Oil Resource Assets Assessment Report of Chad DOA

Beijing UltraDo Resources Techbology Inc.

November 2023

Report outline

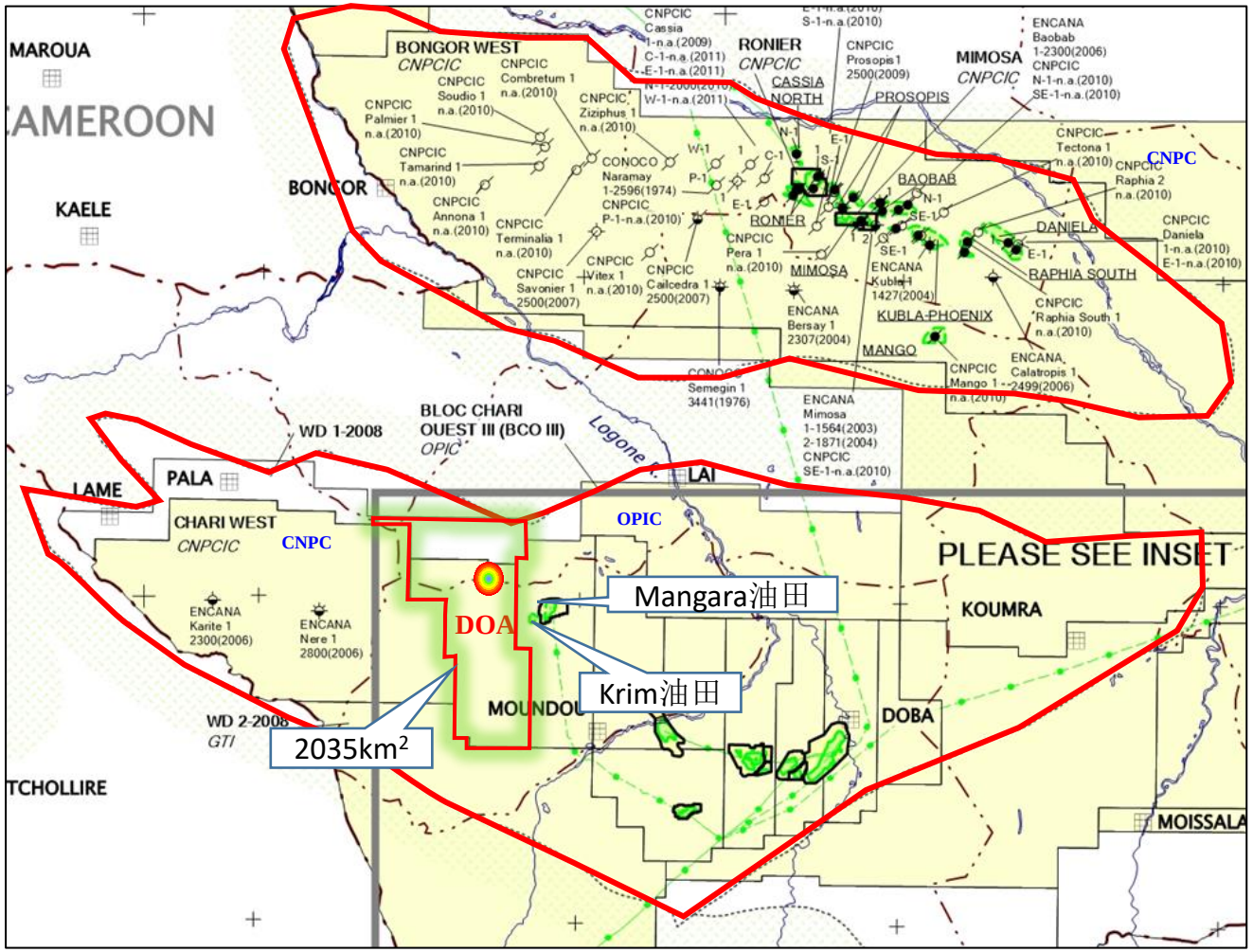
I. Geological overview

II. The drilling condition of SE-1 well

III. Oil resource assets assessment

I.Geological overview

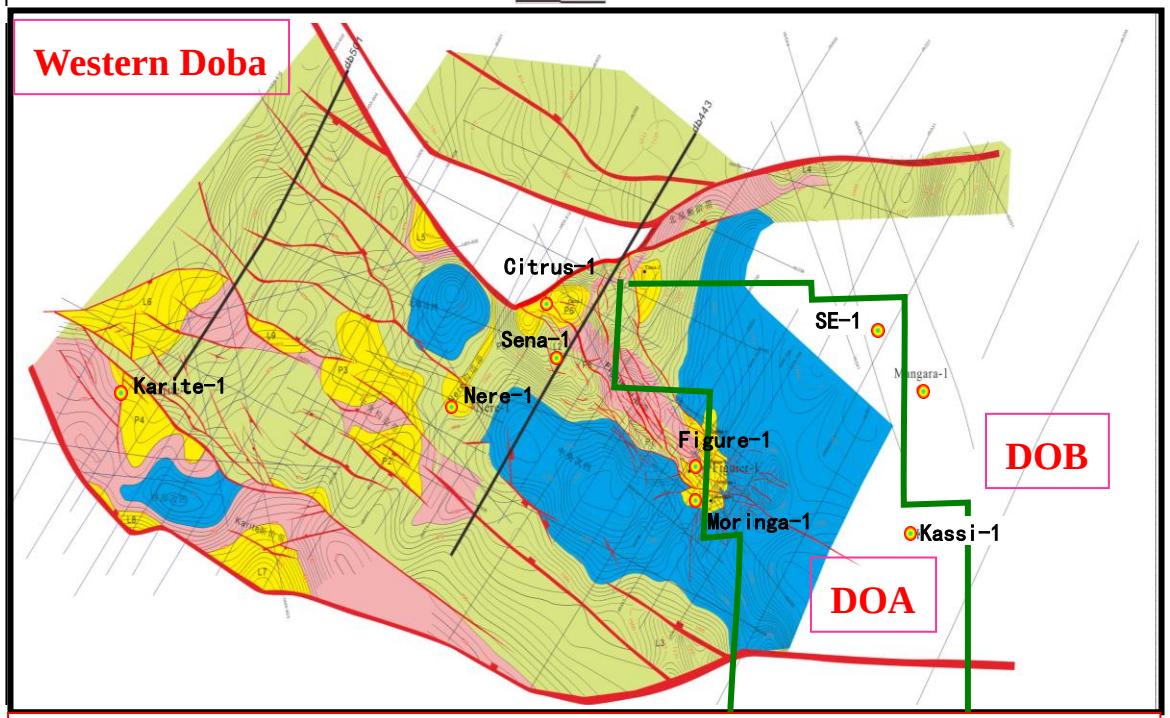
- DOA block in Chad is located in the west of Doba Basin in the Central African shear zone, adjacent to Mangara and Krim oil fields in the east, with an area of about 2035km^2.



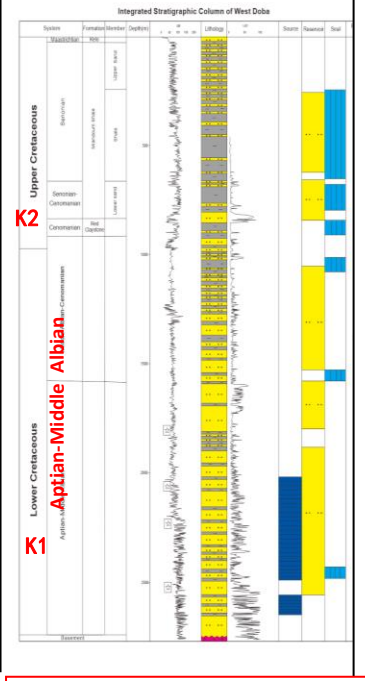
I.Geological overview

- Successful Wells in Mangara Oilfield in the east of DOA Block and CNPC Chari west Block in the west; High quality source rocks were found in the lower Cretaceous in well Kassi-1, south of DOA block, showing that the area has good exploration potential.
- The target strata of DOA block are the Lower Cretaceous C, D and E groups. The working area is covered by 2D survey with a measuring network of 1*1-4*8km. Kassi-1 is an old well , SE-1 is newly drilled by JIA HE International Petroleum and Natural Gaz CHAD Co. in 2023.

