

21st May 2020

This announcement contains inside information

88 Energy Limited

Operations Update

88 Energy Limited ("**88 Energy**" or the "**Company**", ASX:88E, AIM 88E) is pleased to provide the following update related to operations for the recently drilled Charlie-1 appraisal well, located on the North Slope of Alaska.

Highlights

- Average API gravity of liquid hydrocarbon in the Torok Fm confirmed as ~50 degrees
- Compelling indications of oil updip from Charlie-1 in Torok and possible intraformational seal identified, supporting geological model for alternate phase
- Oil interpreted in the Seabee at Malguk-1/Charlie-1 as well as updip at Heavenly-1
- Additional results from laboratory testing expected over coming weeks

Detail

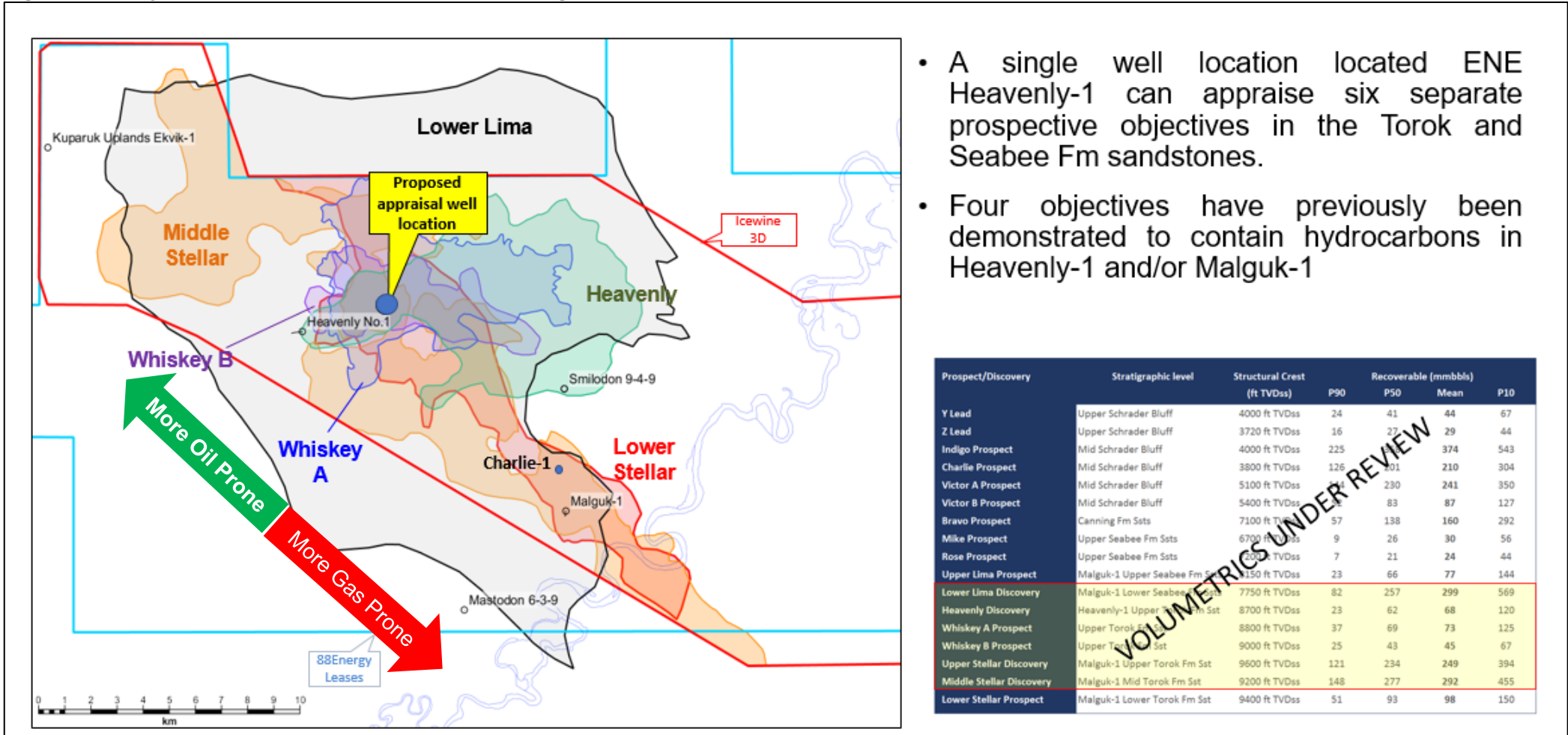
Laboratory tests from fluid hydrocarbons retrieved from the Lower Stellar discovery in the Torok Formation have confirmed gravity of 49-52 degrees API, with an average of 50 degrees API. This gravity is near the typical crossover between volatile oil and condensate; however, constant composition expansion confirms that the phase at this location is condensate gas. The gas oil ratio ("GOR") as measured from the most representative sample is 17,000 - 23,500 cf per bbl. This may be higher than the actual GOR in the reservoir due to the sampling procedure and drawdown pressure. The main implication of having high GOR is that gas would need to be re-injected into the reservoir to maintain pressure during production, an already common practice on the North Slope for both oil development and at the Pt Thomson condensate stripping operation.

