



WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1086143

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing     Pumping     Gas Lift     Other (Explain) \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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# Directional Drilling Report

**Drilling Report Number:** DDR-0004

**Customer:** Advanced Drilling Technologies

**Address:** Advanced Drilling Technologies, LLC  
529 North Albany Street  
Suite 1250  
Yuma, CO 80759

**Well Name:** Davis 32-07H

**Date:** 26/01/2012

AnTech Ltd  
Unit 7, Newbery Centre  
Airport Business Park  
Exeter. EX5 2UL. UK

Tel: +44 (0)1392 440300  
Email: [antech@antech.co.uk](mailto:antech@antech.co.uk)  
[www.antech.co.uk](http://www.antech.co.uk)  
[www.coiledtubingdrilling.com](http://www.coiledtubingdrilling.com)



# Summary

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<b>Customer:</b>	Advanced Drilling Technologies	<b>Local Co-ordinate Reference:</b>	GPS
<b>Project:</b>	Polaris Operational Trials	<b>TVD Reference:</b>	Minimum Curvature Calculation
<b>Site:</b>	Davis	<b>MD Reference:</b>	Pason Bit Depth
<b>Well:</b>	Davis 32-07H	<b>North Reference:</b>	Gyro True North
<b>Bit &amp; Nozzle Size:</b>	8.5" PDC (6 x 10/32"), 6.25" PDC (3 x 12/32", 6 x 9/32")	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Drill Motor:</b>	Hunting 5", 7/8, 4.5, 0.46RPG	<b>Tool Used:</b>	Polaris
<b>Motor Bend Angle:</b>	2.77 & 1.15	<b>Tool Name:</b>	Yellow (1642ft), Green (658ft)

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## Well

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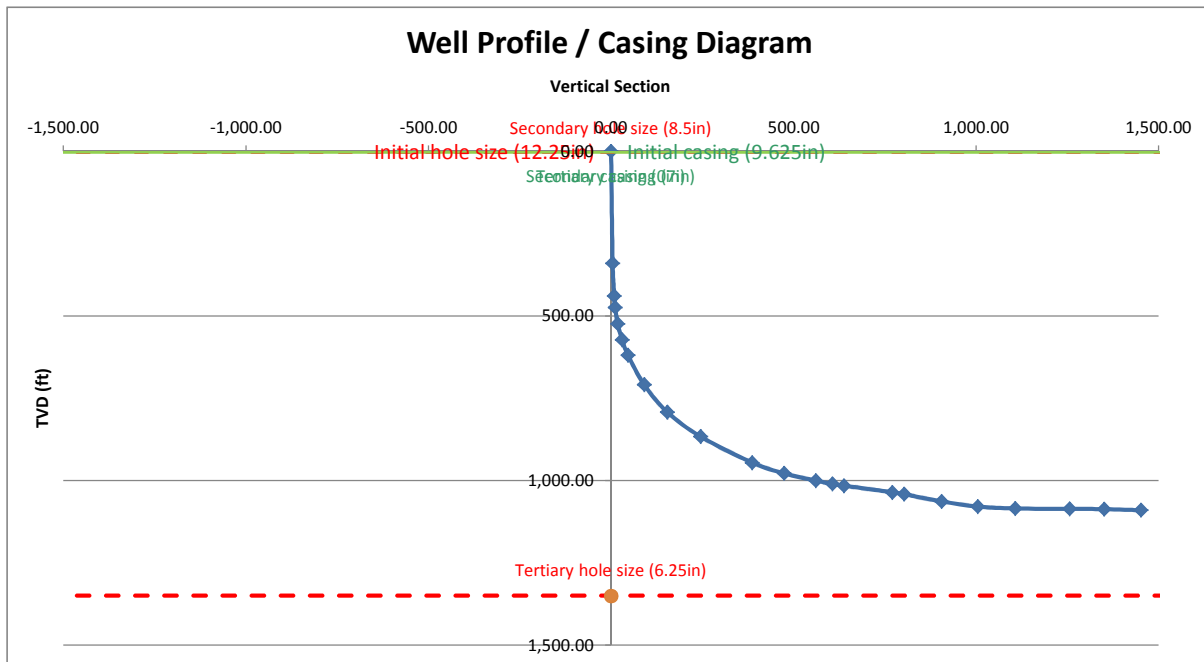
Northing [ft]:		Deviation In Azimuth Direction [ft]:	1451.604531
Easting [ft]:		Maximum Inclination:	90.4
SHL Latitude:	39°21'14.2"N	Survey Inclination Error:	±0.15
SHL Longitude:	101°42'50.2"W	Survey Azimuth Error:	±3
		Deviation from Plan at Zone Entry [ft]:	107.07
		Deviation from Plan at TD [ft]:	105.68

# Casing Diagram

<b>Customer:</b>	Advanced Drilling Technologies	<b>Motor Bend Angle:</b>	2.77 & 1.15
<b>Project:</b>	Polaris Operational Trials	<b>Local Co-ordinate Reference:</b>	GPS
<b>Site:</b>	Davis	<b>TVD Reference:</b>	Minimum Curvature Calculation
<b>Well:</b>	Davis 32-07H	<b>MD Reference:</b>	Pason Bit Depth
<b>Bit &amp; Nozzle Size:</b>	8.5" PDC (6 x 10/32"), 6.25" PDC (3 x 12/32", 6 x 9/32")	<b>North Reference:</b>	Gyro True North
<b>Drill Motor:</b>	Hunting 5", 7/8, 4.5, 0.46RPG	<b>Survey Calculation Method:</b>	Minimum Curvature

Depth (ft)	Hole Size (in)	Casing				Cement	Completion Comments
		Size (in)	Weight (ppf)	Grade	Thread		
365	12.25	9.625	29.3	J-55		Neat	
1350	8.5	7	6.538	J-55		Neat	

	Diameter (in)	Start Depth (TVD)	End Depth (TVD)
Initial hole size	12.250		365.0
Initial casing	9.625		365.0
Secondary hole size	8.500		1350.0
Secondary casing	7.000		1350.0
Tertiary hole size	6.250	1350.0	2300.0
Tertiary casing			





# Well Data

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<b>Site:</b>	Davis	<b>TVD Reference:</b>	Minimum Curvature Calculation
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## Formation Tops

Name	TVD [ft]	Data Points Direction	Distance [ft]	Dip distance ( $\chi$ ) (Dip=1'/ $\chi$ )
TOP BIZ	1065		3000	337.25
BOTTOM BIZ	1093		3000	337.25



# Well Plan Data

<b>Customer:</b>	Advanced Drilling Technologies	<b>Motor Bend Angle:</b>	2.77 & 1.15
<b>Project:</b>	Polaris Operational Trials	<b>Local Co-ordinate Reference:</b>	GPS
<b>Site:</b>	Davis	<b>TVD Reference:</b>	Minimum Curvature Calculation
<b>Well:</b>	Davis 32-07H	<b>MD Reference:</b>	Pason Bit Depth
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<b>Drill Motor:</b>	Hunting 5", 7/8, 4.5, 0.46RPG	<b>Survey Calculation Method:</b>	Minimum Curvature