Exploration status and deployment map of Western Doba Basin, Block H, Chad



Stratigraphic composite column map of Western Doba Basin



Jiahe DOA block survey line and drilling distribution map

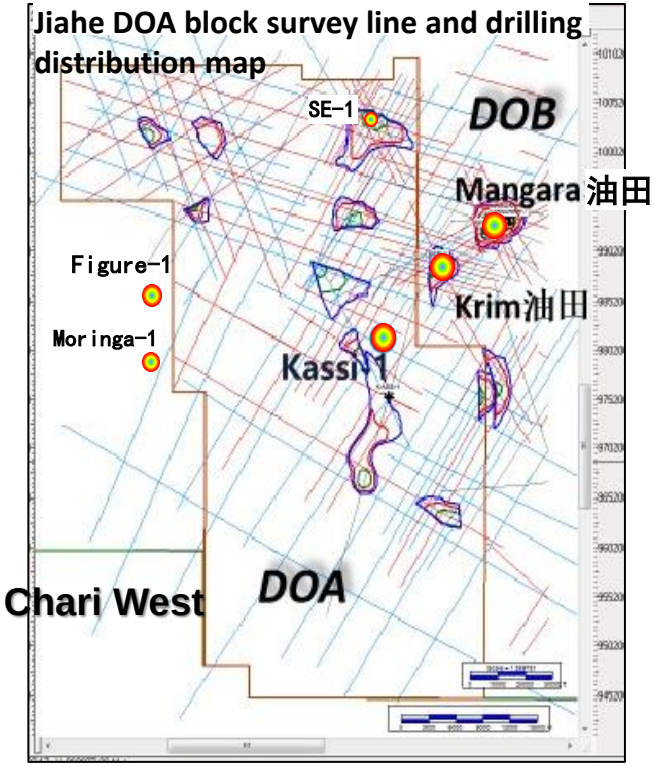
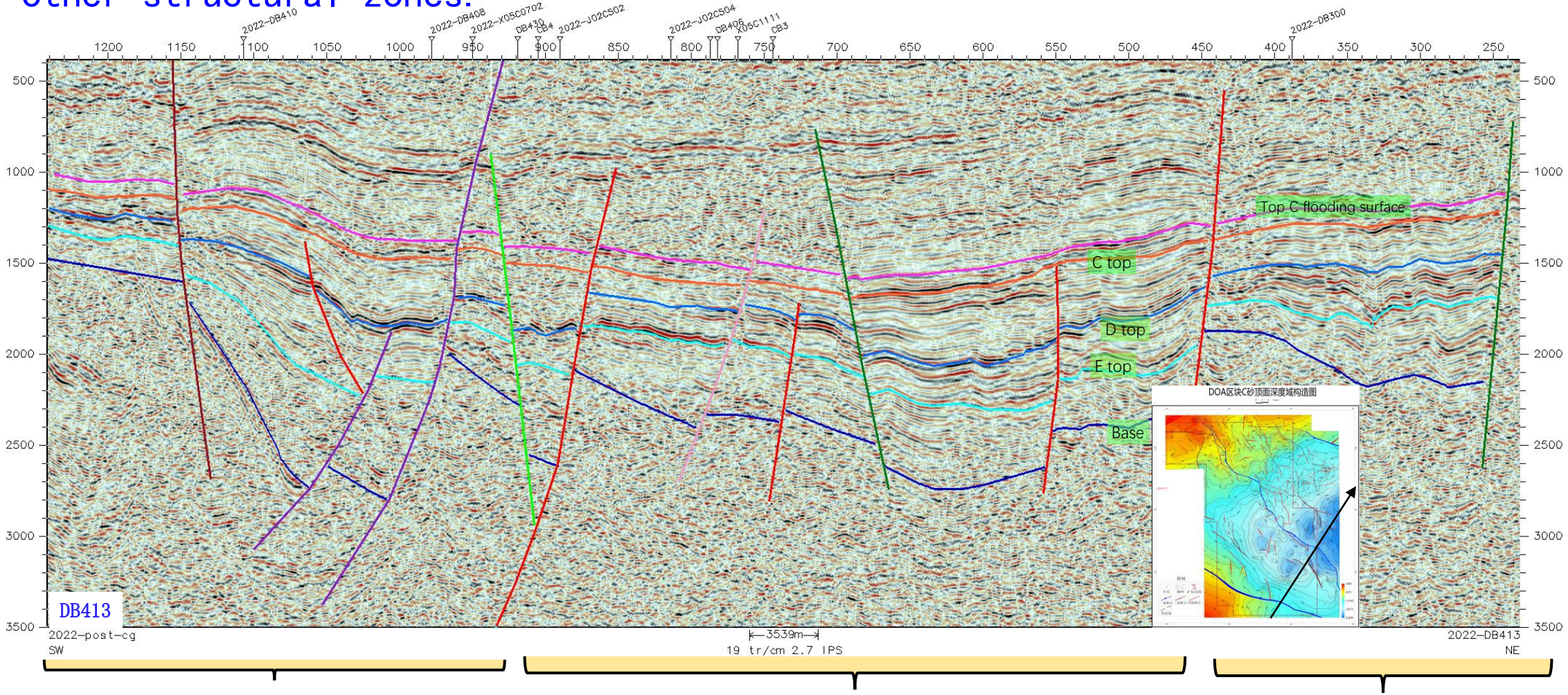


Figure-1: oil test 18.9m^3/day, gas 54085m^3/day
Moringa-1 well: Interpreted 4 m /1 layer of oil, 33.9 m /19 layer of gas, and 13.8 m /3 layer of possible oil and gas
Citrus-1 well: Logging Fair show level 104 m /81 layer, gas anomaly 41 layer

(1) Mangara Oilfield M-2 well: Group C peaked at 114 tons per day;M-5 well: Group E peak production of 271 tons, Group C 457 tons;
(2) Krim Oilfield KRIM-1 : Group E peak daily production of 368 tons, Group C peak daily production of 210 tons, group D peak daily production of 100 tons;

I.Geological overview

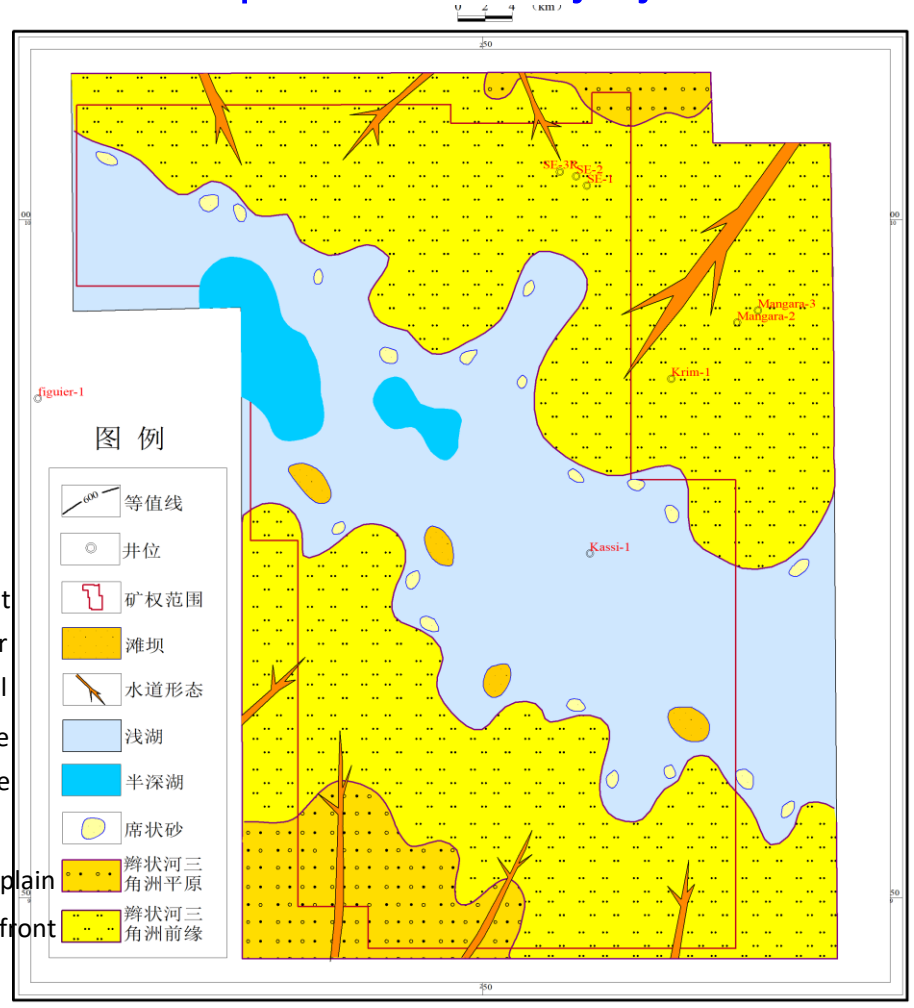
➢The DOA block had many faults and could be divided into depression zone, slope zone and other structural zones.



I.Geological overview

➢The C sand had the characteristics of north and south sources and developed a braided river delta sedimentary system, which could be further divided into two sub-facies: braided river delta plain and braided river delta front. The lake facies as a whole was distributed in a NW direction, the beach bar sub-facies was developed on the gentle slope of the lake basin, and sheet sand was developed in front of the braided river delta front.