88 Energy originally preferred drilling location: Regional integration of early Charlie-1 results

The graphic below (Fig.1) depicts the preferred drilling location marketed by 88 Energy during the 2018/19 farm-out process. This location has several advantages over the Charlie-1 location, selected by the farminee, and will continue to form the basis of the ongoing farm-out for drilling on the acreage:

- Greater certainty of data due to the higher quality log suite obtained from the 2002 Heavenly-1 well vs the 1991 Malguk-1 well, which encountered drilling / logging issues below 10,700' MD
- Located in more optimal thermal maturity window for generation of oil / volatile oil (Fig. 1)
- Evidence of oil in the Torok formation based on shows and oil saturations from side wall cores take from Heavenly-1 (Fig. 2,2a)
- More ideal intersection of targets in the Seabee formation where oil was observed from logs / shows / cores in Heavenly-1 in addition to the oil observed at surface whilst drilling Malguk-1 (Fig. 3 and Fig. 4)
- Better continuity of reservoir and improved reservoir quality interpreted based on inversion interpretation
- More compelling impedance contrasts / high amplitude events on 3D seismic across Seabee and Torok formation targets
- Seismic inversion indicates that the Torok geobodies in the Heavenly area are likely separate to those in the Malguk/Charlie area, supporting geological model for different hydrocarbon phase (Fig. 5)

Fig. 1 Heavenly Appraisal Well – 88E Preferred Drilling Location



- A single well location located ENE Heavenly-1 can appraise six separate prospective objectives in the Torok and Seabee Fm sandstones.
- Four objectives have previously been demonstrated to contain hydrocarbons in Heavenly-1 and/or Malguk-1

Prospect/Discovery	Stratigraphic level	Structural Crest (ft TVDss)	Recoverable (mmbbls)			
			P90	P50	Mean	P10
Y Lead	Upper Schrader Bluff	4000 ft TVDss	24	41	44	67
Z Lead	Upper Schrader Bluff	3720 ft TVDss	16	27	29	44
Indigo Prospect	Mid Schrader Bluff	4000 ft TVDss	225		374	543
Charlie Prospect	Mid Schrader Bluff	3800 ft TVDss	126	201	210	304
Victor A Prospect	Mid Schrader Bluff	5100 ft TVDss	114	230	241	350
Victor B Prospect	Mid Schrader Bluff	5400 ft TVDss	42	83	87	127
Bravo Prospect	Canning Fm Ssts	7100 ft TVDss	57	138	160	292
Mike Prospect	Upper Seabee Fm Ssts	6700 ft TVDss	9	26	30	56
Rose Prospect	Upper Seabee Fm Ssts	6500 ft TVDss	7	21	24	44
Upper Lima Prospect	Malguk-1 Upper Seabee Fm Ssts	1150 ft TVDss	23	66	77	144
Lower Lima Discovery	Malguk-1 Lower Seabee Fm Ssts	7750 ft TVDss	82	257	299	569
Heavenly Discovery	Heavenly-1 Upper Torok Fm Sst	8700 ft TVDss	23	62	68	120
Whiskey A Prospect	Upper Torok Fm Sst	8800 ft TVDss	37	69	73	125
Whiskey B Prospect	Upper Torok Fm Sst	9000 ft TVDss	25	43	45	67
Upper Stellar Discovery	Malguk-1 Upper Torok Fm Sst	9600 ft TVDss	121	234	249	394
Middle Stellar Discovery	Malguk-1 Mid Torok Fm Sst	9200 ft TVDss	148	277	292	455
Lower Stellar Prospect	Malguk-1 Lower Torok Fm Sst	9400 ft TVDss	51	93	98	150

