API Well Number: 43047551060000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☑

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
Tumbleweed 17-12

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
FLAT ROCK

4. TYPE OF WELL
Oil Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
TUMBLEWEED

6. NAME OF OPERATOR
STEWART PETROLEUM CORP

7. OPERATOR PHONE
303 799-1922

8. ADDRESS OF OPERATOR
475 17th Street Ste 790, Denver , CO, 80202

9. OPERATOR E-MAIL
dstewart@stewartpetroleum.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU72059

11. MINERAL OWNERSHIP
FEDERAL ◉ INDIAN ○ STATE ○ FEE ○

12. SURFACE OWNERSHIP
FEDERAL ◉ INDIAN ○ STATE ○ FEE ○

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ○ (Submit Commingling Application) NO ◉

19. SLANT
VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1753 FSL 629 FEL	NESE	18	15.0 S	21.0 E	S
Top of Uppermost Producing Zone	1423 FSL 187 FWL	NWSW	17	15.0 S	21.0 E	S
At Total Depth	1423 FSL 187 FWL	NWSW	17	15.0 S	21.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
629

23. NUMBER OF ACRES IN DRILLING UNIT
40

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
20

26. PROPOSED DEPTH
MD: 11179 TVD: 11135

27. ELEVATION - GROUND LEVEL
7224

28. BOND NUMBER
UTB-000251

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
49-1667

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Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
COND	20	13.375	0 - 60	48.0	H-40 ST&C	0.0	Class G	71	1.17	15.8
SURF	12.25	9.625	0 - 2000	36.0	K-55 ST&C	8.6	OTHER	301	3.12	11.6
							Class G	559	1.17	15.8
PROD	7.875	5.5	0 - 10000	17.0	N-80 LT&C	9.5	50/50 Poz	187	3.82	11.0
			10000 - 11179	17.0	P-110 LT&C	9.5	50/50 Poz	2266	1.47	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ☑ TOPOGRAPHICAL MAP

NAME Don Hamilton	**TITLE** Permitting Agent (Star Point Enterprises, Inc.)	**PHONE** 435 719-2018
SIGNATURE	**DATE** 12/05/2014	**EMAIL** starpoint@etv.net

API NUMBER ASSIGNED
43047551060000

APPROVAL

Permit Manager

RECEIVED: December 17, 2014

Stewart Petroleum Corporation
Tumbleweed 17-12
Surface: 1753' FSL & 629' FEL, NE/4 SE/4, Section 18, T15S, R21E, SLB&M (UTU-072059)
Target: 1423' FSL & 187' FWL, NW/4 SW/4, Section 17, T15S, R21E, SLB&M (UTU-084256)
Uintah County, UT

Drilling Program

1. Formation Tops

	MD	TVD
Wasatch	1,975'	1,975'
Mesa Verde	3,983'	3,975'
Castlegate	5,802'	5,785'
Mancos	6,004'	5,986'
Dakota Silt	9,772'	9,735'
Cedar Mtn	9,973'	9,935'
Entrada	10,777'	10,735'
Wingate	11,410'	11,135'
TD	11,179'	11,135'

2. Depth to Oil, Gas, Water, or Minerals

Wasatch	1,975'	1,975'
Mesa Verde	3,983'	3,975'
Castlegate	5,802'	5,785'
Mancos	6,004'	5,986'
Dakota Silt	9,772'	9,735'
Cedar Mtn	9,973'	9,935'
Entrada	10,777'	10,735'
Wingate	11,410'	11,135'

Fresh water zones are not anticipated

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3. Pressure Control

Section	BOP Description
Surface	12-1/4" diverter
Interm/Prod	The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc for a 5M system. A 5M BOP system will consist of 2 ram preventers (double or two singles) and an annular preventer (see attached diagram). A choke manifold rated to at least 5,000 psi will be used.

RECEIVED: December 05, 2014

4. Casing

Description	Interval		Weight (ppf)	Grade	Coup	Pore Press @ Shoe	MW @ Shoe	Frac Grad @ Shoe	Safety Factors		
	Top	Bottom							Burst	Collapse	Tension
Conductor	0'	60'	48	H-40	STC	--	--	--	1,730	770	322,000
13 3/8									--	--	--
Surface	0'	2,000'	36	K-55	STC	8.33	8.6	11	2,950	1,370	244,000
9 5/8									2.90	2.06	3.39
Production	0'	10,000'	17	N-80	LTC	1370	9.5	11	4,810	4,040	217,000
5 1/2									0.94	1.07	1.28
Production	10,000'	11,179'	17	P-110	LTC	9	9.5	11	4,810	4,040	217,000
5 1/2									1.17	0.92	1.14

Assumptions:

Surface casing MASP = (frac gradient + 1.0 ppg) - (gas gradient)
Intermediate casing MASP = (reservoir pressure) - (gas gradient)
Production casing MASP = (reservoir pressure) - (gas gradient)
All collapse calculations assume fully evacuated casing with a gas gradient
All tension calculations assume air weight of casing
Gas gradient = 0.1 psi/ft

All casing shall be new.
All casing strings shall have a minimum of 1 centralizer on each of the bottom 3 joints.

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5. Cement

Job	Hole Size	Fill	Slurry Description	ft^3 / sacks	OH excess	Weight (ppg)	Yield (ft^3/sk)
Conductor	20	60'	Class G w/ 2% KCl + 0.25 lbs/sk Cello Flake	83	15%	15.8	1.17
				71			
Surface	12 1/4	1,500'	HiFill with 0.125 lbm/sk Poly E-Flake	940	100%	11.6	3.12
Lead				301			
Surface	12 1/4	500'	Class G with 2%CaCl & 0.125 lbm/sk Poly E-Flake	654	100%	15.8	1.17
Tail				559			
Production	7 7/8	3,300'	50/50 Poz with 5lbs/sk silicalite	715	25%	11.0	3.82
Lead				187			
Production	7 7/8	7,879'	50/50 Poz with 5lbs/sk silicalite	3332	25%	14.3	1.47
Tail				2266			

The surface casing will be cemented to surface. In the event that cement does not reach surface during the primary cement job, a remedial job will be performed.

Actual cement volumes for the production casing string will be calculated from an open hole caliper log, plus 25% excess.

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6. Type and Characteristics of Proposed Circulating Medium

Interval	Description
Surface - 2,000'	An air and/or fresh water system will be utilized.
2,000' - TD	A water based mud system will be utilized. Hole stability may be improved with additions of KCl or a similar inhibitive substance. In order to control formation pressure the system will be weighted with additions of bentonite, and if conditions warrant, with barite. Anticipated maximum mud weight is 9.5 ppg.

7. Logging, Coring, and Testing

Logging: A dual induction, gamma ray, and caliper log will be run from TD to the base of the surface casing. A compensated neutron/formation density log will be run from TD to the top of the Garden Gulch formation. A cement bond log will be run from PBTD to the cement top behind the production casing.

Cores: As deemed necessary.

DST: There are no DST's planned for this well.

8. Anticipated Abnormal Pressure or Temperature

Maximum anticipated bottomhole pressure will be approximately equal to total depth (feet) multiplied by a 0.47 psi/ft gradient.

11,179' x 0.47 psi/ft = 5232 psi

No abnormal temperature is expected. No H_2S is expected.

9. Other Aspects

This is planned as a directional well.

Variance Request for FIT Requirements:

Stewart Petroleum Corporation respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the Pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Variance Request for Air Drilling Requirements:

Stewart Petroleum Corporation respectfully requests a variance to Onshore Order #2, III.E.1

- Dust suppression equipment. Variance granted for water mist system to substitute for the dust suppression equipment.

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- Blooie line discharge 100’ from the well bore. Variance granted for blooie line discharge to be 75’ from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100’ from the wellbore. Variance granted for truck/trailer mounted air compressors.
- Straight run blooie line. Variance granted for targeted “T’s” at bends.
- Automatic igniter. Variance granted for igniter due to water mist.
- Air drilling operations will be conducted only during drilling of the surface casing hole, there is no history of hydrocarbons being encountered in this hole section in the area where these wells are to be drilled.

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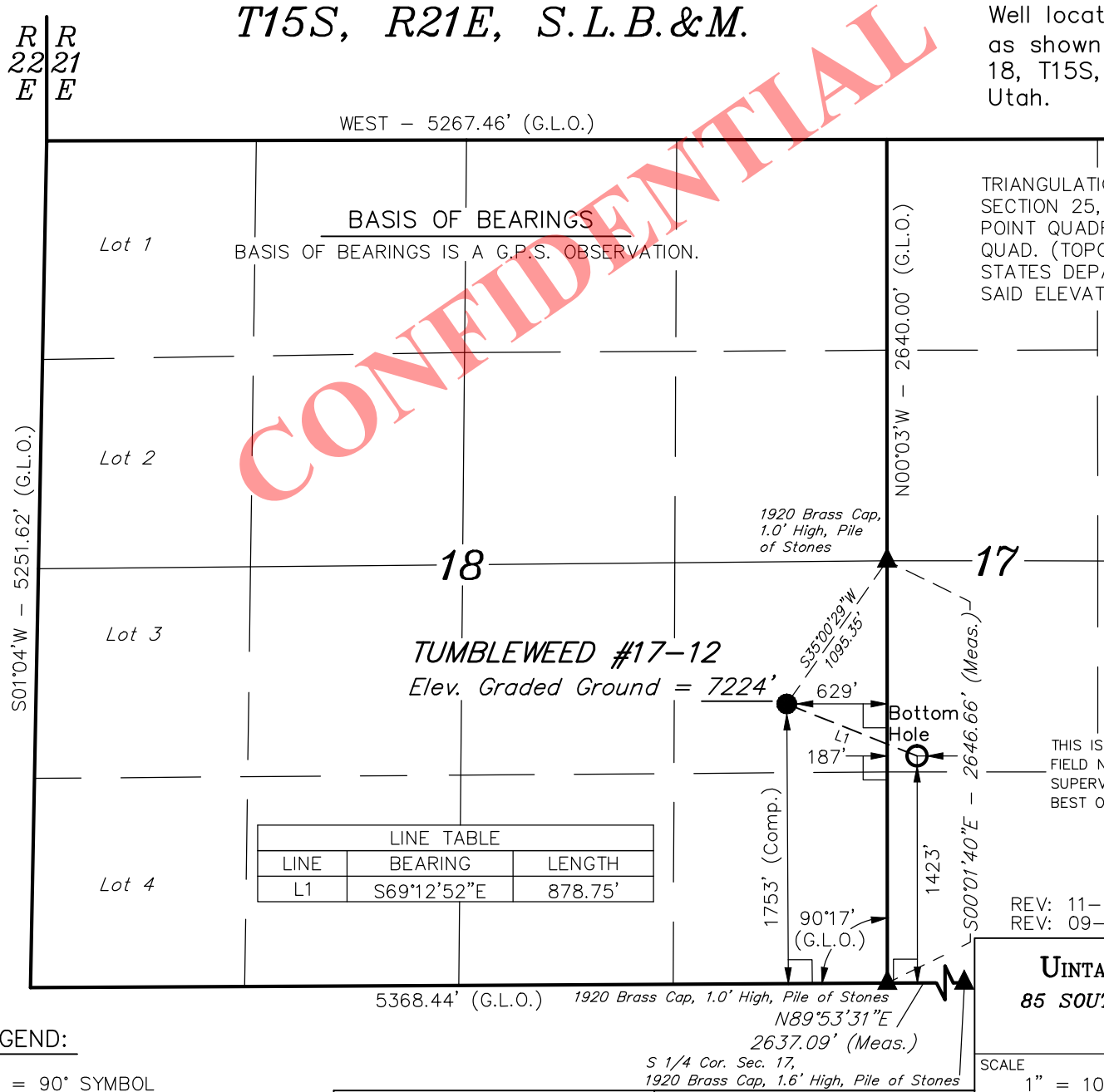
STEWART PETROLEUM CORPORATION

Well location, TUMBLEWEED #17–12, located as shown in the NE 1/4 SE 1/4 of Section 18, T15S, R21E, S.L.B.&M., Uintah County, Utah.



BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

BASIS OF ELEVATION

TRIANGULATION STATION (WINTER) LOCATED IN THE NW 1/4 OF SECTION 25, T15S, R21E, S.L.B.&M. TAKEN FROM THE WOLF POINT QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 7462 FEET.

N

1000' 500' 0' 1000'

SCALE

LINE TABLE		
LINE	BEARING	LENGTH
L1	S69°12'52"E	878.75'

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

REGISTERED LAND SURVEYOR No. 161319 KAY STATE OF UTAH

11-18-14

REV: 11–18–14 J.J.
REV: 09–26–14 J.J.

LEGEND:

└ = 90° SYMBOL

● = PROPOSED WELL HEAD.

▲ = SECTION CORNERS LOCATED.

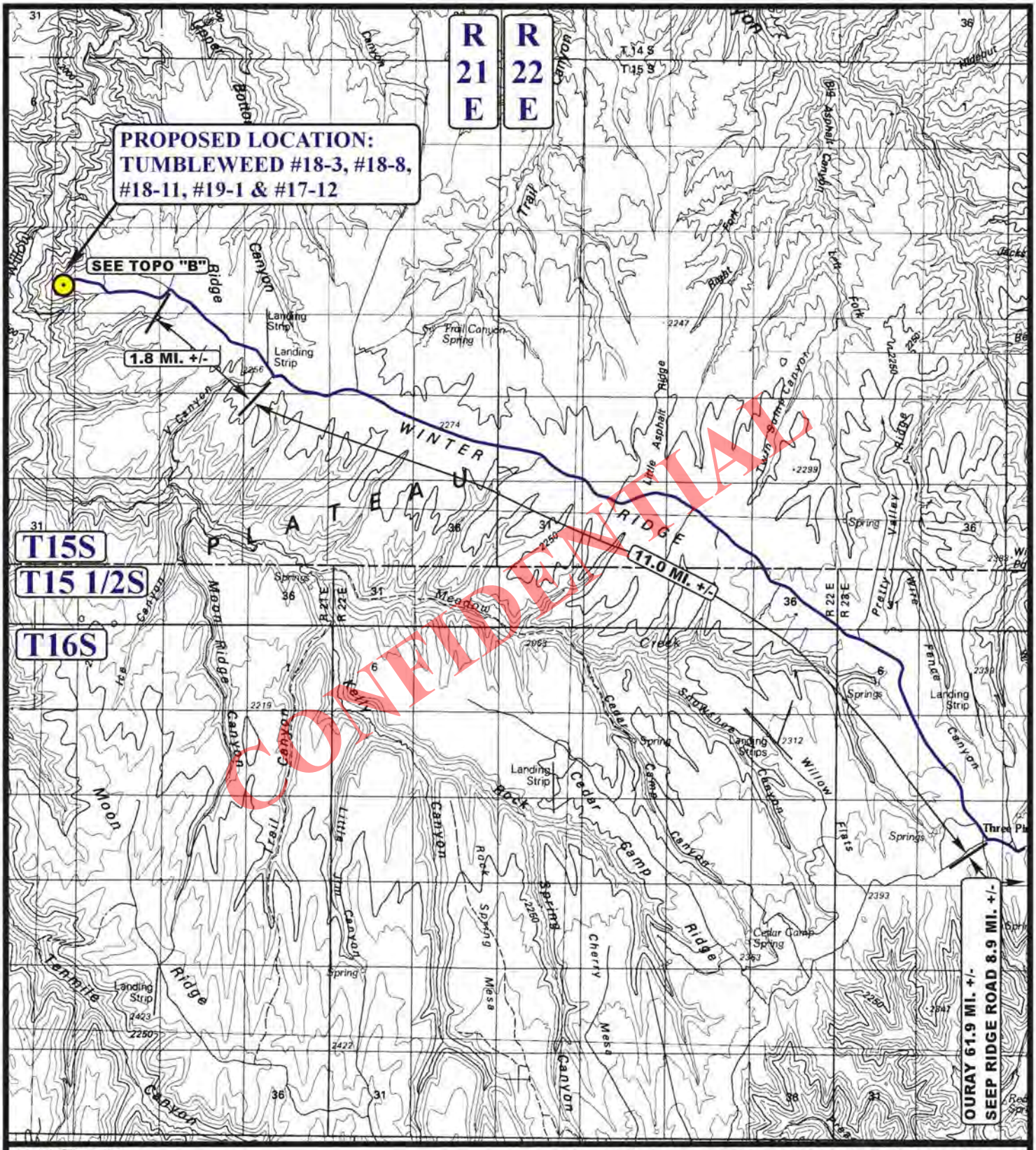
NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°30'34.69" (39.509636)	LATITUDE = 39°30'37.90" (39.510528)
LONGITUDE = 109°35'57.32" (109.599256)	LONGITUDE = 109°36'07.73" (109.602147)
NAD 27 (TARGET BOTTOM HOLE)	**NAD 27 (SURFACE LOCATION)**
LATITUDE = 39°30'34.81" (39.509669)	LATITUDE = 39°30'38.03" (39.510564)
LONGITUDE = 109°35'54.85" (109.598569)	LONGITUDE = 109°36'05.26" (109.601461)

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST – VERNAL, UTAH 84078
(435) 789–1017

SCALE 1" = 1000'	DATE SURVEYED: 04–04–08	DATE DRAWN: 04–07–08
PARTY J.R. N.W. C.C.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE STEWART PETROLEUM CORPORATION	

RECEIVED: December 05, 2014

API Well Number: 43047551060000



LEGEND:

PROPOSED LOCATION

N

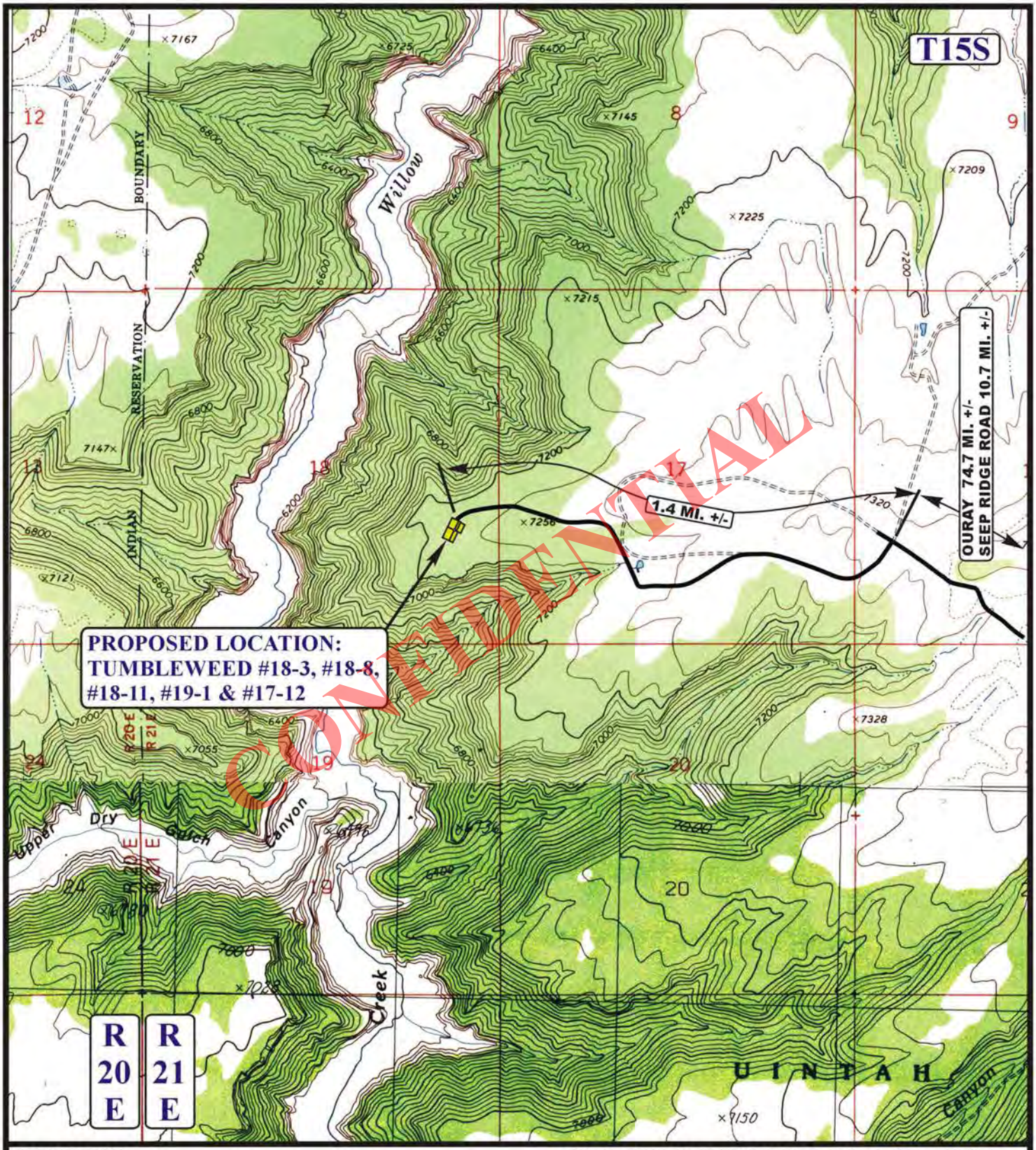
STEWART PETROLEUM CORPORATION

TUMBLEWEED #18-3, #18-8, #18-11, #19-1 & #17-12
SECTION 18, T15S, R21E, S.L.B.&M.
NE 1/4 SE 1/4

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

ACCESS ROAD MAP	4 MONTH	9 DAY	08 YEAR	A TOPO
SCALE: 1:100,000	DRAWN BY: G.L.	REV: 10-01-14 M.M.		

API Well Number: 43047551060000



LEGEND:

EXISTING ROAD

PROPOSED ACCESS ROAD

N

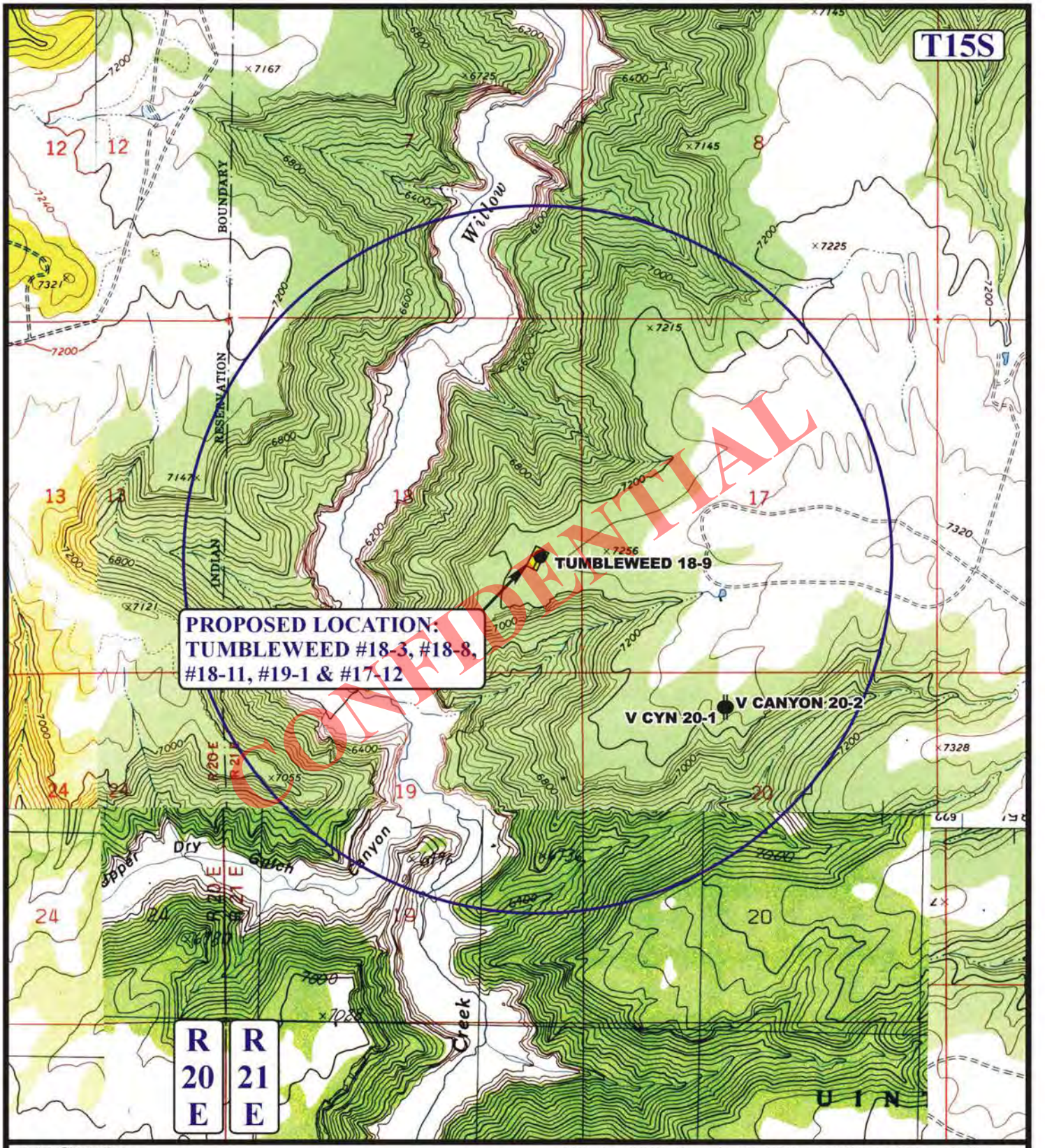
STEWART PETROLEUM CORPORATION

TUMBLEWEED #18-3, #18-8, #18-11, #19-1 & #17-12
SECTION 18, T15S, R21E, S.L.B.&M.
NE 1/4 SE 1/4

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

ACCESS ROAD MAP	4 MONTH	9 DAY	08 YEAR	B TOPO
SCALE: 1" = 2000'	DRAWN BY: G.L.	REV: 10-01-14 M.M.		

API Well Number: 43047551060000



LEGEND:

- DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED

N

STEWART PETROLEUM CORPORATION

TUMBLEWEED #18-3, #18-8, #18-11, #19-1 & #17-12
SECTION 18, T15S, R21E, S.L.B.&M.
NE 1/4 SE 1/4

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	4 MONTH	9 DAY	08 YEAR	C TOPO
SCALE: 1" = 2000'	DRAWN BY: G.L.	REV: 10-01-14 M.M.		