<b>Final Bearing / Azimuth for section view (°)</b>	347.64
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## Projected TD Survey

Measured Depth ft	Inclination Angle degrees	Azimuth degrees	True Vertical Depth ft	North/South ft	East/West ft	Vertical Section ft	Dogleg Severity °/100ft	Reference	Description	Section
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RKB	tie point	0
380.00	0.00	0.00	380.00	0.00	0.00	0.00	0.00	KOP	build	1
400.00	1.78	347.64	400.00	0.30	-0.07	0.31	8.89		build	1-2
500.00	10.67	347.64	499.31	10.88	-2.38	11.14	8.89		build	1-2
600.00	19.56	347.64	595.75	36.32	-7.96	37.19	8.89		build	1-2
700.00	28.45	347.64	687.01	76.02	-16.66	77.82	8.89		build	1-2
800.00	37.34	347.64	770.90	129.01	-28.27	132.08	8.89		build	1-2
900.00	46.23	347.64	845.39	194.04	-42.52	198.64	8.89		build	1-2
1000.00	55.12	347.64	908.70	269.52	-59.06	275.92	8.89		build	1-2
1100.00	64.01	347.64	959.31	353.66	-77.50	362.05	8.89		build	1-2
1200.00	72.90	347.64	996.00	444.42	-97.39	454.97	8.89		build	1-2
1223.64	75.00	347.64	1,002.54	466.62	-102.25	477.69	8.89	End Build	straight	2
1263.64	75.00	347.64	1,012.89	504.35	-110.52	516.32	0.00	Change Bit	build	3
1300.00	76.15	347.64	1,021.95	538.75	-118.06	551.53	3.16		build	3-4
1400.00	79.31	347.64	1,043.20	634.19	-138.97	649.24	3.16		build	3-4
1500.00	82.47	347.64	1,059.03	730.63	-160.10	747.96	3.16		build	3-4
1550.98	84.08	347.64	1,065.00	780.08	-170.94	798.59	3.16	Top of BIZ	build	3-4
1600.00	85.63	347.64	1,069.40	827.77	-181.39	847.41	3.16		build	3-4
1700.00	88.79	347.64	1,074.26	925.32	-202.77	947.28	3.16		build	3-4
1725.67	89.60	347.64	1,074.63	950.39	-208.26	972.94	3.16	End Build	straight	4
1800.00	89.60	347.64	1,075.14	1,023.00	-224.17	1,047.28	0.00		straight	4-5
1900.00	89.60	347.64	1,075.84	1,120.68	-245.58	1,147.27	0.00		straight	4-5
2000.00	89.60	347.64	1,076.54	1,218.36	-266.98	1,247.27	0.00		straight	4-5
2100.00	89.60	347.64	1,077.24	1,316.04	-288.39	1,347.27	0.00		straight	4-5
2200.00	89.60	347.64	1,077.94	1,413.72	-309.79	1,447.27	0.00		straight	4-5
2300.00	89.60	347.64	1,078.64	1,511.40	-331.20	1,547.26	0.00		straight	4-5
2400.00	89.60	347.64	1,079.33	1,609.08	-352.60	1,647.26	0.00		straight	4-5
2500.00	89.60	347.64	1,080.03	1,706.76	-374.01	1,747.26	0.00		straight	4-5
2600.00	89.60	347.64	1,080.73	1,804.44	-395.41	1,847.26	0.00		straight	4-5
2700.00	89.60	347.64	1,081.43	1,902.12	-416.82	1,947.25	0.00	TD	End straight	5



## Drilling Data

<b>Customer:</b>	Advanced Drilling Technologies	<b>Motor Bend Angle:</b>	2.77 & 1.15
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<b>Drill Motor:</b>	Hunting 5", 7/8, 4.5, 0.46RPG	<b>Survey Calculation Method:</b>	Minimum Curvature

<b>Final Bearing / Azimuth for section view (°)</b>	347.64
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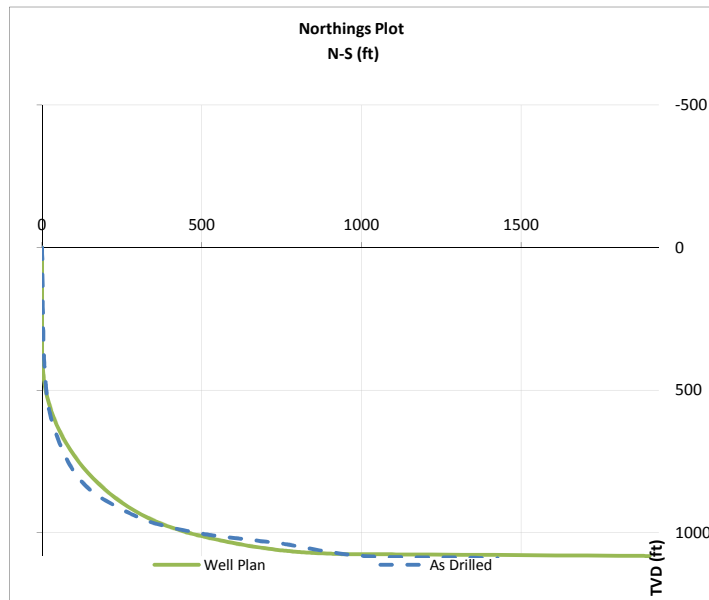
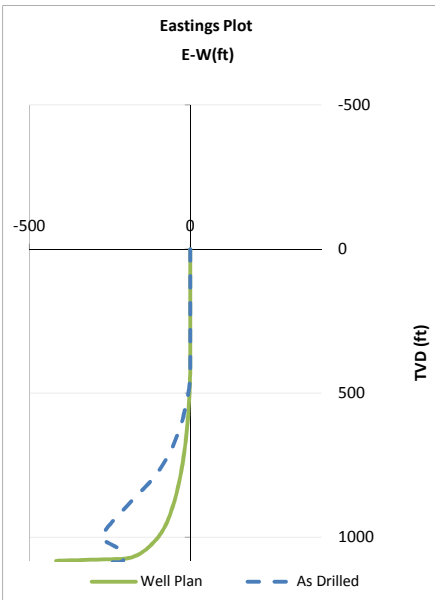
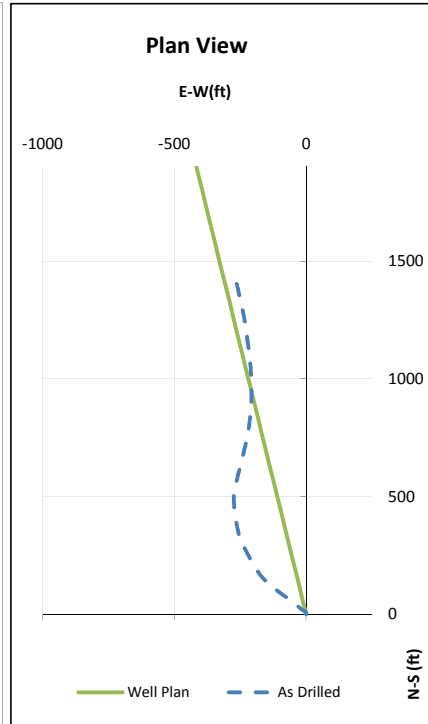
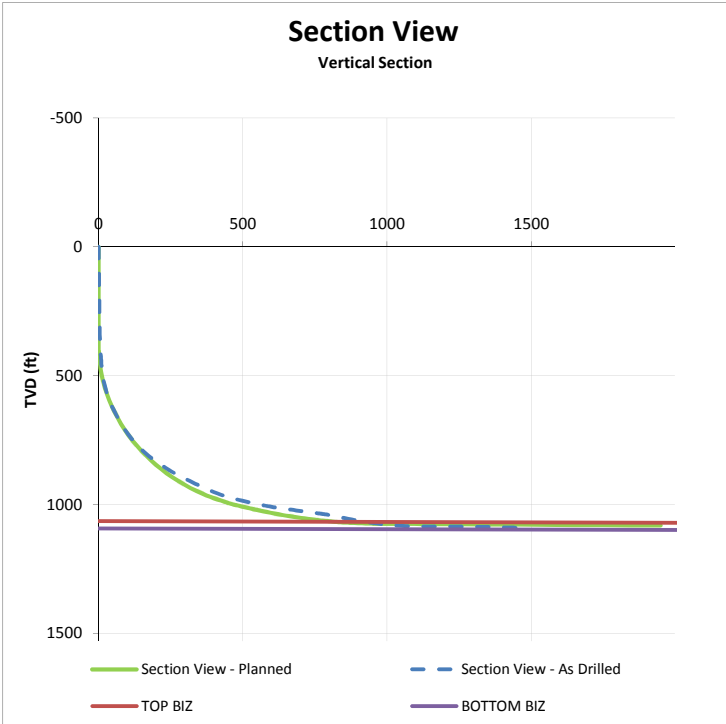
### Actual Survey Data

