

Schlumberger

3011 Internet Blvd
Frisco, TX 77034
972-214-2200

March 28, 2018

30-025-44308

State Of New Mexico
Oil Conservation Division
District 1 – Hobbs
1625 N French Drive
Hobbs, New Mexico 88240

HOBBS OCD

MAR 30 2018

RECEIVED

I, Carmen Contreras, certify that I am employed by Schlumberger Technology Corporation; that I did on the day of 28-Mar-2018 conduct or supervise the computation of a CONTINUOUS DIRECTIONAL SURVEY. The Continuous Directional Survey was conducted from a depth of 1,684 feet to a depth of 5,020 feet. I certify that the data is true, correct, complete and within the limitations of the tool as set forth by Schlumberger Technology Corporation. I am authorized and qualified to make this report; and this survey was conducted at the request of Occidental Permian Ltd. for the well South Hobbs G/SA Unit 283, API Number 30-025-44308, located in Lea County, New Mexico. I have reviewed this report and find that it conforms to the principles and procedures as set forth by Schlumberger Technology Corporation.

Signature: Carmen Contreras

Name: Carmen Contreras

Job Title: Principal Geologist



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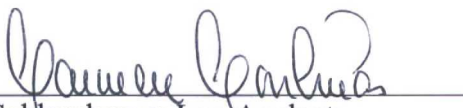
RECEIVED

Company Name: Occidental Permian Ltd.
RRC Lease/Gas ID Not Assigned
Well Name: South Hobbs G/SA Unit 283
Permit#: 246477
County: Lea
State: New Mexico
API number: 30-025-44308

Enclosed please find the Continuous Direction Survey performed by Schlumberger Wireline & Testing and Data Services, divisions of Schlumberger Technology Corporation (P-5 No. 754900). The Continuous Directional Survey was calculated from GPIT Survey data, and processed by Carmen Contreras, Data Services located in Frisco-Texas. Information required by your office is as follows:

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>		<u>Dates Performed</u>	<u>Type of Survey</u>
Carmen Contreras Geologist	1	1,684' – 5,020'		March 28, 2018	GPIT

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address or call 972-214-2200


Schlumberger Log Analyst
Enclosures



Certified Directional Survey

MD: 1,684.00 ft. - 5,020.00 ft.

COMPANY: Occidental Permian Ltd. WELL: South Hobbs G/SA Unit 283 FIELD: Hobbs (Grayburg- San Andres) COUNTY: Lea STATE: New Mexico COUNTRY: USA		COMPANY: Occidental Permian Ltd. WELL: South Hobbs G/SA Unit 283 FIELD: Hobbs (Grayburg- San Andres) COUNTY: Lea STATE: New Mexico COUNTRY: USA	
Location		Other Services:	
API No: 30-025-44308		Field: 313' FWL & 934' FEL Section 9, Township T-19S, Range 38E N.M.P.M, Survey	
Permanent Datum: GL Elev: 3603.4 ft Log Measured From: KB 17.5ft above Perm. Datum Drilling Measured from: KB		Elevations: K.B. 3620.9 ft D.F. 3619.9 ft G.L. 3603.4 ft	
Date	25-Mar-2018	Type of fluid in hole	Chemical Gel
Run no.	1A	Dens. Visc.	10.2 Chemical
Depth Driller	5015	pH Fluid	10.5 14
Depth Logger (Schl)	5019	Source of Sample	Active Tank
Bottom Log Interval	5019	Rm @ Meas. Temp.	0.11 ohm.m @ 69
Top Log Interval	1640	Rmf @ Meas. Temp.	0.08 ohm.m @ 69
Casing Size	9.625	Rmc @ Meas. Temp.	-999.25 ohm.m @68
Casing Logger	1642	Rm @ BHT	0.0780622 ohm.m @ 100
Bit Size	8.75	Recorded by	Evan Loen
Maximum recorded	100	Witnessed by	Yousuf Almahrouqi
Circulation Stopped	02:00:00	Logger on bottom	09:30:00

The well name, location and borehole reference data were furnished by the customer.