API Well Number: 43047551060000

Company: Stewart Petroleum Corp.
Field: Uintah Co., UT
Location: Sec.18 - T15S - R21E
Well: Tumbleweed #17-12
Plan: Design #1 (Tumbleweed #17-12/Wellbore #1)
WELL @ 7240.0usft (Original Well Elev)

gyrodata
Precision Wellbore Placement

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	2300.0	0.00	0.00	2300.0	0.0	0.0	0.00	0.00	0.0		Start Build 2.00
3	2589.2	5.78	112.02	2588.7	-5.5	13.5	2.00	112.02	14.6		Start 8590.0 hold at 2589.2 MD
4	11179.2	5.78	112.02	11135.0	-330.0	816.0	0.00	0.00	880.2	PBHL Tumbleweed #17-12	TD at 11179.2

T G M

Azimuths to Grid North
True North: -1.22°
Magnetic North: 9.40°

Magnetic Field
Strength: 51692.8snT
Dip Angle: 65.36°
Date: 11/10/2014
Model: IGRF2010

WELL DETAILS: Tumbleweed #17-12

Ground Elev: 7225.0
WELL @ 7240.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	434463.20	2535606.41	39° 30' 38.030 N	109° 36' 5.260 W	

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL Tumbleweed #17-12	11135.0	-330.0	816.0	434133.20	2536422.41	Point

CASING DETAILS

TVD	MD	Name	Size
2200.0	2200.0	9 5/8" Casing	9-5/8

Plan: Design #1 (Tumbleweed #17-12/Wellbore #1)

Created By: M. Loucks Date: 11:45, November 11 2014

FORMATION TOPS ALONG WELLPATH

TVDPath	MDPath	Formation
1975.0	1975.0	Wasatch
3975.0	3982.6	Mesaverde
5785.0	5801.8	Castlegate
5986.0	6003.9	Mancos
9735.0	9772.1	Dakota Silt
9935.0	9973.1	Cedar Mtn
10735.0	10777.2	Entrada
11135.0	11179.2	Wingate

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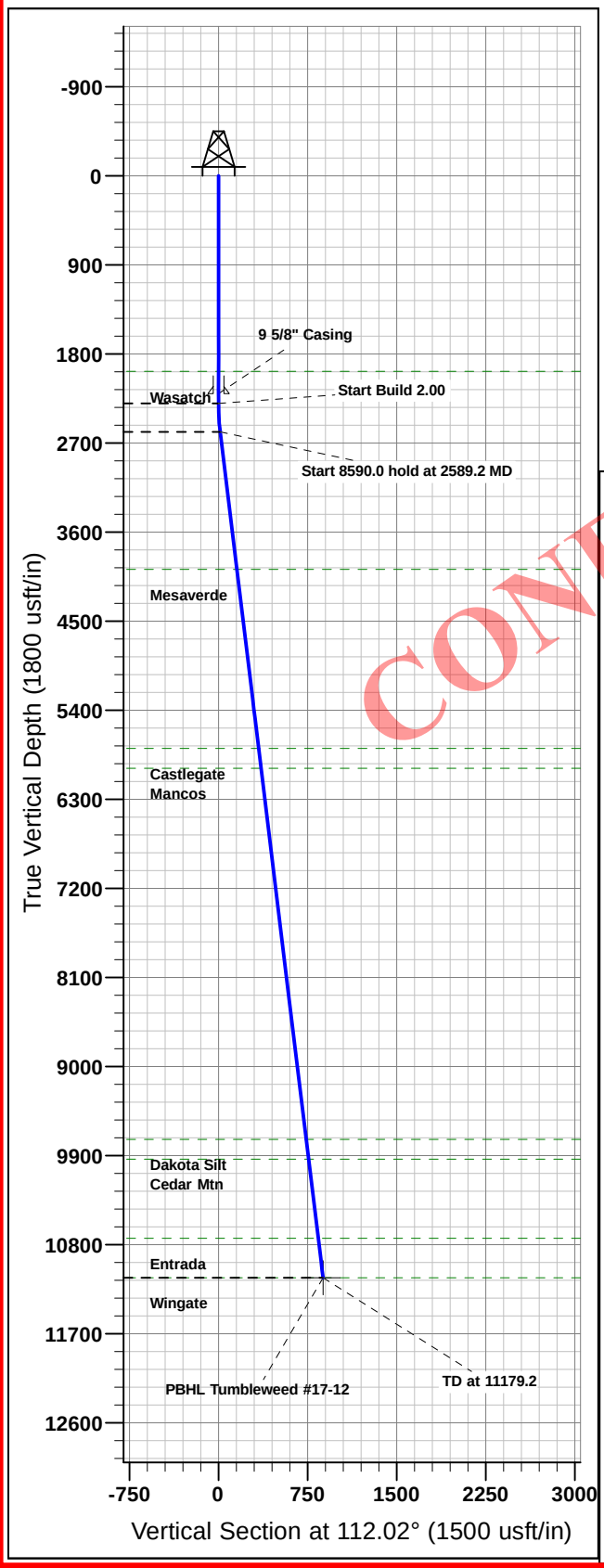

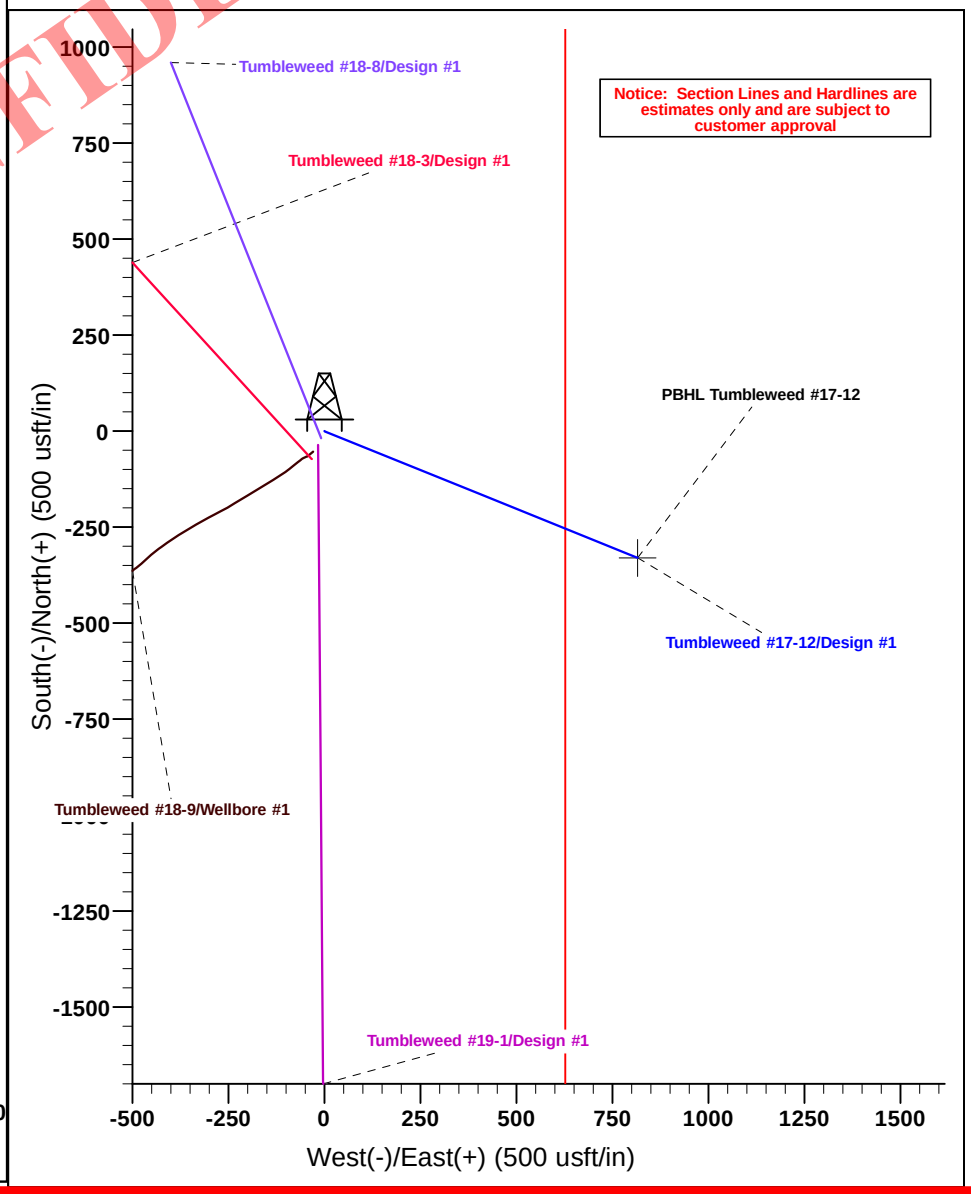

API Well Number: 43047551060000

Stewart Petroleum Corp.

Uintah Co., UT
Sec.18 - T15S - R21E
Tumbleweed #17-12

Wellbore #1

Plan: Design #1

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Standard Planning Report

11 November, 2014

gyrodata
Precision Wellbore Placement

RECEIVED: December 05, 2014

Gyrodata, Inc.
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Uintah Co., UT

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site Sec.18 - T15S - R21E

Site Position:		**Northing:**	434,409.96 usft	**Latitude:**	39° 30' 37.510 N
From:	Lat/Long	**Easting:**	2,535,576.96 usft	**Longitude:**	109° 36' 5.650 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.22 °

Well Tumbleweed #17-12

Well Position	**+N/-S**	53.2 usft	**Northing:**	434,463.20 usft	**Latitude:**	39° 30' 38.030 N
	+E/-W	29.4 usft	**Easting:**	2,535,606.40 usft	**Longitude:**	109° 36' 5.260 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	7,225.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/10/14	10.61	65.36	51,693

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	112.02

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,589.2	5.78	112.02	2,588.7	-5.5	13.5	2.00	2.00	0.00	112.02	
11,179.2	5.78	112.02	11,135.0	-330.0	816.0	0.00	0.00	0.00	0.00	PBHL Tumbleweed #'

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RECEIVED: December 05, 2014

Gyrodata, Inc.
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,975.0	0.00	0.00	1,975.0	0.0	0.0	0.0	0.00	0.00	0.00
Wasatch									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8" Casing									
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,400.0	2.00	112.02	2,400.0	-0.7	1.6	1.7	2.00	2.00	0.00
2,500.0	4.00	112.02	2,499.8	-2.6	6.5	7.0	2.00	2.00	0.00
2,589.2	5.78	112.02	2,588.7	-5.5	13.5	14.6	2.00	2.00	0.00
Start 8590.0 hold at 2589.2 MD									
2,600.0	5.78	112.02	2,599.5	-5.9	14.5	15.7	0.00	0.00	0.00
2,700.0	5.78	112.02	2,698.9	-9.7	23.9	25.8	0.00	0.00	0.00
2,800.0	5.78	112.02	2,798.4	-13.4	33.2	35.8	0.00	0.00	0.00
2,900.0	5.78	112.02	2,897.9	-17.2	42.6	45.9	0.00	0.00	0.00
3,000.0	5.78	112.02	2,997.4	-21.0	51.9	56.0	0.00	0.00	0.00
3,100.0	5.78	112.02	3,096.9	-24.8	61.2	66.1	0.00	0.00	0.00
3,200.0	5.78	112.02	3,196.4	-28.5	70.6	76.1	0.00	0.00	0.00
3,300.0	5.78	112.02	3,295.9	-32.3	79.9	86.2	0.00	0.00	0.00
3,400.0	5.78	112.02	3,395.4	-36.1	89.3	96.3	0.00	0.00	0.00
3,500.0	5.78	112.02	3,494.9	-39.9	98.6	106.4	0.00	0.00	0.00
3,600.0	5.78	112.02	3,594.4	-43.7	108.0	116.4	0.00	0.00	0.00
3,700.0	5.78	112.02	3,693.9	-47.4	117.3	126.5	0.00	0.00	0.00
3,800.0	5.78	112.02	3,793.3	-51.2	126.6	136.6	0.00	0.00	0.00
3,900.0	5.78	112.02	3,892.8	-55.0	136.0	146.7	0.00	0.00	0.00
3,982.6	5.78	112.02	3,975.0	-58.1	143.7	155.0	0.00	0.00	0.00
Mesaverde									
4,000.0	5.78	112.02	3,992.3	-58.8	145.3	156.8	0.00	0.00	0.00
4,100.0	5.78	112.02	4,091.8	-62.5	154.7	166.8	0.00	0.00	0.00
4,200.0	5.78	112.02	4,191.3	-66.3	164.0	176.9	0.00	0.00	0.00
4,300.0	5.78	112.02	4,290.8	-70.1	173.3	187.0	0.00	0.00	0.00
4,400.0	5.78	112.02	4,390.3	-73.9	182.7	197.1	0.00	0.00	0.00
4,500.0	5.78	112.02	4,489.8	-77.7	192.0	207.1	0.00	0.00	0.00

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Gyrodata, Inc.
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
4,600.0	5.78	112.02	4,589.3	-81.4	201.4	217.2	0.00	0.00	0.00
4,700.0	5.78	112.02	4,688.8	-85.2	210.7	227.3	0.00	0.00	0.00
4,800.0	5.78	112.02	4,788.3	-89.0	220.1	237.4	0.00	0.00	0.00
4,900.0	5.78	112.02	4,887.7	-92.8	229.4	247.4	0.00	0.00	0.00
5,000.0	5.78	112.02	4,987.2	-96.5	238.7	257.5	0.00	0.00	0.00
5,100.0	5.78	112.02	5,086.7	-100.3	248.1	267.6	0.00	0.00	0.00
5,200.0	5.78	112.02	5,186.2	-104.1	257.4	277.7	0.00	0.00	0.00
5,300.0	5.78	112.02	5,285.7	-107.9	266.8	287.8	0.00	0.00	0.00
5,400.0	5.78	112.02	5,385.2	-111.7	276.1	297.8	0.00	0.00	0.00
5,500.0	5.78	112.02	5,484.7	-115.4	285.4	307.9	0.00	0.00	0.00
5,600.0	5.78	112.02	5,584.2	-119.2	294.8	318.0	0.00	0.00	0.00
5,700.0	5.78	112.02	5,683.7	-123.0	304.1	328.1	0.00	0.00	0.00
5,800.0	5.78	112.02	5,783.2	-126.8	313.5	338.1	0.00	0.00	0.00
5,801.8	5.78	112.02	5,785.0	-126.8	313.6	338.3	0.00	0.00	0.00
Castlegate									
5,900.0	5.78	112.02	5,882.7	-130.6	322.8	348.2	0.00	0.00	0.00
6,000.0	5.78	112.02	5,982.1	-134.3	332.2	358.3	0.00	0.00	0.00
6,003.9	5.78	112.02	5,986.0	-134.5	332.5	358.7	0.00	0.00	0.00
Mancos									
6,100.0	5.78	112.02	6,081.6	-138.1	341.5	368.4	0.00	0.00	0.00
6,200.0	5.78	112.02	6,181.1	-141.9	350.8	378.4	0.00	0.00	0.00
6,300.0	5.78	112.02	6,280.6	-145.7	360.2	388.5	0.00	0.00	0.00
6,400.0	5.78	112.02	6,380.1	-149.4	369.5	398.6	0.00	0.00	0.00
6,500.0	5.78	112.02	6,479.6	-153.2	378.9	408.7	0.00	0.00	0.00
6,600.0	5.78	112.02	6,579.1	-157.0	388.2	418.8	0.00	0.00	0.00
6,700.0	5.78	112.02	6,678.6	-160.8	397.6	428.8	0.00	0.00	0.00
6,800.0	5.78	112.02	6,778.1	-164.6	406.9	438.9	0.00	0.00	0.00
6,900.0	5.78	112.02	6,877.6	-168.3	416.2	449.0	0.00	0.00	0.00
7,000.0	5.78	112.02	6,977.1	-172.1	425.6	459.1	0.00	0.00	0.00
7,100.0	5.78	112.02	7,076.5	-175.9	434.9	469.1	0.00	0.00	0.00
7,200.0	5.78	112.02	7,176.0	-179.7	444.3	479.2	0.00	0.00	0.00
7,300.0	5.78	112.02	7,275.5	-183.4	453.6	489.3	0.00	0.00	0.00
7,400.0	5.78	112.02	7,375.0	-187.2	462.9	499.4	0.00	0.00	0.00
7,500.0	5.78	112.02	7,474.5	-191.0	472.3	509.4	0.00	0.00	0.00
7,600.0	5.78	112.02	7,574.0	-194.8	481.6	519.5	0.00	0.00	0.00
7,700.0	5.78	112.02	7,673.5	-198.6	491.0	529.6	0.00	0.00	0.00
7,800.0	5.78	112.02	7,773.0	-202.3	500.3	539.7	0.00	0.00	0.00
7,900.0	5.78	112.02	7,872.5	-206.1	509.7	549.8	0.00	0.00	0.00
8,000.0	5.78	112.02	7,972.0	-209.9	519.0	559.8	0.00	0.00	0.00
8,100.0	5.78	112.02	8,071.5	-213.7	528.3	569.9	0.00	0.00	0.00
8,200.0	5.78	112.02	8,170.9	-217.4	537.7	580.0	0.00	0.00	0.00
8,300.0	5.78	112.02	8,270.4	-221.2	547.0	590.1	0.00	0.00	0.00
8,400.0	5.78	112.02	8,369.9	-225.0	556.4	600.1	0.00	0.00	0.00
8,500.0	5.78	112.02	8,469.4	-228.8	565.7	610.2	0.00	0.00	0.00
8,600.0	5.78	112.02	8,568.9	-232.6	575.0	620.3	0.00	0.00	0.00
8,700.0	5.78	112.02	8,668.4	-236.3	584.4	630.4	0.00	0.00	0.00
8,800.0	5.78	112.02	8,767.9	-240.1	593.7	640.4	0.00	0.00	0.00
8,900.0	5.78	112.02	8,867.4	-243.9	603.1	650.5	0.00	0.00	0.00
9,000.0	5.78	112.02	8,966.9	-247.7	612.4	660.6	0.00	0.00	0.00
9,100.0	5.78	112.02	9,066.4	-251.4	621.8	670.7	0.00	0.00	0.00
9,200.0	5.78	112.02	9,165.9	-255.2	631.1	680.8	0.00	0.00	0.00
9,300.0	5.78	112.02	9,265.3	-259.0	640.4	690.8	0.00	0.00	0.00
9,400.0	5.78	112.02	9,364.8	-262.8	649.8	700.9	0.00	0.00	0.00

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Gyrodata, Inc.
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
9,500.0	5.78	112.02	9,464.3	-266.6	659.1	711.0	0.00	0.00	0.00
9,600.0	5.78	112.02	9,563.8	-270.3	668.5	721.1	0.00	0.00	0.00
9,700.0	5.78	112.02	9,663.3	-274.1	677.8	731.1	0.00	0.00	0.00
9,772.1	5.78	112.02	9,735.0	-276.8	684.5	738.4	0.00	0.00	0.00
Dakota Silt									
9,800.0	5.78	112.02	9,762.8	-277.9	687.2	741.2	0.00	0.00	0.00
9,900.0	5.78	112.02	9,862.3	-281.7	696.5	751.3	0.00	0.00	0.00
9,973.1	5.78	112.02	9,935.0	-284.4	703.3	758.7	0.00	0.00	0.00
Cedar Mtn									
10,000.0	5.78	112.02	9,961.8	-285.4	705.8	761.4	0.00	0.00	0.00
10,100.0	5.78	112.02	10,061.3	-289.2	715.2	771.4	0.00	0.00	0.00
10,200.0	5.78	112.02	10,160.8	-293.0	724.5	781.5	0.00	0.00	0.00
10,300.0	5.78	112.02	10,260.3	-296.8	733.9	791.6	0.00	0.00	0.00
10,400.0	5.78	112.02	10,359.7	-300.6	743.2	801.7	0.00	0.00	0.00
10,500.0	5.78	112.02	10,459.2	-304.3	752.5	811.8	0.00	0.00	0.00
10,600.0	5.78	112.02	10,558.7	-308.1	761.9	821.8	0.00	0.00	0.00
10,700.0	5.78	112.02	10,658.2	-311.9	771.2	831.9	0.00	0.00	0.00
10,777.2	5.78	112.02	10,735.0	-314.8	778.4	839.7	0.00	0.00	0.00
Entrada									
10,800.0	5.78	112.02	10,757.7	-315.7	780.6	842.0	0.00	0.00	0.00
10,900.0	5.78	112.02	10,857.2	-319.5	789.9	852.1	0.00	0.00	0.00
11,000.0	5.78	112.02	10,956.7	-323.2	799.3	862.1	0.00	0.00	0.00
11,100.0	5.78	112.02	11,056.2	-327.0	808.6	872.2	0.00	0.00	0.00
11,179.2	5.78	112.02	11,135.0	-330.0	816.0	880.2	0.00	0.00	0.00
TD at 11179.2 - Wingate									

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Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Tumbleweed #17- - plan hits target center - Point	0.00	0.01	11,135.0	-330.0	816.0	434,133.20	2,536,422.40	39° 30' 34.597 N	109° 35' 54.940 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,200.0	2,200.0	9 5/8" Casing	9-5/8	12-1/4

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Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,975.0	1,975.0	Wasatch			
3,982.6	3,975.0	Mesaverde			
5,801.8	5,785.0	Castlegate			
6,003.9	5,986.0	Mancos			
9,772.1	9,735.0	Dakota Silt			
9,973.1	9,935.0	Cedar Mtn			
10,777.2	10,735.0	Entrada			
11,179.2	11,135.0	Wingate			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,300.0	2,300.0	0.0	0.0	Start Build 2.00
2,589.2	2,588.7	-5.5	13.5	Start 8590.0 hold at 2589.2 MD
11,179.2	11,135.0	-330.0	816.0	TD at 11179.2

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API Well Number: 43047551060000

Stewart Petroleum Corp.

Uintah Co., UT
Sec.18 - T15S - R21E
Tumbleweed #17-12

Wellbore #1
Design #1

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Anticollision Report

11 November, 2014

gyrodata
Precision Wellbore Placement

RECEIVED: December 05, 2014

API Well Number: 43047551060000

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Design #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000.0 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 11/11/14

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,179.2	Design #1 (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec.18 - T15S - R21E						
Tumbleweed #18-3 - Wellbore #1 - Design #1	2,505.3	2,506.5	78.4	67.4	7.162	CC, ES
Tumbleweed #18-3 - Wellbore #1 - Design #1	2,589.2	2,589.5	79.6	68.3	7.055	SF
Tumbleweed #18-8 - Wellbore #1 - Design #1	2,449.8	2,450.2	18.8	8.1	1.755	CC, ES, SF
Tumbleweed #18-9 - Wellbore #1 - Wellbore #1	100.0	85.0	60.9	60.7	317.167	CC
Tumbleweed #18-9 - Wellbore #1 - Wellbore #1	600.0	584.8	61.9	60.0	32.886	ES
Tumbleweed #18-9 - Wellbore #1 - Wellbore #1	2,300.0	2,282.6	77.6	69.9	10.051	SF
Tumbleweed #19-1 - Wellbore #1 - Design #1	2,300.0	2,300.0	39.4	29.3	3.907	CC, ES, SF

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-3 - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-155.57	-72.6	-33.0	79.7				
100.0	100.0	100.0	100.0	0.1	0.1	-155.57	-72.6	-33.0	79.7	79.5	0.19	417.082	
200.0	200.0	200.0	200.0	0.3	0.3	-155.57	-72.6	-33.0	79.7	79.0	0.64	124.393	
300.0	300.0	300.0	300.0	0.5	0.5	-155.57	-72.6	-33.0	79.7	78.6	1.09	73.097	
400.0	400.0	400.0	400.0	0.8	0.8	-155.57	-72.6	-33.0	79.7	78.1	1.54	51.755	
500.0	500.0	500.0	500.0	1.0	1.0	-155.57	-72.6	-33.0	79.7	77.7	1.99	40.059	
600.0	600.0	600.0	600.0	1.2	1.2	-155.57	-72.6	-33.0	79.7	77.2	2.44	32.675	
700.0	700.0	700.0	700.0	1.4	1.4	-155.57	-72.6	-33.0	79.7	76.8	2.89	27.589	
800.0	800.0	800.0	800.0	1.7	1.7	-155.57	-72.6	-33.0	79.7	76.3	3.34	23.873	
900.0	900.0	900.0	900.0	1.9	1.9	-155.57	-72.6	-33.0	79.7	75.9	3.79	21.040	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-155.57	-72.6	-33.0	79.7	75.4	4.24	18.807	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-155.57	-72.6	-33.0	79.7	75.0	4.69	17.003	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-155.57	-72.6	-33.0	79.7	74.5	5.14	15.515	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-155.57	-72.6	-33.0	79.7	74.1	5.59	14.266	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-155.57	-72.6	-33.0	79.7	73.6	6.03	13.204	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-155.57	-72.6	-33.0	79.7	73.2	6.48	12.288	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-155.57	-72.6	-33.0	79.7	72.8	6.93	11.492	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-155.57	-72.6	-33.0	79.7	72.3	7.38	10.792	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-155.57	-72.6	-33.0	79.7	71.9	7.83	10.173	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-155.57	-72.6	-33.0	79.7	71.4	8.28	9.621	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-155.57	-72.6	-33.0	79.7	71.0	8.73	9.125	