Measured Depth ft	Bit Depth ft (MD +30 ft)	Inclination Angle degrees	Azimuth degrees	True Vertical Depth ft	North/South ft	East/West ft	Vertical Section ft	Dogleg Severity °/100ft	Reference	Description	Time	Date
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIH	KB	09:30	22/01/2012
340.00	370.00	1.47	0.00	339.96	4.36	0.00	4.36	0.43	Out of Casing	vertical	10:17	
440.00	470.00	3.81	347.52	439.85	8.89	-0.72	8.92	2.40	Hole Bottom	vertical	10:49	
475.00	505.00	7.31	299.48	474.70	11.12	-2.91	11.50	15.82		build	11:19	
525.00	555.00	11.87	298.32	523.98	15.13	-10.21	18.25	9.13		build	12:08	
575.00	605.00	16.88	313.82	572.42	22.60	-19.98	30.17	12.55		build	12:56	
625.00	655.00	21.78	312.70	619.59	33.93	-32.05	46.67	9.83		build	13:25	
725.00	755.00	30.73	311.59	709.18	63.53	-64.86	90.79	8.96		build	14:44	
830.00	860.00	44.07	308.17	792.42	104.09	-113.85	154.26	12.85		build	15:59	
948.00	978.00	58.07	323.60	866.65	170.32	-176.37	245.18	15.57		build	17:15	
1115.00	1145.00	65.85	342.38	945.64	301.09	-242.04	386.31	10.94		build	20:46	
1215.00	1245.00	75.96	348.29	978.34	392.38	-265.78	473.92	11.55		build	22:14	
1315.00	1345.00	78.42	1.21	1,000.60	489.25	-274.63	561.06	12.83		build	23:30	
1371.00	1401.00	81.34	10.94	1,010.46	543.99	-268.78	606.77	17.88	Through Plug - Air switch	build	16:00	24/01/2012
1411.00	1441.00	83.45	13.55	1,015.76	582.73	-260.37	638.25	8.35	First survey with air	Straight	19:37	
1570.00	1600.00	82.00	11.20	1,035.89	736.77	-226.57	770.82	1.73		Straight	22:41	
1606.00	1636.00	79.51	9.57	1,041.68	771.72	-220.16	802.51	8.23		walk	11:23	25/01/2012
1718.00	1748.00	77.87	1.90	1,063.67	880.90	-209.17	905.39	6.87	In Zone	walk	13:00	
1821.00	1851.00	84.70	359.25	1,079.27	982.64	-208.17	1,004.44	7.10		build	14:15	
1925.00	1955.00	88.83	354.62	1,085.14	1,086.27	-213.73	1,107.10	5.96		Straight	17:09	
2074.00	2104.00	90.40	351.82	1,086.14	1,234.21	-231.32	1,255.70	2.15		Straight	19:31	
2169.00	2199.00	88.28	348.02	1,087.24	1,327.71	-247.94	1,350.66	4.58		Straight	02:54	26/01/2012
2270.00	2300.00	88.32	348.94	1,090.23	1,426.63	-268.10	1,451.60	0.91	TD	TD	04:43	



