

Table 1: I/I_{cor} for iron phase mixture		
Phase	I_{max}	I/I_{cor}, calculated
Fe	5.750E+05	1592.3
Fe ₇ C ₃	1220.	3.378
Fe ₃ C ₂	105.7	0.293
Fe ₃ O ₄	5.1458E+04	142.50
Fe ₂ O ₃	919.1	2.544

Table 2: d-spacings, angles, and relative intensities in the Wax XRD							
d-spacing, Å	2.986	2.569	2.545	2.485	2.108	1.613	1.444
2θ Angle, °	29.9	34.9	35.24	36.12	42.86	57.04	64.46
% Intensity, extracted	79.96	45.76	48.79	100	98.39	30.18	24.74
% Intensity, stripped	62.58	42.31	42.99	66.87	100	25.84	19.11

TABLE 3: Process Changes with corresponding % Conversion		
TOS, hrs	SA-0946: Change	% conversion
0	Sample; T = 260°C; P = 200 PSIG; H ₂ /CO = 0.67; SV = 2.34 NI/g-cat/h	36.1 (2h)
113	Sample	76.6 (112h)
133	SV=1.8 NI/g-cat/h	76.0 (131h)
229	Sample	80.2 (228h)
231	P = 300 PSIG; SV = 2.64 NI/g-cat/h	76.4 (235h)
354	Sample	81.1 (351h)
427	Sample	81.0 (426h)
443	H ₂ /CO = 0.6; SV = 2.0 NI/g-cat/h	81.5 (442h)
563	Sample	81.9 (561)
TOS, hrs	SB-3425: Change	% Conversion
0	Sample; H ₂ /CO = 0.67; T = 260°C; SV = 2.34 NI/g-cat/h; P = 200 PSIG	75.8 (1.5h)
111	Sample	70.8 (110h)
159	SV = 1.80 NI/g-cat/h	70.2 (157h)
233	Sample	73.5 (230h)
278.5	Power out	71.8 (276h)
279	T = 200°C	---
282	T = 260°C	70.0 (287h)
311	H ₂ /CO = 0.6	69.8 (310h)
330	Sample	65.1 (329h)
330	SV = 1.0 NI/g-cat/h	81.7 (340h)
355	T = 266°C	80.0 (353h)
384	Sample	80.1 (383h)

Table 4: Estimated wt % of iron phases in SB-3425, Slurry samples				
TOS, hrs	α-Fe	ϵ'-carbide	χ-carbide	magnetite
0	100	0	0	0
111	0.02 (QRSR) 0.03 (I_{cor})	99.98 (QRSR) 99.98 (I_{cor})	0	0
233	3.09	96.91	0	0
233 (SPI)	1.76	89.50	---	8.74
330	0.42	14.44	85.98	0
384	.004	2.47	97.52	0

SB-3425, Slurry samples: Particle sizes, nm				
TOS, hrs	α-Fe	ϵ'-carbide	χ-carbide	magnetite
0	13.54		---	---
111	37.88	5.27	---	---
233	30.50	47.12	---	---
233 (SP1)	17.54	23.32	---	33.42
330	37.88	5.27	7.63	---
384	37.22	4.49	14.78	---

Table 5: Estimated wt % of iron phases in SA-0946, slurry samples				
TOS, hrs	α-Fe	ϵ'-carbide	χ-carbide	magnetite
0	0.00	13.41	86.38	0.22
113	0.00	46.17	52.85	0.99
229	0.01	49.46	49.48	1.05
354	0.005	52.92	46.42	0.65
427	0.00	18.25	81.54	0.21
563	0.00	12.19	87.40	0.41

SA-0946, slurry samples: Particle sizes, nm				
TOS, hrs	α-Fe	ϵ'-carbide	χ-carbide	magnetite
0	---	13.67	26.92	19.27
113	---	11.38	11.58	48.195
229	52.12	11.27	7.67	44.16
354	7.10	19.44	15.75	189.36
427	---	21.60	21.88	145.86
563	---	29.49	77.34	158.19