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

CONFIDENTIAL

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-3 - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-155.57	-72.6	-33.0	79.7	70.5	9.18	8.679	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-155.57	-72.6	-33.0	79.7	70.1	9.63	8.274	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	-155.57	-72.6	-33.0	79.7	69.6	10.08	7.905	
2,400.0	2,400.0	2,401.0	2,401.0	5.2	5.3	94.88	-71.2	-34.2	79.1	68.6	10.51	7.529	
2,500.0	2,499.8	2,501.3	2,501.1	5.4	5.5	102.34	-67.3	-37.7	78.4	67.5	10.92	7.177	
2,505.3	2,505.1	2,506.5	2,506.4	5.4	5.5	102.87	-67.1	-38.0	78.4	67.4	10.94	7.162	CC, ES
2,589.2	2,588.7	2,589.5	2,589.1	5.6	5.7	112.92	-61.8	-42.8	79.6	68.3	11.29	7.055	SF
2,600.0	2,599.5	2,600.2	2,599.6	5.6	5.7	114.40	-60.9	-43.5	80.0	68.7	11.33	7.063	
2,700.0	2,698.9	2,697.5	2,696.2	5.8	5.9	128.25	-52.2	-51.5	86.6	74.9	11.74	7.375	
2,800.0	2,798.4	2,793.3	2,790.9	6.1	6.2	141.19	-41.3	-61.5	99.0	86.9	12.16	8.146	
2,900.0	2,897.9	2,887.5	2,883.4	6.3	6.4	152.10	-28.2	-73.4	117.4	104.8	12.57	9.342	
3,000.0	2,997.4	2,979.7	2,973.4	6.5	6.7	160.74	-13.3	-87.1	141.2	128.3	12.98	10.882	
3,100.0	3,096.9	3,070.0	3,060.8	6.7	7.0	167.43	3.4	-102.3	169.8	156.4	13.39	12.682	
3,200.0	3,196.4	3,158.2	3,145.5	7.0	7.3	172.60	21.7	-119.0	202.6	188.8	13.81	14.676	
3,300.0	3,295.9	3,244.3	3,227.3	7.2	7.7	176.63	41.4	-136.9	239.1	224.9	14.22	16.814	
3,400.0	3,395.4	3,328.0	3,306.1	7.5	8.0	179.83	62.2	-156.0	278.9	264.3	14.63	19.062	
3,500.0	3,494.9	3,409.5	3,382.0	7.7	8.5	-177.60	84.2	-176.0	321.8	306.7	15.04	21.394	
3,600.0	3,594.4	3,488.7	3,454.8	8.0	8.9	-175.51	107.0	-196.8	367.5	352.0	15.45	23.784	
3,700.0	3,693.9	3,572.6	3,531.4	8.2	9.4	-173.65	132.4	-220.0	415.3	399.5	15.88	26.159	
3,800.0	3,793.3	3,659.5	3,610.7	8.5	10.0	-172.11	158.8	-244.1	463.6	447.3	16.31	28.425	
3,900.0	3,892.8	3,746.5	3,689.9	8.7	10.6	-170.85	185.2	-268.2	512.1	495.3	16.75	30.580	
4,000.0	3,992.3	3,833.5	3,769.2	9.0	11.2	-169.81	211.6	-292.3	560.7	543.5	17.19	32.627	
4,100.0	4,091.8	3,920.4	3,848.5	9.3	11.8	-168.94	238.0	-316.4	609.5	591.9	17.63	34.570	
4,200.0	4,191.3	4,007.4	3,927.7	9.5	12.4	-168.19	264.4	-340.5	658.3	640.3	18.08	36.414	
4,300.0	4,290.8	4,094.3	4,007.0	9.8	13.0	-167.55	290.9	-364.6	707.3	688.7	18.53	38.164	
4,400.0	4,390.3	4,181.3	4,086.3	10.1	13.7	-166.99	317.3	-388.7	756.2	737.3	18.99	39.824	
4,500.0	4,489.8	4,268.2	4,165.5	10.3	14.4	-166.50	343.7	-412.8	805.3	785.8	19.45	41.402	
4,600.0	4,589.3	4,355.2	4,244.8	10.6	15.0	-166.06	370.1	-436.9	854.3	834.4	19.91	42.903	
4,700.0	4,688.8	4,442.2	4,324.1	10.9	15.7	-165.67	396.5	-461.0	903.5	883.1	20.38	44.331	
4,800.0	4,788.3	4,529.1	4,403.3	11.2	16.4	-165.32	422.9	-485.1	952.6	931.7	20.85	45.691	
4,900.0	4,887.7	4,616.1	4,482.6	11.4	17.0	-165.01	449.3	-509.2	1,001.7	980.4	21.32	46.987	
5,000.0	4,987.2	4,703.0	4,561.9	11.7	17.7	-164.72	475.7	-533.3	1,050.9	1,029.1	21.79	48.222	
5,100.0	5,086.7	4,790.0	4,641.1	12.0	18.4	-164.46	502.1	-557.4	1,100.1	1,077.9	22.27	49.399	
5,200.0	5,186.2	4,876.9	4,720.4	12.3	19.1	-164.23	528.5	-581.5	1,149.3	1,126.6	22.75	50.522	
5,300.0	5,285.7	4,963.9	4,799.7	12.5	19.8	-164.01	554.9	-605.6	1,198.6	1,175.3	23.23	51.596	
5,400.0	5,385.2	5,050.9	4,878.9	12.8	20.5	-163.81	581.3	-629.7	1,247.8	1,224.1	23.71	52.622	
5,500.0	5,484.7	5,137.8	4,958.2	13.1	21.2	-163.62	607.7	-653.8	1,297.1	1,272.9	24.20	53.604	
5,600.0	5,584.2	5,224.8	5,037.5	13.4	21.9	-163.45	634.1	-677.9	1,346.3	1,321.6	24.68	54.545	
5,700.0	5,683.7	5,311.7	5,116.7	13.7	22.6	-163.29	660.6	-702.0	1,395.6	1,370.4	25.17	55.446	
5,800.0	5,783.2	5,398.7	5,196.0	13.9	23.3	-163.14	687.0	-726.1	1,444.9	1,419.2	25.66	56.309	
5,900.0	5,882.7	5,485.6	5,275.3	14.2	24.1	-163.00	713.4	-750.2	1,494.1	1,468.0	26.15	57.137	
6,000.0	5,982.1	5,572.6	5,354.6	14.5	24.8	-162.87	739.8	-774.3	1,543.4	1,516.8	26.64	57.932	
6,100.0	6,081.6	5,659.6	5,433.8	14.8	25.5	-162.75	766.2	-798.4	1,592.7	1,565.6	27.14	58.695	
6,200.0	6,181.1	5,746.5	5,513.1	15.1	26.2	-162.63	792.6	-822.5	1,642.0	1,614.4	27.63	59.429	
6,300.0	6,280.6	5,833.5	5,592.4	15.4	26.9	-162.53	819.0	-846.6	1,691.3	1,663.2	28.13	60.134	
6,400.0	6,380.1	5,920.4	5,671.6	15.6	27.6	-162.42	845.4	-870.7	1,740.6	1,712.0	28.62	60.813	
6,500.0	6,479.6	6,007.4	5,750.9	15.9	28.3	-162.33	871.8	-894.8	1,790.0	1,760.8	29.12	61.467	
6,600.0	6,579.1	6,094.3	5,830.2	16.2	29.1	-162.23	898.2	-918.9	1,839.3	1,809.7	29.62	62.097	
6,700.0	6,678.6	6,181.3	5,909.4	16.5	29.8	-162.15	924.6	-943.0	1,888.6	1,858.5	30.12	62.704	
6,800.0	6,778.1	6,268.3	5,988.7	16.8	30.5	-162.07	951.0	-967.1	1,937.9	1,907.3	30.62	63.289	
6,900.0	6,877.6	6,355.2	6,068.0	17.1	31.2	-161.99	977.4	-991.2	1,987.2	1,956.1	31.12	63.853	

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

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-8 - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-155.88	-18.4	-8.2	20.1				
100.0	100.0	100.0	100.0	0.1	0.1	-155.88	-18.4	-8.2	20.1	20.0	0.19	105.460	
200.0	200.0	200.0	200.0	0.3	0.3	-155.88	-18.4	-8.2	20.1	19.5	0.64	31.453	
300.0	300.0	300.0	300.0	0.5	0.5	-155.88	-18.4	-8.2	20.1	19.1	1.09	18.483	
400.0	400.0	400.0	400.0	0.8	0.8	-155.88	-18.4	-8.2	20.1	18.6	1.54	13.086	
500.0	500.0	500.0	500.0	1.0	1.0	-155.88	-18.4	-8.2	20.1	18.2	1.99	10.129	
600.0	600.0	600.0	600.0	1.2	1.2	-155.88	-18.4	-8.2	20.1	17.7	2.44	8.262	
700.0	700.0	700.0	700.0	1.4	1.4	-155.88	-18.4	-8.2	20.1	17.3	2.89	6.976	
800.0	800.0	800.0	800.0	1.7	1.7	-155.88	-18.4	-8.2	20.1	16.8	3.34	6.036	
900.0	900.0	900.0	900.0	1.9	1.9	-155.88	-18.4	-8.2	20.1	16.4	3.79	5.320	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-155.88	-18.4	-8.2	20.1	15.9	4.24	4.756	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-155.88	-18.4	-8.2	20.1	15.5	4.69	4.299	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-155.88	-18.4	-8.2	20.1	15.0	5.14	3.923	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-155.88	-18.4	-8.2	20.1	14.6	5.59	3.607	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-155.88	-18.4	-8.2	20.1	14.1	6.03	3.339	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-155.88	-18.4	-8.2	20.1	13.7	6.48	3.107	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-155.88	-18.4	-8.2	20.1	13.2	6.93	2.906	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-155.88	-18.4	-8.2	20.1	12.8	7.38	2.729	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-155.88	-18.4	-8.2	20.1	12.3	7.83	2.572	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-155.88	-18.4	-8.2	20.1	11.9	8.28	2.433	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-155.88	-18.4	-8.2	20.1	11.4	8.73	2.307	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-155.88	-18.4	-8.2	20.1	11.0	9.18	2.194	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-155.88	-18.4	-8.2	20.1	10.5	9.63	2.092	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	-155.88	-18.4	-8.2	20.1	10.1	10.08	1.999	
2,400.0	2,400.0	2,400.4	2,400.4	5.2	5.3	101.13	-16.8	-8.9	19.2	8.7	10.51	1.830	
2,449.8	2,449.8	2,450.2	2,450.2	5.3	5.4	113.14	-14.7	-9.7	18.8	8.1	10.71	1.755	CC, ES, SF
2,500.0	2,499.8	2,500.2	2,500.0	5.4	5.5	129.71	-11.9	-10.8	19.6	8.7	10.91	1.799	
2,589.2	2,588.7	2,588.1	2,587.6	5.6	5.7	158.89	-5.0	-13.6	27.2	15.9	11.25	2.413	
2,600.0	2,599.5	2,598.7	2,598.2	5.6	5.7	161.68	-3.9	-14.0	28.6	17.3	11.30	2.535	
2,700.0	2,698.9	2,696.8	2,695.6	5.8	5.9	178.46	6.0	-18.0	44.8	33.1	11.71	3.829	
2,800.0	2,798.4	2,794.9	2,793.2	6.1	6.2	-173.88	16.0	-22.0	62.8	50.7	12.12	5.179	
2,900.0	2,897.9	2,893.0	2,890.7	6.3	6.4	-169.66	26.0	-26.0	81.4	68.8	12.54	6.486	
3,000.0	2,997.4	2,991.1	2,988.2	6.5	6.6	-167.01	36.0	-30.0	100.2	87.2	12.97	7.726	
3,100.0	3,096.9	3,089.2	3,085.8	6.7	6.9	-165.20	46.0	-34.0	119.2	105.8	13.40	8.895	
3,200.0	3,196.4	3,187.4	3,183.3	7.0	7.1	-163.89	56.0	-38.0	138.2	124.4	13.83	9.995	
3,300.0	3,295.9	3,285.5	3,280.8	7.2	7.4	-162.90	66.0	-42.0	157.3	143.1	14.27	11.029	
3,400.0	3,395.4	3,383.6	3,378.3	7.5	7.7	-162.12	76.0	-46.0	176.5	161.8	14.70	12.003	
3,500.0	3,494.9	3,481.7	3,475.9	7.7	7.9	-161.49	86.0	-50.0	195.7	180.5	15.14	12.919	
3,600.0	3,594.4	3,579.9	3,573.4	8.0	8.2	-160.98	96.0	-54.0	214.8	199.3	15.59	13.783	
3,700.0	3,693.9	3,678.0	3,670.9	8.2	8.4	-160.55	106.0	-58.0	234.1	218.0	16.03	14.598	
3,800.0	3,793.3	3,776.1	3,768.5	8.5	8.7	-160.19	116.0	-62.0	253.3	236.8	16.48	15.367	
3,900.0	3,892.8	3,874.2	3,866.0	8.7	9.0	-159.87	125.9	-66.0	272.5	255.6	16.93	16.095	
4,000.0	3,992.3	3,972.4	3,963.5	9.0	9.2	-159.60	135.9	-70.0	291.7	274.3	17.38	16.783	
4,100.0	4,091.8	4,070.5	4,061.1	9.3	9.5	-159.36	145.9	-74.0	311.0	293.1	17.83	17.436	
4,200.0	4,191.3	4,168.6	4,158.6	9.5	9.8	-159.15	155.9	-78.0	330.2	311.9	18.29	18.055	
4,300.0	4,290.8	4,266.7	4,256.1	9.8	10.0	-158.97	165.9	-82.0	349.5	330.7	18.75	18.642	
4,400.0	4,390.3	4,364.9	4,353.7	10.1	10.3	-158.80	175.9	-86.0	368.7	349.5	19.20	19.201	
4,500.0	4,489.8	4,463.0	4,451.2	10.3	10.6	-158.65	185.9	-90.0	388.0	368.3	19.66	19.733	
4,600.0	4,589.3	4,561.1	4,548.7	10.6	10.9	-158.51	195.9	-94.0	407.2	387.1	20.12	20.239	
4,700.0	4,688.8	4,659.2	4,646.3	10.9	11.1	-158.39	205.9	-98.0	426.5	405.9	20.58	20.722	
4,800.0	4,788.3	4,757.4	4,743.8	11.2	11.4	-158.27	215.9	-102.0	445.7	424.7	21.04	21.183	
4,900.0	4,887.7	4,855.5	4,841.3	11.4	11.7	-158.17	225.9	-106.0	465.0	443.5	21.50	21.623	

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

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-8 - Wellbore #1 - Design #1

Survey Program: 0-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,987.2	4,953.6	4,938.9	11.7	12.0	-158.07	235.9	-110.0	484.2	462.3	21.97	22.044	
5,100.0	5,086.7	5,051.7	5,036.4	12.0	12.3	-157.98	245.9	-114.0	503.5	481.1	22.43	22.447	
5,200.0	5,186.2	5,149.9	5,133.9	12.3	12.5	-157.90	255.9	-118.0	522.8	499.9	22.90	22.833	
5,300.0	5,285.7	5,248.0	5,231.5	12.5	12.8	-157.83	265.9	-122.0	542.0	518.7	23.36	23.203	
5,400.0	5,385.2	5,346.1	5,329.0	12.8	13.1	-157.75	275.9	-126.0	561.3	537.5	23.83	23.557	
5,500.0	5,484.7	5,444.2	5,426.5	13.1	13.4	-157.69	285.9	-130.0	580.6	556.3	24.29	23.898	
5,600.0	5,584.2	5,542.4	5,524.1	13.4	13.7	-157.63	295.9	-134.0	599.8	575.1	24.76	24.225	
5,700.0	5,683.7	5,640.5	5,621.6	13.7	14.0	-157.57	305.9	-138.0	619.1	593.9	25.23	24.539	
5,800.0	5,783.2	5,738.6	5,719.1	13.9	14.2	-157.51	315.9	-142.0	638.4	612.7	25.70	24.842	
5,900.0	5,882.7	5,836.7	5,816.6	14.2	14.5	-157.46	325.9	-146.0	657.6	631.5	26.17	25.133	
6,000.0	5,982.1	5,934.9	5,914.2	14.5	14.8	-157.41	335.9	-150.0	676.9	650.3	26.64	25.414	
6,100.0	6,081.6	6,033.0	6,011.7	14.8	15.1	-157.37	345.8	-154.0	696.2	669.1	27.11	25.684	
6,200.0	6,181.1	6,131.1	6,109.2	15.1	15.4	-157.32	355.8	-158.0	715.4	687.9	27.58	25.945	
6,300.0	6,280.6	6,229.2	6,206.8	15.4	15.7	-157.28	365.8	-162.0	734.7	706.7	28.05	26.196	
6,400.0	6,380.1	6,327.4	6,304.3	15.6	15.9	-157.24	375.8	-166.0	754.0	725.5	28.52	26.439	
6,500.0	6,479.6	6,425.5	6,401.8	15.9	16.2	-157.21	385.8	-170.0	773.2	744.3	28.99	26.674	
6,600.0	6,579.1	6,523.6	6,499.4	16.2	16.5	-157.17	395.8	-174.0	792.5	763.1	29.46	26.901	
6,700.0	6,678.6	6,621.7	6,596.9	16.5	16.8	-157.14	405.8	-178.0	811.8	781.9	29.93	27.121	
6,800.0	6,778.1	6,719.9	6,694.4	16.8	17.1	-157.11	415.8	-182.0	831.1	800.7	30.40	27.333	
6,900.0	6,877.6	6,818.0	6,792.0	17.1	17.4	-157.08	425.8	-186.0	850.3	819.5	30.88	27.539	
7,000.0	6,977.1	6,916.1	6,889.5	17.4	17.7	-157.05	435.8	-190.0	869.6	838.3	31.35	27.738	
7,100.0	7,076.5	7,014.2	6,987.0	17.7	18.0	-157.02	445.8	-194.0	888.9	857.0	31.82	27.931	
7,200.0	7,176.0	7,112.4	7,084.6	17.9	18.2	-156.99	455.8	-198.0	908.1	875.8	32.30	28.118	
7,300.0	7,275.5	7,210.5	7,182.1	18.2	18.5	-156.97	465.8	-202.0	927.4	894.6	32.77	28.299	
7,400.0	7,375.0	7,308.6	7,279.6	18.5	18.8	-156.94	475.8	-206.0	946.7	913.4	33.25	28.475	
7,500.0	7,474.5	7,406.7	7,377.2	18.8	19.1	-156.92	485.8	-210.0	966.0	932.2	33.72	28.646	
7,600.0	7,574.0	7,504.9	7,474.7	19.1	19.4	-156.90	495.8	-214.0	985.2	951.0	34.20	28.812	
7,700.0	7,673.5	7,603.0	7,572.2	19.4	19.7	-156.87	505.8	-218.0	1,004.5	969.8	34.67	28.973	
7,800.0	7,773.0	7,701.1	7,669.8	19.7	20.0	-156.85	515.8	-222.0	1,023.8	988.6	35.15	29.130	
7,900.0	7,872.5	7,799.2	7,767.3	20.0	20.3	-156.83	525.8	-226.0	1,043.1	1,007.4	35.62	29.282	
8,000.0	7,972.0	7,897.3	7,864.8	20.2	20.6	-156.81	535.8	-230.0	1,062.3	1,026.2	36.10	29.430	
8,100.0	8,071.5	7,995.5	7,962.4	20.5	20.8	-156.79	545.8	-234.0	1,081.6	1,045.0	36.57	29.575	
8,200.0	8,170.9	8,093.6	8,059.9	20.8	21.1	-156.78	555.8	-238.0	1,100.9	1,063.8	37.05	29.715	
8,300.0	8,270.4	8,191.7	8,157.4	21.1	21.4	-156.76	565.7	-242.0	1,120.1	1,082.6	37.52	29.851	
8,400.0	8,369.9	8,289.8	8,254.9	21.4	21.7	-156.74	575.7	-246.0	1,139.4	1,101.4	38.00	29.984	
8,500.0	8,469.4	8,388.0	8,352.5	21.7	22.0	-156.73	585.7	-250.1	1,158.7	1,120.2	38.48	30.114	
8,600.0	8,568.9	8,486.1	8,450.0	22.0	22.3	-156.71	595.7	-254.1	1,178.0	1,139.0	38.95	30.240	
8,700.0	8,668.4	8,584.2	8,547.5	22.3	22.6	-156.69	605.7	-258.1	1,197.2	1,157.8	39.43	30.363	
8,800.0	8,767.9	8,682.3	8,645.1	22.6	22.9	-156.68	615.7	-262.1	1,216.5	1,176.6	39.91	30.483	
8,900.0	8,867.4	8,780.5	8,742.6	22.8	23.2	-156.66	625.7	-266.1	1,235.8	1,195.4	40.39	30.600	
9,000.0	8,966.9	8,878.6	8,840.1	23.1	23.5	-156.65	635.7	-270.1	1,255.1	1,214.2	40.86	30.714	
9,100.0	9,066.4	8,976.7	8,937.7	23.4	23.7	-156.64	645.7	-274.1	1,274.3	1,233.0	41.34	30.826	
9,200.0	9,165.9	9,074.8	9,035.2	23.7	24.0	-156.62	655.7	-278.1	1,293.6	1,251.8	41.82	30.935	
9,300.0	9,265.3	9,173.0	9,132.7	24.0	24.3	-156.61	665.7	-282.1	1,312.9	1,270.6	42.30	31.041	
9,400.0	9,364.8	9,271.1	9,230.3	24.3	24.6	-156.60	675.7	-286.1	1,332.2	1,289.4	42.77	31.145	
9,500.0	9,464.3	9,369.2	9,327.8	24.6	24.9	-156.59	685.7	-290.1	1,351.4	1,308.2	43.25	31.246	
9,600.0	9,563.8	9,467.3	9,425.3	24.9	25.2	-156.58	695.7	-294.1	1,370.7	1,327.0	43.73	31.345	
9,700.0	9,663.3	9,565.5	9,522.9	25.2	25.5	-156.56	705.7	-298.1	1,390.0	1,345.8	44.21	31.442	
9,800.0	9,762.8	9,663.6	9,620.4	25.5	25.8	-156.55	715.7	-302.1	1,409.3	1,364.6	44.69	31.536	
9,900.0	9,862.3	9,761.7	9,717.9	25.8	26.1	-156.54	725.7	-306.1	1,428.5	1,383.4	45.17	31.629	
10,000.0	9,961.8	9,859.8	9,815.5	26.0	26.4	-156.53	735.7	-310.1	1,447.8	1,402.2	45.64	31.719	
10,100.0	10,061.3	9,958.0	9,913.0	26.3	26.7	-156.52	745.7	-314.1	1,467.1	1,421.0	46.12	31.808	

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

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-8 - Wellbore #1 - Design #1

Survey Program: 0-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.0	10,160.8	10,056.1	10,010.5	26.6	26.9	-156.51	755.7	-318.1	1,486.4	1,439.8	46.60	31.894	
10,300.0	10,260.3	10,154.2	10,108.1	26.9	27.2	-156.50	765.7	-322.1	1,505.6	1,458.6	47.08	31.979	
10,400.0	10,359.7	10,252.3	10,205.6	27.2	27.5	-156.49	775.7	-326.1	1,524.9	1,477.3	47.56	32.062	
10,500.0	10,459.2	10,350.5	10,303.1	27.5	27.8	-156.48	785.6	-330.1	1,544.2	1,496.1	48.04	32.143	
10,600.0	10,558.7	10,448.6	10,400.7	27.8	28.1	-156.47	795.6	-334.1	1,563.5	1,514.9	48.52	32.223	
10,700.0	10,658.2	10,546.7	10,498.2	28.1	28.4	-156.47	805.6	-338.1	1,582.7	1,533.7	49.00	32.301	
10,800.0	10,757.7	10,644.8	10,595.7	28.4	28.7	-156.46	815.6	-342.1	1,602.0	1,552.5	49.48	32.377	
10,900.0	10,857.2	10,743.0	10,693.3	28.7	29.0	-156.45	825.6	-346.1	1,621.3	1,571.3	49.96	32.452	
11,000.0	10,956.7	10,841.1	10,790.8	29.0	29.3	-156.44	835.6	-350.1	1,640.6	1,590.1	50.44	32.525	
11,100.0	11,056.2	10,939.2	10,888.3	29.3	29.6	-156.43	845.6	-354.1	1,659.8	1,608.9	50.92	32.597	
11,179.2	11,135.0	11,016.9	10,965.6	29.5	29.8	-156.43	853.5	-357.2	1,675.1	1,623.8	51.30	32.653	

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RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-9 - Wellbore #1 - Wellbore #1

Survey Program: 2202-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-151.05	-53.2	-29.4	62.7				
100.0	100.0	85.0	85.0	0.1	0.1	-151.05	-53.3	-29.5	60.9	60.7	0.19	317.167	CC
200.0	200.0	184.9	184.9	0.3	0.2	-151.02	-53.3	-29.5	60.9	60.4	0.53	115.032	
300.0	300.0	284.9	284.9	0.5	0.3	-150.97	-53.4	-29.6	61.1	60.2	0.87	70.399	
400.0	400.0	384.9	384.9	0.8	0.4	-150.90	-53.6	-29.8	61.3	60.1	1.21	50.835	
500.0	500.0	484.8	484.8	1.0	0.6	-150.81	-53.7	-30.0	61.6	60.0	1.54	39.877	
600.0	600.0	584.8	584.8	1.2	0.7	-150.71	-54.0	-30.3	61.9	60.0	1.88	32.886	ES
700.0	700.0	684.7	684.7	1.4	0.8	-150.58	-54.2	-30.6	62.3	60.0	2.22	28.052	
800.0	800.0	784.7	784.7	1.7	0.9	-150.44	-54.5	-30.9	62.7	60.1	2.56	24.519	
900.0	900.0	884.7	884.7	1.9	1.0	-150.27	-54.9	-31.3	63.2	60.3	2.90	21.832	
1,000.0	1,000.0	984.6	984.6	2.1	1.1	-150.10	-55.3	-31.8	63.8	60.5	3.23	19.725	
1,100.0	1,100.0	1,084.6	1,084.6	2.3	1.2	-149.90	-55.7	-32.3	64.4	60.8	3.57	18.034	
1,200.0	1,200.0	1,184.5	1,184.5	2.6	1.3	-149.70	-56.2	-32.8	65.1	61.2	3.91	16.652	
1,300.0	1,300.0	1,284.5	1,284.5	2.8	1.5	-149.48	-56.7	-33.4	65.8	61.6	4.25	15.504	
1,400.0	1,400.0	1,384.5	1,384.4	3.0	1.6	-149.24	-57.3	-34.1	66.7	62.1	4.59	14.538	
1,500.0	1,500.0	1,484.4	1,484.4	3.2	1.7	-149.00	-57.9	-34.8	67.5	62.6	4.92	13.718	
1,600.0	1,600.0	1,584.4	1,584.3	3.5	1.8	-148.75	-58.5	-35.5	68.5	63.2	5.26	13.015	
1,700.0	1,700.0	1,684.3	1,684.3	3.7	1.9	-148.48	-59.2	-36.3	69.5	63.9	5.60	12.408	
1,800.0	1,800.0	1,784.3	1,784.2	3.9	2.0	-148.21	-60.0	-37.2	70.5	64.6	5.94	11.880	
1,900.0	1,900.0	1,884.2	1,884.2	4.1	2.1	-147.93	-60.7	-38.0	71.7	65.4	6.28	11.420	
2,000.0	2,000.0	1,984.2	1,984.1	4.4	2.3	-147.65	-61.5	-39.0	72.9	66.2	6.61	11.016	
2,100.0	2,100.0	2,084.1	2,084.0	4.6	2.4	-147.36	-62.4	-40.0	74.1	67.2	6.95	10.660	
2,200.0	2,200.0	2,184.1	2,184.0	4.8	2.5	-147.07	-63.3	-41.0	75.4	68.1	7.29	10.346	
2,300.0	2,300.0	2,282.6	2,282.5	5.0	2.7	-146.55	-64.7	-42.7	77.6	69.9	7.72	10.051	SF
2,400.0	2,400.0	2,380.8	2,380.6	5.2	2.9	104.32	-66.7	-47.2	82.2	74.1	8.12	10.120	
2,500.0	2,499.8	2,477.8	2,477.3	5.4	3.1	109.54	-69.8	-53.8	90.6	82.0	8.54	10.609	
2,589.2	2,588.7	2,563.3	2,562.4	5.6	3.4	114.56	-74.3	-61.0	102.1	93.2	8.91	11.465	
2,600.0	2,599.5	2,573.6	2,572.6	5.6	3.4	115.15	-75.0	-62.0	103.8	94.8	8.95	11.594	
2,700.0	2,698.9	2,668.3	2,666.5	5.8	3.7	119.70	-82.6	-71.5	121.4	112.0	9.38	12.944	
2,800.0	2,798.4	2,761.9	2,759.0	6.1	3.9	122.99	-91.8	-83.0	142.3	132.5	9.80	14.514	
2,900.0	2,897.9	2,852.3	2,847.6	6.3	4.3	125.25	-102.8	-96.7	167.2	157.0	10.24	16.334	
3,000.0	2,997.4	2,945.3	2,938.3	6.5	4.6	127.23	-114.7	-113.5	195.2	184.5	10.68	18.283	
3,100.0	3,096.9	3,043.1	3,033.7	6.7	4.9	129.12	-126.2	-131.8	223.4	212.3	11.10	20.121	
3,200.0	3,196.4	3,140.3	3,128.6	7.0	5.2	130.72	-136.8	-149.7	251.0	239.5	11.51	21.799	
3,300.0	3,295.9	3,233.4	3,219.5	7.2	5.6	131.88	-147.3	-166.9	279.1	267.1	11.95	23.361	
3,400.0	3,395.4	3,329.5	3,313.2	7.5	5.9	132.81	-158.5	-184.7	307.5	295.1	12.39	24.817	
3,500.0	3,494.9	3,423.3	3,404.7	7.7	6.3	133.58	-169.5	-202.5	336.3	323.5	12.84	26.188	
3,600.0	3,594.4	3,516.7	3,495.6	8.0	6.7	134.25	-180.6	-220.8	365.8	352.5	13.31	27.480	
3,700.0	3,693.9	3,611.1	3,587.4	8.2	7.1	134.83	-191.9	-239.6	395.8	382.0	13.79	28.707	
3,800.0	3,793.3	3,708.0	3,681.7	8.5	7.5	135.42	-203.0	-259.3	425.8	411.5	14.25	29.872	
3,900.0	3,892.8	3,805.7	3,776.9	8.7	7.9	136.03	-213.2	-278.6	455.1	440.3	14.71	30.925	
4,000.0	3,992.3	3,910.7	3,879.4	9.0	8.3	136.61	-223.9	-298.7	483.7	468.5	15.20	31.824	
4,100.0	4,091.8	4,009.9	3,976.6	9.3	8.7	137.09	-233.5	-316.1	510.7	495.1	15.66	32.615	
4,200.0	4,191.3	4,110.3	4,075.1	9.5	9.1	137.51	-243.1	-333.1	537.3	521.1	16.12	33.323	
4,300.0	4,290.8	4,204.9	4,167.9	9.8	9.4	137.86	-252.2	-348.9	563.5	547.0	16.59	33.967	
4,400.0	4,390.3	4,301.6	4,262.8	10.1	9.8	138.18	-261.5	-365.1	589.8	572.8	17.07	34.557	
4,500.0	4,489.8	4,392.0	4,351.3	10.3	10.2	138.37	-271.2	-380.6	616.9	599.4	17.53	35.183	
4,600.0	4,589.3	4,492.3	4,449.5	10.6	10.6	138.49	-282.8	-397.4	644.0	626.0	18.03	35.720	
4,700.0	4,688.8	4,588.8	4,544.1	10.9	10.9	138.60	-293.9	-413.3	670.7	652.2	18.51	36.239	
4,800.0	4,788.3	4,688.7	4,641.9	11.2	11.3	138.70	-305.3	-430.0	697.5	678.5	19.00	36.705	
4,900.0	4,887.7	4,804.1	4,755.3	11.4	11.8	138.73	-318.6	-446.5	722.3	702.8	19.53	36.975	
5,000.0	4,987.2	4,908.3	4,857.9	11.7	12.1	138.75	-330.3	-460.1	745.7	725.7	20.03	37.237	