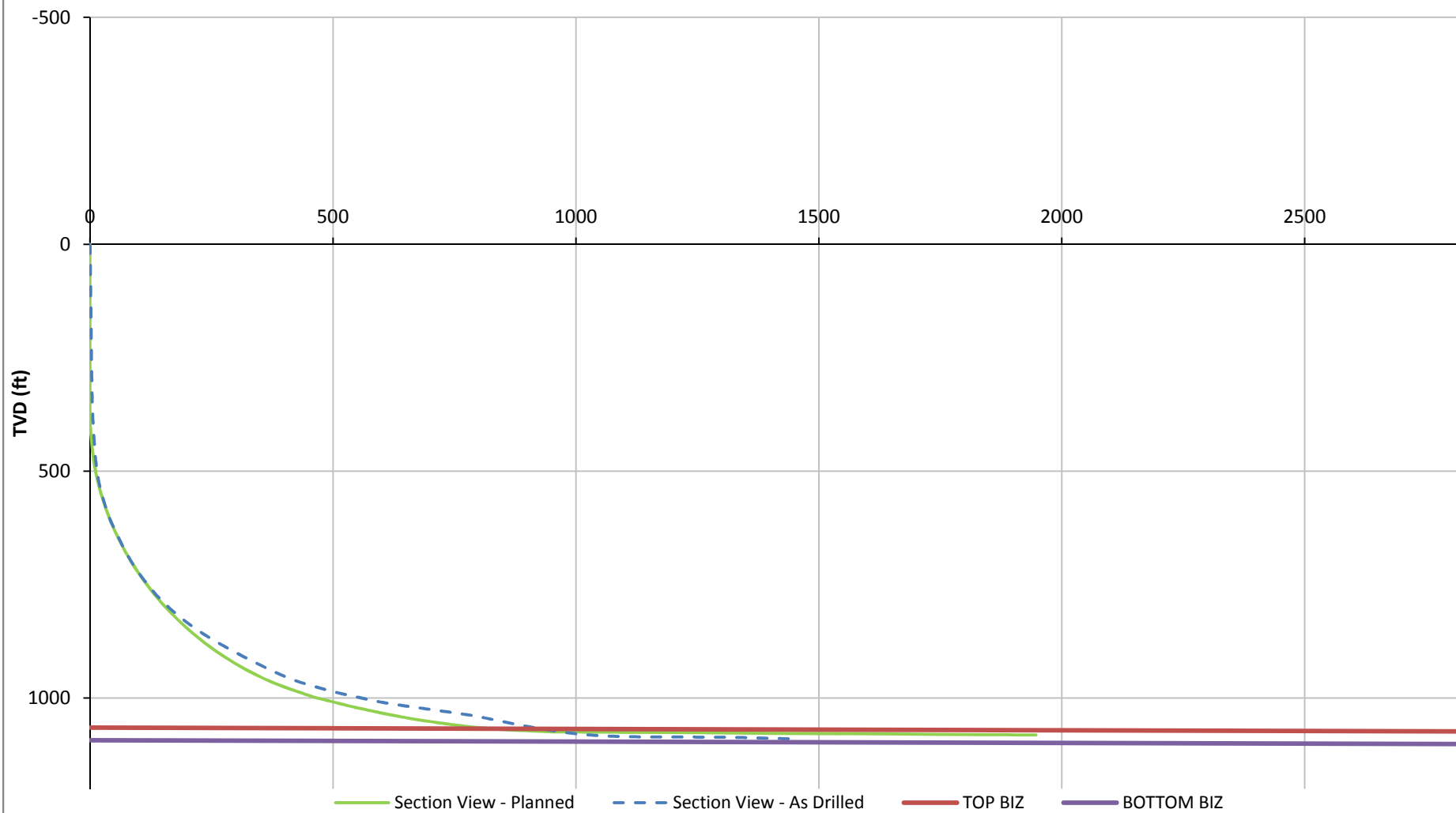
# Summary Well Plots

<b>Customer:</b>	Advanced Drilling Technologies	<b>Motor Bend Angle:</b>	2.77 & 1.15
<b>Project:</b>	Polaris Operational Trials	<b>Local Co-ordinate Reference:</b>	GPS
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# Section View

