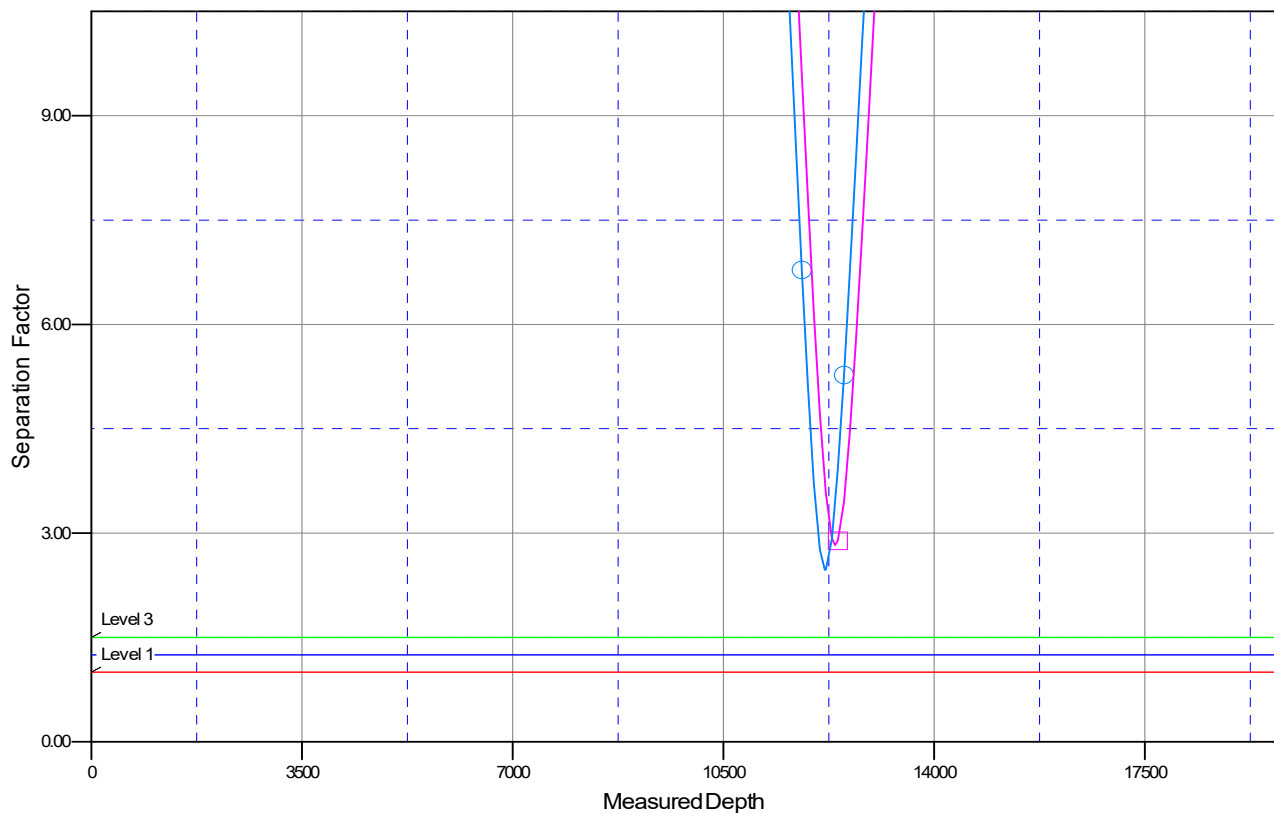


Company:	Northwind Midstream	Local Co-ordinate Reference:	Well Salt Creek AGI #2
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 2949.00usft (25' KB)
Reference Site:	Salt Creek	MD Reference:	Well @ 2949.00usft (25' KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Salt Creek AGI #2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Conroe DB
Reference Design:	Design #3	Offset TVD Reference:	Reference Datum

Reference Depths are relative to Well @ 2949.00usft (25' KB)
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Salt Creek AGI #2
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.560°

Separation Factor Plot



LEGEND

Camelia Fed Com 26-36-21 121H, Wellbore #2, Surveys V0
 Camelia Fed Com 26-36-21 111H, Wellbore #1, Design #1 V0

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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

CONDITIONS

Action 369374

CONDITIONS

Operator: Northwind Midstream Partners LLC 811 Louisiana St Houston, TX 77002	OGRID: 331501
	Action Number: 369374
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Notify OCD 24 hours prior to casing & cement	8/13/2024
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/13/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	8/13/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	8/13/2024
pkautz	CEMENT IS REQUIRED TO CIRCULATE ON ALL STRINGS OF CASING.	8/13/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	8/13/2024