Source: 88E Dataroom 2018/19

Fig. 2 Heavenly-1 Oil Saturations from Dean Stark Core Analysis in Torok Formation

Sample No.	Depth ft	Porosity		Saturations		
		He %	Oil %	Water %	Total %	O/W Ratio
32	9108	11.7	38.7	21.4	60.1	1.81
33	9134	9.7	8.7	57.1	65.8	0.15
43	9234	11.9	0	8.0	8.0	0
44	9237	9.8	0	11.1	11.1	0
34	9242	7.4	16.8	26.9	43.7	0.62
35	9245	8.8	3.3	76.8	80.1	0.04
36	9263	12.4	5.3	65.0	70.3	0.08
45	9319	9.3	0	13.2	13.2	0
37	9535	9.1	9.3	49.6	58.9	0.19
38	9543	9.3	4.6	59.4	64.0	0.08

Source: AOGCC

Fig. 2a Heavenly-1 oil shows in Torok Formation

Run	Depth, MD	Rec. in.	Description	Oil Stn	Odor	Oil Fluorescence		Color	Cut Color	Cut Fluor Color
						%	Intens-ity			
3	9319	1.9	Ss-sh: lt gry, vfl-vfU, qtz, cht + lithics, w srt, sa-sr, access musc, carb debris, calc, buff clay frags, glauc, biot, vitr mtx, ripple lam Tc, intbdd dk gry micac sh, w ind, no vis por	light, even	v strong	90%	strong	yel-wht	straw	brt milky wht
3	9237	1.8	Ss: v lt gry, vfl-fl, pred vfU, qtz > cht + lithics, w srt, sr, access musc, biot, carb debris, calc, abdt lt gry vf cly mtx, thn-md bdd, mod ind, readily disagg in H2O, no app cmt, mod vis por.	light, even	v strong	90%	mod	lt yel	pale straw	brt milky wht
3	9234	1.4	Ss: v lt gry, vfl-fl, pred vfU, qtz > cht + lithics, w srt, sr, access musc, biot, carb debris, calc, inocer, abdt lt gry vf cly mtx, md bdd, mod ind, readily disagg in H2O, wk calc cmt, mod vis por.	light, even	strong	80%	mod	yel-wht	straw	brt milky wht
3	9108	1.5	Ss: lt-md gry, vfl-vfU, qtz > cht + lithics, com wht & lt gry tuff/clay frags, vw srt, sr, access musc, biot, abdt lt gry vf cly mtx, scour/climbing ripple lam, w ind, calc cmt, p vis por	light, even	strong	85%	mod	lt yel	pale straw	brt wht

