



Shale Energy International, LLC,
Zuber No.2
Hawkins Field
Wood County, TX

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SIDEWALL CORE ANALYSIS

SHOT NO.	REC (in)	CQI	DEPTH (ft)	Kair (mD)*	POR (%)	Sco (%)	Stw (%)	PROB PROD	Ob (%)	Gb (%)	GAS DET	Sciw (%)	°API	LITHOLOGY	FLU
90	1.0	A3	4573.0	500.0	28.4	10.9	52.3	Oil	3.1	10.4	26	38	24	Sd f-mg sshy slty	ft brz
85	0.5	C2	4582.0	150.0	25.6	7.0	54.7	Oil	1.8	9.8	4	46		Sd fg shy sslty	ft brz
84	0.8	B3	4583.0	1200.0	30.1	11.7	54.7	Oil	3.5	10.1	128	35		Sd fg sshy sslty	ft brz
80	1.0	A3	4596.0	50.0	23.0	2.1	64.0	Gas	0.5	7.8	14	62		Sd vfg shy slty scalc	ft
79	1.2	A4	4597.0	9.5	19.5	2.8	76.1	(6)	0.5	4.1	4	65		Sd vf-fg vshy slty scalc	ft
78	1.0	A3	4598.0	9.7	19.8	3.6	43.7	(6)	0.7	10.4	1	65		Sd vf-fg vshy slty scalc	ft
77	1.1	A4	4599.0	130.0	25.2	3.6	57.5	Gas	0.9	9.8	10	55		Sd vf-fg sshy slty scalc	stk ft brz
76	1.1	A4	4600.0	100.0	24.9	2.6	54.2	Gas	0.7	10.8	33	56		Sd fg shy slty scalc	ft brz
75	1.2	A4	4601.0	350.0	27.1	3.6	62.4	Gas	1.0	9.2	5	47		Sd f-vfg sshy sslty scalc	ft
74	1.2	A4	4602.0	300.0	27.0	2.8	55.9	Gas	0.8	11.2	15	48		Sd vfg sshy slty scalc	ft
73	1.0	A3	4603.0	9.5	19.8	1.8	92.0	(6)	0.3	1.2	31	65		Sd vf-fg vshy slty vsalc	ft brz
72	1.0	A3	4604.0	9.1	19.4	7.1	71.9	(6)	1.4	4.1	36	65		Sd vfg vshy slty scalc	ft
71	0.5	C2	4605.0	50.0	22.7	2.3	67.3	Gas	0.5	6.9	15	60		Sd vfg shy slty scalc	ft brz
61	1.0	A3	4640.0	50.0	23.1	1.3	75.9	Gas	0.3	5.3	1	62		Sd vfg shy slty calc	ft
57	1.0	A3	4660.0	70.0	23.7	13.9	50.3	Oil	3.3	8.5	7	52	29	Sd vf-fg shy slty scalc	brz
56	1.0	A3	4661.0	300.0	27.2	5.5	32.1	Oil	1.5	17.0	8	41		Sd fg sshy slty scem	stk ft brz
55	1.0	A3	4662.0	65.0	23.8	4.1	33.6	Oil	1.0	14.8	0	53		Sd vf-fg shy slty calc	ft
54	1.1	A4	4676.0	45.0	22.7	12.1	59.0	Oil	2.8	6.5	5	55		Sd fg shy slty calc	ft
34	1.1	A4	4839.0	130.0	26.0	5.3	61.6	Oil	1.4	8.6	6	49		Sd fg shy slty	brz
32	1.2	A4	4841.0	100.0	25.0	8.1	66.7	Oil	2.0	6.3	7	49	33	Sd fg shy slty	brz
31	1.0	A3	4842.0	90.0	24.8	9.4	58.5	Oil	2.3	8.0	3	50	29	Sd fg shy slty	brz
30	1.1	A4	4843.0	80.0	24.1	9.9	60.6	Oil	2.4	7.1	13	52	33	Sd fg shy slty	brz
29	1.0	A3	4844.0	300.0	27.3	5.2	65.3	Oil	1.4	8.1	4	41		Sd f-mg shy sslty	ft brz
27	1.0	A3	4846.0	50.0	23.2	3.9	65.3	Oil	0.9	7.2	2	55		Sd f-mg shy slty	brz
24	1.1	A4	4849.0	40.0	23.1	4.7	68.6	Oil	1.1	6.2	2	57		Sd f-vfg shy slty	brz

• (6) denotes low permeability.