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

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #18-9 - Wellbore #1 - Wellbore #1

Survey Program: 2202-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,086.7	4,993.0	4,941.3	12.0	12.5	138.74	-340.1	-471.2	769.4	748.9	20.50	37.537	
5,200.0	5,186.2	5,073.5	5,020.3	12.3	12.8	138.71	-350.3	-483.1	794.8	773.8	20.97	37.908	
5,300.0	5,285.7	5,143.5	5,088.6	12.5	13.1	138.66	-359.9	-494.9	822.7	801.3	21.41	38.420	
5,400.0	5,385.2	5,236.7	5,179.2	12.8	13.5	138.67	-372.5	-513.1	852.9	831.0	21.91	38.918	
5,500.0	5,484.7	5,365.9	5,305.4	13.1	14.0	138.73	-388.2	-535.6	880.7	858.2	22.48	39.177	
5,600.0	5,584.2	5,469.7	5,407.3	13.4	14.4	138.87	-398.9	-551.8	906.2	883.2	22.98	39.435	
5,700.0	5,683.7	5,560.9	5,497.0	13.7	14.8	138.97	-408.3	-566.1	931.8	908.3	23.47	39.707	
5,800.0	5,783.2	5,661.8	5,596.0	13.9	15.2	139.06	-419.2	-582.0	957.6	933.7	23.98	39.943	
5,900.0	5,882.7	5,752.0	5,684.5	14.2	15.5	139.12	-429.1	-596.0	983.3	958.8	24.46	40.197	
6,000.0	5,982.1	5,856.6	5,787.3	14.5	15.9	139.23	-439.9	-612.5	1,009.0	984.1	24.97	40.403	
6,100.0	6,081.6	5,938.6	5,867.7	14.8	16.3	139.35	-447.8	-625.9	1,035.1	1,009.6	25.44	40.688	
6,200.0	6,181.1	6,033.4	5,960.7	15.1	16.7	139.45	-457.6	-642.1	1,062.0	1,036.0	25.94	40.940	
6,300.0	6,280.6	6,151.9	6,077.0	15.4	17.1	139.57	-469.8	-661.2	1,088.1	1,061.6	26.48	41.085	
6,400.0	6,380.1	6,231.9	6,155.6	15.6	17.4	139.64	-477.9	-673.5	1,113.4	1,086.4	26.94	41.322	
6,500.0	6,479.6	6,302.9	6,225.1	15.9	17.7	139.69	-485.7	-686.0	1,141.0	1,113.6	27.39	41.656	
6,600.0	6,579.1	6,404.5	6,324.4	16.2	18.2	139.78	-496.8	-704.5	1,169.2	1,141.3	27.90	41.902	
6,700.0	6,678.6	6,508.9	6,426.5	16.5	18.6	139.86	-508.2	-723.1	1,197.0	1,168.6	28.43	42.107	
6,800.0	6,778.1	6,612.9	6,528.2	16.8	19.0	139.88	-520.3	-740.6	1,224.1	1,195.2	28.95	42.287	
6,900.0	6,877.6	6,719.3	6,632.6	17.1	19.4	139.92	-532.1	-757.7	1,250.4	1,220.9	29.47	42.428	
7,000.0	6,977.1	6,801.6	6,713.4	17.4	19.7	140.01	-539.9	-771.2	1,276.5	1,246.5	29.93	42.645	
7,100.0	7,076.5	6,910.5	6,820.1	17.7	20.2	140.18	-549.5	-790.7	1,303.9	1,273.4	30.46	42.805	
7,200.0	7,176.0	7,039.9	6,947.7	17.9	20.6	140.42	-558.8	-810.2	1,327.8	1,296.7	31.02	42.802	
7,300.0	7,275.5	7,107.4	7,014.2	18.2	20.9	140.56	-563.1	-820.5	1,352.1	1,320.7	31.44	43.007	
7,400.0	7,375.0	7,162.0	7,067.7	18.5	21.1	140.70	-566.7	-831.0	1,379.8	1,347.9	31.83	43.342	
7,500.0	7,474.5	7,267.2	7,170.6	18.8	21.5	141.02	-572.2	-852.4	1,408.4	1,376.1	32.34	43.554	
7,600.0	7,574.0	7,336.3	7,238.1	19.1	21.8	141.27	-574.9	-866.8	1,437.3	1,404.5	32.76	43.878	
7,700.0	7,673.5	7,461.2	7,359.8	19.4	22.4	141.54	-583.7	-893.1	1,467.4	1,434.1	33.32	44.042	
7,800.0	7,773.0	7,542.0	7,439.0	19.7	22.7	141.67	-589.8	-908.0	1,495.0	1,461.3	33.77	44.271	
7,900.0	7,872.5	7,606.0	7,501.5	20.0	23.0	141.74	-595.7	-920.5	1,524.4	1,490.2	34.19	44.581	
8,000.0	7,972.0	7,710.7	7,603.3	20.2	23.5	141.85	-605.8	-943.2	1,555.6	1,520.9	34.73	44.794	
8,100.0	8,071.5	7,828.0	7,717.8	20.5	24.0	142.00	-615.8	-966.5	1,584.6	1,549.3	35.28	44.918	
8,200.0	8,170.9	7,921.2	7,808.7	20.8	24.4	142.09	-624.5	-984.9	1,613.9	1,578.1	35.77	45.113	
8,300.0	8,270.4	8,027.3	7,912.3	21.1	24.8	142.15	-635.1	-1,005.5	1,642.9	1,606.6	36.31	45.252	
8,400.0	8,369.9	8,149.0	8,031.2	21.4	25.3	142.19	-647.9	-1,027.8	1,671.3	1,634.4	36.88	45.321	
8,500.0	8,469.4	8,257.1	8,137.2	21.7	25.8	142.19	-659.7	-1,045.2	1,697.4	1,660.0	37.41	45.372	
8,600.0	8,568.9	8,313.1	8,192.0	22.0	26.0	142.18	-666.3	-1,054.9	1,725.0	1,687.2	37.82	45.609	
8,700.0	8,668.4	8,408.0	8,284.6	22.3	26.4	142.15	-677.9	-1,072.5	1,754.0	1,715.6	38.34	45.752	
8,800.0	8,767.9	8,515.5	8,389.3	22.6	26.9	142.10	-691.8	-1,091.9	1,782.6	1,743.7	38.88	45.843	
8,900.0	8,867.4	8,614.5	8,486.2	22.8	27.3	142.09	-703.1	-1,109.4	1,810.4	1,771.0	39.40	45.946	
9,000.0	8,966.9	8,684.0	8,554.0	23.1	27.6	142.11	-710.8	-1,122.4	1,839.1	1,799.3	39.85	46.153	
9,100.0	9,066.4	8,748.0	8,616.2	23.4	27.9	142.12	-718.0	-1,135.4	1,869.4	1,829.1	40.28	46.407	
9,200.0	9,165.9	8,843.0	8,708.5	23.7	28.4	142.13	-729.0	-1,155.0	1,900.1	1,859.3	40.80	46.575	
9,300.0	9,265.3	8,933.7	8,796.6	24.0	28.8	142.20	-738.1	-1,174.6	1,931.2	1,889.9	41.29	46.771	
9,400.0	9,364.8	9,047.0	8,906.8	24.3	29.3	142.32	-747.9	-1,198.8	1,961.9	1,920.0	41.84	46.893	
9,500.0	9,464.3	9,192.7	9,049.0	24.6	29.9	142.49	-759.1	-1,228.6	1,991.6	1,949.1	42.45	46.910	

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RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #19-1 - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-155.25	-35.8	-16.5	39.4				
100.0	100.0	100.0	100.0	0.1	0.1	-155.25	-35.8	-16.5	39.4	39.2	0.19	206.147	
200.0	200.0	200.0	200.0	0.3	0.3	-155.25	-35.8	-16.5	39.4	38.7	0.64	61.482	
300.0	300.0	300.0	300.0	0.5	0.5	-155.25	-35.8	-16.5	39.4	38.3	1.09	36.129	
400.0	400.0	400.0	400.0	0.8	0.8	-155.25	-35.8	-16.5	39.4	37.8	1.54	25.580	
500.0	500.0	500.0	500.0	1.0	1.0	-155.25	-35.8	-16.5	39.4	37.4	1.99	19.799	
600.0	600.0	600.0	600.0	1.2	1.2	-155.25	-35.8	-16.5	39.4	36.9	2.44	16.150	
700.0	700.0	700.0	700.0	1.4	1.4	-155.25	-35.8	-16.5	39.4	36.5	2.89	13.636	
800.0	800.0	800.0	800.0	1.7	1.7	-155.25	-35.8	-16.5	39.4	36.0	3.34	11.800	
900.0	900.0	900.0	900.0	1.9	1.9	-155.25	-35.8	-16.5	39.4	35.6	3.79	10.399	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-155.25	-35.8	-16.5	39.4	35.1	4.24	9.296	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-155.25	-35.8	-16.5	39.4	34.7	4.69	8.404	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-155.25	-35.8	-16.5	39.4	34.2	5.14	7.668	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-155.25	-35.8	-16.5	39.4	33.8	5.59	7.051	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-155.25	-35.8	-16.5	39.4	33.3	6.03	6.526	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-155.25	-35.8	-16.5	39.4	32.9	6.48	6.074	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-155.25	-35.8	-16.5	39.4	32.5	6.93	5.680	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-155.25	-35.8	-16.5	39.4	32.0	7.38	5.334	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-155.25	-35.8	-16.5	39.4	31.6	7.83	5.028	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-155.25	-35.8	-16.5	39.4	31.1	8.28	4.755	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-155.25	-35.8	-16.5	39.4	30.7	8.73	4.510	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-155.25	-35.8	-16.5	39.4	30.2	9.18	4.289	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-155.25	-35.8	-16.5	39.4	29.8	9.63	4.089	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	-155.25	-35.8	-16.5	39.4	29.3	10.08	3.907	CC, ES, SF
2,400.0	2,400.0	2,398.7	2,398.7	5.2	5.2	94.09	-37.5	-16.5	41.0	30.6	10.48	3.916	
2,500.0	2,499.8	2,497.3	2,497.1	5.4	5.4	97.56	-42.6	-16.4	46.1	35.3	10.84	4.255	
2,589.2	2,588.7	2,584.7	2,584.3	5.6	5.6	101.38	-49.9	-16.4	53.7	42.6	11.17	4.812	
2,600.0	2,599.5	2,595.3	2,594.8	5.6	5.6	101.85	-51.0	-16.4	54.9	43.7	11.21	4.895	
2,700.0	2,698.9	2,692.9	2,691.7	5.8	5.8	104.43	-62.7	-16.3	66.9	55.3	11.59	5.770	
2,800.0	2,798.4	2,789.8	2,787.4	6.1	5.9	104.74	-77.5	-16.1	81.7	69.7	11.99	6.808	
2,900.0	2,897.9	2,885.9	2,881.8	6.3	6.2	103.79	-95.5	-16.0	99.1	86.7	12.41	7.983	
3,000.0	2,997.4	2,983.9	2,977.8	6.5	6.4	102.59	-115.5	-15.8	117.9	105.1	12.84	9.183	
3,100.0	3,096.9	3,082.1	3,073.9	6.7	6.7	101.71	-135.6	-15.7	136.9	123.6	13.29	10.299	
3,200.0	3,196.4	3,180.3	3,170.0	7.0	7.0	101.05	-155.7	-15.5	155.8	142.1	13.75	11.334	
3,300.0	3,295.9	3,278.5	3,266.1	7.2	7.3	100.53	-175.8	-15.3	174.8	160.6	14.22	12.294	
3,400.0	3,395.4	3,376.6	3,362.2	7.5	7.6	100.11	-195.9	-15.2	193.7	179.0	14.69	13.185	
3,500.0	3,494.9	3,474.8	3,458.3	7.7	7.9	99.77	-215.9	-15.0	212.7	197.5	15.18	14.012	
3,600.0	3,594.4	3,573.0	3,554.4	8.0	8.2	99.49	-236.0	-14.9	231.7	216.0	15.68	14.780	
3,700.0	3,693.9	3,671.2	3,650.5	8.2	8.6	99.24	-256.1	-14.7	250.7	234.5	16.18	15.494	
3,800.0	3,793.3	3,769.3	3,746.6	8.5	8.9	99.03	-276.2	-14.5	269.7	253.0	16.69	16.160	
3,900.0	3,892.8	3,867.5	3,842.7	8.7	9.3	98.85	-296.3	-14.4	288.7	271.5	17.20	16.779	
4,000.0	3,992.3	3,965.7	3,938.8	9.0	9.7	98.69	-316.4	-14.2	307.7	290.0	17.73	17.358	
4,100.0	4,091.8	4,063.9	4,034.9	9.3	10.0	98.55	-336.4	-14.0	326.7	308.4	18.25	17.899	
4,200.0	4,191.3	4,162.0	4,131.0	9.5	10.4	98.43	-356.5	-13.9	345.7	326.9	18.78	18.405	
4,300.0	4,290.8	4,260.2	4,227.1	9.8	10.8	98.32	-376.6	-13.7	364.7	345.4	19.32	18.879	
4,400.0	4,390.3	4,358.4	4,323.2	10.1	11.2	98.22	-396.7	-13.6	383.7	363.8	19.86	19.323	
4,500.0	4,489.8	4,456.6	4,419.3	10.3	11.6	98.12	-416.8	-13.4	402.7	382.3	20.40	19.741	
4,600.0	4,589.3	4,554.7	4,515.4	10.6	12.0	98.04	-436.9	-13.2	421.7	400.8	20.94	20.134	
4,700.0	4,688.8	4,652.9	4,611.5	10.9	12.4	97.96	-456.9	-13.1	440.7	419.2	21.49	20.504	
4,800.0	4,788.3	4,751.1	4,707.6	11.2	12.8	97.90	-477.0	-12.9	459.7	437.7	22.05	20.853	
4,900.0	4,887.7	4,849.3	4,803.7	11.4	13.2	97.83	-497.1	-12.7	478.7	456.1	22.60	21.183	
5,000.0	4,987.2	4,947.4	4,899.8	11.7	13.6	97.77	-517.2	-12.6	497.7	474.6	23.16	21.495	

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

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #19-1 - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,086.7	5,045.6	4,995.9	12.0	14.0	97.72	-537.3	-12.4	516.8	493.0	23.72	21.789	
5,200.0	5,186.2	5,143.8	5,092.0	12.3	14.4	97.67	-557.4	-12.2	535.8	511.5	24.28	22.069	
5,300.0	5,285.7	5,242.0	5,188.1	12.5	14.8	97.62	-577.4	-12.1	554.8	529.9	24.84	22.334	
5,400.0	5,385.2	5,340.1	5,284.2	12.8	15.2	97.57	-597.5	-11.9	573.8	548.4	25.41	22.585	
5,500.0	5,484.7	5,438.3	5,380.3	13.1	15.6	97.53	-617.6	-11.8	592.8	566.8	25.97	22.824	
5,600.0	5,584.2	5,536.5	5,476.4	13.4	16.1	97.49	-637.7	-11.6	611.8	585.3	26.54	23.052	
5,700.0	5,683.7	5,634.7	5,572.4	13.7	16.5	97.46	-657.8	-11.4	630.8	603.7	27.11	23.269	
5,800.0	5,783.2	5,732.8	5,668.5	13.9	16.9	97.42	-677.9	-11.3	649.8	622.2	27.68	23.475	
5,900.0	5,882.7	5,831.0	5,764.6	14.2	17.3	97.39	-697.9	-11.1	668.8	640.6	28.25	23.673	
6,000.0	5,982.1	5,929.2	5,860.7	14.5	17.7	97.36	-718.0	-10.9	687.9	659.0	28.83	23.861	
6,100.0	6,081.6	6,027.4	5,956.8	14.8	18.2	97.33	-738.1	-10.8	706.9	677.5	29.40	24.041	
6,200.0	6,181.1	6,125.5	6,052.9	15.1	18.6	97.30	-758.2	-10.6	725.9	695.9	29.98	24.213	
6,300.0	6,280.6	6,223.7	6,149.0	15.4	19.0	97.28	-778.3	-10.5	744.9	714.3	30.56	24.378	
6,400.0	6,380.1	6,321.9	6,245.1	15.6	19.4	97.25	-798.4	-10.3	763.9	732.8	31.13	24.536	
6,500.0	6,479.6	6,420.1	6,341.2	15.9	19.8	97.23	-818.4	-10.1	782.9	751.2	31.71	24.687	
6,600.0	6,579.1	6,518.2	6,437.3	16.2	20.3	97.21	-838.5	-10.0	801.9	769.6	32.29	24.833	
6,700.0	6,678.6	6,616.4	6,533.4	16.5	20.7	97.18	-858.6	-9.8	821.0	788.1	32.87	24.972	
6,800.0	6,778.1	6,714.6	6,629.5	16.8	21.1	97.16	-878.7	-9.6	840.0	806.5	33.46	25.107	
6,900.0	6,877.6	6,812.8	6,725.6	17.1	21.5	97.14	-898.8	-9.5	859.0	824.9	34.04	25.236	
7,000.0	6,977.1	6,910.9	6,821.7	17.4	22.0	97.13	-918.9	-9.3	878.0	843.4	34.62	25.360	
7,100.0	7,076.5	7,009.1	6,917.8	17.7	22.4	97.11	-938.9	-9.1	897.0	861.8	35.21	25.479	
7,200.0	7,176.0	7,107.3	7,013.9	17.9	22.8	97.09	-959.0	-9.0	916.0	880.2	35.79	25.594	
7,300.0	7,275.5	7,205.5	7,110.0	18.2	23.3	97.07	-979.1	-8.8	935.0	898.7	36.38	25.705	
7,400.0	7,375.0	7,303.6	7,206.1	18.5	23.7	97.06	-999.2	-8.7	954.1	917.1	36.96	25.813	
7,500.0	7,474.5	7,401.8	7,302.2	18.8	24.1	97.04	-1,019.3	-8.5	973.1	935.5	37.55	25.916	
7,600.0	7,574.0	7,500.0	7,398.3	19.1	24.5	97.03	-1,039.4	-8.3	992.1	954.0	38.13	26.016	
7,700.0	7,673.5	7,598.2	7,494.4	19.4	25.0	97.01	-1,059.4	-8.2	1,011.1	972.4	38.72	26.112	
7,800.0	7,773.0	7,696.3	7,590.5	19.7	25.4	97.00	-1,079.5	-8.0	1,030.1	990.8	39.31	26.205	
7,900.0	7,872.5	7,794.5	7,686.6	20.0	25.8	96.99	-1,099.6	-7.8	1,049.1	1,009.2	39.90	26.296	
8,000.0	7,972.0	7,892.7	7,782.7	20.2	26.3	96.98	-1,119.7	-7.7	1,068.1	1,027.7	40.49	26.383	
8,100.0	8,071.5	7,990.9	7,878.8	20.5	26.7	96.96	-1,139.8	-7.5	1,087.2	1,046.1	41.08	26.467	
8,200.0	8,170.9	8,089.0	7,974.9	20.8	27.1	96.95	-1,159.9	-7.4	1,106.2	1,064.5	41.67	26.549	
8,300.0	8,270.4	8,187.2	8,071.0	21.1	27.6	96.94	-1,179.9	-7.2	1,125.2	1,082.9	42.26	26.628	
8,400.0	8,369.9	8,285.4	8,167.1	21.4	28.0	96.93	-1,200.0	-7.0	1,144.2	1,101.4	42.85	26.705	
8,500.0	8,469.4	8,383.6	8,263.2	21.7	28.4	96.92	-1,220.1	-6.9	1,163.2	1,119.8	43.44	26.780	
8,600.0	8,568.9	8,481.7	8,359.3	22.0	28.9	96.91	-1,240.2	-6.7	1,182.2	1,138.2	44.03	26.852	
8,700.0	8,668.4	8,579.9	8,455.4	22.3	29.3	96.90	-1,260.3	-6.5	1,201.3	1,156.6	44.62	26.922	
8,800.0	8,767.9	8,678.1	8,551.5	22.6	29.7	96.89	-1,280.4	-6.4	1,220.3	1,175.1	45.21	26.990	
8,900.0	8,867.4	8,776.3	8,647.6	22.8	30.2	96.88	-1,300.4	-6.2	1,239.3	1,193.5	45.80	27.056	
9,000.0	8,966.9	8,874.4	8,743.7	23.1	30.6	96.87	-1,320.5	-6.1	1,258.3	1,211.9	46.40	27.121	
9,100.0	9,066.4	8,972.6	8,839.8	23.4	31.0	96.86	-1,340.6	-5.9	1,277.3	1,230.3	46.99	27.183	
9,200.0	9,165.9	9,070.8	8,935.9	23.7	31.5	96.85	-1,360.7	-5.7	1,296.3	1,248.7	47.58	27.244	
9,300.0	9,265.3	9,169.0	9,032.0	24.0	31.9	96.84	-1,380.8	-5.6	1,315.3	1,267.2	48.18	27.303	
9,400.0	9,364.8	9,267.1	9,128.1	24.3	32.3	96.84	-1,400.9	-5.4	1,334.4	1,285.6	48.77	27.361	
9,500.0	9,464.3	9,365.3	9,224.2	24.6	32.8	96.83	-1,420.9	-5.2	1,353.4	1,304.0	49.36	27.417	
9,600.0	9,563.8	9,463.5	9,320.3	24.9	33.2	96.82	-1,441.0	-5.1	1,372.4	1,322.4	49.96	27.471	
9,700.0	9,663.3	9,561.7	9,416.4	25.2	33.6	96.81	-1,461.1	-4.9	1,391.4	1,340.9	50.55	27.524	
9,800.0	9,762.8	9,659.8	9,512.5	25.5	34.1	96.81	-1,481.2	-4.7	1,410.4	1,359.3	51.15	27.576	
9,900.0	9,862.3	9,758.0	9,608.6	25.8	34.5	96.80	-1,501.3	-4.6	1,429.4	1,377.7	51.74	27.627	
10,000.0	9,961.8	9,856.2	9,704.7	26.0	34.9	96.79	-1,521.4	-4.4	1,448.5	1,396.1	52.34	27.676	
10,100.0	10,061.3	9,954.4	9,800.8	26.3	35.4	96.79	-1,541.4	-4.3	1,467.5	1,414.5	52.93	27.724	
10,200.0	10,160.8	10,052.5	9,896.9	26.6	35.8	96.78	-1,561.5	-4.1	1,486.5	1,433.0	53.53	27.770	

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

RECEIVED: December 05, 2014

Gyrodata, Inc.

Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec.18 - T15S - R21E - Tumbleweed #19-1 - Wellbore #1 - Design #1

Survey Program: 0-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,260.3	10,150.7	9,993.0	26.9	36.2	96.77	-1,581.6	-3.9	1,505.5	1,451.4	54.12	27.816	
10,400.0	10,359.7	10,248.9	10,089.1	27.2	36.7	96.77	-1,601.7	-3.8	1,524.5	1,469.8	54.72	27.860	
10,500.0	10,459.2	10,347.1	10,185.2	27.5	37.1	96.76	-1,621.8	-3.6	1,543.5	1,488.2	55.32	27.904	
10,600.0	10,558.7	10,445.2	10,281.3	27.8	37.6	96.76	-1,641.9	-3.4	1,562.5	1,506.6	55.91	27.946	
10,700.0	10,658.2	10,543.4	10,377.4	28.1	38.0	96.75	-1,661.9	-3.3	1,581.6	1,525.1	56.51	27.988	
10,800.0	10,757.7	10,641.6	10,473.5	28.4	38.4	96.74	-1,682.0	-3.1	1,600.6	1,543.5	57.11	28.028	
10,900.0	10,857.2	10,739.8	10,569.6	28.7	38.9	96.74	-1,702.1	-3.0	1,619.6	1,561.9	57.70	28.068	
11,000.0	10,956.7	10,837.9	10,665.7	29.0	39.3	96.73	-1,722.2	-2.8	1,638.6	1,580.3	58.30	28.106	
11,100.0	11,056.2	10,936.1	10,761.8	29.3	39.7	96.73	-1,742.3	-2.6	1,657.6	1,598.7	58.90	28.144	
11,179.2	11,135.0	11,013.9	10,837.9	29.5	40.1	96.72	-1,758.2	-2.5	1,672.7	1,613.3	59.37	28.174	

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

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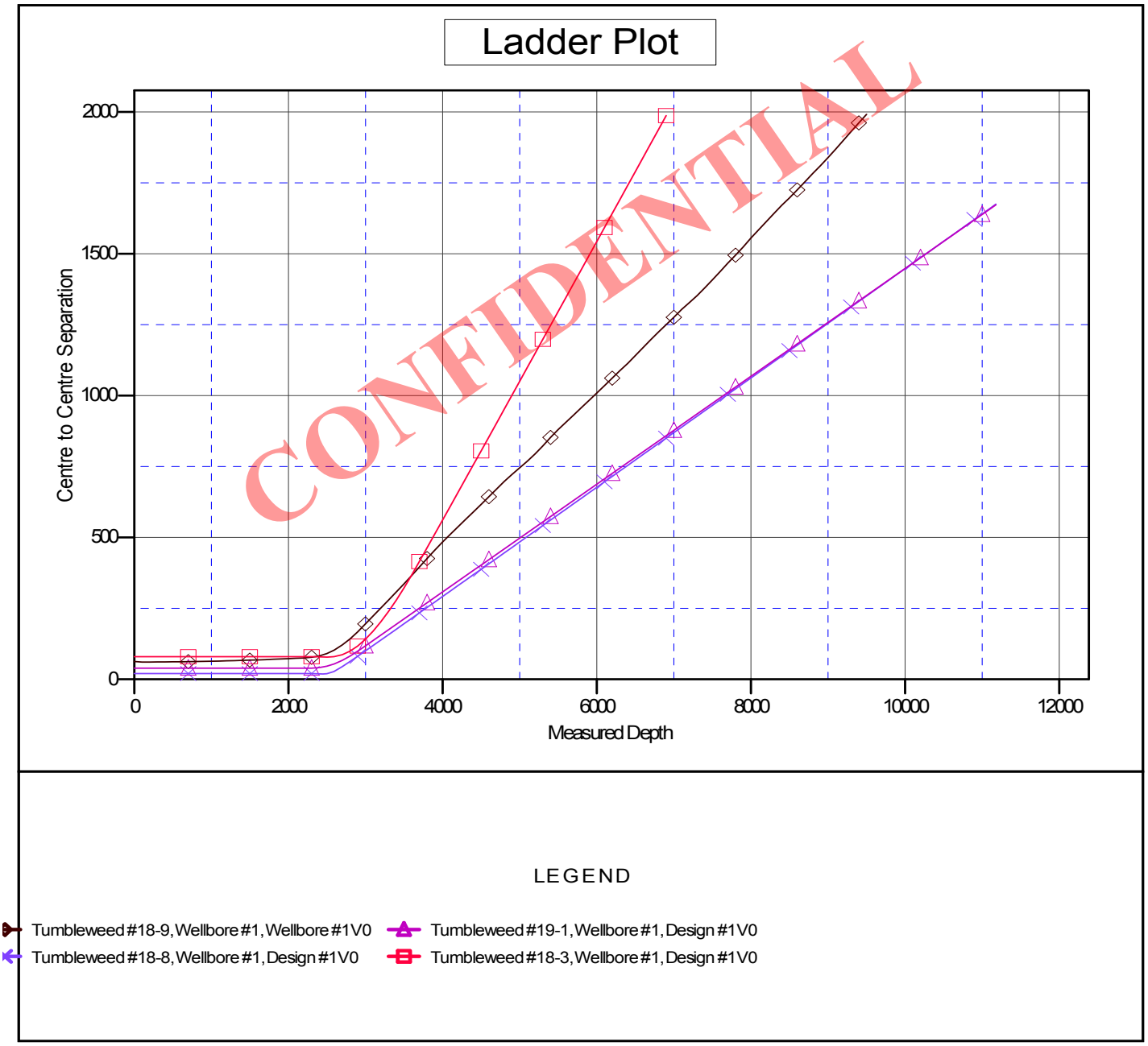
Gyrodata, Inc.
Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 7240.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: Tumbleweed #17-12
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 1.22°



