MAR 19680061: FORT VERMILION

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SHELL CANADA LIMITED
REPORT ON
SULPHUR PROSPECTING PERMIT NO. 67
FT. VERMILION AREA, ALBERTA

In accordance with the terms of the Agreement dated January 2, 1968 we submit the following report on the exploratory examination carried out during the 1967-68 winter season on the subject permit.

LOCATION:

Sulphur Prospecting Permit No. 67, containing 99,520 acres is located in northern Alberta, Townships 109 to 111, Ranges 11 & 12 West 5th Meridian.

FIELD OPERATIONS:

Seismic field party 5, operating for Shell Canada Limited, carried out the drilling of 2447 seismic shot holes over the permit area during February and March 1968. Enclosure No. 1 shows the location of the holes which are spaced 300 feet apart on lines No. 5-826, 5-827, 5-829, 5-830, and 200 feet apart on lines No. 5-828, 5-831, 5-832, and 5-833. The holes were drilled to a maximum depth of 50 feet by truck mounted 3-1/2 inch auger drills.

The drillers were instructed to look for signs of sulphur in the auger hole cuttings and collect samples for lab analysis. Samples of superficial material containing varying percentages of sulphur were supplied to the drillers to aid in visual examination of the cuttings. The lines on which auger holes were examined for sulphur are indicated in red on Enclosure No. 1 and a bar beside the hole location indicates where samples were collected.

ANALYSIS OF SAMPLES:

All samples collected were tested for sulphur by heating and burning the sampled material. The samples which gave off a sulphurous odor from this test were then submitted to a detailed analysis by the hot Toulene extraction method.

The results of samples analyzed by the Toulene method are covered in Appendix 1 to this report.

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O.L. Slind
District Geologist
Northern Plains District
Southern Division Exploration

November 1968

APPENDIX 1

SULPHUR ANALYSIS BY HOT TOLUENE EXTRACTION OF SEISMIC SHOT HOLE SAMPLES FORT VERMILION AREA SULPHUR PERMIT 67

N.B. % water based on initial weight of sample
% sulphur based on dry weight of sample

Pty-Line-Hole No. Sample	Depth	% Water	% Sulphur
5-826-430	40	4	-
468	40	8	-
470	40	4	-
474	40	5	-
484	40	6	-
486	40	6	-
488	40	5	-
504	40	5	-
524	40	3	-
530	40	3	-
534	40	3	-
742	10-40	3	-
744	10-40	2	-
754	10-40	2	-
800	10-40	3	-
820	10-40	4	-
840	39-1/2-41-1/2	3	-
842	40	3	-
844	40	3	-
850	40	3	-
854	40	3	-
5-827-410	10-40	3	-
420	10	2	-
458	40	5	-
476	40	3	-
478	40	3	-
514	40	3	-
550	40	4	-
552	10	3	-
552	40	3	-
586	40	5	-
598	40	6	-
600	40	7	-
602	40	7	-
622	40	6	-
624	40	6	-
628	40	4	-
630	40	3	-
632	40	4	-
636	30-40	3	-
638	30-40	3	-
640	30-40	2	-
660	40	3	-
662	40	3	-
666	40	3	-
686	30-40	3	-
688	30-40	4	-

Sample	Depth	% Water	% Sulphur
5-827-690	40	4	-
694	30-40	4	-
696	40	5	-
714	10-40	4	-
714	40	5	-
718	40	4	-
720	40	0	5
724	10-40	8	-
726	10-40	8	-
728	10-40	6	-
734	10-40	17	-
736	40	17	-
738	40	11	-
740	40	7	-
742	40	5	-
744	40	7	-
746	40	6	-
756	10	2	-
758	40	2	-
760	40	16	-
762	40	6	-
764	10	4	-
768	40	15	-
770	40	2	-
772	40	3	-
776	40	2	-
780	40	3	-
782	40	3	-
784	40	4	-
786	40	3	-
788	40	4	-
790	40	3	-
792	40	4	-
794	40	4	-
798	40	4	-
800	40	5	-
802	40	3	-
804	40	3	-
808	10-40	4	-
812	10-40	4	-
816	10-40	5	-
818	10-40	4	-
820	10-40	4	-
824	10-40	2	-
826	10-40	3	-
828	10-40	3	-
830	10-40	3	-
830	10-40	6	-
832	10-40	8	-
846	10-40	3	-
848	10-40	2	-
852	10-40	3	-
852	10-40	3	-

