

Entry	Value	Source	Description
Petroleum type			
Production Method	See Description	1	"Associated gas is dehydrated,compressed to a nominal pressure of 482.8 barg (7000psig) and injected into the reservoir for pressure maintenance. Reservoir pressure maintenance also require seawater injection ar nominal pressure of 5000 psig. Produced water is treated and re-injected via the sea water injection system." This suggests that more water is injected than produced. Hence we are using gas reinjection and water flooding.
Field properties			
Field location (Country)	Nigeria		
Field name	Agbami		
Field age	5 yr	2	Production started in 2008
Field depth	13000 ft	3	Varying depths of reservoirs from 10500 ft to 14500 ft. Take 13000 as a representative value
Oil production volume	233000 bbl/d	2	"233 MBOPD average rate for 2012"
Number of producing wells	22	2	
Number of water injecting wells	11	2	
Well diameter	4.5 in	4	Commonly use 9 5/8 casing. Judging from past experience, the tubing for this casing parameter is most likely to be 4.5'
Productivity index	bbl/psi-d		
Average reservoir pressure	2700 psi	3	Pressure ranges from 2400-3000 psi. (Table 1) Pick 2700 psi as a representative value
Production practices			
Gas-to-oil ratio (GOR)	1733 scf/bbl oil	6	In Dec.2013. Gas production 13224595 mscf, Oil Production 7629781 bbl. GOR=13224595e3/7629781=1733scf/bbl
Water-to-oil ratio (WOR)	0.3 bbl water/bbl oil	6	According to NNPC statistics, the Agbami deep hardly produce any water at Dec. 2013 . Use the OPGEE default of 0.3
Water injection ratio	1.3 bbl water/bbl oil		Asssume total replacement
Gas lifting injection ratio	scf/bbl liquid		
Gas flooding injection ratio	scf/bbl oil		
Steam-to-oil ratio (SOR)	bbl steam/bbl oil		
electricity generated onsite	1 [-]		This is an offshore project.
Fraction of remaining gas reinjected	0.9 [-]	6	Among the 13224595 produced, 11835222 is reinjected, and 689191 flared.(Table 6.15) Reinjection rate: 11835222/13224595=0.9
Fraction of water produced reinjected	1 [-]		
Steam via co-generation	[-]		
Processing practices			
Upgrading activity	NA		
Flaring to oil production	90 scf/bbl	6	Table(6.15)689191/13224595*1733=90scf/bbl
Venting to oil production	scf/bbl		
Fraction of diluent in diluted crude	[-]		
Fluid properties			
API gravity of produced crude	47 deg. API		From Assay
Associated gas composition	mol%		
	mol%		
	mol%		
	mol%		
	mol%		
	mol%		
Landuse	Low carbon richness(offshore). Only one platform so low intensity.		
Transport	6940 miles by sea to Houston.		

Source:

- (1)Haughie, I. J., & Duncan, L. (2006, January 1). Risk Based Design - A Comparison of the Agbami and Captain FPSOs. Society of Petroleum Engineers.
- (2) Odusote, F. (2013, August 5). Deepwater Nigeria Field Development: Challenges, Best Practices and Lessons Learned from the Agbami Field. Society of
- (3) Rhodes, M. E., Odusote, F., Hanschitz, M., & Aigbe, C. (2012, January 1). Modeling Miscible Gas Injection in the Agbami Field. Society of Petroleum
- (4)Hollister, H. D., & Spokes, J. J. (2004, January 1). The Agbami Project: A World Class Deepwater Development. Offshore Technology Conference.
- (6) Nigerian national petroleum company, CORPORATE PLANNING & STRATEGY (CP&S) DECEMBER 2013 PETROLEUM INFORMATION.