

TABLE 2.3-5

**BOREHOLE DATA FOR 2002, PHASE I, PHASE II, PHASE III, 2009, AND 2010 BOREHOLES
FOR OVERBURDEN AND COAL CHARACTERIZATION**

Borehole ID	Coordinates			Depth to D Coal (ft bgs)	D Coal Thickness (feet)	Total Depth (ft bgs)	Located Within Permit Boundary	Located Within Mine Pit Boundary
	X	Y	Z					
SHMW-04D	1366818	443811	2544	69	16.5	255	Yes	Yes
SHMW-05D	1353789	441206	2639	153	22.5	250	No	No
SHMW-06D	1364184	438877	2550	55	15.0	252	Yes	Yes
SHMW-10D2	1370596	436730	2502	37	17.1	400	Yes	No
SHMW-12D	1369166	432062	2559	122	14.0	250	Yes	No
SHOB-01R	1361206	446831	2542	56	18.0	85	Yes	No
SHOB-02R	1363799	446782	2505	28	19.0	210	Yes	No
SHOB-03R	1354560	445681	2565	57	20.0	90	No	No
SHOB-04R	1362459	445475	2541	38	18.0	70	Yes	Yes
SHOB-05R	1365075	445416	2526	47	18.0	75	Yes	Yes
SHOB-06BR	1366390	445376	2516	45	19.0	75	Yes	Yes
SHOB-07R	1367701	445355	2508	44	20.0	75	Yes	Yes
SHOB-08R	1355820	444324	2583	70	19.0	280	Yes	Yes
SHOB-09R	1363733	444106	2575	77	16.0	105	Yes	Yes
SHOB-10R	1368973	443989	2516	63	17.0	200	Yes	Yes
SHOB-11R	1358399	442945	2567	62	17.0	90	Yes	Yes
SHOB-12R	1361030	442880	2573	78	22.0	110	Yes	Yes
SHOB-13R	1363684	442807	2536	33	16.0	60	Yes	Yes
SHOB-14R	1364991	442772	2546	67	18.0	190	Yes	Yes
SHOB-15C	1366325	442783	2555	86	16.7	118	Yes	Yes
SHOB-16R	1367607	442706	2529	65	18.0	100	Yes	Yes
SHOB-17R	1355739	441700	2602	103	19.0	135	Yes	Yes
SHOB-18R	1357059	441675	2594	96	20.0	130	Yes	Yes
SHOB-19R	1359662	441597	2563	43	17.0	70	Yes	Yes
SHOB-20R	1362334	441522	2541	40	19.0	70	Yes	Yes
SHOB-21R	1363579	441484	2528	53	21.0	250	Yes	Yes
SHOB-22R	1364940	441454	2520	39	17.0	70	Yes	Yes
SHOB-23R	1366253	441421	2524	74	19.0	105	Yes	Yes
SHOB-24R	1368886	441344	2503	65	17.0	95	Yes	Yes
SHOB-25C	1360918	440232	2568	60	15.5	85	Yes	Yes
SHOB-26R	1363594	440178	2545	60	19.0	90	Yes	Yes
SHOB-27R	1364913	440139	2534	60	15.0	90	Yes	Yes
SHOB-28R	1366253	440096	2514	75	19.0	105	Yes	Yes
SHOB-29R	1367554	440072	2509	53	19.0	85	Yes	Yes
SHOB-30C	1372841	439954	2518	53	21.3	220	Yes	Yes
SHOB-31R	1359614	438954	2618	119	18.0	150	Yes	No
SHOB-32R	1362235	438897	2602	125	19.0	155	Yes	Yes
SHOB-33R	1364865	438840	2534	44	17.0	75	Yes	Yes
SHOB-34R	1366202	438808	2517	55	19.0	250	Yes	Yes
SHOB-35R	1374125	438569	2502	48	23.0	85	No	No
SHOB-36R	1360883	437598	2585	78	17.0	105	Yes	Yes
SHOB-37R	1363512	437534	2565	65	16.0	95	Yes	Yes
SHOB-38R	1364827	437522	2540	42	16.0	70	Yes	Yes
SHOB-39R	1372764	437289	2517	49	19.0	80	Yes	Yes
SHOB-40R	1359525	436311	2565	21	16.0	50	Yes	Yes
SHOB-41R	1363463	436198	2542	45	16.0	200	Yes	Yes
SHOB-42R	1370055	436046	2501	37	19.0	70	Yes	No
SHOB-43R	1374054	435939	2519	68	16.0	100	No	No
SHOB-44R	1368692	434761	2522	46	17.0	160	Yes	No
SHOB-45R	1364634	432247	2550	42	14.0	70	Yes	Yes
SHOB-46R	1367294	432157	2540	67	18.0	100	Yes	Yes
SHOB-47R	1365958	430880	2536	40	16.0	210	Yes	Yes
SHOB-48R	1368569	430797	2550	120	17.5	150	Yes	No
SH02-04C	1326726	445088	2641	72.8	7.9	140	No	No
SH02-10C	1337725	442207	2510	67	na	67	Yes	Yes