Sample	Depth	% Water	% Sulphur
5-827-854	10-40	2	-
5-828-440	10-40	4	-
444	10-40	2	-
446	10-40	9	-
448	10-40	5	-
450	10-40	5	-
452	10-40	6	-
494	10	3	-
496	10	4	-
496	40	5	-
498	40	7	-
498	40	5	-
502	10	4	-
502	40	5	-
530	10-40	5	-
532	10-40	7	-
534	10-40	5	-
536	10-40	5	-
538	10-40	5	-
540	10-40	4	-
542	0-10	4	-
542	10-40	4	-
546	10-40	3	Trace
546	10-40	6	-
550	40	4	-
558	40	7	-
562	40	24	-
568	10-40	10	-
570	40	16	-
574	40	17	-
586	40	6	-
596	40	27	-
600	40	4	-
601	40	13	-
604	40	12	-
608	10-40	4	-
612	10-40	4	-
614	10-40	4	-
616	10-40	5	-
618	40	4	-
620	40	4	-
622	40	6	-
624	40	3	-
626	40	3	-
628	40	4	-
630	40	3	-
632	40	3	-
634	40	3	-
636	40	3	-
638	40	3	-
640	40	3	-
666	40	4	-
688	40	6	-
690	40	10	-

Sample	Depth	% Water	% Sulphur
5-828-698	40	4	-
700	40	3	-
710	40	4	-
714	40	6	-
716	40	3	-
718	10	3	-
718	40	3	-
720	40	3	-
722	40	3	-
724	40	2	-
726	40	3	-
728	40	2	-
730	40	4	-
732	40	3	-
734	40	3	-
748	40	3	-
752	40	3	-
754	40	3	-
756	40	3	-
776	40	4	-
778	40	3	-
780	40	3	-
784	10	2	-
784	40	2	-
788	40	7	-
790	40	3	-
796	40	4	-
800	10	4	-
816	40	4	-
818	10	3	-
906	10	3	-
906	40	2	-
5-829-402	10	4	-
404	10	4	-
416	40	4	-
420	40	4	-
424	40	4	-
426	40	4	-
430	40	3	-
432	40	4	-
440	40	5	-
442	40	3	-
446	40	4	-
456	40	4	-
458	10	4	-
460	40	4	-
464	40	4	-
478	40	6	-
480	40	5	-
492	40	4	-
512	40	4	-
514	40	5	-
5-830-430	40	4	-
434	40	3	-
442	40	5	-

Sample	Depth	% Water	% Sulphur
5-830-444	40	4	-
448	40	3	-
456	40	3	-
458	40	4	-
464	40	3	Trace
468	40	3	-
480	40	4	-
496	40	6	-
498	40	5	-
500	40	6	-
502	40	5	-
504	40	5	-
506	40	4	-
5-831-402	10-40	5	-
406	10-40	3	-
407	10-40	4	-
410	10-40	5	-
412	10-40	5	-
414	10-40	5	-
416	10-40	12	-
418	0-10		-
418	10-40	6	-
420	10-40	2	-
422	10-40	13	-
424	10-40	3	-
426	10-40	4	-
428	10-40	4	-
430	10-40	5	-
432	10-40	3	-
434	10-40	3	-
510	10-40	3	-
526	0-10	3	-
528	0-10	1	-
528	10-40	2	-
532	0-10	3	-
532	10-40	3	-
588	10-40	3	-
592	10-40	3	-
598	10-40	5	-
601	10-40	3	-
602	10-40	3	-
604	10-40	10	-
610	10-40	13	-
616	40	3	-
618	40	4	-
620	40	3	-
622	40	4	-
624	40	3	-
626	40	2	-
628	40	2	-
630	40	2	-
632	40	3	-
634	40	3	-
638	40	1	-
640	40	2	-

Sample	Depth	% Water	% Sulphur
5-831-642	40	3	-
644	40	3	-
646	40	3	-
648	40	3	-
5-832-402	40	5	-
410	40	14	-
448	40	3	-
450	40	7	-
452	40	4	-
454	40	3	-
456	40	5	-
458	40	4	-
462	0-10	4	-
462	10-40	4	-
464	10	3	-
466	40	3	-
470	40	3	-
474	40	4	-
476	40	4	-
478	40	3	-
482	10-40	3	-
484	10-40	3	-
486	10-40	5	-
488	10-40	4	-
490	40	4	-
492	40	6	-
496	40	3	-
508	10-40	4	-
510	40	3	-
512	10	3	-
512	40	3	-
514	40	3	-
516	40	3	-
518	40	4	-
520	40	2	-
534	10-40	3	-
538	10-40	2	-
542	10-40	3	-
546	40	5	-
550	40	3	-
556	40	5	-
560	40	5	-
564	10	3	-
564	40	3	-
568	40	3	-
578	40	4	-
580	40	4	-
594	40	3	-
596	40	4	-
598	40	4	-
600	10-40	5	-
604	10-40	4	-
608	10-40	3	-
610	10-40	3	-