FOLD HERE:

Any interpretation, research, analysis, data, results, estimates, or recommendation furnished with the services or otherwise communicated by Schlumberger to the customer at any time in connection with the services are opinions based on inferences from measurements, empirical relationships, and/or assumptions; which, inferences, empirical relationships and/or assumptions are not infallible and with respect to which professionals in the industry may differ. Accordingly, Schlumberger cannot and does not warrant the accuracy, correctness, or completeness of any such interpretation, research, analysis, data, results, estimates, or recommendation. The customer acknowledges that it is accepting the services "as is," that Schlumberger makes no representation or warranty, express or implied, of any kind or description in respect thereto, and that such services are delivered with the explicit understanding and agreement that any action taken based on the services received shall be at its own risk and responsibility, and no claim shall be made against Schlumberger as a consequence thereof.

Svc. Order #:	OP Vers:	Processed by:	Process Date:
Location:	Techlog Vers: 2017.2	Carmen Contreras	3/28/2018

Remarks:

North Reference: Grid North
CRS: NAD1983, New Mexico East Zone

HOBBS OCD

MAR 30 2018

Tie-In Location:
Measured Depth: 1684.00 ft
True Vertical Depth: 1683.60 ft
Distance North: -0.69 ft
Distance East: 28.24 ft

Bottom Hole Location
Measured Depth: 5020.00 ft
True Vertical Depth: 5010.95 ft
Distance North: 18.40 ft
Distance East: -137.95 ft
Closure Distance: 139.17 ft
Closure Direction: 277.59 deg.

HOBBS OCD

MAR 30 2018

Directional Survey

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MD	AZIMUTH	DEVIATION	TVD	XOFFSET	YOFFSET	X	Y	
ft	deg	deg	ft	ft	ft	ft	ft	
0.00	0.00	0.00	0.00	0.00	0.00	864956.87	608882.38	
190.00	45.18	1.00	189.99	1.18	1.17	864958.05	608883.55	
251.00	43.98	1.00	250.98	1.92	1.93	864958.79	608884.31	
432.00	29.18	0.70	431.96	3.56	4.03	864960.43	608886.41	
613.00	132.98	1.20	612.95	5.48	3.70	864962.35	608886.08	
796.00	46.18	0.30	795.93	7.23	2.73	864964.10	608885.11	
976.00	71.78	0.50	975.93	8.32	3.30	864965.19	608885.68	
1165.00	115.38	2.00	1164.88	12.08	2.14	864968.95	608884.52	
1354.00	109.78	2.20	1353.75	18.48	-0.50	864975.35	608881.88	
1543.00	74.78	1.70	1542.65	24.59	-0.99	864981.46	608881.39	
1684.00	98.72	1.34	1683.60	28.24	-0.69	864985.14	608881.40	Tie-in
1714.00	95.70	1.54	1713.59	29.02	-0.79	864985.92	608881.30	GPIT
1744.00	93.06	1.50	1743.58	29.80	-0.85	864986.70	608881.24	
1774.00	82.51	1.39	1773.57	30.59	-0.82	864987.49	608881.27	
1804.00	54.23	1.36	1803.56	31.26	-0.56	864988.15	608881.53	
1834.00	29.35	1.47	1833.55	31.76	0.01	864988.65	608882.10	
1864.00	359.89	1.37	1863.54	31.93	0.71	864988.83	608882.80	
1894.00	334.86	1.76	1893.53	31.75	1.50	864988.65	608883.59	
1924.00	319.22	2.33	1923.51	31.13	2.36	864988.03	608884.45	
1954.00	310.78	2.91	1953.48	30.14	3.36	864987.03	608885.45	
1984.00	300.15	3.25	1983.43	28.81	4.29	864985.71	608886.38	
2014.00	296.42	3.54	2013.38	27.28	5.10	864984.17	608887.19	
2044.00	292.91	4.04	2043.32	25.47	5.92	864982.37	608888.01	
2074.00	290.14	4.41	2073.24	23.45	6.71	864980.35	608888.80	
2104.00	286.48	4.88	2103.14	21.13	7.51	864978.03	608889.60	
2134.00	282.80	5.12	2133.03	18.61	8.15	864975.51	608890.24	
2164.00	276.68	5.60	2162.90	15.86	8.63	864972.76	608890.72	
2194.00	272.43	5.95	2192.74	12.82	8.84	864969.72	608890.93	
2224.00	270.48	6.41	2222.56	9.57	8.93	864966.47	608891.01	
2254.00	270.26	6.53	2252.37	6.16	8.91	864963.05	608891.00	
2284.00	271.37	6.49	2282.17	2.75	8.96	864959.65	608891.05	
2314.00	272.86	6.53	2311.98	-0.63	9.08	864956.26	608891.17	
2344.00	273.20	6.44	2341.79	-4.00	9.25	864952.89	608891.34	
2374.00	271.01	6.35	2371.60	-7.38	9.37	864949.52	608891.46	
2404.00	267.69	6.78	2401.41	-10.79	9.37	864946.11	608891.46	
2434.00	265.30	6.76	2431.20	-14.32	9.12	864942.58	608891.21	
2464.00	264.77	7.45	2460.97	-18.01	8.81	864938.89	608890.90	
2494.00	263.15	7.56	2490.70	-21.97	8.36	864934.93	608890.45	
2524.00	263.92	7.67	2520.43	-25.95	7.91	864930.95	608890.00	
2554.00	264.54	7.49	2550.17	-29.91	7.50	864926.99	608889.59	