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

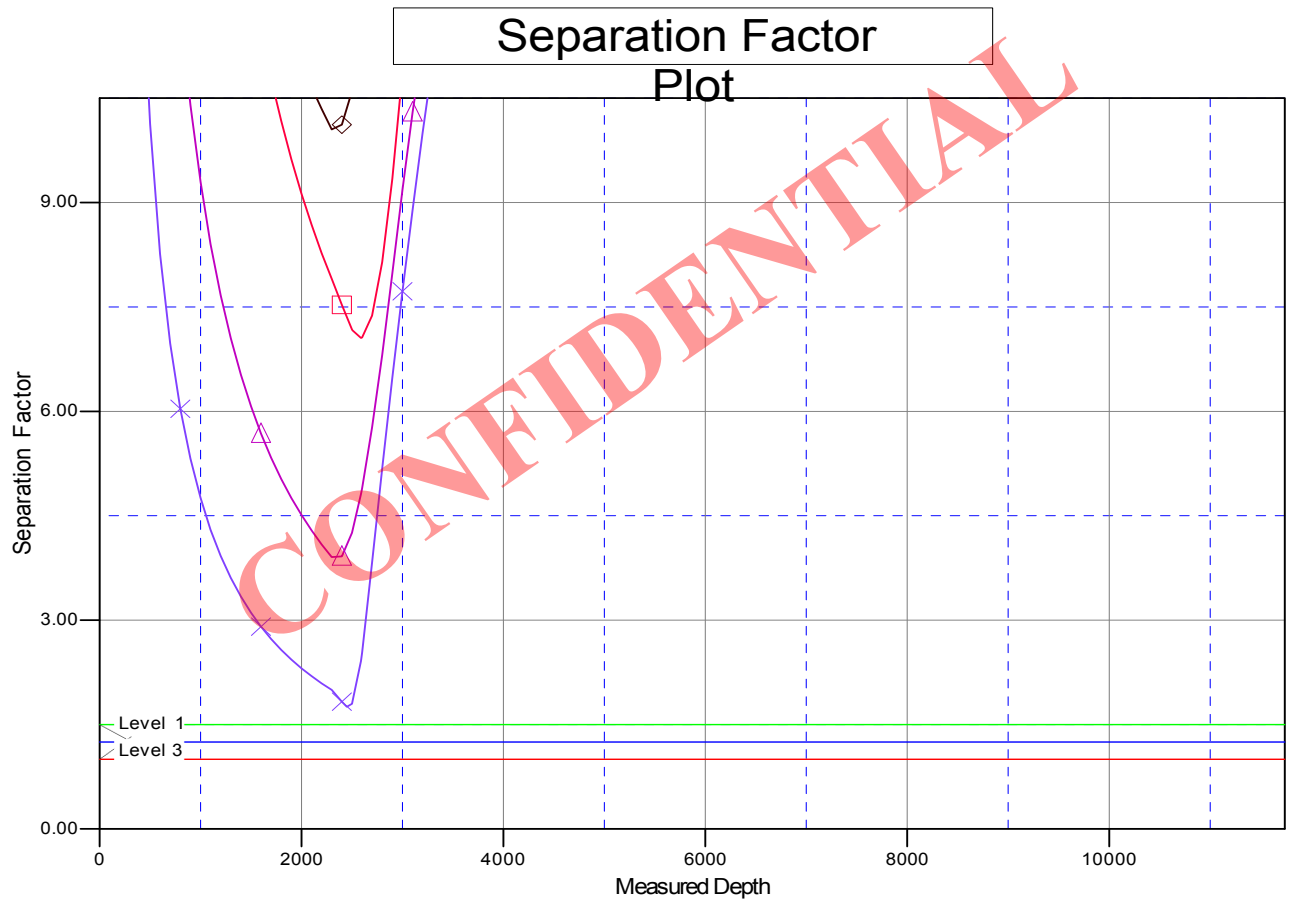
RECEIVED: December 05, 2014

Gyrodata, Inc.
Anticollision Report

Company:	Stewart Petroleum Corp.	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Project:	Uintah Co., UT	**TVD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Reference Site:	Sec.18 - T15S - R21E	**MD Reference:**	WELL @ 7240.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 7240.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: Tumbleweed #17-12
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 1.22°



LEGEND

- Tumbleweed #18-9, Wellbore #1, Wellbore #1V0
- Tumbleweed #18-8, Wellbore #1, Design #1V0
- Tumbleweed #19-1, Wellbore #1, Design #1V0
- Tumbleweed #18-3, Wellbore #1, Design #1V0

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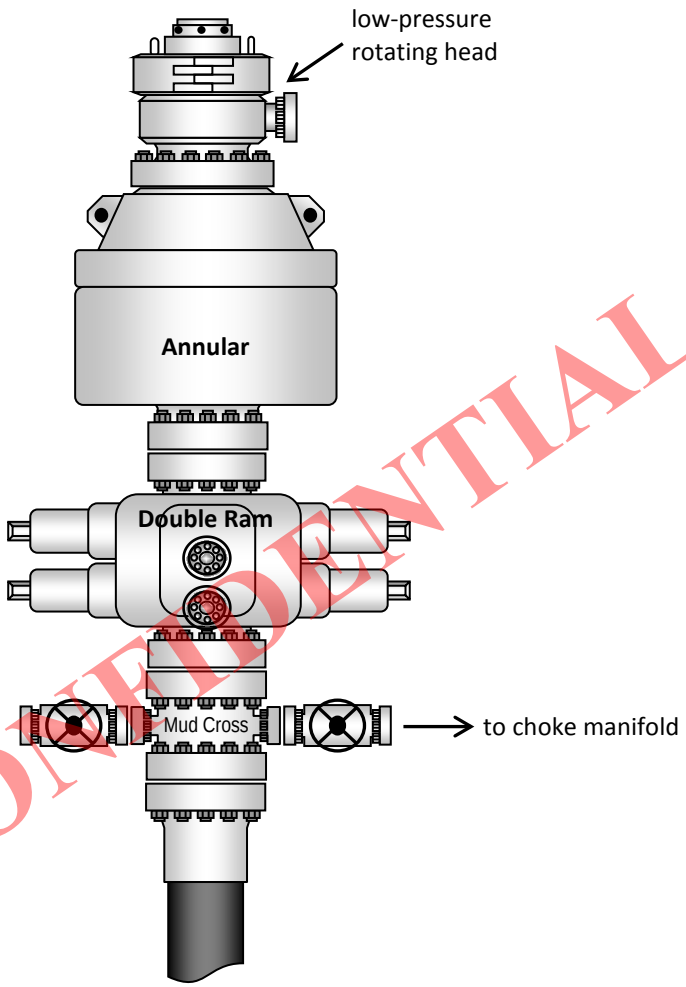
Typical 5M BOP stack configuration



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Star Point Enterprises, Inc.

2580 Creekview Road
Moab, Utah 84532
435/650-3866

December 5, 2014

Mrs. Diana Mason
State of Utah
Division of Oil Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Request for Exception to Spacing – Stewart Petroleum Corporation
Tumbleweed 17-12
Surface Location: NESE, 1753' FSL & 629' FEL, Sec. 18, T15S, R21E
Target Location: NWSW, 1423' FSL & 187' FWL, Sec. 17, T15S, R21E
SLB&M, Uintah County, Utah

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Dear Diana:

Stewart Petroleum Corporation respectfully submits this request for exception to spacing (R649-3-11) based on geology since the well is located less than 460 feet to the drilling unit boundary. Stewart Petroleum Corporation is the only owner and operator within 460 feet of the surface and target location as well as all points along the intended well bore path, and neither the surface nor target locations are within 460 feet of any uncommitted tracts or a unit boundary.

Thank you very much for your timely consideration of this application. Please feel free to contact Gene Brown of Stewart Petroleum Corporation at 435-828-2519 or myself should you have any questions or need additional information.

Sincerely,

Don Hamilton
Agent for Stewart Petroleum Corporation

cc: Gene Brown, Stewart Petroleum Corporation

RECEIVED: December 05, 2014

STEWART PETROLEUM CORPORATION

LOCATION LAYOUT FOR

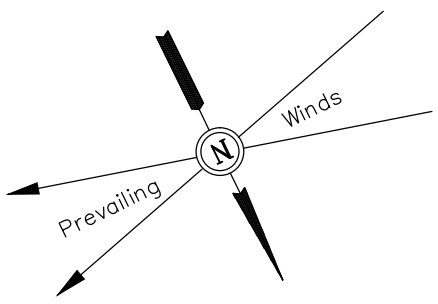
TUMBLEWEED #18-3, #18-8, #18-11, #19-1 & #17-12
SECTION 18, T15S, R21E, S.L.B.&M.
NE 1/4 SE 1/4

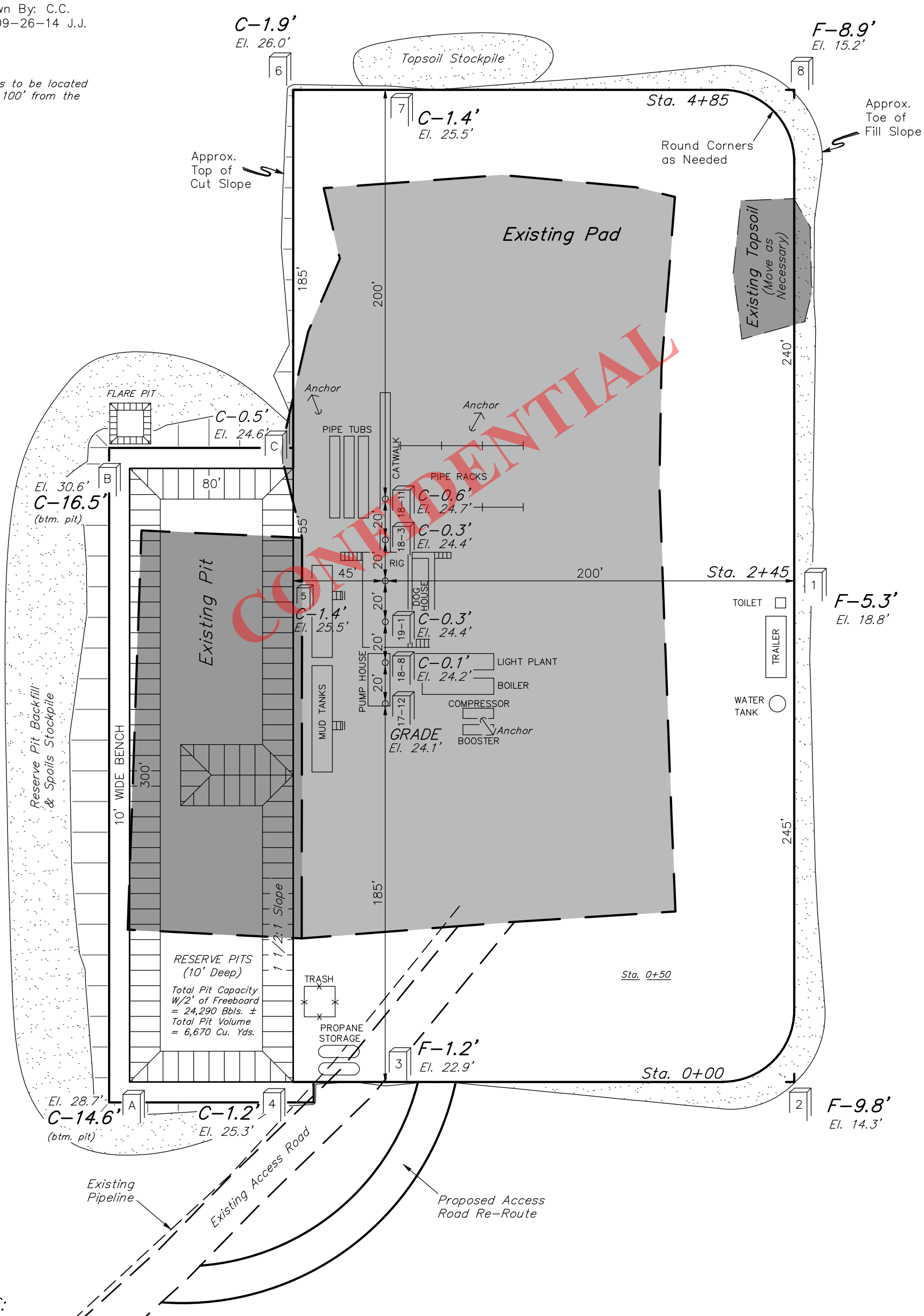
FIGURE #1

REGISTERED LAND SURVEYOR No. 161319 ROBERT L. KAY STATE OF UTAH 10-02-14

SCALE: 1" = 50'
DATE: 04-07-08
Drawn By: C.C.
REV: 09-26-14 J.J.

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.





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NOTES:

Elev. Ungraded Ground At # 19-1 Loc. Stake = 7224.7'
Elev. Ungraded Ground At #18-8 Loc. Stake = 7224.1'
FINISHED GRADE ELEV. AT LOC. STAKES = 7224.1'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

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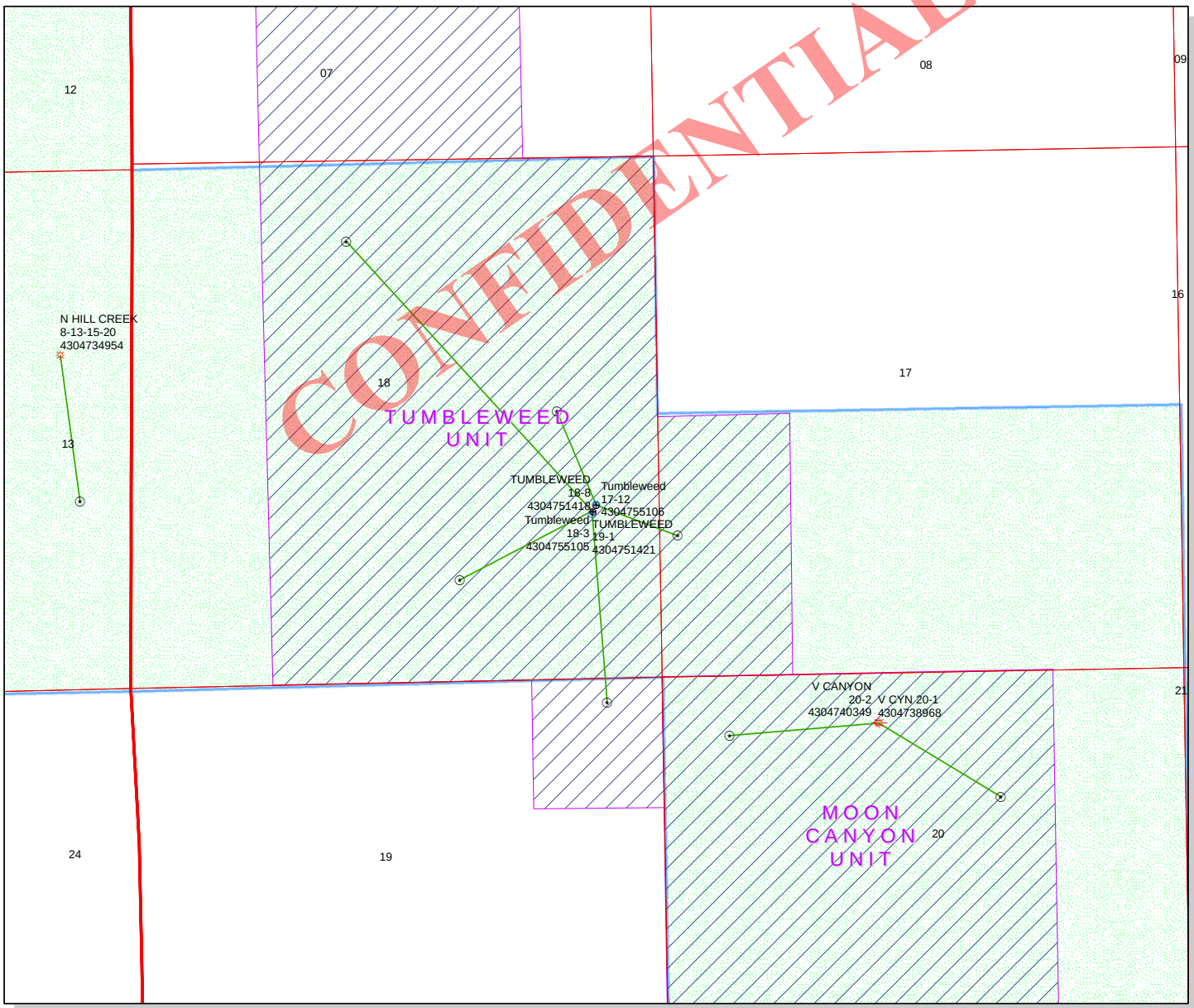
API Well Number: 43047551060000



API Number: 4304755106

Well Name: Tumbleweed 17-12

Township: T15.0S Range: R21.0E Section: 18 Meridian: S

Operator: STEWART PETROLEUM CORP

Map Prepared: 12/11/2014
Map Produced by Diana Mason

Wells Query

Status

- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Units

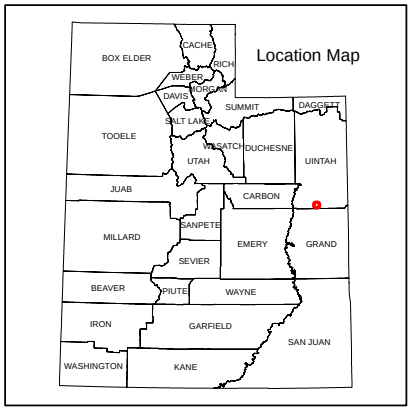
STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS

- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED



1,250 625 0 1,250 Feet

1:12,470

RECEIVED: December 11, 2014

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
440 West 200 South, Suite 500
Salt Lake City, UT 84101

IN REPLY REFER TO:
3160
(UT-922)

December 15, 2014

Memorandum

To: Assistant Field Office Manager Minerals, Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2014 Plan of Development Tumbleweed Unit Uintah County, Utah.

CONFIDENTIAL

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2014 within the Tumbleweed Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ Wasatch-Entrada)		
43-047-55105	Tumbleweed 18-3	Sec 18 T15S R21E 1681 FSL 0664 FEL BHL Sec 18 T15S R21E 0810 FNL 2178 FWL
43-047-55106	Tumbleweed 17-12	Sec 18 T15S R21E 1753 FSL 0629 FEL BHL Sec 17 T15S R21E 1423 FSL 0187 FWL

This office has no objection to permitting the wells at this time.

Michael Coulthard

Digitally signed by Michael Coulthard
DN: cn=Michael Coulthard, o=Bureau of Land Management, ou=Division of Minerals, email=mcoultha@blm.gov, c=US
Date: 2014.12.15 12:47:16 -07'00'

bcc: File - Tumbleweed Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:12-15-14

RECEIVED: December 15, 2014

API Well Number: 43047551060000

Company: Stewart Petroleum Corp.
Field: Uintah Co., UT
Location: Sec.18 - T15S - R21E
Well: Tumbleweed #18-3
Plan: Design #1 (Tumbleweed #18-3/Wellbore #1)
WELL @ 7240.0usft (Original Well Elev)

gyrodata
Precision Wellbore Placement

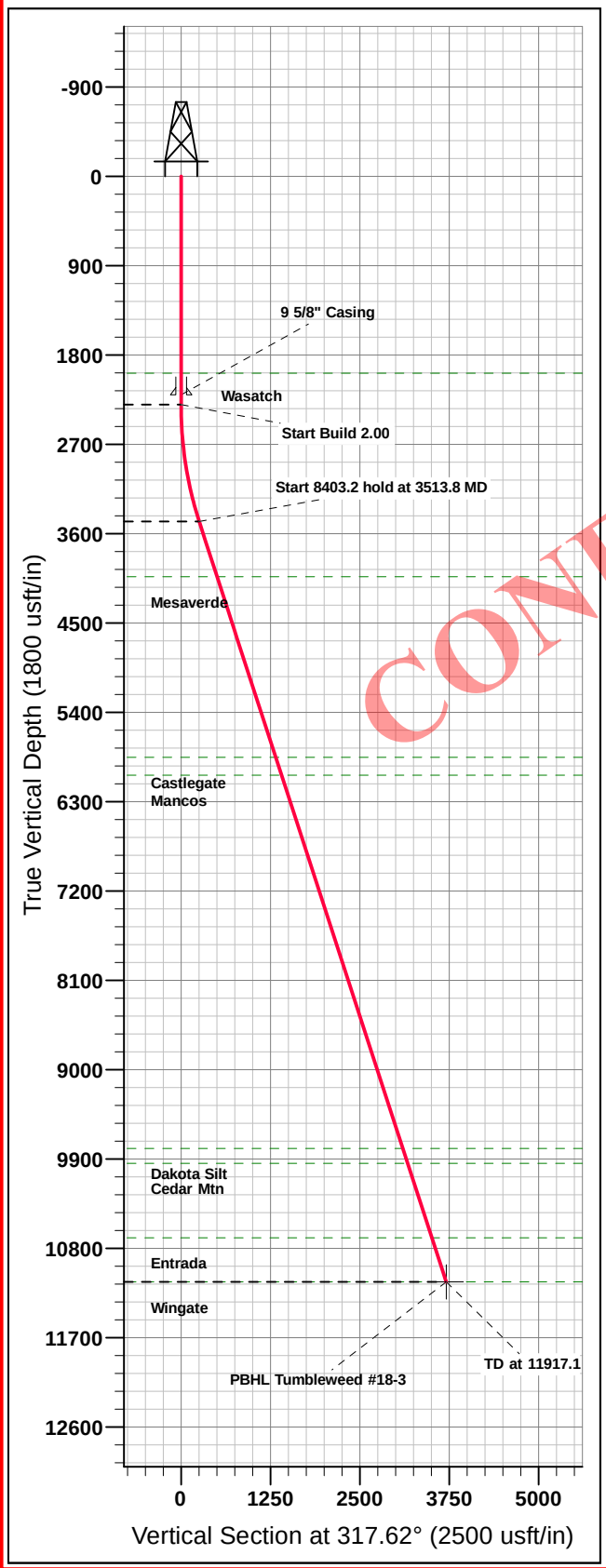
Bureau of Land Management
CONFIDENTIAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	2300.0	0.00	0.00	2300.0	0.0	0.0	0.00	0.00	0.0		Start Build 2.00
3	3513.8	24.28	317.62	3477.8	187.1	-170.8	2.00	317.62	253.3		Start 8403.2 hold at 3513.8 MD
4	11917.1	24.28	317.62	11138.0	2739.0	-2499.7	0.00	0.00	3708.2	PBHL Tumbleweed #18-3	TD at 11917.1

Azimuths to Grid North
True North: -1.22°
Magnetic North: 9.40°

Magnetic Field
Strength: 51692.6snT
Dip Angle: 65.36°
Date: 11/10/2014
Model: IGRF2010



WELL DETAILS: Tumbleweed #18-3

Ground Elev: 7225.0
WELL @ 7240.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	434390.65	2535573.46	39° 30' 37.320 N	109° 36' 5.700 W	

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL Tumbleweed #18-3	11138.0	2739.0	-2499.7	437129.67	2533073.76	Point

CASING DETAILS

TVD	MD	Name	Size
2200.0	2200.0	9 5/8" Casing	9-5/8

Plan: Design #1 (Tumbleweed #18-3/Wellbore #1)

Created By: M. Loucks Date: 11:47, November 11 2014

FORMATION TOPS ALONG WELLPATH

TVDPath	MDPath	Formation
1983.0	1983.0	Wasatch
4033.0	4122.8	Mesaverde
5853.0	6119.4	Castlegate
6033.0	6316.9	Mancos
9793.0	10441.6	Dakota Silt
9943.0	10606.1	Cedar Mtn
10694.0	11430.0	Entrada

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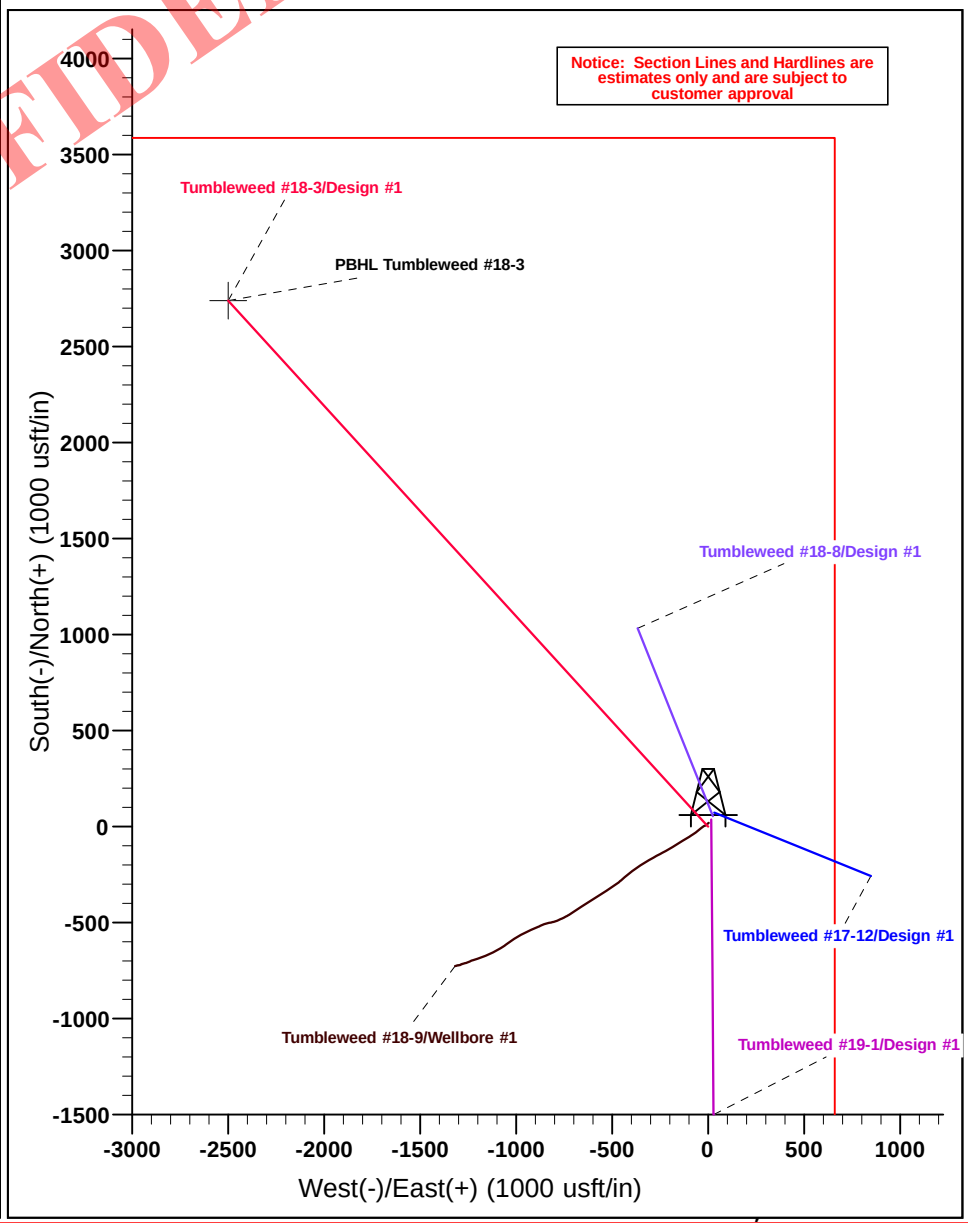