Sample	Depth	% Water	% Sulphur
5-832-612	40	3	-
614	40	4	-
616	40	2	-
618	40	3	-
620	40	3	-
622	40	3	-
626	40	4	-
628	40	3	-
630	40	7	-
632	40	4	-
638	40	3	-
642	40	4	-
646	40	3	-
650	10-40	2	-
654	10-40	3	-
658	40	3	-
660	40	4	-
668	10-40	3	-
670	10-40	5	-
674	40	2	-
676	40	2	-
678	10	2	-
682	40	3	-
684	10	2	-
684	40	2	-
686	10-40	4	-
690	40	3	-
692	10	3	-
692	40	4	-
696	40	3	-
698	40	3	-
700	40	3	-
702	40	3	-
704	40	3	-
706	10-40	2	-
708	0-10	2	-
708	10-40	3	-
712	0-10	3	-
712	10-40	3	-
714	10-40	4	-
716	10-40	3	-
724	10-40	2	-
728	10-40	2	-
730	40	4	-
732	40	3	-
734	40	3	-
736	40	3	-
738	10	2	-
738	40	4	-
740	40	4	-
742	40	4	-
744	40	3	-
746	40	3	-
752	40	3	-
764	10-40	3	-

Sample	Depth	% Water	% Sulphur
5-832-766	10-40	2	-
774	40	3	-
776	40	3	-
778	40	2	-
780	40	3	-
792	40(?)	3	-
792	10-40	2	-
798	0-10	3	-
800	10-40	3	-
806	10-40	2	-
812	10	3	-
812	40	3	-
814	40	3	-
816	40	4	-
818	40	3	-
820	40	3	-
822	40	3	-
824	40	3	-
826	40	3	-
828	40	3	-
830	40	3	-
832	40	3	-
840	10-40	3	-
842	10-40	3	-
846	10	2	-
846	40	3	-
848	40	2	-
850	40	5	-
852	40	2	-
854	40	2	-
856	40	2	-
858	40	3	-
860	40	3	-
862	40	2	-
864	40	3	-
866	40	4	-
896	10-40	2	-
898	10-40	2	-
900	10-40	2	-
902	10-40	2	-
904	10-40	3	-
906	10-40	2	-
908	10-40	3	-
910	10-40	3	-
914	10-40	2	-
5-833-404	40	2	-
406	40	2	-
408	40	2	-
410	40	2	-
412	40	1	-
414	40	2	-
420	40	2	-
422	40	2	-
428	40	2	-
430	40	1	-
432	40	2	-

Sample	Depth	% Water	% Sulphur
5-833-434	40	1	-
436	40	1	-
440	40	3	-
444	40	3	-
448	40	3	-
450	40	3	-
454	40	2	-
456	40	3	-
458	40	3	-
460	40	3	-
468	40	3	-
472	40	3	-
476	40	2	-
490	10-40	3	-
492	10-40	3	-
494	10-40	4	-
496	10-40	3	-
498	10-40	3	-
500	10-40	3	-
502	10-40	3	-
504	10-40	3	-
506	10-40	3	-
508	10-40	4	-
510	10-40	7	-
512	10-40	7	-
514	10-40	5	-
516	10-40	4	-
518	10-40	4	-
522	10	4	-
522	10-40	5	-
524	10-40	4	-
526	10-40	5	-
534	40	6	-
536	40	5	-
544	40	5	-

AR-682
99,520 Ac.
(SULPHUR)
50%

111
12 W5

111
10 W5

FT. VERMILION

110
12 W5

110
10 W5

109
12 W5

109
11 W5

109
10 W5

PERMIT No.67

UNION-8

UNION-7

UNION-6

UNION-4

UNION-5

UNION-2

UNION-1

UNION-10

UNION-3

UNION-9

5-831

5-826

5-827

5-830

5-832

5-828

5-829

5-833

SEISMIC SHOTHOLE DRILLING EXAMINED FOR SULPHUR.

LOCATIONS AT WHICH SAMPLES TAKEN AND ANALYZED FOR SULPHUR.

River

SETTLEMENT

BOYER SMT.

