רציו פטרוליום אנרגיה - שותפות מוגבלת
("השותפות")

14 בפברואר 2021

לכבוד	לכבוד
רשות ניירות ערך	הבורסה לניירות ערך בתל-אביב בע"מ
רח' כנפי נשרים 22	רח' אחוזת בית 2
ירושלים 95464	תל-אביב 652521
באמצעות מגנ"א	באמצעות מגנ"א

ג.א.נ.,

הנדון: <u>דוח הערכת משאבים מותנים במאגר Tanager והערכת משאבים מנובאים (פרוספקטיביים) בבלוק Kaieteur בגיאנה</u>

בהמשך לאמור בדוח המיידי מיום 15.12.2020 בדבר ממצא (Discovery) בקידוח הניסיון (אקספלורציה) Tanager-1 בבלוק Kaieteur בגיאנה (להלן: "**הקידוח**" ו-"**הבלוק**", בהתאמה) (אסמכתא 2020-01-114826), ובהמשך לאמור בדוח המיידי מיום 14.5.2019 בדבר, בין היתר, דוח הערכת המשאבים המנובאים (פרוספקטיביים) שנערך ביחס לחלק משטח הבלוק (לרבות מאגר Tanager, שבשטחו נערך הקידוח כאמור) (אסמכתא 2019-01-045976) (להלן: "**דוח המשאבים הקודם**"), מתכבדת השותפות לפרסם דוח משאבים מותנים ומנובאים נכון ליום 31.1.2021 (להלן: "**דוח המשאבים**" או "**דוח NSAI**") ביחס לחלקה של Ratio Guyana Limited (חברה בת בבעלות מלאה של השותפות, להלן: "**רציו גיאנה**") בבלוק. דוח המשאבים הוכן על ידי חברת Netherland, Sewell & Associates, Inc., מעריך עתודות מומחה, מוסמך ובלתי תלוי ("**NSAI**" או "**המעריך**"), נערך על פי כללי המערכת לניהול משאבי פטרוליום (SPE-PRMS) והוא מצורף כנספח לדוח מיידי זה.

דוח המשאבים מבוסס, בין היתר, על מידע שהתקבל מהקידוח והוא מוגבל לאזור אשר מכוסה על ידי נתוני הסקר הסייסמי התלת-ממדי שביצעו השותפים בחלק משטח הבלוק בשנת 2017.

יצוין, כי נכון למועד דוח זה, השותפים ממשיכים לנתח את ממצאי הקידוח ותוצאות הבדיקות השונות שנערכו במהלך הקידוח ולאחריו. כן יצוין כי בדיקות נוספות ממשיכות עדיין להתבצע. לפיכך, האומדנים וההערכות הכלולים בדוח המשאבים והמפורטים בדוח זה עשויים להשתנות ככל שיצטבר מידע נוסף כאמור. כמו כן, מאחר שנכון למועד הדוח טרם הסתיימו עבודות הניתוח של נתוני הסקר הסייסמי וטרם הושלם ניתוח ממצאי הקידוח ותוצאות הבדיקות השונות כאמור, דוח המשאבים מתייחס אך ורק לאותם פרוספקטים שמידת בשלותם מספקת להערכה נכון למועד זה. תהליך מיפוי המטרות והפרוספקטים בבלוק מצוי עדיין בעיצומו ואותרו פרוספקטים נוספים שאינם כלולים בדוח המשאבים ושעבודות המיפוי והניתוח שלהם טרם הושלמו. לפיכך, הפרוספקטים המפורטים בדוח המשאבים עשויים להשתנות מעת לעת, בין היתר בהתאם להתקדמות עבודות הניתוח של ממצאי הקידוח.