2584.00	267.40	7.74	2579.91	-33.82	7.21	864923.08	608889.30
2614.00	267.13	8.08	2609.62	-37.97	7.01	864918.92	608889.10
2644.00	267.53	8.11	2639.32	-42.19	6.80	864914.71	608888.89
2674.00	267.81	7.83	2669.03	-46.33	6.64	864910.56	608888.73
2704.00	267.74	7.68	2698.76	-50.37	6.49	864906.53	608888.58
2734.00	268.11	7.53	2728.50	-54.33	6.35	864902.57	608888.44
2764.00	268.84	7.23	2758.25	-58.16	6.25	864898.74	608888.34
2794.00	269.29	6.95	2788.02	-61.85	6.19	864895.05	608888.28
2824.00	269.16	6.86	2817.80	-65.48	6.15	864891.42	608888.24
2854.00	268.91	6.76	2847.59	-69.06	6.10	864887.84	608888.19
2884.00	268.73	6.72	2877.38	-72.57	6.04	864884.32	608888.13
2914.00	268.39	6.28	2907.19	-75.96	5.95	864880.93	608888.04
2944.00	268.65	6.08	2937.02	-79.20	5.88	864877.70	608887.96
2974.00	268.49	5.96	2966.85	-82.33	5.80	864874.56	608887.89
3004.00	268.56	5.86	2996.69	-85.41	5.72	864871.49	608887.80
3034.00	268.76	5.63	3026.54	-88.43	5.65	864868.47	608887.74
3064.00	268.88	5.48	3056.40	-91.33	5.58	864865.57	608887.67
3094.00	268.65	5.26	3086.27	-94.11	5.51	864862.79	608887.60
3124.00	269.17	5.06	3116.15	-96.80	5.46	864860.09	608887.55
3154.00	270.29	4.96	3146.03	-99.42	5.46	864857.47	608887.54
3184.00	270.87	4.78	3175.93	-101.97	5.48	864854.93	608887.56
3214.00	270.98	4.59	3205.83	-104.42	5.51	864852.48	608887.60
3244.00	270.86	4.40	3235.73	-106.76	5.55	864850.13	608887.64
3274.00	271.17	4.24	3265.65	-109.02	5.59	864847.88	608887.68
3304.00	271.26	4.09	3295.57	-111.20	5.64	864845.70	608887.73
3334.00	272.05	3.88	3325.50	-113.27	5.70	864843.62	608887.79
3364.00	272.90	3.72	3355.43	-115.25	5.79	864841.65	608887.87
3394.00	273.71	3.60	3385.37	-117.16	5.90	864839.74	608887.99
3424.00	273.96	3.41	3415.32	-118.99	6.03	864837.91	608888.11
3454.00	275.42	3.21	3445.27	-120.71	6.17	864836.19	608888.26
3484.00	276.65	3.00	3475.22	-122.32	6.34	864834.58	608888.43
3514.00	278.05	2.86	3505.18	-123.84	6.54	864833.06	608888.63
3544.00	278.77	2.71	3535.15	-125.28	6.76	864831.62	608888.85
3574.00	281.43	2.70	3565.11	-126.66	7.01	864830.23	608889.10
3604.00	282.19	2.62	3595.08	-128.03	7.31	864828.87	608889.40
3634.00	284.28	2.37	3625.05	-129.31	7.62	864827.59	608889.71
3664.00	284.81	1.64	3655.03	-130.34	7.91	864826.55	608889.99
3694.00	292.31	1.12	3685.03	-130.99	8.12	864825.90	608890.21
3724.00	305.24	0.96	3715.02	-131.45	8.37	864825.45	608890.46
3754.00	306.61	1.01	3745.02	-131.85	8.68	864825.04	608890.77
3784.00	297.11	0.97	3775.01	-132.28	8.98	864824.61	608891.07
3814.00	290.15	0.81	3805.01	-132.71	9.17	864824.18	608891.26
3844.00	296.11	0.68	3835.01	-133.06	9.33	864823.83	608891.41
3874.00	308.40	0.73	3865.00	-133.36	9.53	864823.54	608891.62