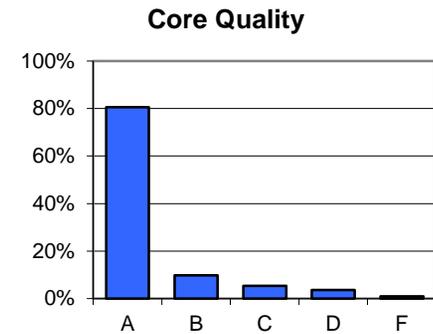
SIDEWALL CORE ANALYSIS - CORE QUALITY INDEX

RECOVERY EFFICIENCY

Total cores attempted = 120
 Total cores recovered = 113
 Recovery Efficiency = 94%

CORE QUALITY

A	Excellent	91	81%
B	Good	11	10%
C	Fair	6	5%
D	Poor	4	4%
F	Muddy/Insufficient	1	1%

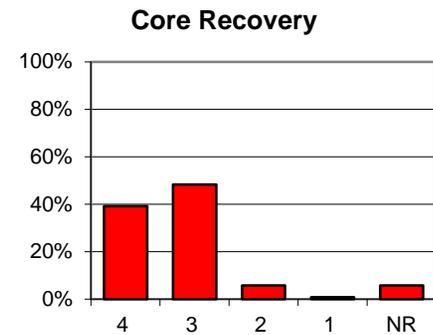


CORE BULLET INFO

Bullet diameter:
 Bullet type:
 Retaining wire length:
 Retaining wire type:
 Charge:

CORE RECOVERY SIZE

4	Full recovery (> 1")	47	39%
3	Good recovery (>0.5" - 1")	58	48%
2	Fair recovery (0.25" - .5")	7	6%
1	Poor recovery (<0.25")	1	1%
NR	No recovery	7	6%



Note: Core Quality Index (CQI) is a visual rescription of core grain recovery based upon two measures:
 1) Core quality - Affected by mud invasion, shattering of grains, ability to use core for additional tests.
 2) Core recovery size - Amount of core recovered.



DESCRIPTION CODE KEY AND ABBREVIATIONS

<u>LITHOLOGY</u>		<u>FLUORESCENCE</u>		<u>INTENSITY</u>	
Anhy	Anhydrite	ev	even	bt	bright
Cgl	Conglomerate	stk	streaks(ed)	ft	faint
Dol	Dolomite	spt	spots(ed)	dl	dull
Glauc	Glauconite	mott	mottled	vft	very faint
H	Halite				
Lig	Lignite	<u>COLOR</u>		<u>MODIFIERS</u>	
Ls	Limestone	b	blue	u	unconsolidated
Pyr	Pyrite	b-w	blue-white	vs	very slightly
Sd	Sand	bz	bronze	s	slightly
Sh	Shale	gld	gold	m	moderately
Slt	Silt	w	white	mw	moderately well
Sf	Shell Fragments	y	yellow	v	very
				w	well
<u>GRAIN SIZE</u>		<u>OTHER</u>			
vfg	very fine grain	calc	calcareous	ha	high angle
fg	fine grain	cln	clean	hd	hard
mg	medium grain	carb	carbonaceous	lam	laminated(ion)
cg	coarse grain	cem	cementation	mic	micaceous
		con	consolidated	ms	mudshot
		dns	dense	shy	shaley
		flu	fluorescence	slty	silty
		foss	fossiliferous	tr	trace
		frc	fractured(s)	vug	vuggy
		fl	flushed	vt	vertical
<u>PRODUCTION CODES</u>		<u>OTHER ABBREVIATIONS</u>			
Gas	gas	Por	porosity, %		
Oil	oil	Gb	gas saturation, % bulk volume		
Cond	condensate	Ob	oil saturation, % bulk volume		
Water	water	Sco	core oil saturation, % pore volume		
(1)	altered core	Stw	total water saturation, % pore volume		
(2)	exposed core	Sciw	critical water saturation, % pore volume		
(3)	insufficient sample	Vsh	volume of shale, % bulk volume		
(4)	contaminated core	Cs	surface area (m ² /cc)		
(5)		Mean	mean grain size, microns		
(6)	low permeability				
<u>FOOTNOTES</u>					
*	permeability values determined empirically				
**	Sciw values after Granberry, R.J. and Keelan, D.K., 1977				
***	samples interpreted without knowledge of depth or intervals				

INTERLAMsm THIN BED SAMPLE DESCRIPTION

TYPE 1	TYPE 2
SHALE LAMINATIONS < 1 mm	SHALE LAMINATIONS 1-5 mm
TYPE 3	TYPE 4
SHALE LAMINATIONS 5-10 mm	SHALE LAMINATIONS > 10 mm