API Well Number: 43047551060000

Company: Stewart Petroleum Corp.
Field: Uintah Co., UT
Location: Sec.18 - T15S - R21E
Well: Tumbleweed #17-12
Plan: Design #1 (Tumbleweed #17-12/Wellbore #1)
WELL @ 7240.0usft (Original Well Elev)

gyrodata
Precision Wellbore Placement

Bureau of Land Management
CONFIDENTIAL

SECTION DETAILS

	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.0	0.00	0.00	0.0	0.0		
2	2300.0	0.0	0.00	0.00	0.0	0.0		Start Build 2.00
3	2589.2	5.78	112.02	2588.7	-5.5	13.5	2.00	112.02	14.6		Start 8590.0 hold at 2589.2 MD
4	11179.2	5.78	112.02	11135.0	-330.0	816.0	0.00	0.00	880.2	PBHL Tumbleweed #17-12	TD at 11179.2

T G M

Azimuths to Grid North
True North: -1.22°
Magnetic North: 9.40°

Magnetic Field
Strength: 51692.8snT
Dip Angle: 65.36°
Date: 11/10/2014
Model: IGRF2010

WELL DETAILS: Tumbleweed #17-12

Ground Elev: 7225.0
WELL @ 7240.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	434463.20	2535606.41	39° 30' 38.030 N	109° 36' 5.260 W	

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL Tumbleweed #17-12	11135.0	-330.0	816.0	434133.20	2536422.41	Point

CASING DETAILS

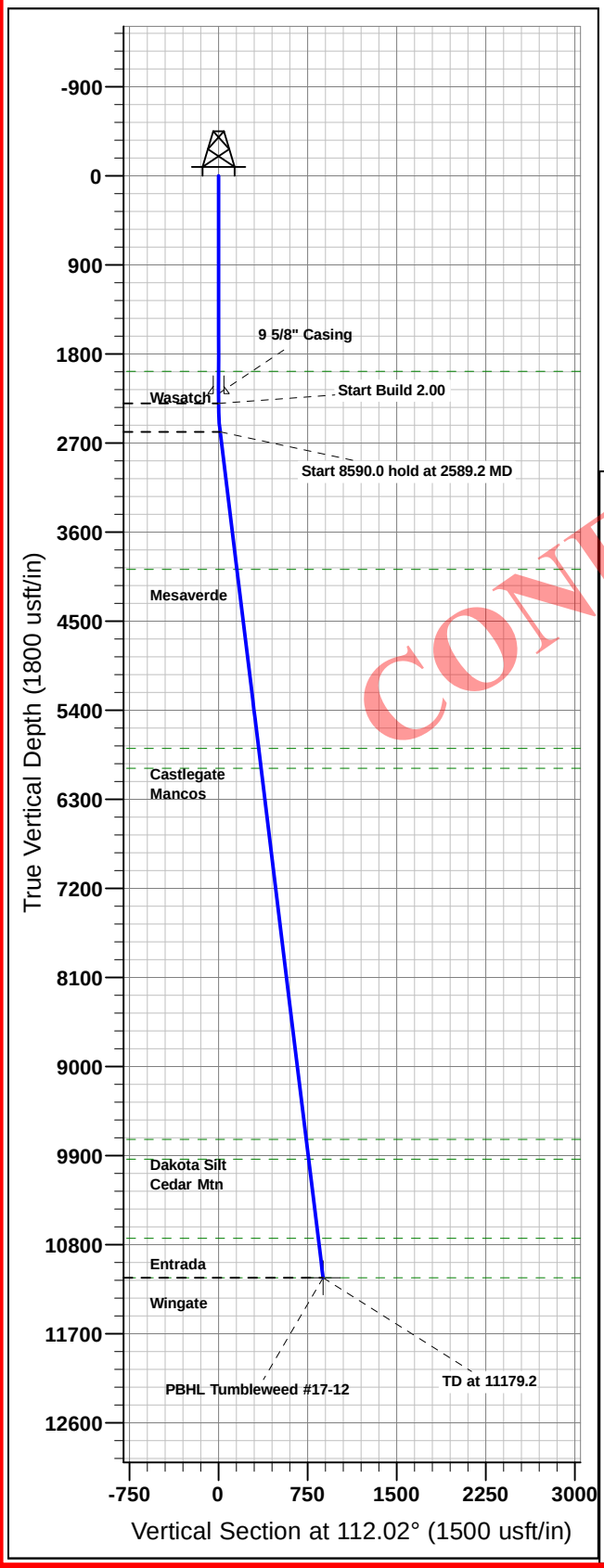
TVD	MD	Name	Size
2200.0	2200.0	9 5/8" Casing	9-5/8

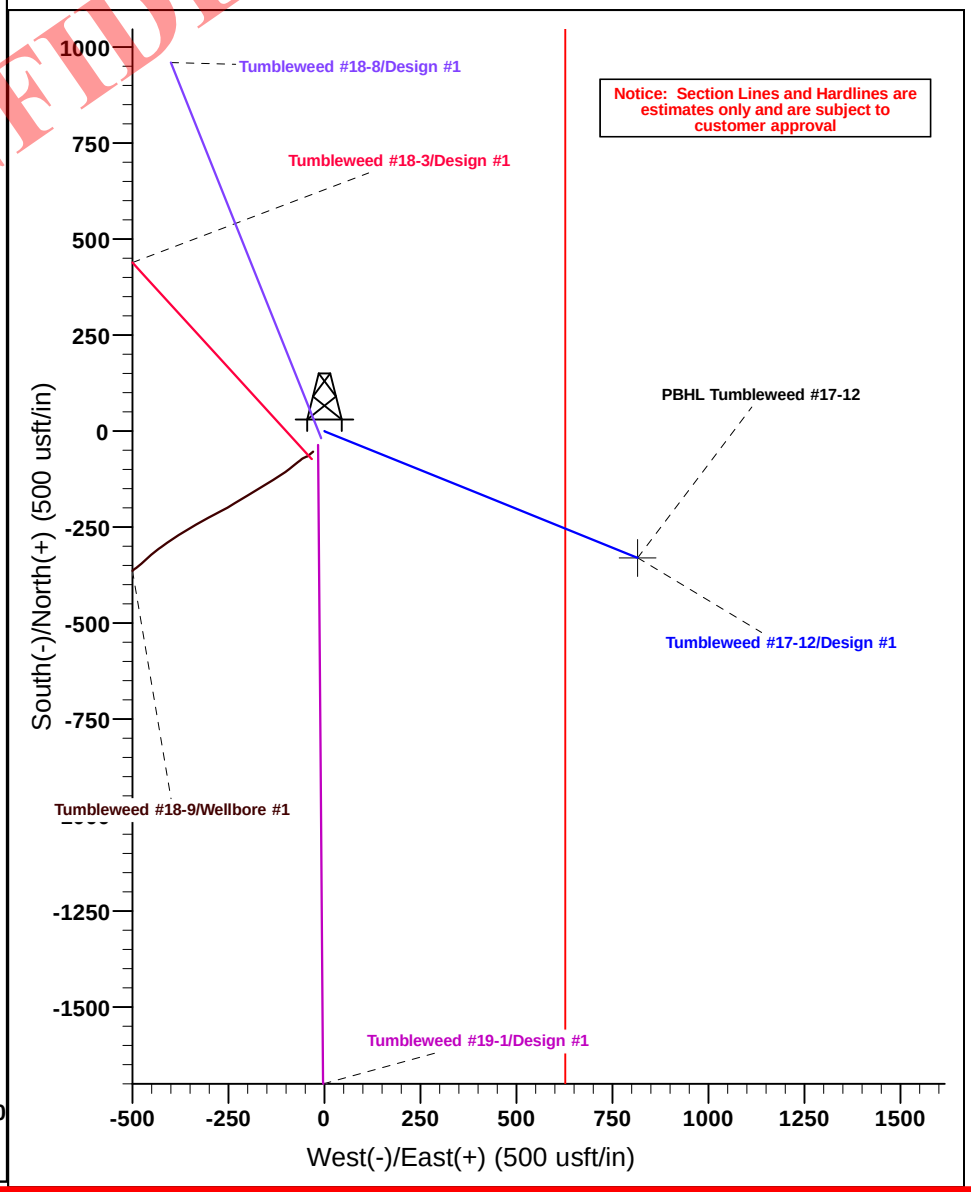
Plan: Design #1 (Tumbleweed #17-12/Wellbore #1)

Created By: M. Loucks Date: 11:45, November 11 2014

FORMATION TOPS ALONG WELLPATH

TVDPath	MDPath	Formation
1975.0	1975.0	Wasatch
3975.0	3982.6	Mesaverde
5785.0	5801.8	Castlegate
5986.0	6003.9	Mancos
9735.0	9772.1	Dakota Silt
9935.0	9973.1	Cedar Mtn
10735.0	10777.2	Entrada
11135.0	11179.2	Wingate





CONFIDENTIAL

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 12/5/2014
API NO. ASSIGNED: 43047551060000
WELL NAME: Tumbleweed 17-12
OPERATOR: STEWART PETROLEUM CORP (N3145)
PHONE NUMBER: 435 719-2018
CONTACT: Don Hamilton

PROPOSED LOCATION: NESE 18 150S 210E
Permit Tech Review: ✔

SURFACE: 1753 FSL 0629 FEL
Engineering Review: ☐

BOTTOM: 1423 FSL 0187 FWL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 39.51050
LONGITUDE: -109.60211
UTM SURF EASTINGS: 620173.00
NORTHINGS: 4374363.00
FIELD NAME: FLAT ROCK
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU72059
PROPOSED PRODUCING FORMATION(S): WINGATE
SURFACE OWNER: 1 - Federal
COALBED METHANE: NO

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RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** FEDERAL - UTB-000251
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** 49-1667
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: TUMBLEWEED

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: R649-3-11
Effective Date:
Siting:

- ✔ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
4 - Federal Approval - dmason
15 - Directional - dmason
23 - Spacing - dmason

RECEIVED: December 17, 2014

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: Tumbleweed 17-12
API Well Number: 43047551060000
Lease Number: UTU72059
Surface Owner: FEDERAL
Approval Date: 12/17/2014

Issued to:
STEWART PETROLEUM CORP , 475 17th Street Ste 790, Denver , CO 80202

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of R649-3-11. The expected producing formation or pool is the WINGATE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the “Board”). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being

drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284
  (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

RECEIVED
DEC 29 2014
BLM

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU72059

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

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7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
TUMBLEWEED 17-12

2. Name of Operator
STEWART PETROLEUM CORPORATION
Contact: DON HAMILTON
EMAIL: dhamilton@marpoint@etv.net

9. API Well No.
43-047-55106

3a. Address
475 SEVENTEENTH STREET SUITE 1500
DENVER, CO 80202

3b. Phone No. (include area code)
Ph: 435-650-3866
Fx: 435-719-2019

10. Field and Pool, or Exploratory
UNDESIGNATED

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NESE 1753FSL 629FEL 39.510528 N Lat, 109.602147 W Lon

At proposed prod. zone NWSW 1423FSL 187FWL 39.509636 N Lat, 109.599256 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 18 T15S R21E Mer SLB

14. Distance in miles and direction from nearest town or post office*
107.1 MILES SOUTH OF VERNAL UT

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)
629

16. No. of Acres in Lease
640.00

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JUL 02 2015
DIV. OF OIL, GAS & MINING

17. Spacing Unit dedicated to this well
40.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
20

19. Proposed Depth
11719 MD
11135 TVD

20. BLM/BIA Bond No. on file
UTB000251

21. Elevations (Show whether DF, KB, RT, GL, etc.
7224 GL

22. Approximate date work will start
12/15/2014

23. Estimated duration
60

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
DON HAMILTON Ph: 435-650-3866

Date
12/03/2014

Title
PERMITTING AGENT

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
JUN 29 2015

Title
Assistant Field Manager
Lands & Mineral Resources

Office
VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #284005 verified by the BLM Well Information System
For STEWART PETROLEUM CORPORATION, sent to the Vernal
Committed to AFMSS for processing by STEVE HIRSCHI on 12/30/2014 ()

NOTICE OF APPROVAL

UDOGM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**Stewart Petroleum Corporation**	**Location:**	**NESE, Sec. 18, T15S, R21E**
Well No:	**17-12**	**Lease No:**	**UTU-72059**
API No:	**43-047-55106**	**Agreement:**	**NA**

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

- All internal combustion equipment will be kept in good working order. (Applicant Committed)

- Drill rigs used for drilling in the Tumbleweed II Project Area will be equipped with Tier II or better diesel engines. The use of Tier II or better engines will greatly reduce the amount of NOx that will be emitted during drilling operations. (Applicant Committed)

- Vent emissions from stock tanks and natural gas TEG dehydrators will be controlled by routing the emissions to a flare or similar control device which will reduce emissions by 95% or greater. This control measure will reduce VOC and HAP emissions from the project. (Applicant Committed)

- During drilling and completion operations, temporary worker housing will be located on the existing TUF #18-9 well pad. By providing housing close to the project, and reducing the amount of miles that the drilling and completion crews will travel, emissions associated with vehicle impacts will be reduced, specifically particulate matter from unpaved roads and tailpipe (VOC and NOx) emissions. Approximately 10 workers (comprised of 2-4 person rig crews working 12-hour shifts, plus 2 drilling/geological consultants) will occupy the temporary worker housing site at any one time. (Applicant Committed)

- Low bleed pneumatics will be installed on separator dump valves and other controllers. The use of low bleed pneumatics will result in a lower emission of VOCs. (Applicant Committed)

- During completion operations Stewart will limit flaring to clean up uses and as soon as possible will install production equipment and gathering line which will limit VOC emissions. (Applicant Committed)

- Stewart will use water or other approved dust suppressants at construction sites and along roads, as determined appropriate by the Authorized Officer. (Applicant Committed)

- Well site telemetry will be utilized to eliminate unnecessary pumper travel to the well site, thus further reducing vehicle tailpipe emissions. (Applicant Committed) FONSI and Decision Record-13

- Stewart will inform their employees, contractors and subcontractors about relevant Federal regulations intended to protect archaeological and cultural resources. All personnel will be informed that collecting artifacts, including arrowheads, is a violation of Federal law and that employees engaged in this activity will be subject to disciplinary action. (Applicant Committed)

- Stewart will utilize portable sanitation facilities at drill sites; place dumpsters at each construction site to collect and store garbage and refuse; and ensure that all refuse and garbage is transported to a State-approved sanitary landfill for disposal. (Applicant Committed)

- Stewart will repair or replace to current BLM standards any fences, cattle guards, gates, drift fences, and natural barriers that are damaged as a result of the Proposed Action. Cattle guards will be used instead of gates for livestock control on most road ROWs. (Applicant Committed)

- Where the proposed pipeline (from the existing compressor station) will cross the Horse Point and Winter Ridge Allotment boundary, Stewart will keep the boundary intact with an appropriate cattleguard and gate, and will make any fence modification to the four-strand barbed wire specification required for all cattle range fences. (Applicant Committed)

- In order to offset potential impacts to water sources, the guzzler within Section 4, T15S, R21E could be improved for livestock, wild horse, and wildlife use. As an alternative to improving the existing guzzler, the BLM will consider requiring the construction of a new guzzler at ~ UTM 625751, 4376800. The decision as to which of these mitigation measures will be implemented will be determined on a site-specific basis following project approval but prior to additional surface disturbance. (Condition of Approval)

- At the direction of the BLM, the operator will improve existing ponds within the project area (i.e., located at the following UTM coordinates 1) 623173, 437615; 2) 622699, 4375516; 3) 622294, 4375110; and 4) 621019, 4374039 in order to minimize displacement of animals and to offset potential impacts to water sources. (Condition of Approval) FONSI and Decision Record-14

- Stewart will comply with standards identified in "The Surface Operating Standards for Oil and Gas Exploration and Development" (Gold Book) (BLM 2007). (Applicant Committed)

- Topsoil will be temporarily stockpiled and seeded to reduce erosion until interim reclamation is initiated. Topsoil stockpiles will also be designed to maximize surface area in order to reduce impacts to soil microorganisms. On reclaimed areas, topsoil depths will be distributed evenly unless conditions warrant a varying depth. (Applicant Committed)

- Areas used for spoil storage will be stripped of topsoil before spoil placement. (Applicant Committed)

- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes, and water bars will be installed on disturbed slopes. BMPs will be installed as specified in the SWMP. These BMPs could include retention basins, infiltration basins, and vegetated filter strips. Erosion control efforts will be monitored by Stewart and necessary modifications made to control erosion. (Applicant Committed)

- Soils compacted during construction will be ripped and tilled as necessary prior to reseeding. Cut and fill sections on all roads and along pipelines will be revegetated with seed mixtures as defined in **Section 2.1.13** of the Final EA. (Applicant Committed)

• Removal and disturbance of vegetation will be kept to a minimum through construction site management (e.g., using previously disturbed areas and existing easements where feasible, placing pipelines adjacent to roads, limiting well pad size, etc.). (Applicant Committed)
• To mitigate the loss of recently completed habitat restoration work within the Tumbleweed II Project Area, the BLM will consider compensatory mitigation on an "as appropriate basis" in proportion with annual project-related disturbance. As feasible, the location of the habitat restoration work will be identified within or adjacent to the Tumbleweed II Project Area, and similar restoration efforts will be implemented as had previously been completed. Work will likely consist of removing encroaching pinyon and juniper trees from the sagebrush habitat in
order to enhance sagebrush habitats. Vegetation mitigation will be completed at the expense of the operator. The details of this mitigation plan will be determined by the BLM and UDWR. (Condition of Approval) FONSI and Decision Record-15

- Stewart will inform their employees, contractors and subcontractors of the potential impacts that could result from accidental spills, as well as the appropriate actions to take if a spill does occur. (Applicant Committed)

- To minimize wildlife-vehicle collisions, Stewart will advise project personnel regarding appropriate speed limits in the Tumbleweed II Project Area. Employees and contractors will be educated about anti-poaching laws. If wildlife law violations are discovered, the offending employee will be subject to disciplinary action by Stewart and the violations will be reported to the UDWR. (Applicant Committed)

- No surface disturbing activities that will result in adverse impacts to deer and elk within crucial winter range will be allowed from December 1-April 30. (Condition of Approval)

Greater Sage-grouse

- Prior to surface disturbance or drilling activity between March 1 and June 15, historic leks within a 2-mile radius of proposed surface disturbance will be surveyed during the breeding season to determine if they are being actively used by sage-grouse. If a lek is active, no surface-disturbing activities will occur within 2 miles of the active lek from March 1-June 15. Furthermore, if a lek is active, Stewart will limit all traffic (with the exception of traffic associated with emergency repairs or maintenance) within 2 miles of the active lek between5:00am and 9:00am from March 1 to June 15. (Applicant Committed)

- No new surface-disturbing activities will be allowed within ½ mile of active sagegrouse leks year-round, unless with explicit cause and after consultation with the State, the BLM grants a variance to this buffer (PLPCO 2008). (Condition of Approval)

- For active sage-grouse leks that are not visually screened from well pads by natural topography or vegetation, low-profile tanks will be used. (Applicant Committed)

Raptors

- Prior to any surface-disturbing activities associated with construction or drilling during the breeding season, a BLM-approved contractor will survey all areas within 1 mile of proposed surface disturbance, or as directed by the BLM, for the presence of raptor nests. If occupied/active raptor nests are found, construction or drilling will not occur during the nesting season for that species within the FONSI and Decision Record-16 species-specific buffer described in the Approved RMP. In addition, as specified in these guidelines, modifications of these spatial and seasonal buffers for

BLMauthorized actions will be permitted by the AO, so long as protection of nesting raptors is ensured (BLM 2008). On SITLA-administered lands, raptor management will be coordinated with the appropriate AO. (Applicant Committed)

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

Surface casing cement will be circulated to surface.

Cement for Long String shall be brought to 200' above surface casing shoe.

Variance Request

Requests for variances from O.O.2.E for Air Drilling are approved as written in APD

Variance from performing an FIT is approved.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.

- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

    - Operator name, address, and telephone number.

    - Well name and number.

    - Well location (¼¼, Sec., Twn, Rng, and P.M.).

    - Date well was placed in a producing status (date of first production for which royalty will be paid).

    - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).

    - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.

    - Unit agreement and/or participating area name and number, if applicable.

    - Communitization agreement number, if applicable.

- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.

- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid,

and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU72059

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: TUMBLEWEED

1. TYPE OF WELL Oil Well

8. WELL NAME and NUMBER: Tumbleweed 17-12

2. NAME OF OPERATOR: STEWART PETROLEUM CORP

9. API NUMBER: 43047551060000

3. ADDRESS OF OPERATOR: 475 17th Street Ste 790 , Denver , CO, 80202

PHONE NUMBER: 303 799-1922 Ext

9. FIELD and POOL or WILDCAT: FLAT ROCK

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1753 FSL 0629 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 18 Township: 15.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ✓ NOTICE OF INTENT — Approximate date work will start: 4/15/2016
- ☐ SUBSEQUENT REPORT — Date of Work Completion:
- ☐ SPUD REPORT — Date of Spud:
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Stewart Petroleum Corporation requests a one year drilling permit extension for the referenced well. This is the first extension that has been requested.

Approved by the Utah Division of Oil, Gas and Mining
December 28, 2015
Date:
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Don Hamilton	435 719-2018	Permitting Agent (Star Point Enterprises, Inc.)

SIGNATURE	DATE
N/A	12/18/2015

RECEIVED: Dec. 18, 2015

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047551060000

API: 43047551060000
Well Name: Tumbleweed 17-12
Location: 1753 FSL 0629 FEL QTR NESE SEC 18 TWNP 150S RNG 210E MER S
Company Permit Issued to: STEWART PETROLEUM CORP
Date Original Permit Issued: 12/17/2014

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- **If located on private land, has the ownership changed, if so, has the surface agreement been updated?** ○ **Yes** ◉ **No**
- **Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?** ○ **Yes** ◉ **No**
- **Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?** ○ **Yes** ◉ **No**
- **Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?** ○ **Yes** ◉ **No**
- **Has the approved source of water for drilling changed?** ○ **Yes** ◉ **No**
- **Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?** ○ **Yes** ◉ **No**
- **Is bonding still in place, which covers this proposed well?** ◉ **Yes** ○ **No**

Signature: Don Hamilton **Date:** 12/18/2015
Title: Permitting Agent (Star Point Enterprises, Inc.) **Representing:** STEWART PETROLEUM CORP

RECEIVED: Dec. 18, 2015

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU72059

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: TUMBLEWEED

1. TYPE OF WELL Oil Well

8. WELL NAME and NUMBER: Tumbleweed 17-12

2. NAME OF OPERATOR: STEWART PETROLEUM CORP

9. API NUMBER: 43047551060000

3. ADDRESS OF OPERATOR: 475 17th Street Ste 790 , Denver , CO, 80202

PHONE NUMBER: 303 799-1922 Ext

9. FIELD and POOL or WILDCAT: FLAT ROCK

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1717 FSL 0646 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 18 Township: 15.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 8/15/2016	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

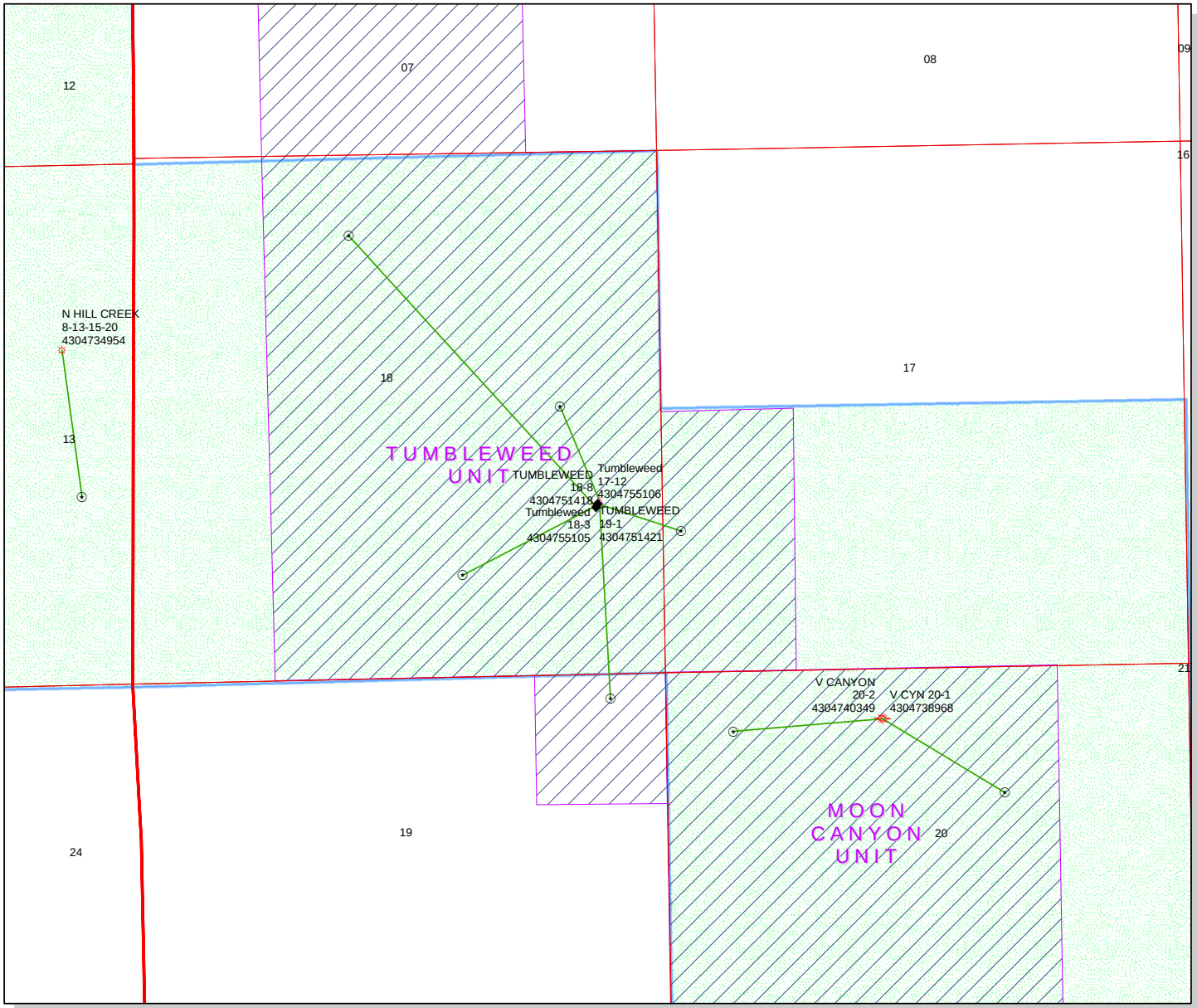
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Stewart Petroleum Corporation respectfully requests that the surface location for the Tumbleweed 17-12 be relocated to maximize anticipated production and utilize the existing Tumbleweed 19-1 surface casing. The bottom hole location has not changed. Following are the updated locations along the intended well bore path: Surface Location - 1717' FSL & 646' FEL, NE/4 SE/4, Section 18, T15S, R21E, SLB&M Target Location - 1423' FSL & 187' FWL, NW/4 SW/4, Section 17, T15S, R21E, SLB&M Attached please find revised APD attachments reflecting the change to replace those previously approved.