BEAVER RANCH I.R. No. 163

SHELL CANADA LIMITED	EXPLORATION AND PRODUCTION DEPARTMENT	SOUTHERN EXPLORATION DIVISION

FT. VERMILION AREA

SULPHUR PROSPECTING PERMIT No.67

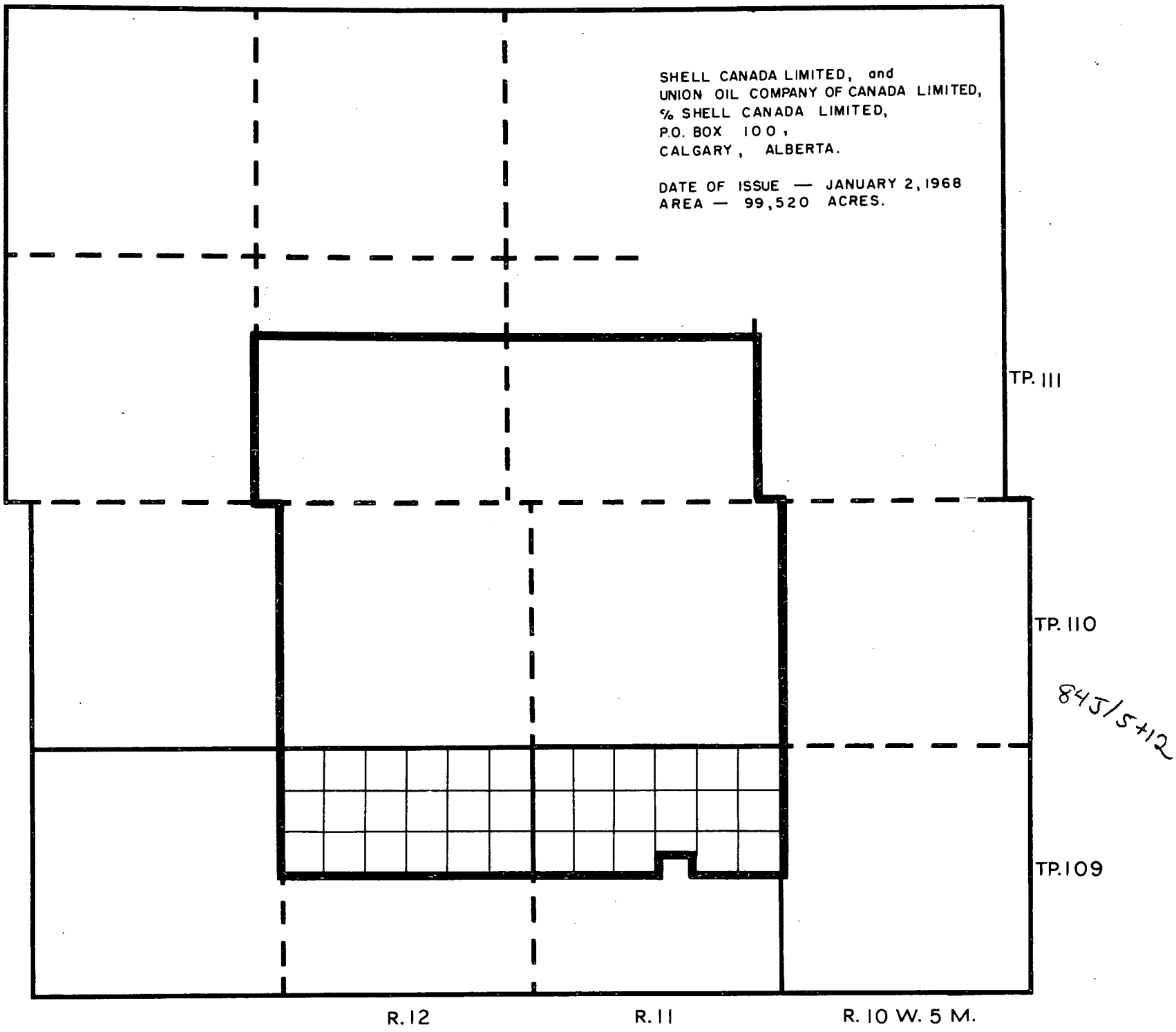
1680061

Party : 5	Datum :
Interpreter :	Elevation Corr. Velocity :
Supervisor :	Filter Base (Corr = 0) :
Date : OCTOBER, 1968	Shot Depths (Ds) :
Maps :	Wx Comp. :
Contour Interval :	
Wavefront Title & Function :	Load Factor Corr. :
Map Scale : 1" = 4000'	Grade Key :
Enclosure No. : 1	

To Accompany Report on Sulphur Prospecting Permit No.67

Q-153

SULPHUR PROSPECTING PERMIT NO. 67



84 5/5+12