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Borehole ID	Coordinates			Depth to D Coal (ft bgs)	D Coal Thickness (feet)	Total Depth (ft bgs)	Located Within Permit Boundary	Located Within Mine Pit Boundary
	X	Y	Z					
SHOB-101R	1361125	445511	2569	80	10	105	Yes	Yes
SHOB-102R	1363760	445455	2540	35	15	65	Yes	Yes
SHOB-103R	1365044	443681	2570	75	15	105	Yes	Yes
SHOB-104R	1367673	443579	2545	85	10	110	Yes	Yes
SHOB-105R	1355776	443015	2589	80	15	110	Yes	Yes
SHOB-106R	1357081	442978	2576	75	15	105	Yes	Yes
SHOB-107R	1359766	443359	2580	85	20	120	Yes	Yes
SHOB-108R	1362345	442840	2560	65	20	100	Yes	Yes
SHOB-109R	1368941	442668	2526	70	20	100	Yes	Yes
SHOB-110R	1358301	441641	2583	75	15	105	Yes	Yes
SHOB-111R	1360982	441582	2549	40	15	70	Yes	Yes
SHOB-112R	1367584	441359	2523	90	20	120	Yes	Yes
SHOB-113R	1359624	440276	2599	95	15	120	Yes	Yes
SHOB-114R	1362246	440209	2546	45	15	75	Yes	Yes
SHOB-115R	1368454	440423	2501	60	15	90	Yes	Yes
SHOB-116R	1370177	440075	2497	40	15	70	Yes	No
SHOB-117R	1371502	439944	2508	50	15	80	Yes	No
SHOB-118R	1374171	439881	2490	50	20	85	Yes	No
SHOB-119R	1360892	438498	2604	110	10	135	Yes	Yes
SHOB-120R	1367510	438751	2531	65	15	100	Yes	Yes
SHOB-120R1	1367781	438042	2505	no coal	no coal	80	Yes	No
SHOB-120R2	1367674	438333	2504	35	16	65	Yes	No
SHOB-120R3	1367732	438182	2505	no coal	no coal	60	Yes	No
SHOB-120R4	1367710	438254	2505	38	10	60	Yes	No
SHOB-120R5	1367724	438207	2505	no coal	no coal	60	Yes	No
SHOB-120R6	1367682	438327	2506	NR	NR	70	Yes	No
SHOB-121R	1368804	438716	2515	50	20	80	Yes	No
SHOB-122R	1370152	438682	2499	30	20	60	Yes	No
SHOB-123R	1371464	438633	2507	50	15	80	Yes	No
SHOB-124R	1372808	438588	2509	45	20	80	Yes	Yes
SHOB-125R	1361825	437977	2585	105	15	135	Yes	Yes
SHOB-126R	1359541	437642	2603	120	10	145	Yes	Yes
SHOB-127R	1366219	437451	2511	no coal	no coal	80	Yes	No
SHOB-128R	1367429	437443	2506	no coal	no coal	60	Yes	No
SHOB-129R	1368806	437416	2503	no coal	no coal	68	Yes	No
SHOB-130R	1370096	437353	2499	25	15	60	Yes	No
SHOB-131R	1360819	436293	2542	no coal	no coal	120	Yes	No
SHOB-133R1	1364865	436054	2536	51	17	80	Yes	Yes
SHOB-133R2	1364959	435931	2541	56	17	85	Yes	Yes
SHOB-133R3	1365050	435817	2534	57	8	75	Yes	Yes
SHOB-133R4	1365243	435581	2530	43	16	75	Yes	Yes
SHOB-133R5	1365412	435367	2527	35	17	65	Yes	No
SHOB-132R	1362134	436649	2562	60	15	85	Yes	Yes
SHOB-133R	1364789	436181	2527	45	20	75	Yes	Yes
SHOB-134R	1366088	436088	2508	no coal	no coal	80	Yes	No
SHOB-135R	1367403	436131	2505	25	15	70	Yes	No
SHOB-136R	1368720	436016	2515	40	20	75	Yes	No
SHOB-137R	1364604	434931	2512	25	25	50	Yes	Yes
SHOB-138R	1366098	434802	2510	no coal	no coal	120	Yes	No
SHOB-139R	1364688	433527	2514	no coal	no coal	80	Yes	No
SHOB-140R	1366037	433513	2520	no coal	no coal	80	Yes	No
SHOB-141R	1367623	433279	2558	85	10	110	Yes	Yes
SHOB-142R	1366009	432202	2519	no coal	no coal	80	Yes	No
SHOB-143R	1364599	430917	2563	65	15	95	Yes	Yes
SHOB-144R	1367262	430844	2527	58*	17*	100	Yes	Yes
SHMW-03HTB	1369635	445864	2504	58.3	18.2	224	Yes	No
SHMW-08HTB	1358947	437741	2608	114	20	314	Yes	Yes
SHOB-201R	1362412	444181	2579	130	15	160	Yes	Yes
SHOB-202R	1361032	444214	2622	80	16	110	Yes	Yes

Notes:

- Coordinate System: State Plane, Zone: North Dakota South FIPS 3302, Datum: NAD 72, Units: Feet

- "ft bgs" = feet below ground surface

- NR = Not recorded

- Boreholes drilled deeper than 10 feet below the D coal are shown in **bold**

* Coal Depth and thickness for SHOB-144R based on driller comments