Distribution map of sedimentary system of C sand



Mining right

Beach bar

Water channel

Shallow lake

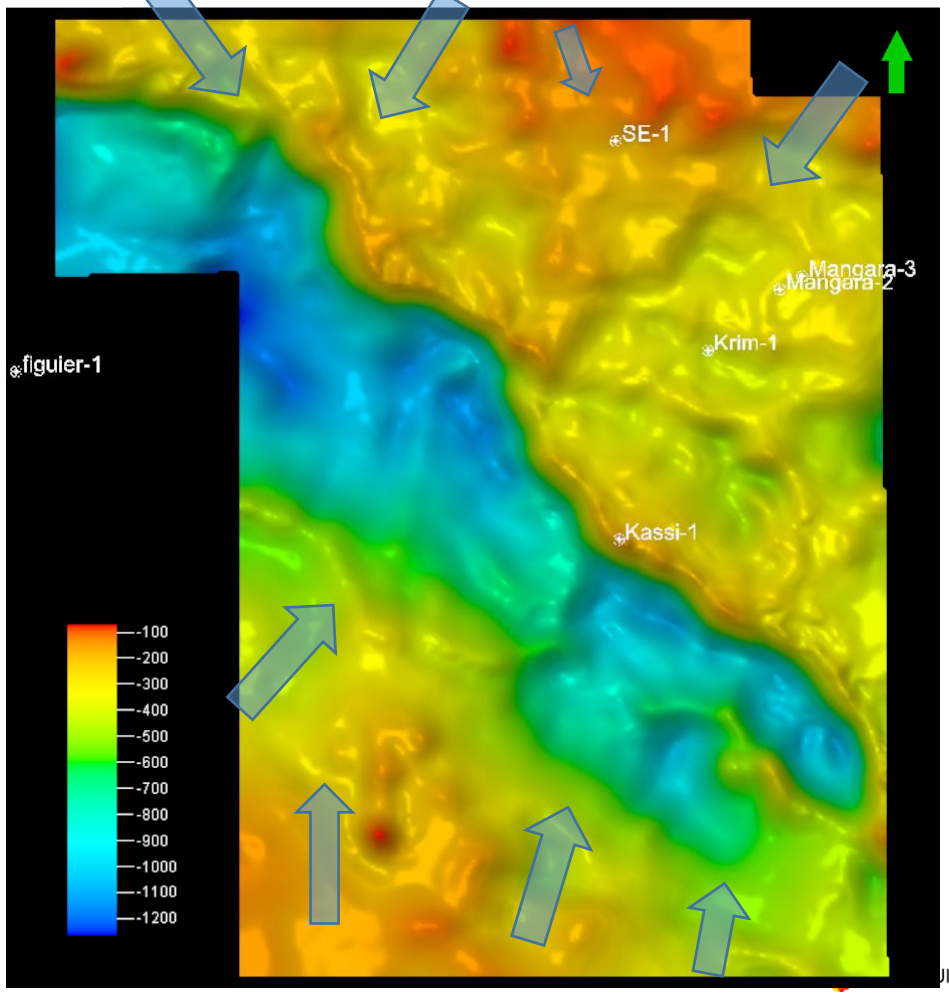
Bathyal lake

Sheet sand

Braided river delta plain

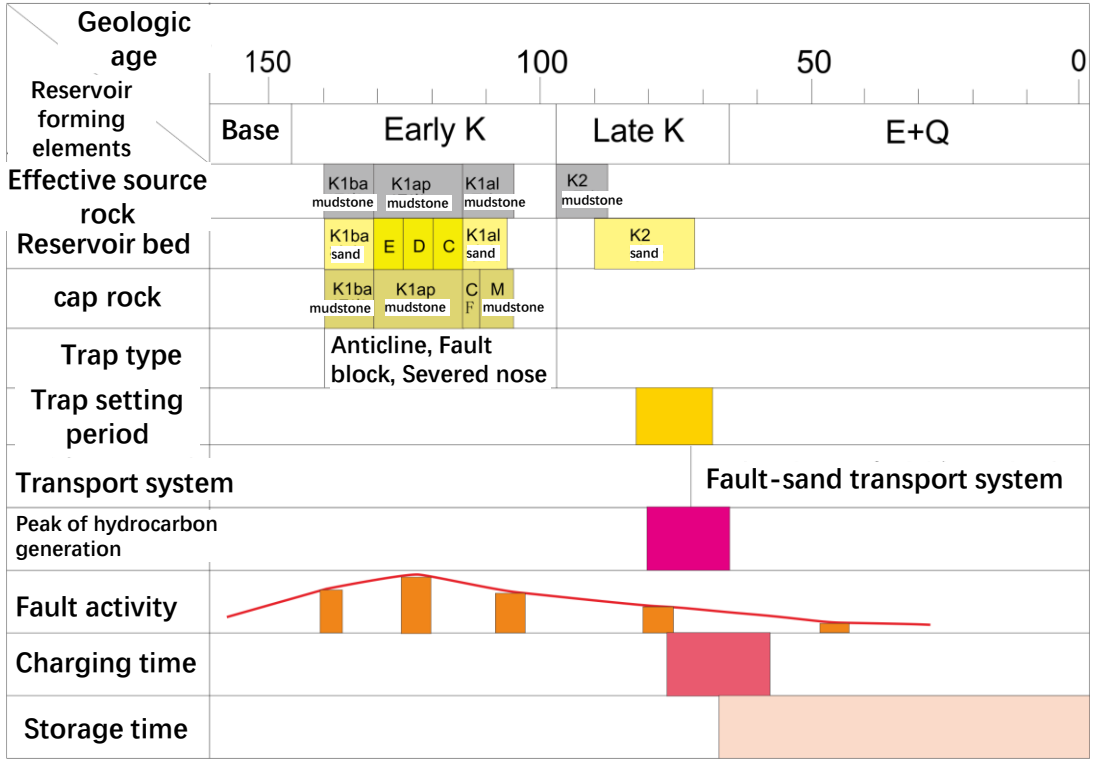
Braided river delta front

Sedimentary paleolandform map of C sand

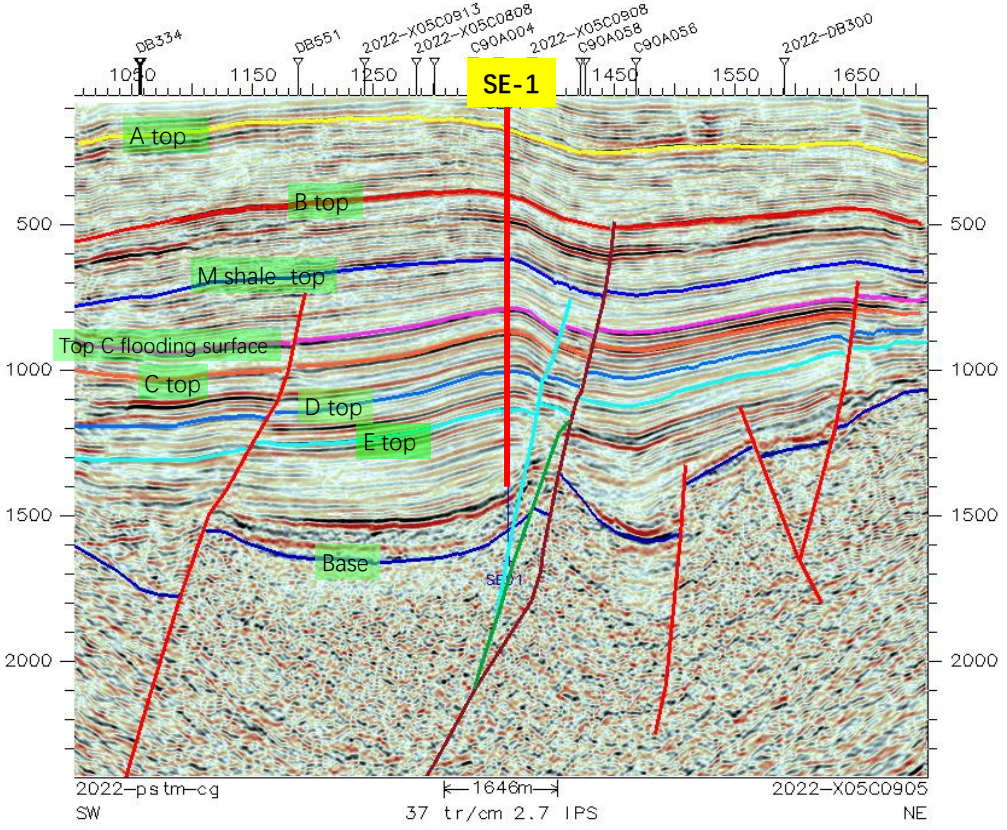


I.Geological overview

➢Many traps were formed due to fault development, positive structures were formed due to extrusion, and multiple sets of source rocks and reservoirs were developed. The regional cover layer thickness was up to 300m, and the stable uplift oil and gas reservoirs in the late period were well preserved. DOA block had superior reservoir formation conditions similar to those in Bongor basins.



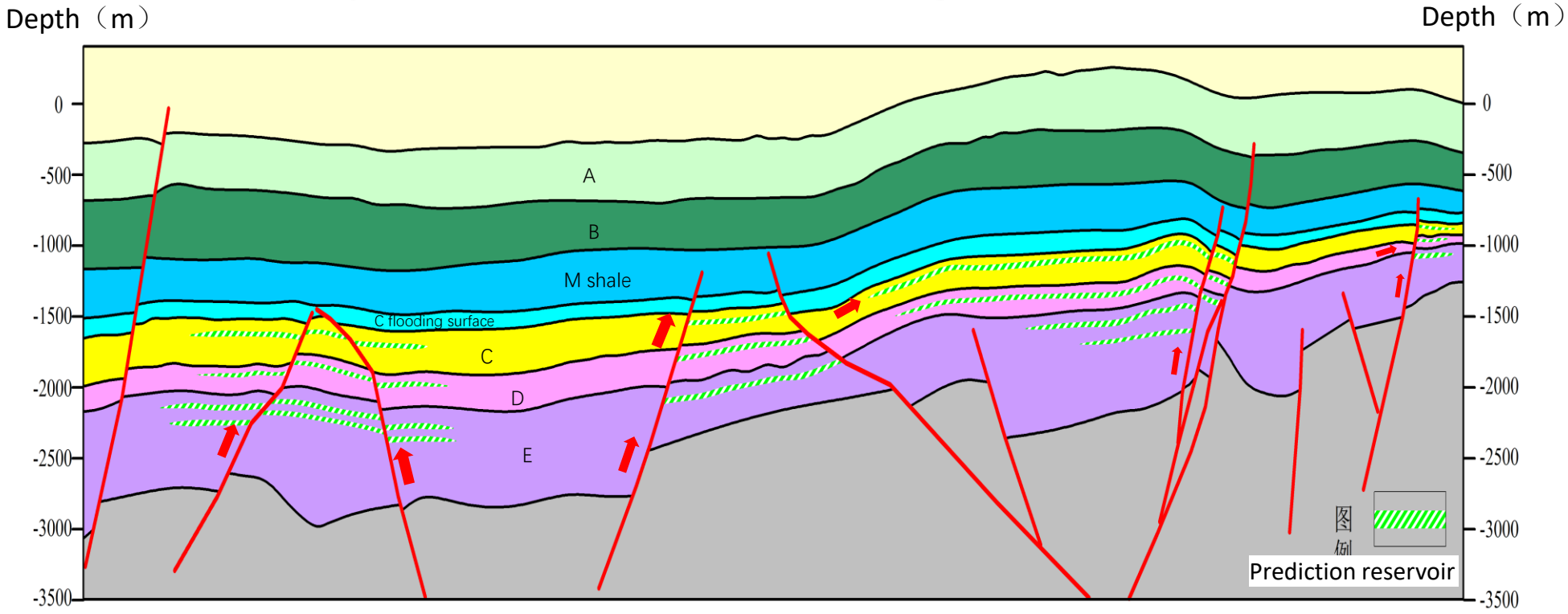
Event map of petroliferous system in DOA block basin



I.Geological overview

➢The oil and gas generated in the Lower Cretaceous E, D and C groups accumulated in the trap formed by the delta sandstone reservoirs in the C, D and E groups along the vertical fault and the transversal transport system composed of sand bodies. Due to the thick mudstone overlying the reservoir, the oil and gas could be preserved in spite of regional uplift and denudation.