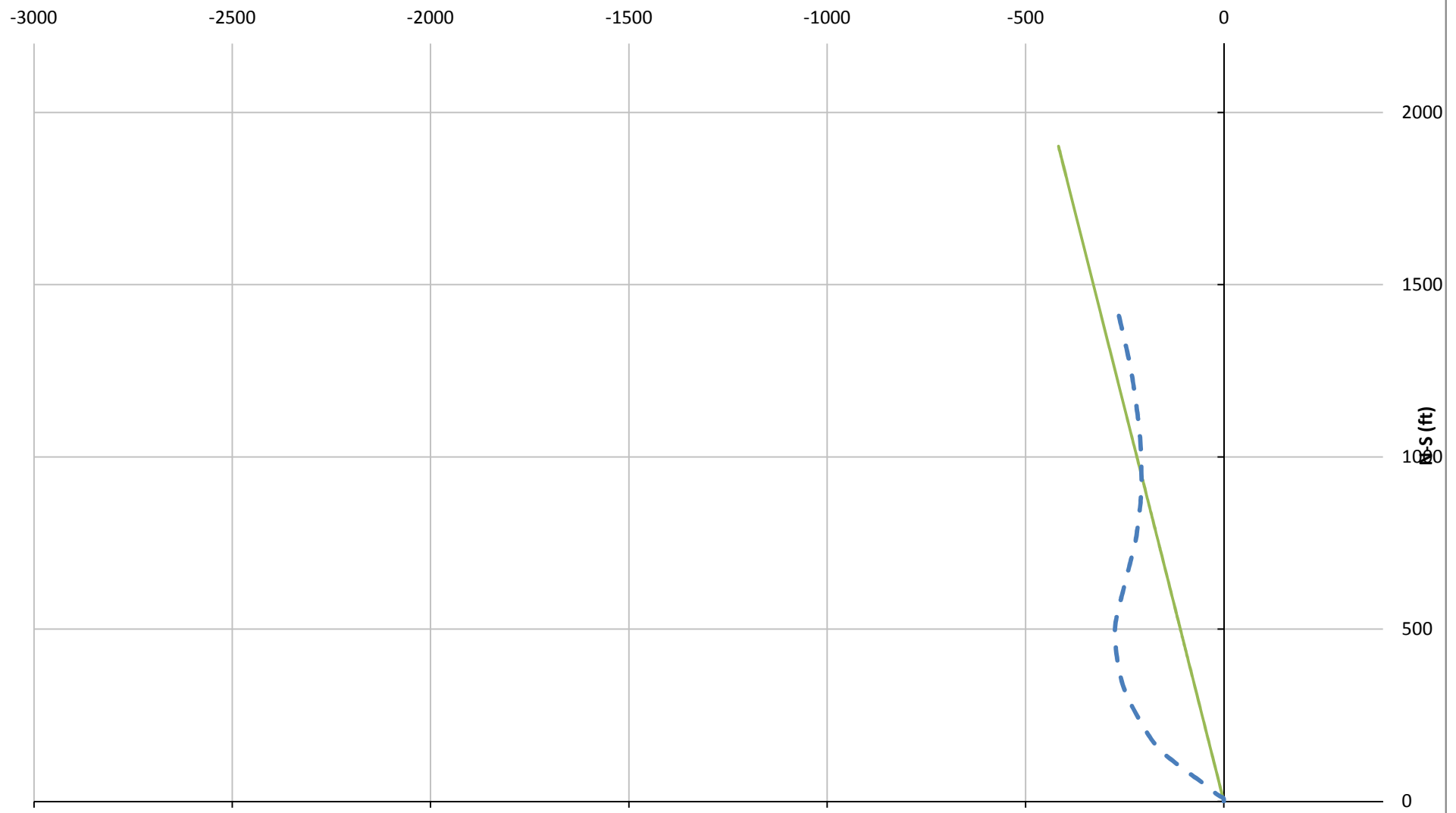
Vertical Section





# Plan Plot

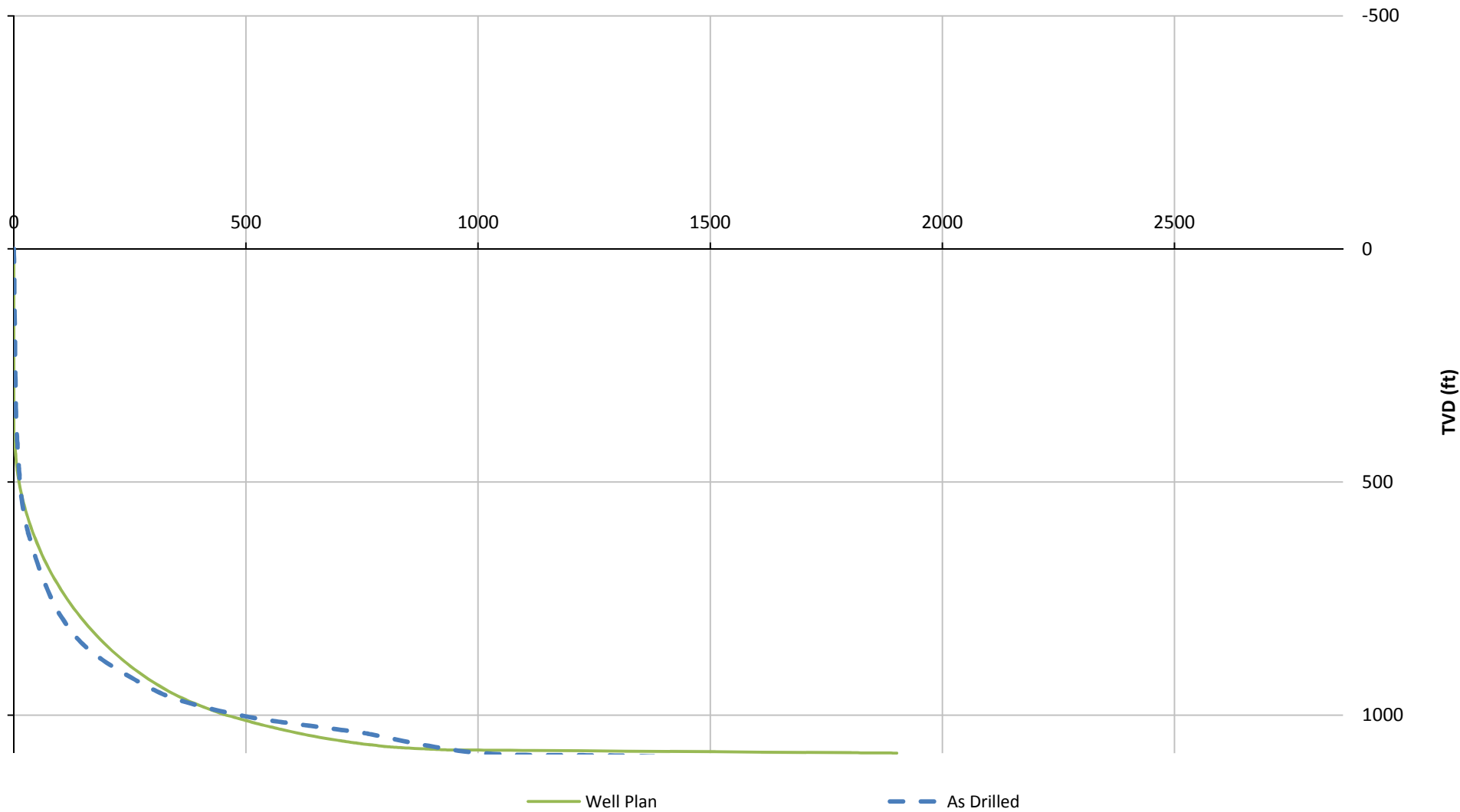
E-W(ft)



Well Plan As Drilled

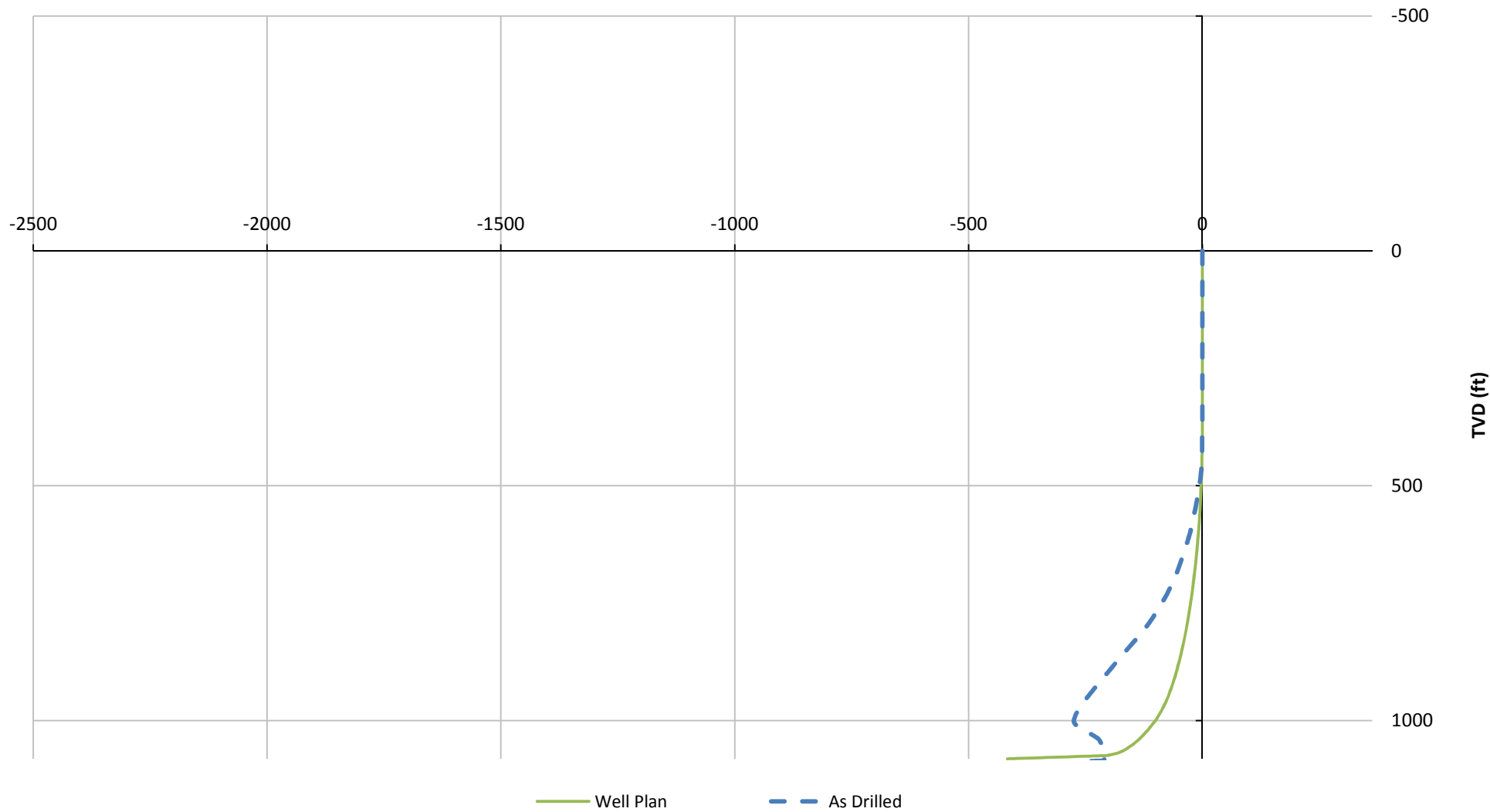
# Northings Plot

N-S (ft)