1. **<u>משאבים מותנים ומשאבים מנובאים</u>**

על-פי דוח המשאבים, חלק מהמשאבים בבלוק מסווגים כמשאבים מותנים (Contingent Resources) וחלקם מסווגים כמשאבים מנובאים (פרוספקטיביים) (Prospective Resources). לפיכך, דוח NSAI כולל שני חלקים, כמפורט להלן:

(א) דוח משאבים מותנים, המתייחס למשאבים בממצא Tanager (Discovery) (להלן: "**מאגר טנג'ר**"). יצוין כי חלק מכמויות המשאבים המיוחסות למאגר טנג'ר גולשות לשטח בלוק סטברוק הסמוך שרציו גיאנה אינה שותפה בו, ולפיכך אומדני כמויות המשאבים המותנים בדוח זה מפורטים הן ביחס למאגר טנג'ר כולו (קרי, כולל הכמויות שגולשות מחוץ לשטח בלוק Kaieteur) והן ביחס לחלקן בשטח הבלוק בלבד בו שותפה רציו גיאנה;

(ב) דוח משאבים מנובאים (פרוספקטיביים) המתייחס לשכבות המטרה ב- 11 פרופספקטים בשטח הבלוק, המרוכזים בשלושה מקבצים שונים: המקבץ הדרום-מערבי (SW), המקבץ הדרום-מזרחי (SE) והמקבץ הצפוני (North).

להלן עיקרי הנתונים מתוך דוח המשאבים:

(א) <u>משאבים מותנים</u>

<u>(1) נתוני כמויות</u>

על-פי דוח NSAI, המשאבים המותנים במאגר טנג'ר מסווגים בקטיגוריית Development Unclarified, והינם כמפורט להלן:

<u>נפט</u>[1] Millions of Barrels (MMBBL)			
קטגוריה	**סה"כ במאגר טנג'ר* (שכבת Maastrichtian) (Gross)**	**סה"כ בבלוק Kaieteur (נכס הנפט) (100%) (Gross)**	**סה"כ חלקה של השותפות בנכס הנפט (25%)[2]**
האומדן הנמוך (1C - Low Estimate)	17.7	11.3	2.8
האומדן הטוב ביותר (2C -Best Estimate)	65.3	42.7	10.7
האומדן הגבוה (3C-High Estimate)	131.0	86.0	21.5

*האומדנים בעמודה זו מתייחסים, כאמור, לכמויות המשאבים המותנים המוערכות במאגר טנג'ר כולו - קרי בשטח בלוק Kaieteur ומחוצה לו גם יחד.

כמפורט בדוח המשאבים, המשאבים מותנים בהכנת תוכנית פיתוח למאגר ובאישורה, בהצגת היתכנות כלכלית לפרויקט ובהתחייבות לפתח את המשאבים. כן ציין המעריך כי אם התנאים האמורים יתמלאו, חלק מהמשאבים המותנים עשויים להיות מסווגים מחדש כרזרבות (עתודות). בדוח המשאבים צוין כי המעריך לא ערך ניתוח כלכלי של המשאבים. כן צוין כי אין ודאות כי יהא כדאי מבחינה מסחרית להפיק שיעור כלשהו מהמשאבים המותנים. עוד צוין כי המשאבים המותנים לא הותאמו לסיכוני פיתוח.

לאור השלב המוקדם לא ניתן לקבוע את השוק למשאבים המותנים, ככל שיופקו. יחד עם זאת, אם הנפט במאגר יהיה באיכות מתאימה ובעלויות הפקה כדאיות, יש להניח כי ניתן יהיו לשווקו בקלות יחסית, שכן הנפט הוא "commodity" אשר מחירו נקבע בשווקים הבינלאומיים וניתן למכירה בהיקף כמעט בלתי מוגבל בשוק הבינלאומי במחירים אלה.

אזהרה - אין ודאות כי יהא זה אפשרי מבחינה מסחרית להפיק שיעור כלשהו מהמשאבים המותנים.