Approved by the Utah Division of Oil, Gas and Mining
July 26, 2016
Date:
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Don Hamilton	435 719-2018	Permitting Agent (Star Point Enterprises, Inc.)
SIGNATURE N/A		**DATE** 7/18/2016

RECEIVED: Jul. 18, 2016



API Number: 4304755106

Well Name: Tumbleweed 17-12

Township: T15.0S Range: R21.0E Section: 18 Meridian: S

Operator: STEWART PETROLEUM CORP

Map Prepared: 7/21/2016
Map Produced by Diana Mason

Wells Query

Status

- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Units

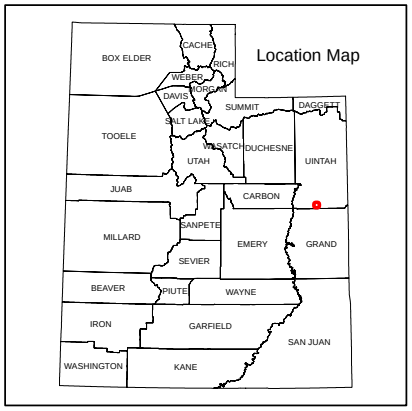
STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS

- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED



1,250 625 0 1,250 Feet

1:12,470

RECEIVED: Jul. 21, 2016

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
440 West 200 South, Suite 500
Salt Lake City, UT 84101

IN REPLY REFER TO:
3160
(UT-922)

July 21, 2016

Memorandum

To: Assistant Field Office Manager Minerals, Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2016 Plan of Development Tumbleweed Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2016 within the Tumbleweed Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ Wingate)		
43-047-55105	Tumbleweed 19-1	Sec 18 T15S R21E 1753 FSL 0629 FEL BHL Sec 19 T15S R21E 0249 FNL 0559 FEL
43-047-55106	Tumbleweed 17-12	Sec 18 T15S R21E 1717 FSL 0646 FEL BHL Sec 17 T15S R21E 1423 FSL 0187 FWL

This office has no objection to permitting the wells at this time.

MICHAEL COULTHARD Digitally signed by MICHAEL COULTHARD
Date: 2016.07.21 10:46:23 -06'00'

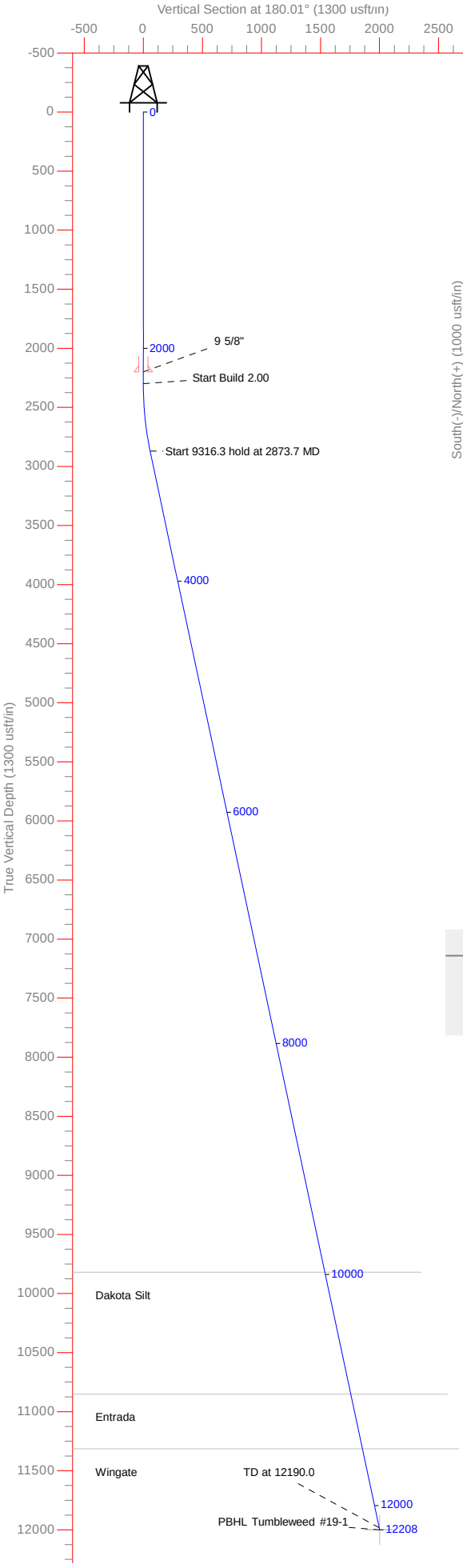
bcc: File - Tumbleweed Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

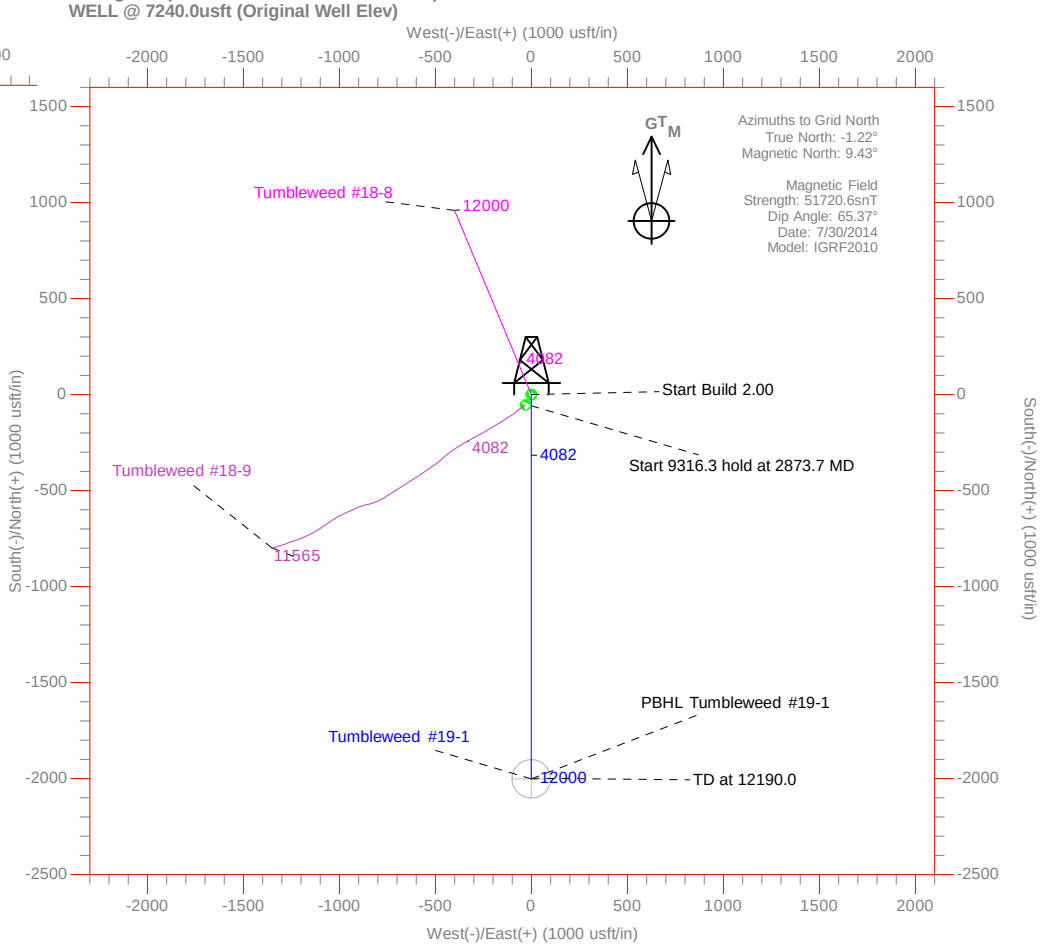
MCoulthard:mc:7-21-16

RECEIVED: Jul. 21, 2016

Shell Petroleum Inc.
Uintah Co., UT
Sec.18 - T15S - R21E
Tumbleweed #19-1
Wellbore #1
Plan: Design #1 (Tumbleweed #19-1/Wellbore #1)
WELL @ 7240.0usft (Original Well Elev)

gyrodata





WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL Tumbleweed #19-1 - plan hits target center	12000.0	-2001.0	-0.5	432462.17	2535605.88

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2300.0	0.00	0.00	2300.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
3	2901.0	12.02	180.01	2896.6	-62.8	0.0	2.00	180.01	62.8	
4	12208.4	12.02	180.01	12000.0	-2001.0	-0.5	0.00	0.00	2001.0	

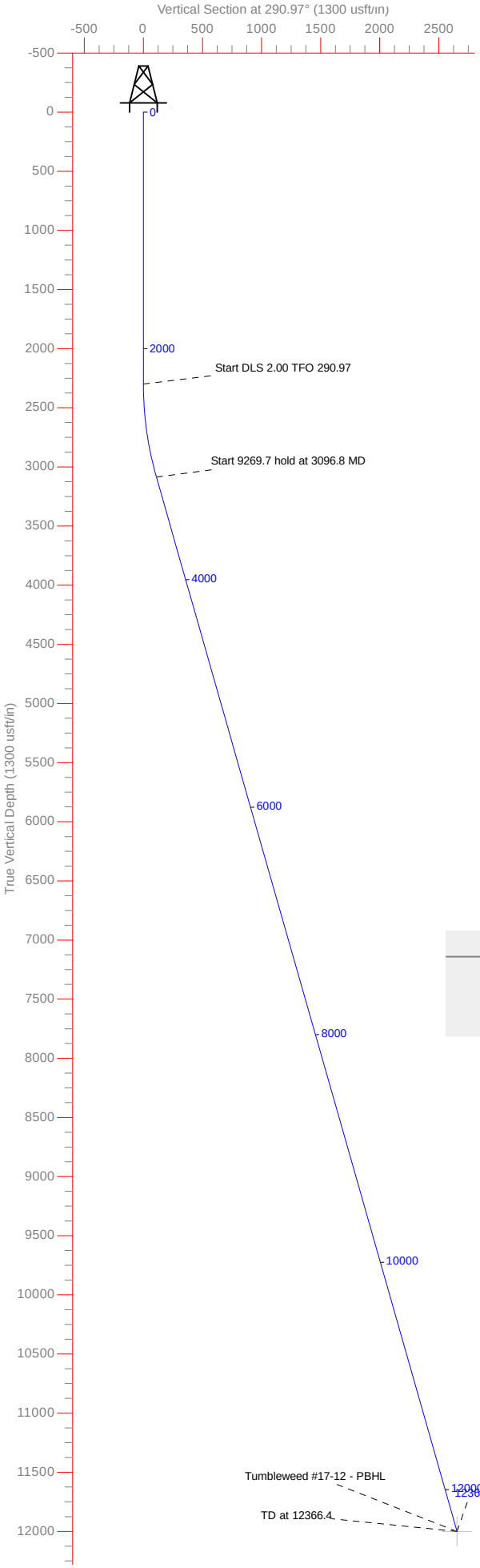
PROJECT DETAILS: Uintah Co., UT

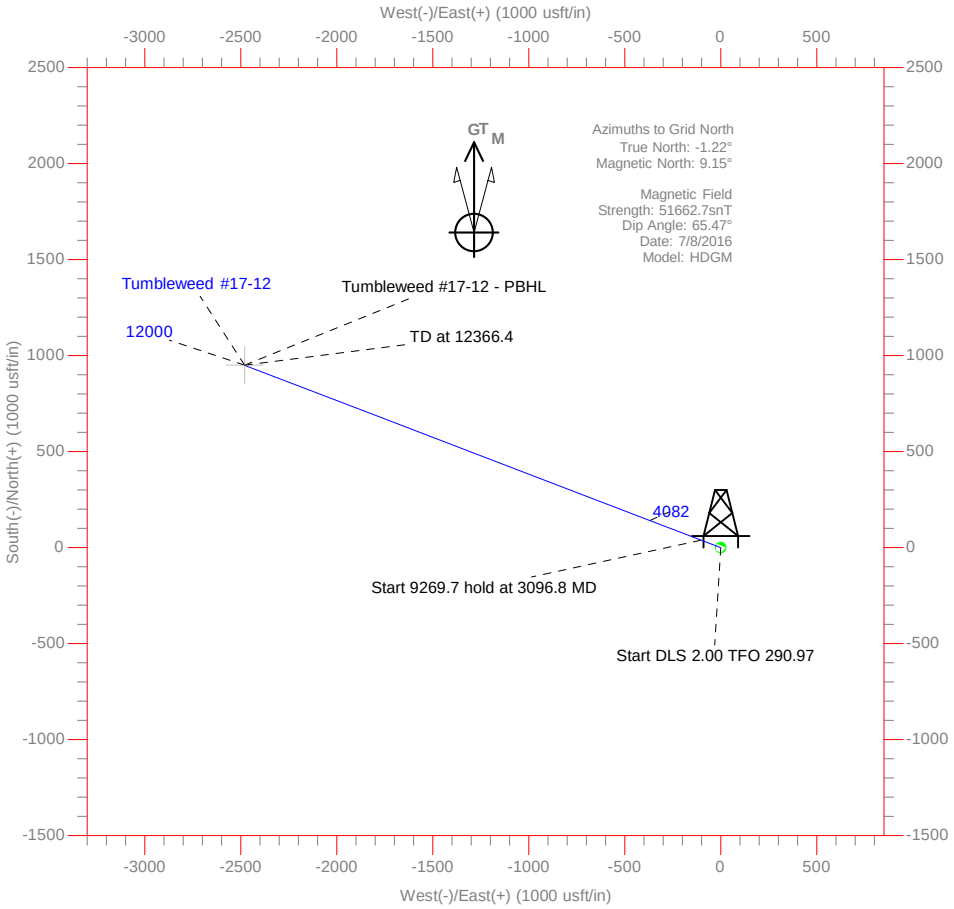
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302
North Reference: Grid
System Datum: Mean Sea Level
To convert a True Direction to a Grid Direction, Subtract 1.22°
To convert a Magnetic Direction to a True Direction, Add 10.65° East
To convert a Magnetic Direction to a Grid Direction, Add 9.43°

Notice: Section Lines and Hardlines are estimates only and are subject to customer approval

Schlumberger Petroleum Services
Uintah Co., UT
Sec.18 - T15S - R21E
Tumbleweed #17-12
#17-12
Plan: Design #1 (Tumbleweed #17-12 /#17-12)
WELL @ 7244.0usft (GL: 7224' + KB:20')

gyrodata





WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Tumbleweed #17-12 - PBHL - plan hits target center	12000.0	950.3	-2479.1	435377.77	2533110.78

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2300.0	0.00	0.00	2300.0	0.0	0.0	0.00	0.00	0.0	Start DLS 2.00 TFO 290.97
3	3096.8	15.94	290.97	3086.5	39.4	-102.8	2.00	290.97	110.1	Start 9269.7 hold at 3096.8 MD
4	12366.4	15.94	290.97	12000.0	950.3	-2479.1	0.00	0.00	2655.0	TD at 12366.4

PROJECT DETAILS: Uintah Co., UT

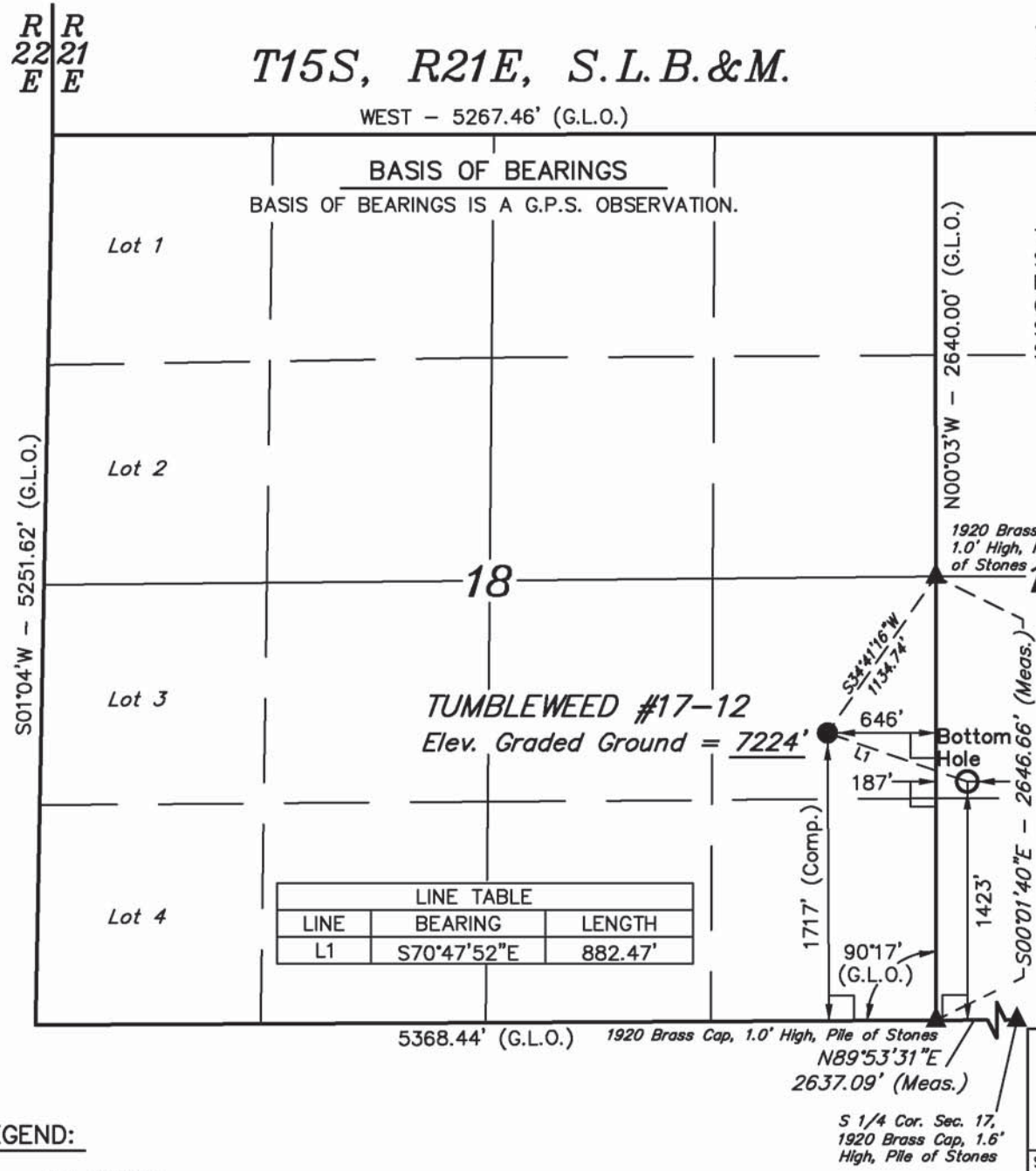
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302
North Reference: Grid
System Datum: Mean Sea Level
To convert a True Direction to a Grid Direction, Subtract 1.22°
To convert a Magnetic Direction to a True Direction, Add 10.37° East
To convert a Magnetic Direction to a Grid Direction, Add 9.15°

Notice: Section Lines and Hardlines are estimates only and are subject to customer approval

RECEIVED: Jul. 21, 2016

STEWART PETROLEUM CORPORATION

Well location, TUMBLEWEED #17–12, located as shown in the NE 1/4 SE 1/4 of Section 18, T15S, R21E, S.L.B.&M., Uintah County, Utah.



BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

BASIS OF ELEVATION

TRIANGULATION STATION (WINTER) LOCATED IN THE NW 1/4 OF SECTION 25, T15S, R21E, S.L.B.&M. TAKEN FROM THE WOLF POINT QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 7462 FEET.

N

1000' 500' 0' 1000'

SCALE

LINE TABLE

LINE	BEARING	LENGTH
L1	S70°47'52"E	882.47'

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

REGISTERED LAND SURVEYOR No. 161319 ROBERT L. KAY STATE OF UTAH 07-12-16

REV: 2 07-08-16 K.B. (NAME & BH CHANGE)

LEGEND:

└ = 90° SYMBOL

● = PROPOSED WELL HEAD.

▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°30'34.69" (39.509636)	LATITUDE = 39°30'37.55" (39.510431)
LONGITUDE = 109°35'57.32" (109.599256)	LONGITUDE = 109°36'07.95" (109.602208)
NAD 27 (TARGET BOTTOM HOLE)	**NAD 27 (SURFACE LOCATION)**
LATITUDE = 39°30'34.81" (39.509669)	LATITUDE = 39°30'37.68" (39.510467)
LONGITUDE = 109°35'54.85" (109.598569)	LONGITUDE = 109°36'05.48" (109.601522)

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST – VERNAL, UTAH 84078
(435) 789–1017

SCALE 1" = 1000'	DATE SURVEYED: 04–04–08	DATE DRAWN: 04–07–08
PARTY J.R. N.W. C.C.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE STEWART PETROLEUM CORPORATION	

STEWART PETROLEUM CORPORATION

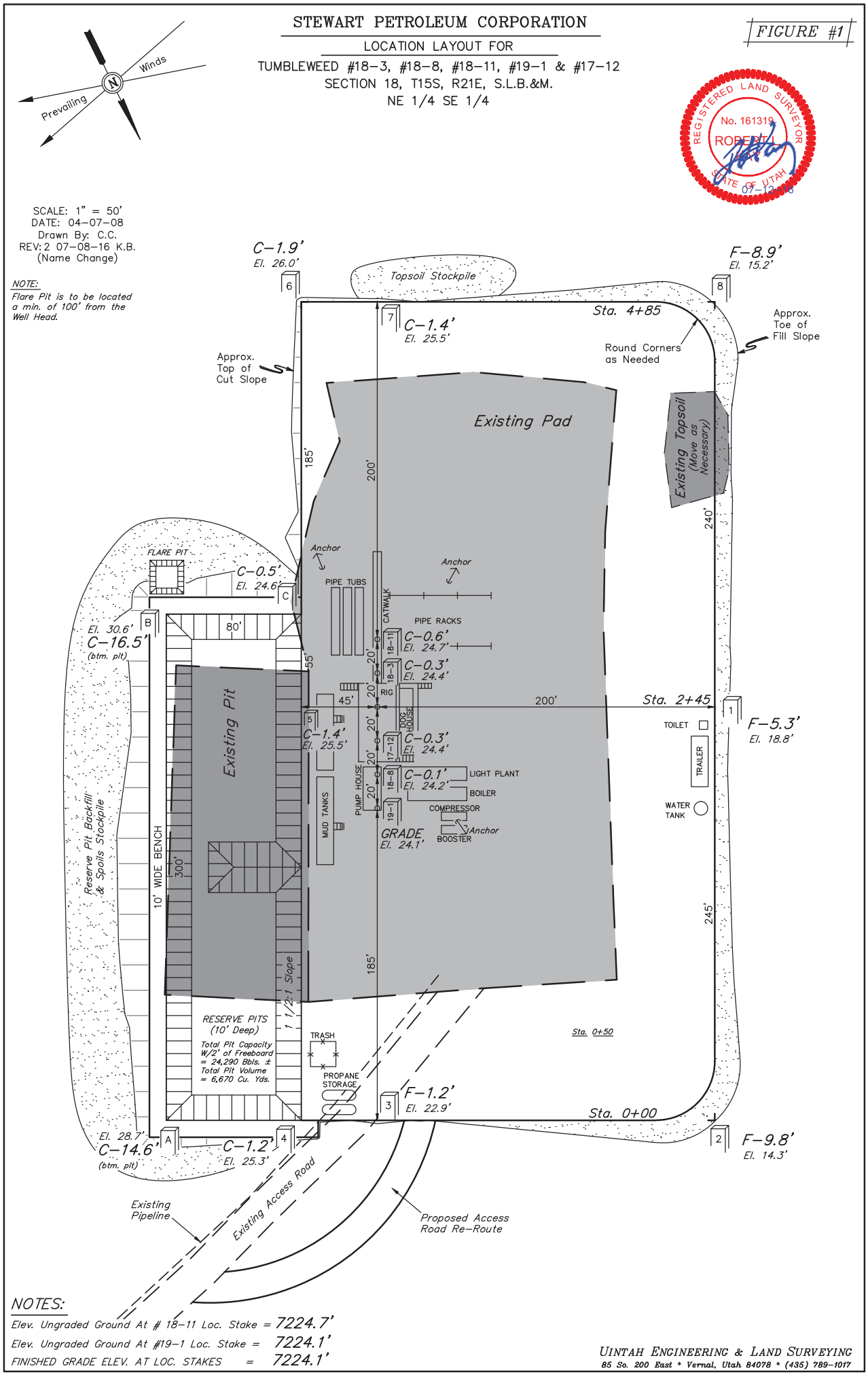
LOCATION LAYOUT FOR

TUMBLEWEED #18–3, #18–8, #18–11, #19–1 & #17–12

SECTION 18, T15S, R21E, S.L.B.&M.

NE 1/4 SE 1/4

FIGURE #1



NOTES:

Elev. Ungraded Ground At # 18–11 Loc. Stake = 7224.7'

Elev. Ungraded Ground At #19–1 Loc. Stake = 7224.1'

FINISHED GRADE ELEV. AT LOC. STAKES = 7224.1'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789–1017

Stewart Petroleum Corporation
Tumbleweed 17-12
Surface: 1717' FSL & 646' FEL, NE/4 SE/4, Section 18, T15S, R21E, SLB&M (UTU-072059)
Target: 1423' FSL & 187' FWL, NW/4 SW/4, Section 17, T15S, R21E, SLB&M (UTU-084256)
Uintah County, UT

Drilling Program

1. Formation Tops

	MD	TVD
Wasatch	1,975'	1,975'
Mesa Verde	3,983'	3,975'
Castlegate	5,802'	5,785'
Mancos	6,004'	5,986'
Dakota Silt	9,772'	9,735'
Cedar Mtn	9,973'	9,935'
Entrada	10,777'	10,735'
Wingate	11,410'	11,135'
TD	12,366'	12,000'

2. Depth to Oil, Gas, Water, or Minerals

Wasatch	1,975'	1,975'	oil and water
Mesa Verde	3,983'	3,975'	gas and water
Castlegate	5,802'	5,785'	gas and water
Mancos	6,004'	5,986'	gas and water
Dakota Silt	9,772'	9,735'	gas and water
Cedar Mtn	9,973'	9,935'	gas and water
Entrada	10,777'	10,735'	gas and water
Wingate	11,410'	11,135'	gas and water

Fresh water zones are not anticipated

3. Pressure Control

Section	BOP Description
Surface	12-1/4" diverter
Interm/Prod	The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc for a 5M system. A 5M BOP system will consist of 2 ram preventers (double or two singles) and an annular preventer (see attached diagram). A choke manifold rated to at least 5,000 psi will be used.