3904.00	309.26	0.85	3895.00	-133.69	9.78	864823.21	608891.87
3934.00	300.85	0.83	3925.00	-134.06	10.02	864822.84	608892.11
3964.00	301.97	0.69	3955.00	-134.40	10.20	864822.49	608892.29
3994.00	314.11	0.66	3984.99	-134.67	10.41	864822.22	608892.50
4024.00	318.97	0.75	4014.99	-134.91	10.69	864821.98	608892.78
4054.00	315.16	0.81	4044.99	-135.18	11.00	864821.71	608893.09
4084.00	309.86	0.73	4074.99	-135.49	11.27	864821.41	608893.36
4114.00	314.39	0.65	4104.98	-135.76	11.50	864821.13	608893.59
4144.00	325.02	0.66	4134.98	-135.98	11.75	864820.91	608893.84
4174.00	324.76	0.70	4164.98	-136.18	12.04	864820.71	608894.12
4204.00	321.43	0.63	4194.98	-136.39	12.33	864820.51	608894.42
4234.00	320.47	0.41	4224.98	-136.58	12.54	864820.32	608894.62
4264.00	345.94	0.45	4254.98	-136.67	12.72	864820.23	608894.80
4294.00	334.89	0.48	4284.97	-136.74	12.96	864820.16	608895.04
4324.00	334.32	0.30	4314.97	-136.85	13.13	864820.05	608895.22
4354.00	344.31	0.39	4344.97	-136.89	13.29	864820.00	608895.38
4384.00	315.85	0.37	4374.97	-137.00	13.47	864819.90	608895.56
4414.00	349.58	0.32	4404.97	-137.08	13.60	864819.81	608895.69
4444.00	333.05	0.48	4434.97	-137.15	13.81	864819.75	608895.90
4474.00	338.35	0.41	4464.97	-137.26	14.01	864819.64	608896.10
4504.00	344.19	0.64	4494.97	-137.32	14.26	864819.58	608896.35
4534.00	333.16	0.51	4524.97	-137.45	14.53	864819.44	608896.62
4564.00	344.84	0.62	4554.97	-137.54	14.79	864819.36	608896.88
4594.00	323.71	0.53	4584.96	-137.69	15.09	864819.21	608897.17
4624.00	351.21	0.49	4614.96	-137.79	15.31	864819.10	608897.40
4654.00	342.37	0.54	4644.96	-137.85	15.60	864819.04	608897.68
4684.00	11.15	0.41	4674.96	-137.89	15.81	864819.00	608897.90
4714.00	8.04	0.56	4704.96	-137.84	16.07	864819.06	608898.16
4744.00	347.73	0.39	4734.96	-137.84	16.33	864819.05	608898.42
4774.00	5.32	0.58	4764.96	-137.83	16.55	864819.06	608898.64
4804.00	350.72	0.39	4794.96	-137.87	16.81	864819.02	608898.90
4834.00	3.70	0.53	4824.96	-137.86	17.04	864819.03	608899.13
4864.00	2.42	0.30	4854.96	-137.89	17.26	864819.01	608899.35
4894.00	356.21	0.51	4884.95	-137.85	17.49	864819.05	608899.57
4924.00	338.20	0.42	4914.95	-137.90	17.73	864819.00	608899.82
4954.00	359.78	0.29	4944.95	-137.94	17.90	864818.95	608899.98
4984.00	5.71	0.51	4974.95	-137.91	18.11	864818.99	608900.19
5014.00	332.83	0.39	5004.95	-137.93	18.37	864818.96	608900.46
5020.00	332.08	0.34	5010.95	-137.95	18.40	864818.94	608900.49

COMPANY: Occidental Permian Ltd.
WELL: South Hobbs G/SA Unit 283
FIELD: Hobbs (Grayburg- San Andres)
COUNTY: Lea
STATE: New Mexico
COUNTRY: US

API No.: 30-025-44308

Date Processed: 3/28/2018