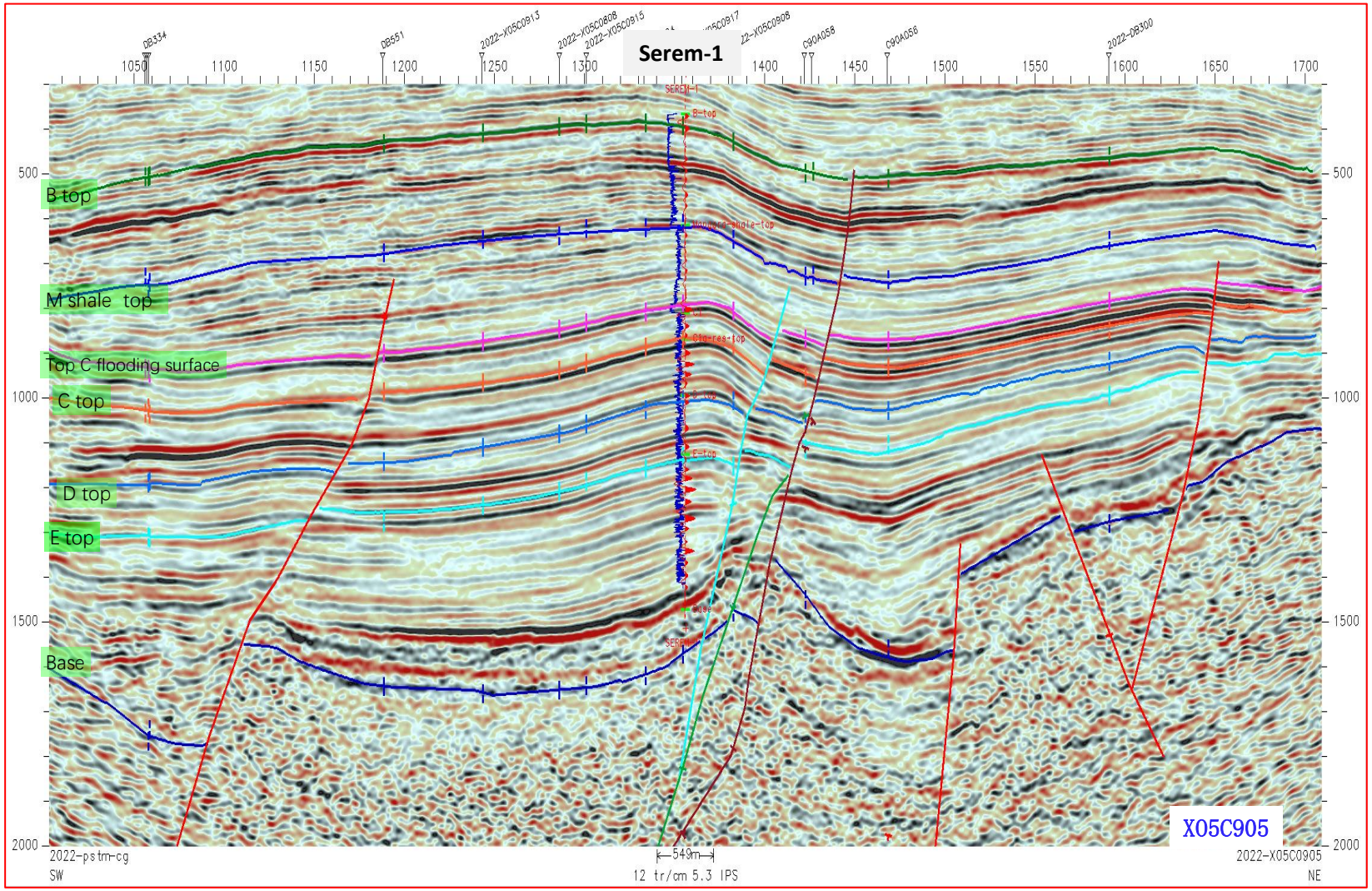
Hydrocarbon accumulation model diagram of DOA block



Crude oil properties: According to Glanco Company, Mangara field and Krim field crude oil viscosity of 34-39 degrees API, belongs to low viscosity crude oil; The gas-oil ratio (GOR) of 100-700 SCF/bbl(20-140m^3/t) is a conventional reservoir

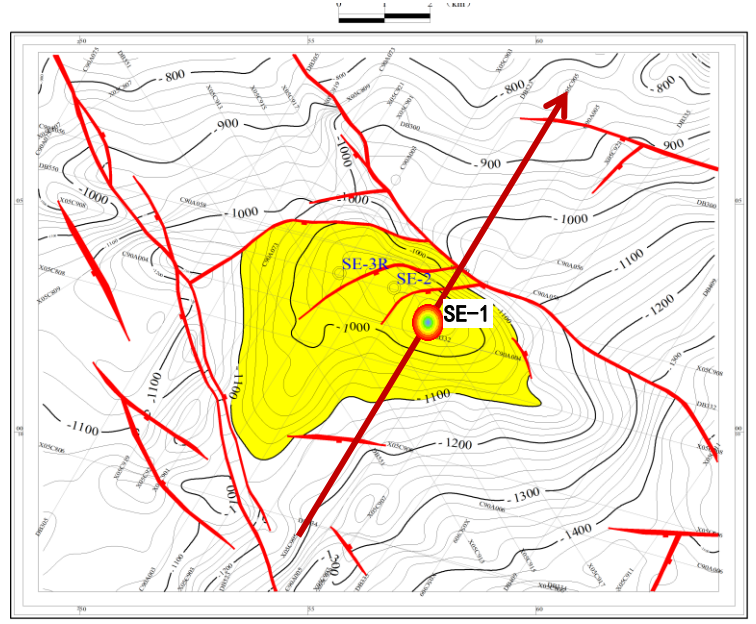
II. The drilling condition of SE-1 well

➢SE-1 was deployed in the northeastern anticlinal structure of DOA block, and groups C, D and E were all anticlinal structures.



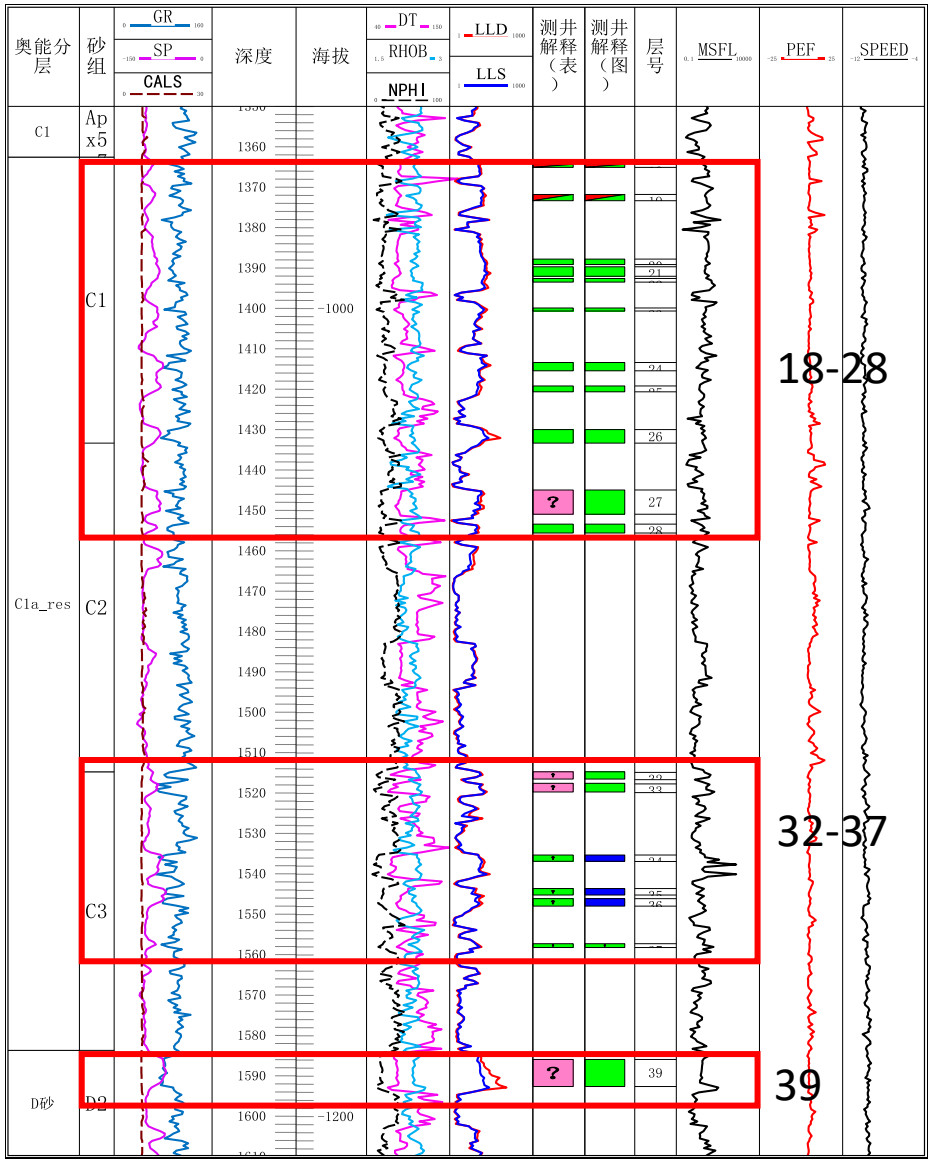
Seismic profile of well Serem-1 -2022-X05C0905

Trap distribution map of C Sand top



II. The drilling condition of SE-1 well

➢Well SE-1 has 9 interpreted oil layers with a net thickness of 19.2m.