# Eastings Plot

E-W(ft)





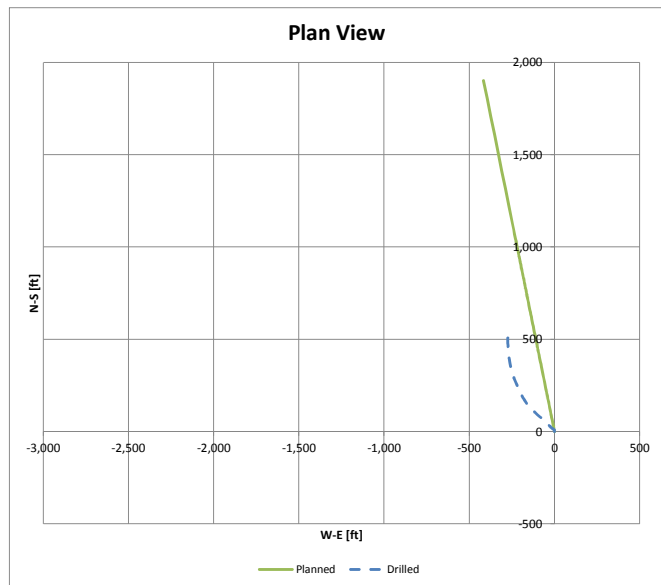
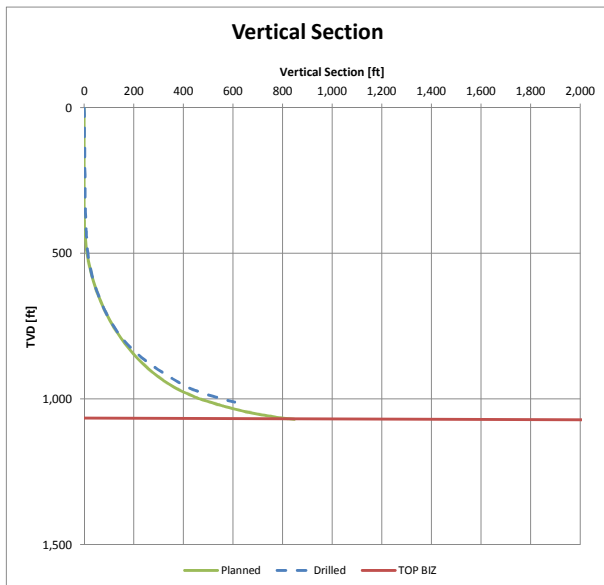
# Directional Drilling Morning Report

DATE: 23/01/2012  
TIME: 01:32

<b>Customer:</b>	Advanced Drilling Technologies	<b>Motor Bend Angle:</b>	2.77 & 1.15
<b>Project:</b>	Polaris Operational Trials	<b>Local Co-ordinate Reference:</b>	GPS
<b>Site:</b>	Davis	<b>TVD Reference:</b>	Minimum Curvature Calculation
<b>Well:</b>	Davis 32-07H	<b>MD Reference:</b>	Pason Bit Depth
<b>Bit &amp; Nozzle Size:</b>	8.5" PDC (6 x 10/32"), 6.25" PDC (3 x 12/32"), 6 x 4	<b>North Reference:</b>	Gyro True North
<b>Drill Motor:</b>	Hunting 5", 7/8, 4.5, 0.46RPG	<b>Survey Calculation Method:</b>	Minimum Curvature

## Event Log

Time	Date	Measured Depth [ft]	Description	Inclination	Azimuth	Pump Rate [GPM]	Mud Weight [PPG]
09:30	22/01/2012	0.00	RIH	0.00	0.00	137.00	
10:17		370.00	Out of casing survey	1.47	105.55	0.00	8.30
10:18		370.00	Continue to run in whilst circulating	N/A	N/A	274.00	8.30
10:42		470.00	Touch bottom, pull up 5 ft, survey to log hole and confirm azimuth rotate toolface and survey	3.81	102.09	0.00	8.30
10:49		470.00	Toolface at 347 deg, drill to 510, pull up 5ft and survey	3.50	88.56	0.00	8.30
11:19		505.00	Survey	7.31	299.48	0.00	8.30
11:20		505.00	Set toolface to around 45 deg, Drill on 50ft, twist CC @ KO, compensate to 30 deg.	N/A	N/A	311.00	8.30
12:08		555.00	Survey - Short on build and azimuth, next stage 25ft at 45 deg, 25ft at 10 deg max	11.87	298.32	0.00	8.30
12:56		605.00	Survey	16.88	313.82	0.00	8.30
13:00		605.00	Build at 30 deg, massive CC kick off to 270 deg tool face, took 2-3 min to correct	N/A	N/A	312.00	8.30
13:37		655.00	Pull up 5ft and survey	21.78	312.70	0.00	8.60
13:38		655.00	Build at around 5-10 deg. Massive CC kick off again	N/A	N/A	312.00	8.60
14:44		755.00	Survey	30.73	311.59		
14:45		755.00	Build at 55 deg for 50ft, then build at 30 deg max for 50ft				
15:59		860.00	Survey	44.07	308.17	314.00	8.60
16:05		860.00	Build at 55 deg for 75ft, then build at 30 deg for 65ft				
17:09		978.00	Drilling stopped. No diff. Pull up to survey and try to clean bit				
17:15		978.00	Survey	58.07	323.60	317.00	8.80
17:27		978.00	Correct for azimuth at around 75 deg toolface while maintaining build as per plan to 1150ft				
18:45		1101.00	Wiper trip to 900ft. Stop 5ft off bottom for survey			318.00	8.80
20:47		1150.00	Touch bottom and pull up post wiper trip. Survey	65.86	342.38		
22:14		1245.00	Survey	75.96	348.29		8.70
22:16		1245.00	Correct for azimuth, build to aim for 80 deg at 1450ft			314.00	8.70
23:30		1345.00	Survey	78.42	1.21	314.00	8.80
23:40		1345.00	Build to 80 deg and rotate to intermediate TD			296.00	8.80
00:58	23/01/2012	1444.00	Survey	82.80	1.16		
01:03		1444.00	Intermediate TD. POOH. Change Bit to 6.25". Change Motor Bend to 1.15. Case +Cement				