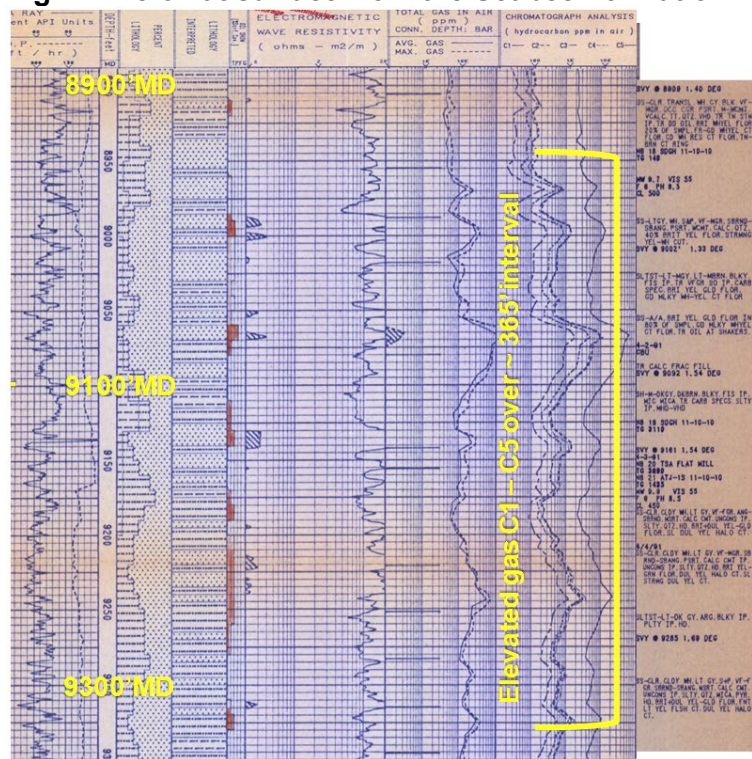
Source: AOGCC

Fig. 3 Strong oil shows/bleeding from side wall cores in the Seabee Formation in Heavenly-1

Run	Depth, MD	Rec. in.	Description	Oil Stn	Odor	Oil Fluorescence			Cut Color	Cut Fluor Color
						%	Intens-ity	Color		
3	8112	1.6	Ss: v lt gry, vfU-mL, pred fl, qtz, dk meta rk frags, cht, wht-buff clay/tuff frags, abdt biot, mod srt, sa-sr, lt gry tuff/clay mtx, wispy bitumen seams on thn lam, calc cmt, no vis por	none	none	5%	strong	yel-wht	pale straw	mod yel wht
3	8079	1.6	Ss: lt gry, fU-mU, pred mL, qtz, dk pelitic rk frags, cht, wht-buff clay/tuff frags, calc, abdt biot, w srt, sr, abdt lt gry tuff/clay mtx, mssv, w ind, tr calc cmt, mtx absorbs liq, but p vis poro, bleeding lt oil	mod, even	v strong	100%	v strong	brt yel wht	lt amber	milky yel wht
3	8063	1.3	Ss: lt gry, vfU-mL, qtz, dk pelitic rk frags, cht, wht clay/tuff frags, calc, abdt biot, w srt, sr, abdt lt gry tuff/clay mtx, mssv, w ind, tr calc cmt, mtx absorbs liq, but p vis poro, pinpt bleeding lt oil	light, even	strong	95%	strong	lt yel	straw	brt blu wht