Log interpretation statistics table

NO	Start Depth (m)	End Depth (m)	Reservoir Thickness (m)	Net Pay Thickness (m)	GR (API)	RHOB (g/cc)	NPHI (%)	DT (us/ft)	LLD (ohmm)	LLS (ohmm)	MSFL (ohmm)	PERM (MD)	POR (v/v)	SW (v/v)	VSH (v/v)	result
18	1364.33	1365.1	0.77	0.61	92.08	2.33	15.17	84.96	11.82	10.23	3.58	46.25	0.1446	0.4848	0.0179	Gas and oil
19	1371.8	1373.33	1.53	1.53	100.33	2.31	13.61	83.87	18.25	15.08	6.39	106.46	0.1633	0.4502	0.0475	Gas and oil
20	1387.8	1389.18	1.38	1.3	95.08	2.32	18.99	81.07	20.09	17.21	6.47	59.18	0.1519	0.4525	0.336	oil
21	1389.71	1392.07	2.36	2.36	93.74	2.31	19.19	83.45	22.7	18.87	5.53	77.09	0.1618	0.4006	0.3127	oil
22	1392.6	1393.52	0.92	0.91	87.06	2.34	15.27	75.32	18.98	14.94	11.15	71.23	0.1592	0.4367	0.1798	oil
23	1399.92	1400.68	0.76	0.76	86.57	2.34	15.75	79.76	19.36	15.42	5.13	68.5	0.1558	0.4569	0.1756	oil
24	1413.41	1415.46	2.05	1.98	87.31	2.26	21.61	89.02	20.67	15.83	2.45	250.88	0.2087	0.3395	0.1852	oil
25	1419.21	1420.67	1.46	1.07	100.34	2.28	21.21	87.63	13.44	10.31	2.53	150.49	0.1902	0.4348	0.1194	oil
26	1430.02	1433.37	3.35	3.28	88.24	2.33	17.9	81.54	34.03	18	5.17	80.48	0.1611	0.3948	0.2419	oil
27	1444.95	1450.97	6.02	5.87	98.8	2.34	17.7	83.85	13.73	10.82	4.22	97.4	0.1636	0.455	0.1174	oil
28	1453.41	1455.62	2.21	1.68	88.34	2.32	18.05	84.84	11.02	9.23	3.67	124.98	0.1818	0.4729	0.0531	oil
32	1514.75	1516.51	1.76	1.06	86.19	2.42	15.05	76.88	14.19	12.53	7.12	17.61	0.1166	0.5375	0.2237	Prob.Oil
33	1517.57	1519.71	2.14	2.06	75.74	2.44	13.44	75.96	15.07	13.63	14.77	18.25	0.117	0.5402	0.111	Prob.Oil
34	1535.33	1536.93	1.6	1.37	75.25	2.43	12.44	75.27	13.46	12.13	15.76	22.59	0.1229	0.5691	0.1214	Poss.Oil
35	1543.63	1545.23	1.6	1.45	83.15	2.3	20.56	92.75	8.53	6.88	2.36	157.85	0.1913	0.4926	0.2294	Poss.Oil
36	1546.15	1547.98	1.83	1.83	82.2	2.36	15.93	82.42	12.89	9.67	4.46	67.95	0.155	0.5006	0.2158	Poss.Oil
37	1557.27	1558.26	0.99	0.92	78.52	2.28	16.67	83.44	12.01	10.31	7.12	151.93	0.189	0.4713	0.0508	Poss.Oil
39	1585.92	1592.63	6.71	6.32	80.37	2.35	17.33	80.59	33.64	13.85	3.75	47.28	0.1452	0.487	0.1208	Prob.Oil

II. The drilling condition of SE-1 well

Log interpretation statistics table

NO	Start Depth (m)	End Depth (m)	Reservoir Thickness (m)	Net Pay Thickness (m)	GR (API)	RHOB (g/cc)	NPHI (%)	DT (us/ft)	LLD (ohmm)	LLS (ohmm)	MSFL (ohmm)	PERM (MD)	POR (v/v)	SW (v/v)	VSH (v/v)	result
18	1364.33	1365.1	0.77	0.61	92.08	2.33	15.17	84.96	11.82	10.23	3.58	46.25	0.1446	0.4848	0.0179	Gas and oil
19	1371.8	1373.33	1.53	1.53	100.33	2.31	13.61	83.87	18.25	15.08	6.39	106.46	0.1633	0.4502	0.0475	Gas and oil
20	1387.8	1389.18	1.38	1.3	95.08	2.32	18.99	81.07	20.09	17.21	6.47	59.18	0.1519	0.4525	0.336	oil
21	1389.71	1392.07	2.36	2.36	93.74	2.31	19.19	83.45	22.7	18.87	5.53	77.09	0.1618	0.4006	0.3127	oil
22	1392.6	1393.52	0.92	0.91	87.06	2.34	15.27	75.32	18.98	14.94	11.15	71.23	0.1592	0.4367	0.1798	oil
23	1399.92	1400.68	0.76	0.76	86.57	2.34	15.75	79.76	19.36	15.42	5.13	68.5	0.1558	0.4569	0.1756	oil
24	1413.41	1415.46	2.05	1.98	87.31	2.26	21.61	89.02	20.67	15.83	2.45	250.88	0.2087	0.3395	0.1852	oil
25	1419.21	1420.67	1.46	1.07	100.34	2.28	21.21	87.63	13.44	10.31	2.53	150.49	0.1902	0.4348	0.1194	oil
26	1430.02	1433.37	3.35	3.28	88.24	2.33	17.9	81.54	34.03	18	5.17	80.48	0.1611	0.3948	0.2419	oil
27	1444.95	1450.97	6.02	5.87	98.8	2.34	17.7	83.85	13.73	10.82	4.22	97.4	0.1636	0.455	0.1174	oil
28	1453.41	1455.62	2.21	1.68	88.34	2.32	18.05	84.84	11.02	9.23	3.67	124.98	0.1818	0.4729	0.0531	oil
32	1514.75	1516.51	1.76	1.06	86.19	2.42	15.05	76.88	14.19	12.53	7.12	17.61	0.1166	0.5375	0.2237	Prob.Oil
33	1517.57	1519.71	2.14	2.06	75.74	2.44	13.44	75.96	15.07	13.63	14.77	18.25	0.117	0.5402	0.111	Prob.Oil
34	1535.33	1536.93	1.6	1.37	75.25	2.43	12.44	75.27	13.46	12.13	15.76	22.59	0.1229	0.5691	0.1214	Poss.Oil
35	1543.63	1545.23	1.6	1.45	83.15	2.3	20.56	92.75	8.53	6.88	2.36	157.85	0.1913	0.4926	0.2294	Poss.Oil
36	1546.15	1547.98	1.83	1.83	82.2	2.36	15.93	82.42	12.89	9.67	4.46	67.95	0.155	0.5006	0.2158	Poss.Oil
37	1557.27	1558.26	0.99	0.92	78.52	2.28	16.67	83.44	12.01	10.31	7.12	151.93	0.189	0.4713	0.0508	Poss.Oil
39	1585.92	1592.63	6.71	6.32	80.37	2.35	17.33	80.59	33.64	13.85	3.75	47.28	0.1452	0.487	0.1208	Prob.Oil

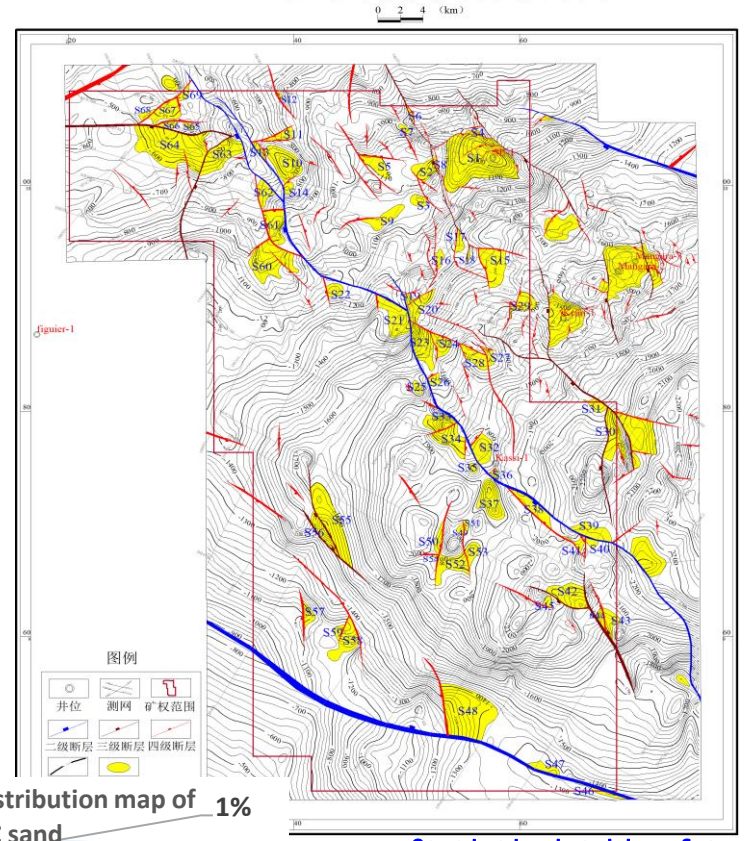
Average thickness statistics table

Type	layer	Reservoir	Net Pay	Monolayer average (m)
Gas and oil	2	2.3	2.14	1.1
oil	9	20.51	19.21	2.1
Prob.Oil	3	16.63	15.01	5.0
Poss.Oil	4	6.02	5.57	1.4

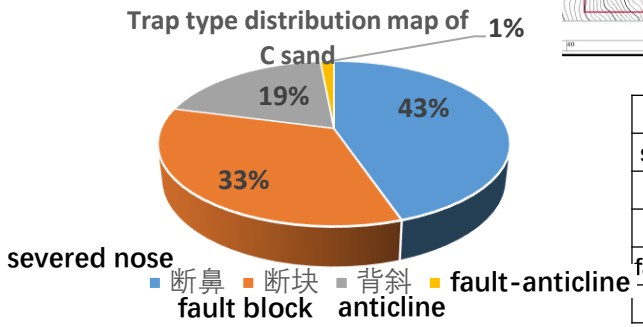
III. Oil resource assets assessment

➢There are a total of 69 traps on the top surface of C sand, mainly fault block and broken nose traps, with a total trap area of220.3km^2.