**Drilling Log**

Measured Depth ft	Bit Depth ft (MD +30 ft)	Inclination Angle degrees	Azimuth degrees	True Vertical Depth ft	North/South ft	East/West ft	Vertical Section ft	Dogleg Severity %/100ft	Reference	Description	Time	Date
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		KB	09:30	22/01/2012
340.00	370.00	1.47	0.00	339.96	4.36	0.00	4.36	0.43	Out of Casing	vertical	10:17	
440.00	470.00	3.81	347.52	439.85	8.89	-0.72	8.92	2.40	Hole Bottom	vertical	10:49	
475.00	505.00	7.31	299.48	474.70	11.12	-2.91	11.50	15.82		build	11:19	
525.00	555.00	11.87	298.32	523.98	15.13	-10.21	18.25	9.13		build	12:08	
575.00	605.00	16.88	313.82	572.42	22.60	-19.98	30.17	12.55		build	12:56	
625.00	655.00	21.78	312.70	619.59	33.93	-32.05	46.67	9.83		build	13:25	
725.00	755.00	30.73	311.59	709.18	63.53	-64.86	90.79	8.96		build	14:44	
830.00	860.00	44.07	308.17	792.42	104.09	-113.85	154.26	12.85		build	15:59	
948.00	978.00	58.07	323.60	866.65	170.32	-176.37	245.18	15.57		build	17:15	
1115.00	1145.00	65.85	342.38	945.64	301.09	-242.04	386.31	10.94		build	20:46	
1215.00	1245.00	75.96	348.29	978.34	392.38	-265.78	473.92	11.55		build	22:14	
1315.00	1345.00	78.42	1.21	1000.60	489.25	-274.63	561.06	12.83		build	23:30	
1371.00	1401.00	81.34	10.94	1010.46	543.99	-268.78	606.77	17.88	Through Plug - Air switch	build	16:00	24/01/2012



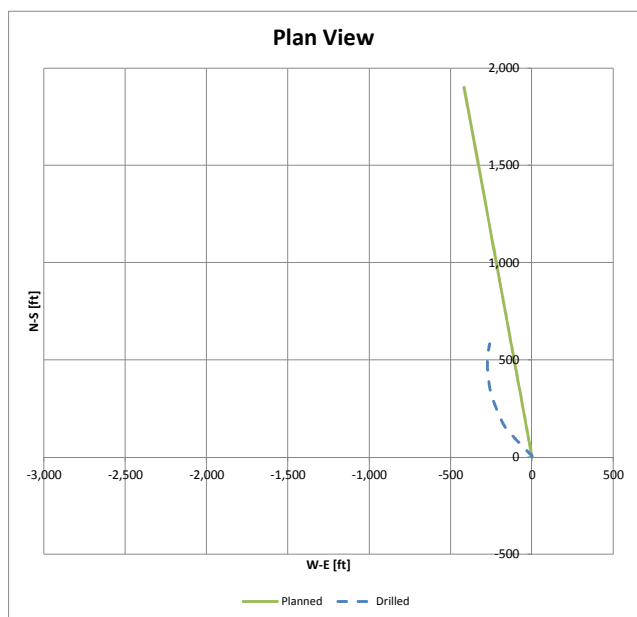
# Directional Drilling Morning Report

DATE: 25/01/2012  
TIME: 07:44

<b>Customer:</b>	Advanced Drilling Technologies	<b>Motor Bend Angle:</b>	2.77 & 1.15
<b>Project:</b>	Polaris Operational Trials	<b>Local Co-ordinate Reference:</b>	GPS
<b>Site:</b>	Davis	<b>TVD Reference:</b>	Minimum Curvature Calculation
<b>Well:</b>	Davis 32-07H	<b>MD Reference:</b>	Pason Bit Depth
<b>Bit &amp; Nozzle Size:</b>	8.5" PDC (6 x 10/32"), 6.25" PDC (3 x 12/32"), 6 x 5/8"	<b>North Reference:</b>	Gyro True North
<b>Drill Motor:</b>	Hunting 5", 7/8, 4.5, 0.46RPG	<b>Survey Calculation Method:</b>	Minimum Curvature

## Event Log

Time	Date	Measured Depth [ft]	Description	Inclination	Azimuth	Pump Rate [GPM]	Mud Weight [PPG]
12:45	24/01/2012	51.00	RIH	N/A	N/A		
15:30		1351.00	Clear casing, build to pull azimuth towards 347			228.00	
16:04		1401.00	Survey	81.34	10.94	N/A	N/A
16:09		1401.00	Unable to unload fluid, trip back to 800 before switching to mist	N/A	N/A		
17:30		800.00	Blow out fluid column using mist mix - 1 compressor used (900 cfm) equivalent mud weight 0.01 - 0.02	N/A	N/A	N/A	N/A
18:00		800.00	RIH Using air (1 compressor) to blow out remaining fluid column	N/A	N/A	N/A	N/A
18:20		960.00	Rotate orienter whilst RIH to prevent mud motor stall				
19:00		1400.00	Continue to rotate orienter to go straight 50 ft				
19:37		1441.00	Clear hole and survey	83.45	13.55		
20:17		1450.00	Rotate orienter to drill straight 150 ft	N/A	N/A		
21:53		1500.00	Trip back to 1500 to release pressure and clean hole, back on bottom @ 22:11				
22:41		1600.00	Survey	82.00	11.20		
22:50		1600.00	Drop to get closer to zone and turn into planned lateral				
23:10		1642.00	Loss of power and comms to tool. POOH				
07:30	25/01/2012	0.00	Second Tool rigged up ready to RIH				







Drilling Log

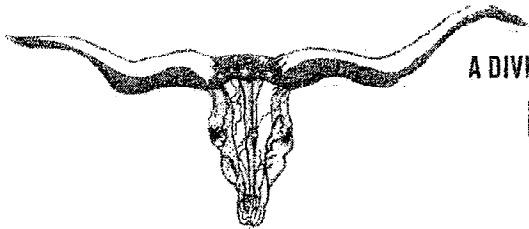
Measured Depth ft	Bit Depth ft (MD +30 ft)	Inclination Angle degrees	Azimuth degrees	True Vertical Depth ft	North/South ft	East/West ft	Vertical Section ft	Dogleg Severity °/100ft	Reference	Description	Time	Date
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		KB		
340.00	370.00	1.47	0.00	339.96	4.36	0.00	4.36	0.43	Out of Casing	vertical		
440.00	470.00	3.81	347.52	439.85	8.89	-0.72	8.92	2.40	Hole Bottom	vertical		
475.00	505.00	7.31	299.48	474.70	11.12	-2.91	11.50	15.82		build	11:19	
525.00	555.00	11.87	298.32	523.98	15.13	-10.21	18.25	9.13		build	12:08	
575.00	605.00	16.88	313.82	572.42	22.60	-19.98	30.17	12.55		build	12:56	
625.00	655.00	21.78	312.70	619.59	33.93	-32.05	46.67	9.83		build	13:25	
725.00	755.00	30.73	311.59	709.18	63.53	-64.86	90.79	8.96		build	14:44	
830.00	860.00	44.07	308.17	792.42	104.09	-113.85	154.26	12.85		build	15:59	
948.00	978.00	58.07	323.60	866.65	170.32	-176.37	245.18	15.57		build	17:15	
1115.00	1145.00	65.85	342.38	945.64	301.09	-242.04	386.31	10.94		build	20:46	
1215.00	1245.00	75.96	348.29	978.34	392.38	-265.78	473.92	11.55		build	22:14	
1315.00	1345.00	78.42	1.21	1000.60	489.25	-274.63	561.06	12.83		build	23:30	
1371.00	1401.00	81.34	10.94	1010.46	543.99	-268.78	606.77	17.88	Through Plug Air switch	build	16:00	
1411.00	1441.00	83.45	13.55	1015.76	582.73	-260.37	638.25	8.35	First survey with air	Straight	19:37	
1570.00	1600.00	82.00	11.20	1035.89	736.77	-226.57	770.82	1.73		Straight	22:41	