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4. Casing

Description	Interval		Weight (ppf)	Grade	Coup	Pore Press @ Shoe	MW @ Shoe	Frac Grad @ Shoe	Safety Factors		
	Top	Bottom							Burst	Collapse	Tension
Conductor 13 3/8	0'	60'	48	H-40	STC	--	--	--	1,730	770	322,000
									--	--	--
Surface 9 5/8	0'	2,000'	36	K-55	STC	8.33	8.6	11	2,950	1,370	244,000
									2.90	2.06	3.39
Production 5 1/2	0'	10,000'	17	N-80	LTC	1370	9.5	11	4,810	4,040	217,000
									0.94	1.07	1.28
Production 5 1/2	10,000'	12,366'	17	P-110	LTC	9	9.5	11	4,810	4,040	217,000
									1.06	0.83	1.03

Assumptions:

Surface casing MASP = (frac gradient + 1.0 ppg) - (gas gradient)
Intermediate casing MASP = (reservoir pressure) - (gas gradient)
Production casing MASP = (reservoir pressure) - (gas gradient)
All collapse calculations assume fully evacuated casing with a gas gradient
All tension calculations assume air weight of casing
Gas gradient = 0.1 psi/ft

All casing shall be new.
All casing strings shall have a minimum of 1 centralizer on each of the bottom 3 joints.

5. Cement

Job	Hole Size	Fill	Slurry Description	ft^3 / sacks	OH excess	Weight (ppg)	Yield (ft^3/sk)
Conductor	20	60'	Class G w/ 2% KCl + 0.25 lbs/sk Cello Flake	83	15%	15.8	1.17
				71			
Surface Lead	12 1/4	1,500'	HiFill with 0.125 lbm/sk Poly E-Flake	940	100%	11.6	3.12
				301			
Surface Tail	12 1/4	500'	Class G with 2%CaCl & 0.125 lbm/sk Poly E-Flake	654	100%	15.8	1.17
				559			
Production Lead	7 7/8	3,300'	50/50 Poz with 5lbs/sk silicalite	715	25%	11.0	3.82
				187			
Production Tail	7 7/8	9,066'	50/50 Poz with 5lbs/sk silicalite	3833	25%	14.3	1.47
				2608			

The surface casing will be cemented to surface. In the event that cement does not reach surface during the primary cement job, a remedial job will be performed.

Actual cement volumes for the production casing string will be calculated from an open hole caliper log, plus 25% excess.

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6. Type and Characteristics of Proposed Circulating Medium

Interval	Description
Surface - 2,000'	An air and/or fresh water system will be utilized.
2,000' - TD	A water based mud system will be utilized. Hole stability may be improved with additions of KCl or a similar inhibitive substance. In order to control formation pressure the system will be weighted with additions of bentonite, and if conditions warrant, with barite. Anticipated maximum mud weight is 9.5 ppg.

7. Logging, Coring, and Testing

Logging: A dual induction, gamma ray, and caliper log will be run from TD to the base of the surface casing. A compensated neutron/formation density log will be run from TD to the top of the Garden Gulch formation. A cement bond log will be run from PBTD to the cement top behind the production casing.

Cores: As deemed necessary.

DST: There are no DST's planned for this well.

8. Anticipated Abnormal Pressure or Temperature

Maximum anticipated bottomhole pressure will be approximately equal to total depth (feet) multiplied by a 0.47 psi/ft gradient.

12,366' x 0.47 psi/ft = 5787 psi

No abnormal temperature is expected. No H_2S is expected.

9. Other Aspects

This is planned as a directional well.

Variance Request for FIT Requirements:

Stewart Petroleum Corporation respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the Pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Variance Request for Air Drilling Requirements:

Stewart Petroleum Corporation respectfully requests a variance to Onshore Order #2, III.E.1

- Dust suppression equipment. Variance granted for water mist system to substitute for the dust suppression equipment.

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- Blooie line discharge 100’ from the well bore. Variance granted for blooie line discharge to be 75’ from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100’ from the wellbore. Variance granted for truck/trailer mounted air compressors.
- Straight run blooie line. Variance granted for targeted “T’s” at bends.
- Automatic igniter. Variance granted for igniter due to water mist.
- Air drilling operations will be conducted only during drilling of the surface casing hole, there is no history of hydrocarbons being encountered in this hole section in the area where these wells are to be drilled.

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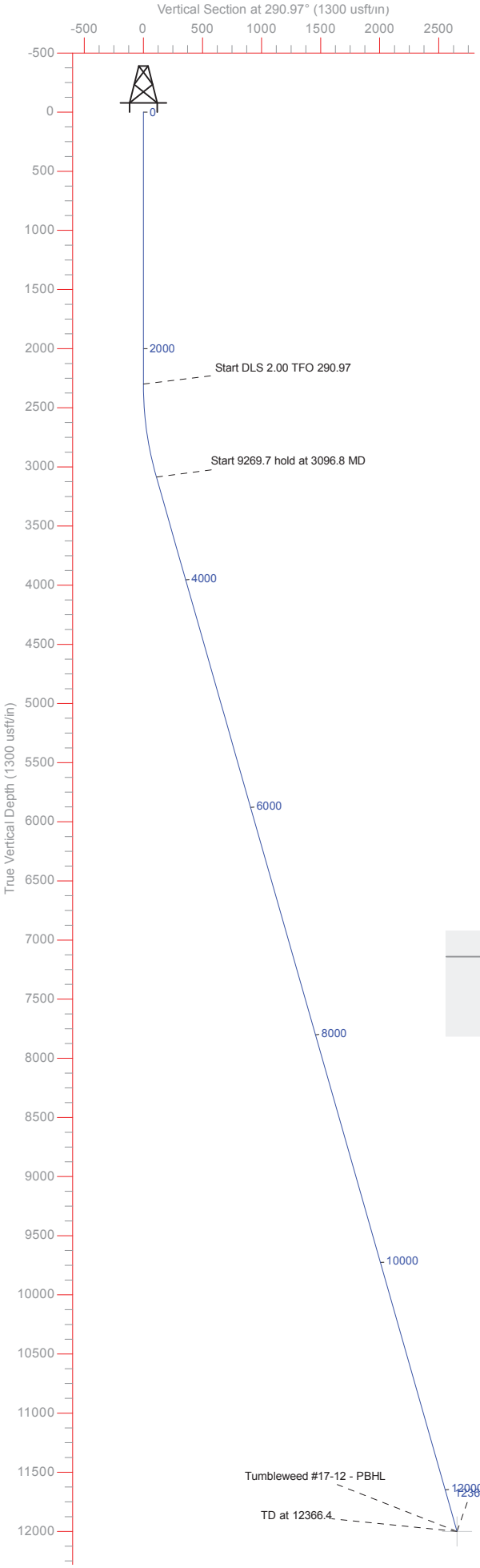
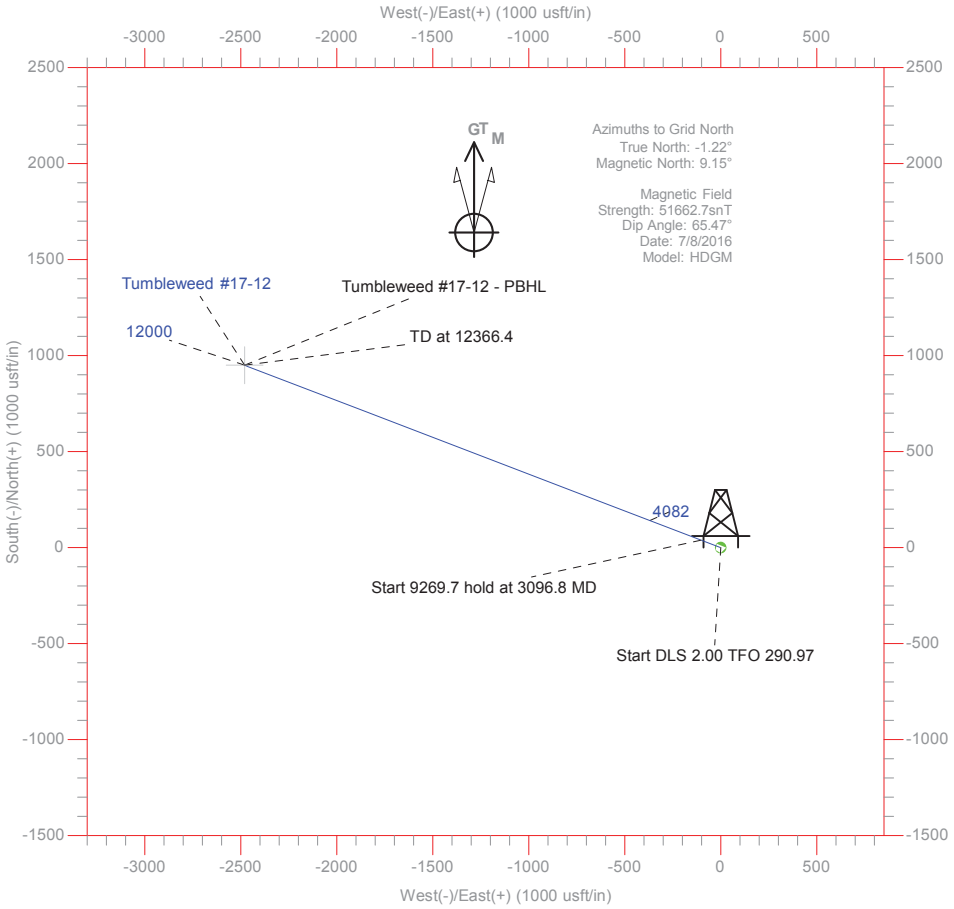
Shenal Petroleum Corp.
Uintah Co., UT
Sec.18 - T15S - R21E
Tumbleweed #17-12
#17-12
Plan: Design #1 (Tumbleweed #17-12 /#17-12)
WELL @ 7244.0usft (GL: 7224' + KB:20')

gyrodata





WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Tumbleweed #17-12 - PBHL - plan hits target center	12000.0	950.3	-2479.1	435377.77	2533110.78

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2300.0	0.00	0.00	2300.0	0.0	0.0	0.00	0.00	0.0	Start DLS 2.00 TFO 290.97
3	3096.8	15.94	290.97	3086.5	39.4	-102.8	2.00	290.97	110.1	Start 9269.7 hold at 3096.8 MD
4	12366.4	15.94	290.97	12000.0	950.3	-2479.1	0.00	0.00	2655.0	TD at 12366.4

PROJECT DETAILS: Uintah Co., UT

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302
North Reference: Grid
System Datum: Mean Sea Level
To convert a True Direction to a Grid Direction, Subtract 1.22°
To convert a Magnetic Direction to a True Direction, Add 10.37° East
To convert a Magnetic Direction to a Grid Direction, Add 9.15°

Notice: Section Lines and Hardlines are estimates only and are subject to customer approval

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Gyrodata Inc.
Planning Report

Database:	Gyrodata NWDB	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	#17-12		
Design:	Design #1		

Project Uintah Co., UT

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site Sec.18 - T15S - R21E

Site Position:		**Northing:**	434,409.96 usft	**Latitude:**	39° 30' 37.510 N
From:	Lat/Long	**Easting:**	2,535,576.96 usft	**Longitude:**	109° 36' 5.650 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.22 °

Well Tumbleweed #17-12

Well Position	**+N/-S**	17.5 usft	**Northing:**	434,427.43 usft	**Latitude:**	39° 30' 37.680 N
	+E/-W	13.0 usft	**Easting:**	2,535,589.92 usft	**Longitude:**	109° 36' 5.480 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	7,224.0 usft

Wellbore #17-12

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/8/2016	10.37	65.47	51,663

Design Design #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	290.97

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,096.8	15.94	290.97	3,086.5	39.4	-102.8	2.00	2.00	-8.66	290.97	
12,366.4	15.94	290.97	12,000.0	950.3	-2,479.1	0.00	0.00	0.00	0.00	Tumbleweed #17-12 -

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Gyrodata Inc.

Planning Report

Database:	Gyrodata NWDB	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	#17-12		
Design:	Design #1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
Start DLS 2.00 TFO 290.97									
2,400.0	2.00	290.97	2,400.0	0.6	-1.6	1.7	2.00	2.00	0.00
2,500.0	4.00	290.97	2,499.8	2.5	-6.5	7.0	2.00	2.00	0.00
2,600.0	6.00	290.97	2,599.5	5.6	-14.7	15.7	2.00	2.00	0.00
2,700.0	8.00	290.97	2,698.7	10.0	-26.0	27.9	2.00	2.00	0.00
2,800.0	10.00	290.97	2,797.5	15.6	-40.6	43.5	2.00	2.00	0.00
2,900.0	12.00	290.97	2,895.6	22.4	-58.5	62.6	2.00	2.00	0.00
3,000.0	14.00	290.97	2,993.1	30.5	-79.5	85.1	2.00	2.00	0.00
3,096.8	15.94	290.97	3,086.5	39.4	-102.8	110.1	2.00	2.00	0.00
Start 9269.7 hold at 3096.8 MD									
3,100.0	15.94	290.97	3,089.6	39.7	-103.6	111.0	0.00	0.00	0.00
3,200.0	15.94	290.97	3,185.8	49.5	-129.3	138.4	0.00	0.00	0.00
3,300.0	15.94	290.97	3,282.0	59.4	-154.9	165.9	0.00	0.00	0.00
3,400.0	15.94	290.97	3,378.1	69.2	-180.5	193.3	0.00	0.00	0.00
3,500.0	15.94	290.97	3,474.3	79.0	-206.2	220.8	0.00	0.00	0.00
3,600.0	15.94	290.97	3,570.4	88.9	-231.8	248.2	0.00	0.00	0.00
3,700.0	15.94	290.97	3,666.6	98.7	-257.4	275.7	0.00	0.00	0.00
3,800.0	15.94	290.97	3,762.7	108.5	-283.1	303.2	0.00	0.00	0.00
3,900.0	15.94	290.97	3,858.9	118.3	-308.7	330.6	0.00	0.00	0.00
4,000.0	15.94	290.97	3,955.1	128.2	-334.3	358.1	0.00	0.00	0.00
4,100.0	15.94	290.97	4,051.2	138.0	-360.0	385.5	0.00	0.00	0.00
4,200.0	15.94	290.97	4,147.4	147.8	-385.6	413.0	0.00	0.00	0.00
4,300.0	15.94	290.97	4,243.5	157.6	-411.3	440.4	0.00	0.00	0.00
4,400.0	15.94	290.97	4,339.7	167.5	-436.9	467.9	0.00	0.00	0.00
4,500.0	15.94	290.97	4,435.8	177.3	-462.5	495.3	0.00	0.00	0.00
4,600.0	15.94	290.97	4,532.0	187.1	-488.2	522.8	0.00	0.00	0.00
4,700.0	15.94	290.97	4,628.2	197.0	-513.8	550.3	0.00	0.00	0.00
4,800.0	15.94	290.97	4,724.3	206.8	-539.4	577.7	0.00	0.00	0.00
4,900.0	15.94	290.97	4,820.5	216.6	-565.1	605.2	0.00	0.00	0.00
5,000.0	15.94	290.97	4,916.6	226.4	-590.7	632.6	0.00	0.00	0.00

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Gyrodata Inc.

Planning Report

Database:	Gyrodata NWDB	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	#17-12		
Design:	Design #1		

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)
5,100.0	15.94	290.97	5,012.8	236.3	-616.3	660.1	0.00	0.00	0.00
5,200.0	15.94	290.97	5,108.9	246.1	-642.0	687.5	0.00	0.00	0.00
5,300.0	15.94	290.97	5,205.1	255.9	-667.6	715.0	0.00	0.00	0.00
5,400.0	15.94	290.97	5,301.3	265.7	-693.2	742.4	0.00	0.00	0.00
5,500.0	15.94	290.97	5,397.4	275.6	-718.9	769.9	0.00	0.00	0.00
5,600.0	15.94	290.97	5,493.6	285.4	-744.5	797.3	0.00	0.00	0.00
5,700.0	15.94	290.97	5,589.7	295.2	-770.2	824.8	0.00	0.00	0.00
5,800.0	15.94	290.97	5,685.9	305.1	-795.8	852.3	0.00	0.00	0.00
5,900.0	15.94	290.97	5,782.0	314.9	-821.4	879.7	0.00	0.00	0.00
6,000.0	15.94	290.97	5,878.2	324.7	-847.1	907.2	0.00	0.00	0.00
6,100.0	15.94	290.97	5,974.4	334.5	-872.7	934.6	0.00	0.00	0.00
6,200.0	15.94	290.97	6,070.5	344.4	-898.3	962.1	0.00	0.00	0.00
6,300.0	15.94	290.97	6,166.7	354.2	-924.0	989.5	0.00	0.00	0.00
6,400.0	15.94	290.97	6,262.8	364.0	-949.6	1,017.0	0.00	0.00	0.00
6,500.0	15.94	290.97	6,359.0	373.8	-975.2	1,044.4	0.00	0.00	0.00
6,600.0	15.94	290.97	6,455.2	383.7	-1,000.9	1,071.9	0.00	0.00	0.00
6,700.0	15.94	290.97	6,551.3	393.5	-1,026.5	1,099.3	0.00	0.00	0.00
6,800.0	15.94	290.97	6,647.5	403.3	-1,052.1	1,126.8	0.00	0.00	0.00
6,900.0	15.94	290.97	6,743.6	413.1	-1,077.8	1,154.3	0.00	0.00	0.00
7,000.0	15.94	290.97	6,839.8	423.0	-1,103.4	1,181.7	0.00	0.00	0.00
7,100.0	15.94	290.97	6,935.9	432.8	-1,129.1	1,209.2	0.00	0.00	0.00
7,200.0	15.94	290.97	7,032.1	442.6	-1,154.7	1,236.6	0.00	0.00	0.00
7,300.0	15.94	290.97	7,128.3	452.5	-1,180.3	1,264.1	0.00	0.00	0.00
7,400.0	15.94	290.97	7,224.4	462.3	-1,206.0	1,291.5	0.00	0.00	0.00
7,500.0	15.94	290.97	7,320.6	472.1	-1,231.6	1,319.0	0.00	0.00	0.00
7,600.0	15.94	290.97	7,416.7	481.9	-1,257.2	1,346.4	0.00	0.00	0.00
7,700.0	15.94	290.97	7,512.9	491.8	-1,282.9	1,373.9	0.00	0.00	0.00
7,800.0	15.94	290.97	7,609.0	501.6	-1,308.5	1,401.3	0.00	0.00	0.00
7,900.0	15.94	290.97	7,705.2	511.4	-1,334.1	1,428.8	0.00	0.00	0.00
8,000.0	15.94	290.97	7,801.4	521.2	-1,359.8	1,456.3	0.00	0.00	0.00
8,100.0	15.94	290.97	7,897.5	531.1	-1,385.4	1,483.7	0.00	0.00	0.00
8,200.0	15.94	290.97	7,993.7	540.9	-1,411.0	1,511.2	0.00	0.00	0.00
8,300.0	15.94	290.97	8,089.8	550.7	-1,436.7	1,538.6	0.00	0.00	0.00
8,400.0	15.94	290.97	8,186.0	560.6	-1,462.3	1,566.1	0.00	0.00	0.00
8,500.0	15.94	290.97	8,282.1	570.4	-1,488.0	1,593.5	0.00	0.00	0.00
8,600.0	15.94	290.97	8,378.3	580.2	-1,513.6	1,621.0	0.00	0.00	0.00
8,700.0	15.94	290.97	8,474.5	590.0	-1,539.2	1,648.4	0.00	0.00	0.00
8,800.0	15.94	290.97	8,570.6	599.9	-1,564.9	1,675.9	0.00	0.00	0.00
8,900.0	15.94	290.97	8,666.8	609.7	-1,590.5	1,703.3	0.00	0.00	0.00
9,000.0	15.94	290.97	8,762.9	619.5	-1,616.1	1,730.8	0.00	0.00	0.00
9,100.0	15.94	290.97	8,859.1	629.3	-1,641.8	1,758.3	0.00	0.00	0.00
9,200.0	15.94	290.97	8,955.2	639.2	-1,667.4	1,785.7	0.00	0.00	0.00
9,300.0	15.94	290.97	9,051.4	649.0	-1,693.0	1,813.2	0.00	0.00	0.00
9,400.0	15.94	290.97	9,147.6	658.8	-1,718.7	1,840.6	0.00	0.00	0.00
9,500.0	15.94	290.97	9,243.7	668.7	-1,744.3	1,868.1	0.00	0.00	0.00
9,600.0	15.94	290.97	9,339.9	678.5	-1,769.9	1,895.5	0.00	0.00	0.00
9,700.0	15.94	290.97	9,436.0	688.3	-1,795.6	1,923.0	0.00	0.00	0.00
9,800.0	15.94	290.97	9,532.2	698.1	-1,821.2	1,950.4	0.00	0.00	0.00
9,900.0	15.94	290.97	9,628.3	708.0	-1,846.9	1,977.9	0.00	0.00	0.00
10,000.0	15.94	290.97	9,724.5	717.8	-1,872.5	2,005.3	0.00	0.00	0.00
10,100.0	15.94	290.97	9,820.7	727.6	-1,898.1	2,032.8	0.00	0.00	0.00
10,200.0	15.94	290.97	9,916.8	737.4	-1,923.8	2,060.3	0.00	0.00	0.00
10,300.0	15.94	290.97	10,013.0	747.3	-1,949.4	2,087.7	0.00	0.00	0.00
10,400.0	15.94	290.97	10,109.1	757.1	-1,975.0	2,115.2	0.00	0.00	0.00

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Gyrodata Inc.
Planning Report

Database:	Gyrodata NWDB	**Local Co-ordinate Reference:**	Well Tumbleweed #17-12
Company:	Stewart Petroleum Corp.	**TVD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Project:	Uintah Co., UT	**MD Reference:**	WELL @ 7244.0usft (GL: 7224' + KB:20')
Site:	Sec.18 - T15S - R21E	**North Reference:**	Grid
Well:	Tumbleweed #17-12	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	#17-12		
Design:	Design #1		

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)
10,500.0	15.94	290.97	10,205.3	766.9	-2,000.7	2,142.6	0.00	0.00	0.00
10,600.0	15.94	290.97	10,301.4	776.7	-2,026.3	2,170.1	0.00	0.00	0.00
10,700.0	15.94	290.97	10,397.6	786.6	-2,051.9	2,197.5	0.00	0.00	0.00
10,800.0	15.94	290.97	10,493.8	796.4	-2,077.6	2,225.0	0.00	0.00	0.00
10,900.0	15.94	290.97	10,589.9	806.2	-2,103.2	2,252.4	0.00	0.00	0.00
11,000.0	15.94	290.97	10,686.1	816.1	-2,128.8	2,279.9	0.00	0.00	0.00
11,100.0	15.94	290.97	10,782.2	825.9	-2,154.5	2,307.4	0.00	0.00	0.00
11,200.0	15.94	290.97	10,878.4	835.7	-2,180.1	2,334.8	0.00	0.00	0.00
11,300.0	15.94	290.97	10,974.5	845.5	-2,205.8	2,362.3	0.00	0.00	0.00
11,400.0	15.94	290.97	11,070.7	855.4	-2,231.4	2,389.7	0.00	0.00	0.00
11,500.0	15.94	290.97	11,166.9	865.2	-2,257.0	2,417.2	0.00	0.00	0.00
11,600.0	15.94	290.97	11,263.0	875.0	-2,282.7	2,444.6	0.00	0.00	0.00
11,700.0	15.94	290.97	11,359.2	884.8	-2,308.3	2,472.1	0.00	0.00	0.00
11,800.0	15.94	290.97	11,455.3	894.7	-2,333.9	2,499.5	0.00	0.00	0.00
11,900.0	15.94	290.97	11,551.5	904.5	-2,359.6	2,527.0	0.00	0.00	0.00
12,000.0	15.94	290.97	11,647.6	914.3	-2,385.2	2,554.4	0.00	0.00	0.00
12,100.0	15.94	290.97	11,743.8	924.2	-2,410.8	2,581.9	0.00	0.00	0.00
12,200.0	15.94	290.97	11,840.0	934.0	-2,436.5	2,609.4	0.00	0.00	0.00
12,300.0	15.94	290.97	11,936.1	943.8	-2,462.1	2,636.8	0.00	0.00	0.00
12,366.4	15.94	290.97	12,000.0	950.3	-2,479.1	2,655.0	0.00	0.00	0.00
TD at 12366.4									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Tumbleweed #17-12 - Pl - plan hits target center - Point	0.00	0.01	12,000.0	950.3	-2,479.1	435,377.77	2,533,110.78	39° 30' 47.590 N	109° 36' 36.850 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,300.0	2,300.0	0.0	0.0	Start DLS 2.00 TFO 290.97
3,096.8	3,086.5	39.4	-102.8	Start 9269.7 hold at 3096.8 MD
12,366.4	12,000.0	950.3	-2,479.1	TD at 12366.4

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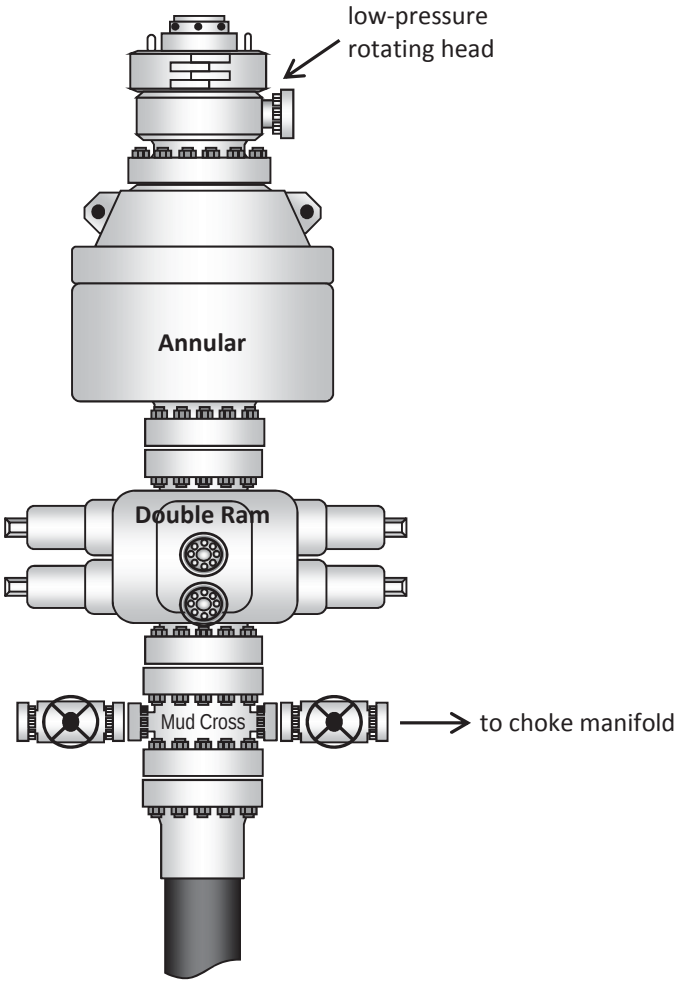
Typical 5M BOP stack configuration



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Star Point
Enterprises, Inc.

2580 Creekview Road
Moab, Utah 84532
435/650-3866

July 18, 2016

Diana Mason
State of Utah
Division of Oil Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Request for Exception to Spacing – Stewart Petroleum Corporation – **Tumbleweed 17-12**
Surface: 1717' FSL & 646' FEL, NE/4 SE/4, Section 18, T15S, R21E, SLB&M
Target: 1423' FSL & 187' FWL, NW/4 SW/4, Section 17, T15S, R21E, SLB&M
Uintah County, Utah

Dear Diana:

Stewart Petroleum Corporation respectfully submits this request for exception to spacing (R649-3-11) based on topography since the well bore path is located less than 460 feet to the drilling unit boundary. Stewart Petroleum Corporation is the only owner and operator within 460' of the surface and target location as well as all points along the intended well bore path and are not within 460 feet of any uncommitted tracts or a unit boundary.

Thank you very much for your timely consideration of this application. Please feel free to contact me at 435-719-2018 if you have any questions or need additional information.

Sincerely,

Don Hamilton

Don Hamilton
Agent for Stewart Petroleum Corporation

cc: Daryl R. Stewart, Stewart Petroleum Corporation

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