Trap distribution of C sand top surface



Trap type distribution map of C sand



Statistical table of trap types

Trap type	Number	Percent%
severed nose	30	44%
fault block	25	36%
anticline	13	19%
fault-anticline	1	1%
Total	69	

Table of trap elements

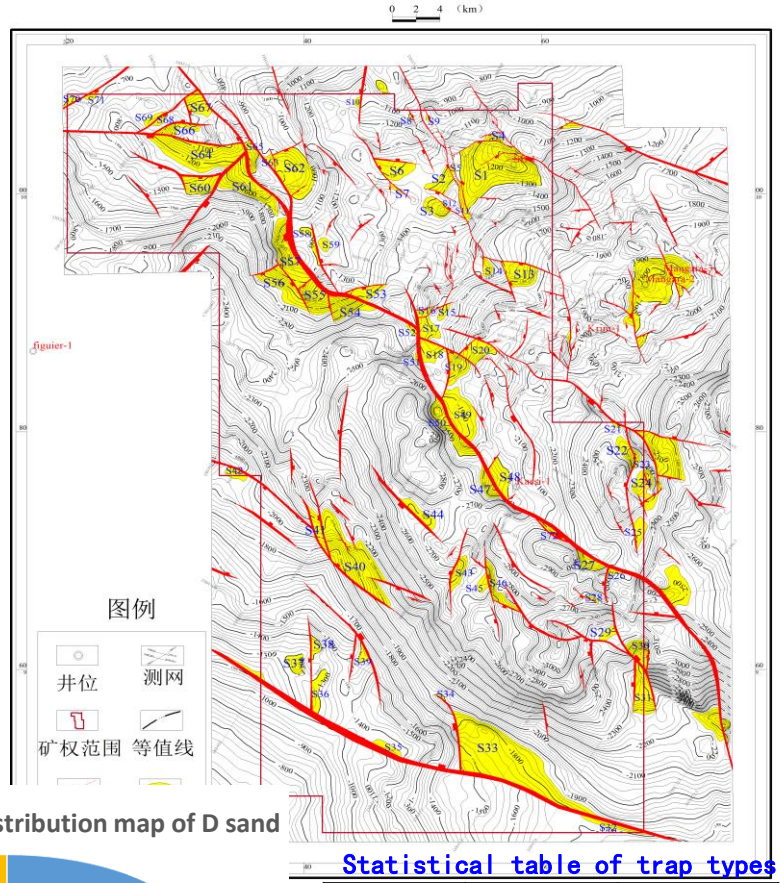
Trap name	High point of trap (m)	Closed line (m)	trap amplitude(m)	area (km^2)	type
S1	-920	-1100	180	22.7	fault-anticline
S2	-1050	-1120	70	2.8	severed nose
S3	-1020	-1040	20	1.3	anticline
S4	-940	-980	40	0.5	severed nose
S5	-1080	-1100	20	2.7	fault block
S6	-840	-870	30	0.4	fault block
S7	-960	-980	20	0.6	anticline
S8	-1040	-1080	40	0.3	severed nose
S9	-1020	-1040	20	3.2	severed nose
S10	-660	-740	80	6.3	anticline
S11	-750	-820	70	1.7	fault block
S12	-690	-720	30	0.2	severed nose
S13	-660	-720	60	0.8	fault block
S14	-740	-760	20	0.8	anticline
S15	-1450	-1520	70	6.2	fault block
S16	-1240	-1260	20	0.9	severed nose
S17	-1350	-1380	30	1.1	fault block
S18	-1360	-1380	20	0.3	severed nose
S19	-1270	-1340	70	0.7	fault block
S20	-1260	-1320	60	3.2	fault block
S21	-1300	-1340	40	6.0	fault block
S22	-1110	-1140	30	1.4	anticline
S23	-1280	-1540	260	5.7	fault block
S24	-1500	-1540	40	2.4	fault block
S25	-1660	-1680	20	0.7	anticline
S26	-1530	-1560	30	0.9	fault block
S27	-1590	-1620	30	1.0	fault block
S28	-1580	-1640	60	2.8	fault block
S29	-1540	-1600	60	2.8	severed nose
S30	-1940	-2040	100	5.3	severed nose
S31	-1930	-1960	30	1.4	severed nose
S32	-1740	-1780	40	3.6	anticline
S33	-1660	-1820	160	3.3	severed nose
S34	-1740	-1820	80	4.6	severed nose
S35	-1800	-1820	20	0.6	anticline

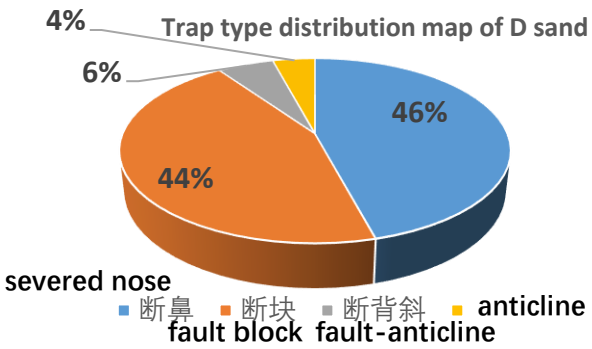
Trap name	High point of trap (m)	Closed line (m)	trap amplitude(m)	area (km^2)	type
S36	-1770	-1820	50	0.5	fault block
S37	-1800	-1880	80	5.4	anticline
S38	-2040	-2080	40	3.8	fault block
S39	-2010	-2040	30	3.5	severed nose
S40	-2030	-2040	10	0.7	severed nose
S41	-2050	-2080	30	0.9	severed nose
S42	-1820	-1920	100	5.5	anticline
S43	-1980	-2060	80	2.3	severed nose
S44	-2110	-2200	90	0.9	fault block
S45	-1980	-2000	20	0.6	anticline
S46	-1220	-1260	40	1.4	severed nose
S47	-1350	-1380	30	1.8	severed nose
S48	-1240	-1420	180	17.6	fault block
S49	-1830	-1860	30	0.5	severed nose
S50	-1940	-1980	40	1.4	severed nose
S51	-1870	-1900	30	0.5	severed nose
S52	-1770	-1820	50	4.5	severed nose
S53	-1850	-1880	30	1.8	severed nose
S54	-1880	-1900	20	0.2	fault block
S55	-1480	-1600	120	10.0	severed nose
S56	-1500	-1640	140	2.8	fault block
S57	-1070	-1120	50	1.6	severed nose
S58	-1030	-1160	130	4.7	fault block
S59	-1130	-1160	30	0.8	severed nose
S60	-940	-1040	100	9.5	fault block
S61	-960	-1020	60	4.4	anticline
S62	-910	-940	30	2.3	fault block
S63	-660	-760	100	6.6	severed nose
S64	-480	-620	140	18.3	severed nose
S65	-440	-460	20	0.6	anticline
S66	-420	-460	40	0.8	severed nose
S67	-470	-520	50	3.6	fault block
S68	-440	-460	20	0.7	severed nose
S69	-490	-520	30	0.9	fault block
合计				220.3	

III. Oil resource assets assessment

➢There are a total of 72 traps on the top surface of D sand, with a total trap area 256.3km^2.

Trap distribution of D sand top surface





Statistical table of trap types

Trap type	Number	Percent%
severed nose	33	46%
fault block	32	44%
fault-anticline	4	6%
anticline	3	4%
Total	72	

Table of trap elements

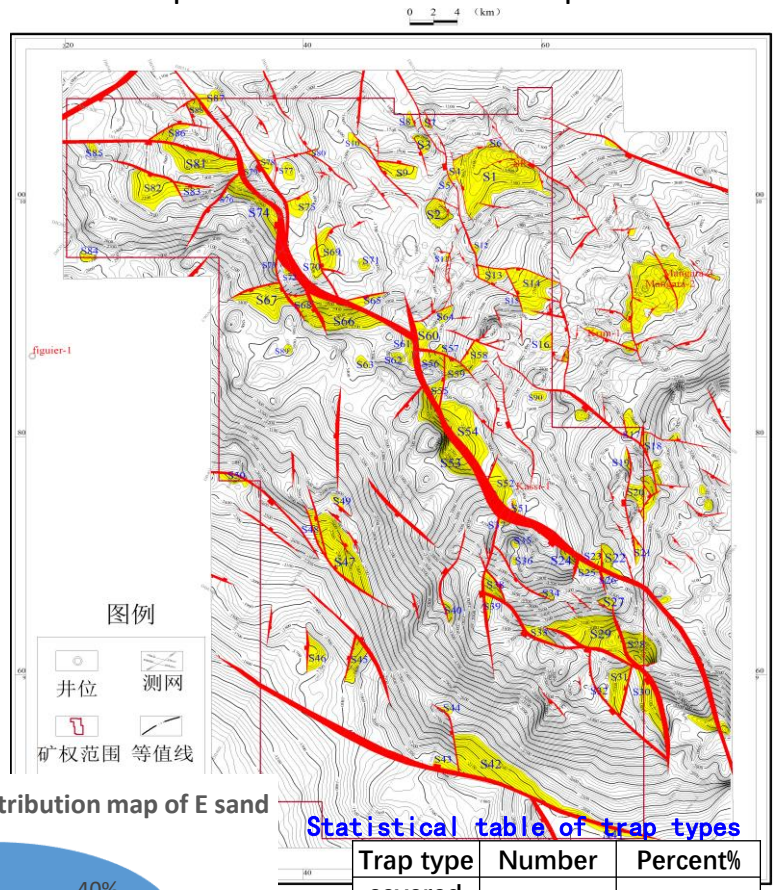
Trap name	High point of trap (m)	Closed line (m)	range(m)	area (km^2)	type
S1	-1100	-1300	200	23.1	fault-anticline
S2	-1260	-1320	60	2.7	fault block
S3	-1240	-1320	80	2.6	anticline
S4	-1080	-1140	60	0.7	severed nose
S5	-1210	-1240	30	0.3	severed nose
S6	-1270	-1320	50	4.1	fault block
S7	-1320	-1340	20	0.3	fault block
S8	-1080	-1100	20	0.1	severed nose
S9	-1000	-1020	20	0.1	severed nose
S10	-1210	-1240	30	0.3	severed nose
S11	-1220	-1280	60	1.4	severed nose
S12	-1300	-1320	20	0.1	severed nose
S13	-1700	-1860	160	5.0	fault block
S14	-1530	-1580	50	1.1	severed nose
S15	-1490	-1520	30	0.9	severed nose
S16	-1560	-1600	40	0.9	fault block
S17	-1480	-1520	40	2.8	fault block
S18	-1860	-1920	60	3.2	fault block
S19	-1680	-1940	260	3.7	fault block
S20	-1760	-1900	140	3.6	fault block
S21	-2400	-2420	20	0.2	severed nose
S22	-2300	-2460	160	2.2	severed nose
S23	-2300	-2360	60	0.7	severed nose
S24	-2280	-2360	80	3.0	fault-anticline
S25	-2300	-2320	20	1.8	severed nose
S26	-2860	-2880	20	0.7	fault block
S27	-2770	-2900	130	2.4	severed nose
S28	-2740	-2780	40	0.4	severed nose
S29	-2400	-2420	20	1.0	fault block
S30	-2710	-2960	250	3.2	fault block
S31	-2080	-2220	140	5.7	fault block
S32	-1640	-1680	40	2.4	severed nose
S33	-1680	-1860	180	34.2	fault block
S34	-1880	-1900	20	0.2	severed nose
S35	-1360	-1380	20	1.8	severed nose
S36	-1280	-1300	20	2.6	severed nose
S37	-1260	-1300	40	1.8	anticline