Drilling Log

Measured Depth ft	Bit Depth ft (MD +30 ft)	Inclination Angle degrees	Azimuth degrees	True Vertical Depth ft	North/South ft	East/West ft	Vertical Section ft	Dogleg Severity °/100ft	Reference	Description	Time	Date
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIH	KB	09:30	22/01/2012
340.00	370.00	1.47	0.00	339.96	4.36	0.00	4.36	0.43	Out of Casing	vertical	10:17	
440.00	470.00	3.81	347.52	439.85	8.89	-0.72	8.92	2.40	Hole Bottom	vertical	10:49	
475.00	505.00	7.31	299.48	474.70	11.12	-2.91	11.50	15.82		build	11:19	
525.00	555.00	11.87	298.32	523.98	15.13	-10.21	18.25	9.13		build	12:08	
575.00	605.00	16.88	313.82	572.42	22.60	-19.98	30.17	12.55		build	12:56	
625.00	655.00	21.78	312.70	619.59	33.93	-32.05	46.67	9.83		build	13:25	
725.00	755.00	30.73	311.59	709.18	63.53	-64.86	90.79	8.96		build	14:44	
830.00	860.00	44.07	308.17	792.42	104.09	-113.85	154.26	12.85		build	15:59	
948.00	978.00	58.07	323.60	866.65	170.32	-176.37	245.18	15.57		build	17:15	
1115.00	1145.00	65.85	342.38	945.64	301.09	-242.04	386.31	10.94		build	20:46	
1215.00	1245.00	75.96	348.29	978.34	392.38	-265.78	473.92	11.55		build	22:14	
1315.00	1345.00	78.42	1.21	1000.60	489.25	-274.63	561.06	12.83		build	23:30	
1371.00	1401.00	81.34	10.94	1010.46	543.99	-268.78	606.77	17.88	Through Plug Air switch	build	16:00	24/01/2012
1411.00	1441.00	83.45	13.55	1015.76	582.73	-260.37	638.25	8.35	First survey with air	Straight	19:37	
1570.00	1600.00	82.00	11.20	1035.89	736.77	-226.57	770.82	1.73		Straight	22:41	
1606.00	1636.00	79.51	9.57	1041.68	771.72	-220.16	802.51	8.23		walk	11:23	25/01/2012
1718.00	1748.00	77.87	1.90	1063.67	880.90	-209.17	905.39	6.87	In Zone	walk	13:00	
1821.00	1851.00	84.70	359.25	1079.27	982.64	-208.17	1004.44	7.10		build	14:15	
1925.00	1955.00	88.83	354.62	1085.14	1086.27	-213.73	1107.10	5.96		Straight	17:09	
2074.00	2104.00	90.40	351.82	1086.14	1234.21	-231.32	1255.70	2.15		Straight	19:31	
2169.00	2199.00	88.28	348.02	1087.24	1327.71	-247.94	1350.66	4.58		Straight	02:54	26/01/2012
2270.00	2300.00	88.32	348.94	1090.23	1426.63	-268.10	1451.60	0.91	TD	TD	04:43	



A DIVISION OF ADVANCED DRILLING TECHNOLOGIES, LLC.

**LONGHORN CEMENTING CO.**

P.O. BOX 203 YUMA, COLORADO 80759  
Phone: 970-848-0799 Fax: 970-848-0798

**FIELD SERVICE TICKET  
AND INVOICE**

DATE 1-23-12 TICKET NO. 2538

DATE OF JOB	DISTRICT	NEW WELL <input type="checkbox"/>	OLD WELL <input type="checkbox"/>	PROD <input type="checkbox"/>	INJ <input type="checkbox"/>	WDW <input type="checkbox"/>	CUSTOMER ORDER NO.:
CUSTOMER	<del>RRI</del> RRI	LEASE	Davis 32-07H				WELL NO.
ADDRESS	COUNTY	STATE					
CITY	STATE	SERVICE CREW	Mike E. Robb				
AUTHORIZED BY	EQUIPMENT						
TYPE JOB: <u>Intermediate</u>		DEPTH	FT.	CEMENT DATA: BULK <input type="checkbox"/>	SAND DATA: SACKS <input type="checkbox"/>	ADMIXES	TRUCK CALLED
SIZE HOLE: <u>8 1/2</u>	DEPTH	FT.	SACKS	BRAND	TYPE	% GEL	ARRIVED AT JOB
SIZE & WT. CASTING	DEPTH	FT.					START OPERATION
SIZE & WT. D PIPE OR TUBING	DEPTH	FT.					FINISH OPERATION
TOP PLUGS	TYPE:	WEIGHT OF SLURRY: <u>14,500</u>		LBS. / GAL.		RELEASED	
		VOLUME OF SLURRY		<u>1,320</u>		MILES FROM STATION TO WELL	
<u>1298</u>	MAX DEPTH	FT.	MAX PRESSURE	PSI.			

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only these terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without written consent or an officer of Advanced Drilling Technologies, LLC.

SIGNED: \_\_\_\_\_  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM / PRICE REF. NUMBER	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
0012	Depth charge - Cement - <del>Altope</del> Murrage				2000 <sup>00</sup>
	Cement		200	3.95	790 <sup>00</sup>
			80	17.50	1400 <sup>00</sup>
300-12	7" Centralizers	9			337.50
	Freshwater				10 BBIS
	Cement				18.8 BBIS
	Displacement				53.8 BBIS
	Sumped plug(s)				50000PSI

ACID DATA:			
	GALLONS	%	ADDITIVES
HCL			
HCL			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
<b>TOTAL</b>		<b>4527.50</b>

SERVICE REPRESENTATIVE: \_\_\_\_\_ THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: \_\_\_\_\_  
FIELD SERVICE ORDER NO. \_\_\_\_\_ (WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)