Source: AOGCC

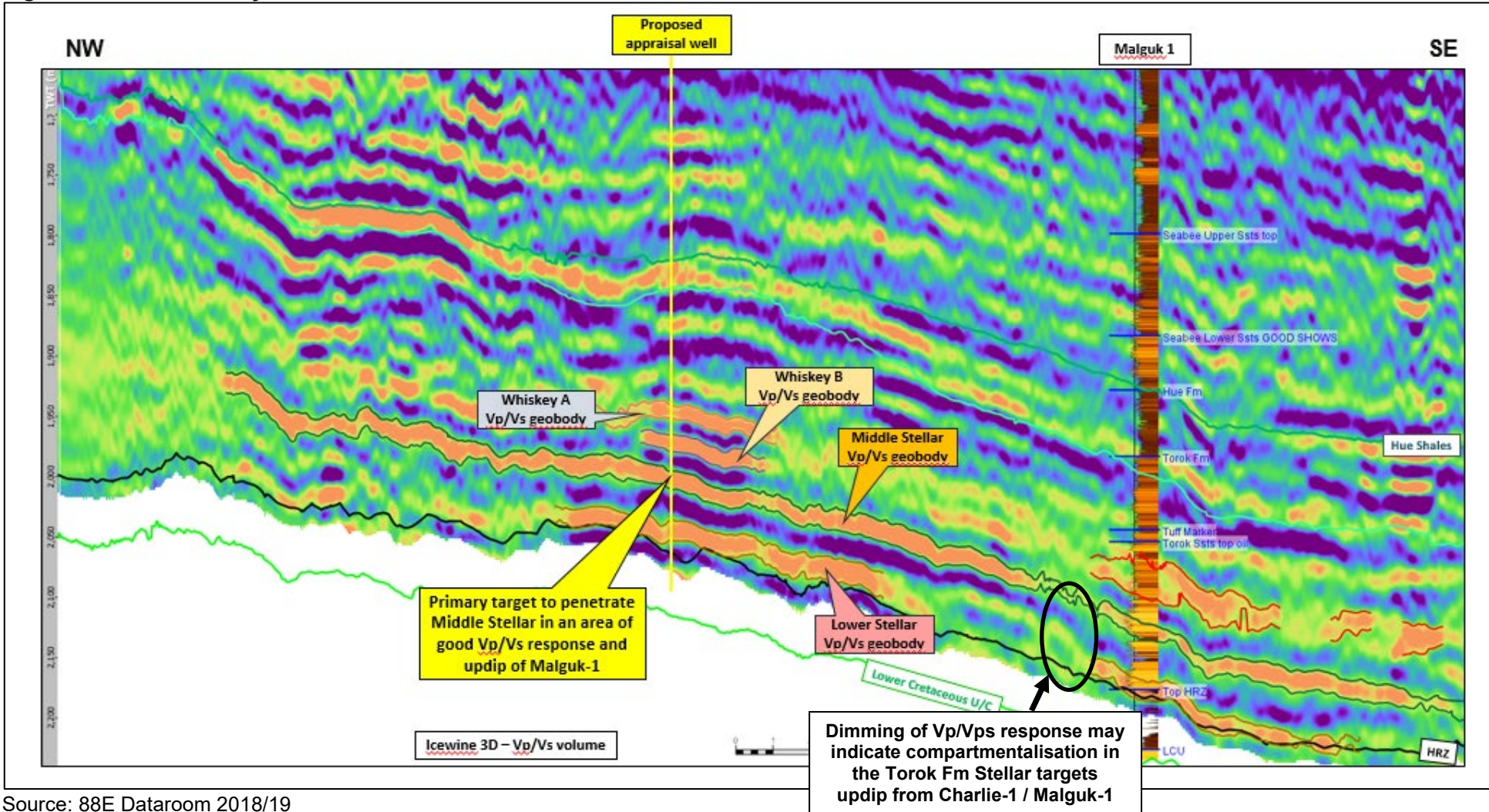
Fig. 4 Live oil at surface from the Seabee Formation in Malguk-1



- Sandstone** – vf – med grain
Tr tan stain i/p, trace dead oil
FLUOR: Bright white/ yellow – 20%, fair to good white/ yellow cut, good white residual cut, tan brown cut residual ring
- Sandstone** – vf – med grain, occ crs. FLUOR: 40%
Bright yellow, streaming yellow –white cut
- Siltstone** 40% Bright yellow gold, good milky white ylw cut
- Sandstone** a/a, ~ 9060'
FLUOR: Bright yellow gold in 80% of sample, good milky white – yellow cut, **trace oil at shakers**
- Sandstone** vf – f, unconsolidated i/p FLUOR: Bright + dull yellow gold, slight dull yellow halo cut
- Sandstone** vf – m, unconsolidated i/p FLUOR: Bright yellow green, dull yellow halo cut, slight streaming dull yellow cut
- Sandstone** vf – f, unconsolidated i/p
FLUOR: Bright & dull yellow gold, faint light yellow flash cut, dull yellow halo cut

Source: AOGCC

Fig. 5 Lack of Continuity of Reservoir / Intraformational Seal Evidence in the Torok Formation



Source: 88E Dataroom 2018/19



This announcement has been authorised by the Board.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Dave Wall', with a horizontal line extending to the right.

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