Trap name	High point of trap (m)	Closed line (m)	trap amplitude(m)	area (km^2)	type
S38	-1270	-1300	30	1.1	severed nose
S39	-1280	-1300	20	0.9	severed nose
S40	-1860	-2140	280	17.5	severed nose
S41	-2030	-2240	210	2.5	fault block
S42	-1890	-1940	50	1.4	severed nose
S43	-2460	-2540	80	2.4	severed nose
S44	-2590	-2620	30	2.8	severed nose
S45	-2530	-2560	30	1.1	severed nose
S46	-2640	-2780	140	3.0	fault block
S47	-2380	-2540	160	2.6	severed nose
S48	-1920	-2000	80	3.7	fault block
S49	-1860	-1940	80	8.2	fault block
S50	-2360	-2500	140	5.6	fault-anticline
S51	-2320	-2360	40	0.4	severed nose
S52	-2190	-2220	30	0.7	fault block
S53	-1380	-1420	40	2.6	fault block
S54	-1820	-2140	320	5.1	fault block
S55	-1700	-2060	360	5.3	fault block
S56	-1860	-2060	200	6.2	fault block
S57	-1460	-1680	220	8.9	fault block
S58	-1080	-1100	20	1.4	severed nose
S59	-1120	-1140	20	0.9	anticline
S60	-1380	-1500	120	4.3	fault block
S61	-1460	-1680	220	9.0	fault block
S62	-900	-1000	100	10.5	fault-anticline
S63	-850	-880	30	0.6	fault block
S64	-1060	-1240	180	14.7	fault block
S65	-900	-1000	100	2.2	fault block
S66	-660	-840	180	2.4	fault block
S67	-840	-980	140	3.2	fault block
S68	-800	-820	20	0.7	severed nose
S69	-710	-740	30	0.9	severed nose
S70	-480	-500	20	0.6	severed nose
S71	-660	-680	20	0.7	severed nose
S72	-2970	-3030	60	1.3	fault block
合计				256.3	

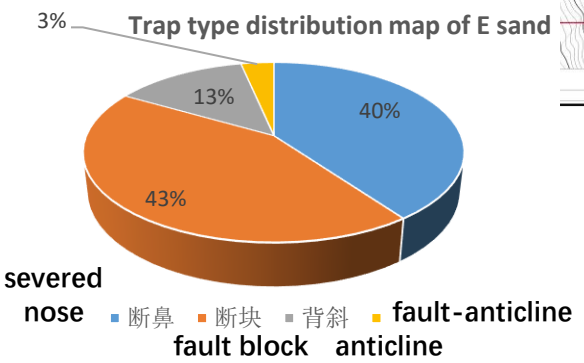
III. Oil resource assets assessment

➢There are a total of 90 traps on the top surface of E sand, with a total trap area 275.5km^2.

Trap distribution of E sand top surface



Trap type distribution map of E sand



Statistical table of trap types

Trap type	Number	Percent%
severed nose	36	40%
fault block	39	43%
anticline	12	13%
fault-anticline	3	3%
Total	90	

Table of trap elements

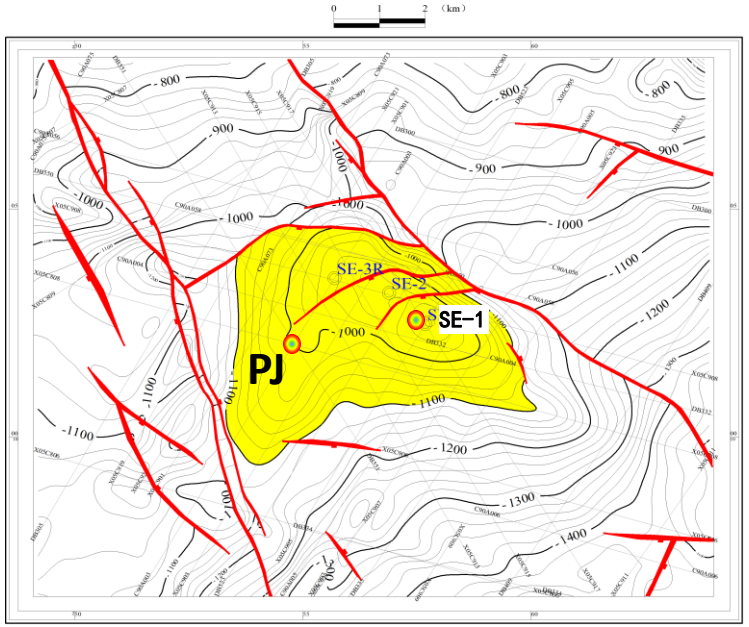
Trap name	High point of trap (m)	Closed line (m)	trap amplitude(m)	area (km^2)	type
S1	-1320	-1560	240	25.63	fault-anticline
S2	-1540	-1700	160	3.55	anticline
S3	-1350	-1440	90	1.54	severed nose
S4	-1420	-1460	40	0.58	fault block
S5	-1510	-1540	30	0.28	severed nose
S6	-1280	-1320	40	0.45	severed nose
S7	-1150	-1220	70	0.43	severed nose
S8	-1330	-1380	50	0.58	severed nose
S9	-1540	-1620	80	3.45	severed nose
S10	-1550	-1580	30	0.92	severed nose
S11	-1800	-1820	20	0.28	fault block
S12	-1720	-1760	40	0.39	severed nose
S13	-1850	-1980	130	2.55	fault block
S14	-2060	-2280	220	9.50	fault block
S15	-1950	-2000	50	0.12	fault block
S16	-2270	-2320	50	1.22	severed nose
S17	-2530	-2600	70	1.93	severed nose
S18	-2720	-2820	100	0.90	fault block
S19	-2960	-3040	80	0.69	severed nose
S20	-2780	-2840	60	2.39	fault-anticline
S21	-2830	-2860	30	0.86	fault block
S22	-2580	-2700	120	2.62	fault block
S23	-2590	-2660	70	1.01	fault block
S24	-3860	-4100	240	1.19	fault block
S25	-3620	-3700	80	1.51	fault block
S26	-3450	-3480	30	0.38	fault block
S27	-3300	-3420	120	1.09	severed nose
S28	-3180	-3720	540	6.45	fault block
S29	-2720	-3200	480	14.10	fault block
S30	-2620	-2820	200	6.37	severed nose
S31	-3000	-3180	180	5.15	fault block
S32	-3120	-3180	60	0.39	severed nose
S33	-3120	-3200	80	1.96	severed nose
S34	-3400	-3500	100	0.53	severed nose
S35	-3850	-3880	30	0.25	anticline
S36	-3840	-3860	20	0.25	anticline
S37	-4120	-4180	60	0.64	fault block
S38	-3340	-3560	220	2.48	fault block
S39	-3740	-3800	60	0.99	fault block
S40	-3340	-3440	100	0.88	severed nose
S41	-2160	-2180	20	2.39	severed nose
S42	-2000	-2360	360	20.36	fault block
S43	-2020	-2080	60	1.85	severed nose
S44	-2540	-2560	20	0.39	severed nose
S45	-1560	-1800	240	3.30	fault block
S46	-1590	-1680	90	3.21	severed nose

Trap name	High point of trap (m)	Closed line (m)	trap amplitude(m)	area (km^2)	type
S47	-2320	-2680	360	13.32	severed nose
S48	-2460	-2880	420	1.94	fault block
S49	-2700	-2720	20	0.61	anticline
S50	-2320	-2440	120	1.56	severed nose
S51	-2300	-2340	40	0.58	fault block
S52	-2200	-2340	140	4.97	fault block
S53	-3200	-3640	440	11.00	severed nose
S54	-2180	-2360	180	11.34	severed nose
S55	-2380	-2480	100	1.70	fault block
S56	-2240	-2460	220	2.14	fault block
S57	-1760	-1800	40	0.59	severed nose
S58	-2160	-2260	100	3.29	fault block
S59	-2170	-2360	190	2.50	fault block
S60	-1750	-1780	30	3.05	fault block
S61	-3100	-3160	60	2.05	fault block
S62	-3120	-3160	40	0.76	anticline
S63	-3320	-3340	20	0.82	anticline
S64	-1710	-1780	70	0.97	severed nose
S65	-1720	-1760	40	1.50	fault block
S66	-2720	-3220	500	11.41	fault block
S67	-3160	-3380	220	7.88	fault block
S68	-2900	-3320	420	4.20	fault block
S69	-1380	-1480	100	4.32	fault-anticline
S70	-1370	-1420	50	2.02	severed nose
S71	-1520	-1560	40	0.79	anticline
S72	-2180	-2240	60	0.42	severed nose
S73	-2630	-2660	30	0.31	fault block
S74	-2140	-2480	340	6.97	fault block
S75	-1330	-1380	50	2.80	severed nose
S76	-2460	-2480	20	0.13	severed nose
S77	-1240	-1260	20	1.35	anticline
S78	-1190	-1220	30	1.42	severed nose
S79	-1320	-1360	40	0.49	severed nose
S80	-1450	-1500	50	0.26	fault block
S81	-1600	-1860	260	9.90	severed nose
S82	-2120	-2260	140	8.80	severed nose
S83	-1990	-2040	50	1.06	fault block
S84	-2780	-2800	20	0.83	anticline
S85	-2220	-2260	40	0.55	anticline
S86	-1020	-1280	260	2.31	fault block
S87	-1040	-1060	20	1.67	severed nose
S88	-1160	-1360	200	1.64	fault block
S89	-3460	-3480	20	0.45	anticline
S90	-2510	-2540	30	0.90	anticline
合计				275.53	

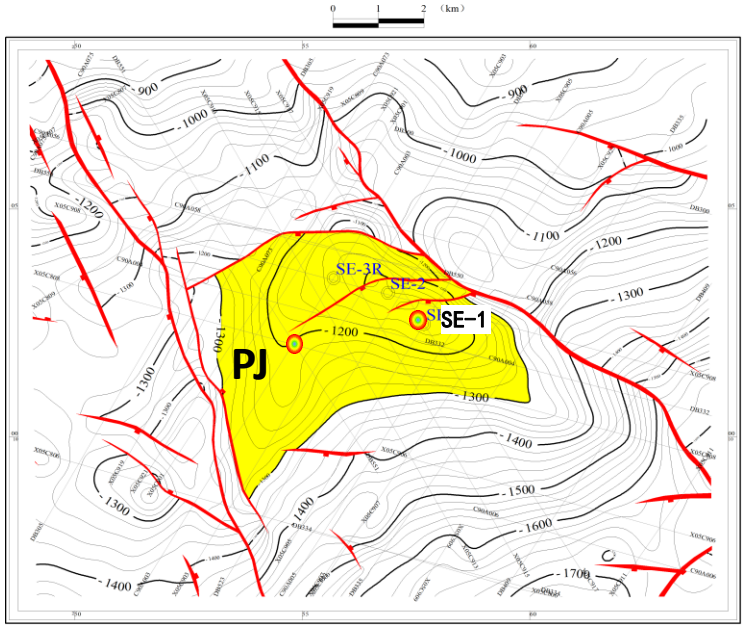
III. Oil resource assets assessment

➢Trap No. 8 sand C, D and E are all faulted anticlinal traps with a large area and a predicted resource of 285.5MMB. One evaluation well is planned to be deployed in the lower part.

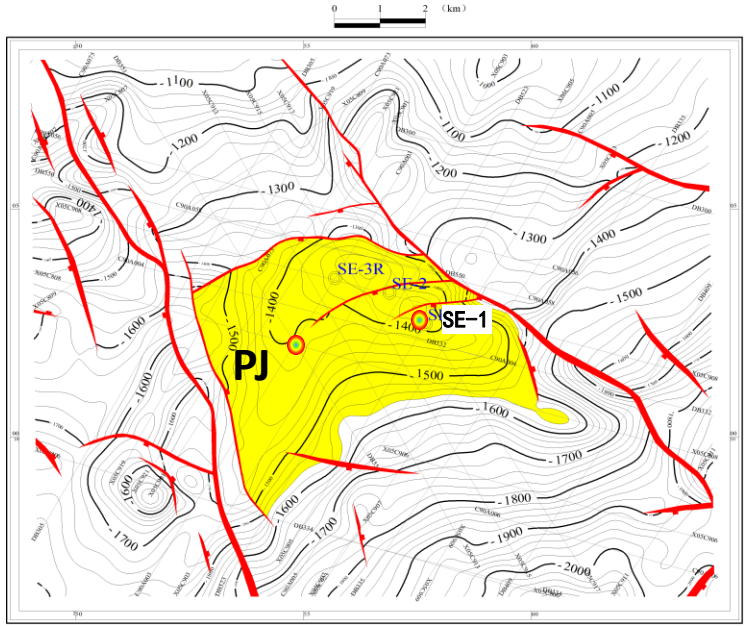
No. 8 trap distribution of C sand top surface



No. 8 trap distribution of D sand top surface



No. 8 trap distribution of E sand top surface



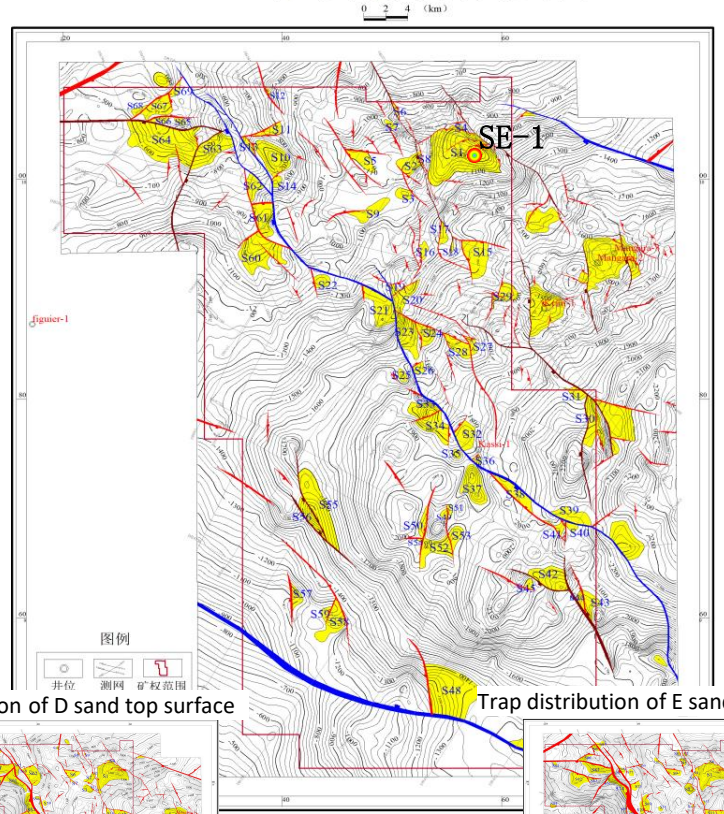
Statistical table of predicted resources in Trap 8

Layer	High point of trap (m)	Closed line (m)	Trap amplitude(m)	area (km^2)	type	Forecast resources (mean MMB)	rate of oil and gas recovery %	Recoverable reserves (mean MMB)	Cash flow million USD (oil price 60 USD/barrel)	Cash flow million USD (oil price 70 USD/barrel)	Cash flow million USD (oil price 80 USD/barrel)
C	-920	-1100	180	22.7	fault-anticline	121.6	40	48.64	2918.4	3404.8	3891.2
D	-1100	-1300	200	23.1	fault-anticline	95.2	40	38.08	2284.8	2665.6	3046.4
E	-1320	-1560	240	25.6	fault-anticline	68.7	40	27.48	1648.8	1923.6	2198.4
total				71.4		285.5	40	114.2	6852	7994	9136

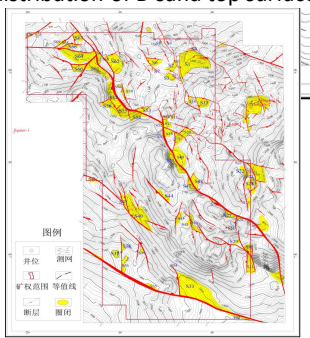
III. Oil resource assets assessment

A total of 231 layers of traps in groups C, D and E were predicted, and the layer trap area was 752.1km^2. The lower limit (P90,90% probability) of recoverable resources was 197 million barrels, the upper limit (P10,10% probability) was 1.525 million barrels, and the average value was 754 million barrels. Based on a crude oil price of $60 per barrel, the average revenue was $45.24 billion.

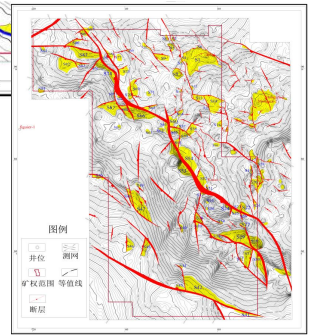
Trap distribution of C sand top surface



Trap distribution of D sand top surface



Trap distribution of E sand top surface



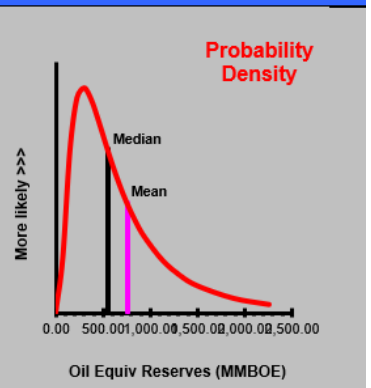
DOA Block C, D, E oil and gas resources evaluation Table

Potential Recoverable Reserves *Example July-30-1998 RCH*

This is the untruncated reserve distribution derived from the distributions for Area, Net pay, and Recovery Factor. Check the mode, P_{50}, median, etc. for reasonableness and make any necessary changes to the inputs. The 'Optional auxiliary input' fields can be used to specify a reserve distribution from another source

Results

	Liquids		Gas		TOTAL	*Optional auxiliary input*	
	Oil mmbo	Cond mmbo	Gas bcf	Assoc gas bcf	OIL Equiv MMBOE	Oil mmbo	Gas bcf
P_{10}	197.01	0.00	0.00	0.00	197.01		
P_{90}	1,524.96	0.00	0.00	0.00	1,524.96		
Mode (most likely)	289.74	0.00	0.00	0.00	289.74		
P_{50} (median)	548.11	0.00	0.00	0.00	548.11		
Mean (average)	753.88	0.00	0.00	0.00	753.88		
P_1	85.55	0.00	0.00	0.00	85.55		
P_{99}	3,511.93	0.00	0.00	0.00	3,511.93		



Work Area....

	Volumetric Estimate		Auxiliary Input		Final Distribution	
	OIL mmbo	GAS bcf	OIL OFF	GAS OFF	OIL mmbo	GAS bcf
μ	6.31	-14.61	NA	NA	6.31	-14.61
σ^2	0.637	0.644	NA	NA	0.637	0.644

Lognormal Curve Plotting Points

Percent of mean	Standard Units Oil Equiv (mmboe)	Reserves in Preferred Units	Probability density	Cumulative Probability
0%	0.0	0.000	0.00000	0.000
10%	75.388	75.388	0.00030	0.007
20%	150.776	150.776	0.00090	0.053
30%	226.164	226.164	0.00120	0.134
40%	301.552	301.552	0.00125	0.227
50%	376.940	376.940	0.00119	0.320
60%	452.328	452.328	0.00107	0.405
70%	527.716	527.716	0.00094	0.481
80%	603.105	603.105	0.00082	0.548
90%	678.493	678.493	0.00071	0.605
100%	753.881	753.881	0.00061	0.655

Lognormal Distribution for Oil Equiv Reserve

	Standard Units Oil Equiv (mmboe)	Equiv Recovery factor (bbl/ac ft)
μ	6.31	7.221
σ^2	0.64	0.017

Plotting Data

	Reserves in mmboe	Reserves in Preferred Units	Y (density)
P50	548.115	548.115	0.0000
	548.115	548.115	0.0009
Mean	753.881	753.881	0.0000
	753.881	753.881	0.0006