אזהרה בגין מידע צופה פני עתיד - הערכות NSAI בדבר כמויות המשאבים המותנים של נפט במאגר טנג'ר הינן מידע צופה פני עתיד כמשמעו בחוק ניירות ערך. ההערכות לעיל מבוססות, בין היתר, על מידע גיאולוגי, גיאופיסי, הנדסי ואחר, שנתקבל מקידוח הניסיון שבוצע במאגר ומהמפעילה, Esso Exploration and Production Guyana Ltd. (חברה בת של ExxonMobil, להלן: "**אקסון**") **והינן בגדר הערכות והשערות מקצועיות בלבד של NSAI ואשר לגביהן לא קיימת כל וודאות. כמויות הנפט שיופקו בפועל, אם יופקו, עשויות להיות שונות מההערכות וההשערות הנ"ל, בין היתר, כתוצאה מתנאים תפעוליים וטכניים ו/או משינויים רגולטוריים ו/או מתנאי היצע וביקוש בשוק הנפט ו/או מהביצועים בפועל של המאגר. ההערכות וההשערות הנ"ל עשויות להתעדכן ככל שיצטבר מידע נוסף ו/או כתוצאה ממכלול של גורמים הקשורים בפרויקטים של חיפושים והפקה של נפט, לרבות כתוצאה מהמשך ניתוח ממצאי הקידוח.**

[1] Million barrels of oil - מיליוני חביות נפט. הסכומים בטבלה עשויים שלא להסתכם עקב הפרשי עיגול.

[2] לפני חלוקת רווח לממשלת גיאנה ותשלום תמלוגים. לאופן חישוב השיעור המשויך בפועל למחזיקי הזכויות ההוניות של השותפות בהכנסות מנכס הנפט, בהינתן תרחיש עתידי של תגלית והפקת הכנסות מנכס הנפט, ראו סעיף 1.9.2.8 לפרק א' בדוח התקופתי של השותפות לשנת 2019, שפורסם ביום 8.3.2020 (אסמכתא 2020-01-019294) ואשר המידע בו מובא בזאת על דרך ההפניה (להלן: "**הדוח התקופתי לשנת 2019**").

(ב) משאבים מנובאים (פרוספקטיביים)

1. **הסקר שעל בסיסו נערך עיבוד הנתונים הכלולים בדוח המשאבים**

הנתונים הכלולים בדוח המשאבים נערכו על בסיס תוצאות סקר סייסמי תלת מימדי (3D) שנערך בשטח הבלוק בשנת 2017, אשר השתרע על כ- 5,750 קמ"ר (כ- 40% מסך השטח הכולל של הבלוק ; להלן : "**הסקר הסייסמי**"). העיבוד של נתוני נתוני הסקר הסייסמי הושלם בשנת 2018. כאמור, מאחר שנכון למועד הדוח טרם הסתיימו עבודות הניתוח של נתוני הסקר הסייסמי וטרם הושלם ניתוח ממצאי הקידוח ותוצאות הבדיקות השונות שנערכו במהלכו ולאחריו, תהליך מיפוי הפרוספקטים מצוי עדיין בעיצומו ולפיכך דוח המשאבים מתייחס אך ורק לפרוספקטים שמידת בשלותם מספקת להערכה נכון למועד זה.

2. **להלן אומדן כמות המשאבים המנובאים (פרוספקטיביים) ללא מרכיב הסיכון (100%) (Unrisked Gross (100 Percent) Prospective Resources) לשכבות המטרה בפרוספקטים בשטח הבלוק שנכללו בדוח המשאבים, נכון ליום 31.1.2021:**

הפרוספקט	שכבת המטרה	נפט (MMBBL)					
		סה"כ (100%) בשכבות המטרה בפרוספקטים בשטח הבלוק שנכללו בדוח המשאבים (Gross)			סה"כ חלקה של השותפות (25%)[3]		
		קטגוריית המשאבים המנובאים					
		האומדן הנמוך (Low Estimate-1U)	האומדן הטוב ביותר (Best Estimate-2U)	האומדן הגבוה (High Estimate-3U)	האומדן הנמוך (Low Estimate-1U)	האומדן הטוב ביותר (Best Estimate-2U)	האומדן הגבוה (High Estimate-3U)
Bananaquit	Santonian 2&3	1.8	12.4	76.2	0.4	3.1	19.1
	Santonian 7	1.2	9.5	68.2	0.3	2.4	17.0
	Coniacian 1	5.7	22.6	73.8	1.4	5.7	18.5
	Coniacian 2	2.8	18.8	112.8	0.7	4.7	28.2
	Coniacian 3	1.1	9.2	71.3	0.3	2.3	17.8
Egret	Campanian	19.0	59.7	143.8	4.7	14.9	36.0
Hoatzin	Campanian	44.0	139.3	338.3	11.0	34.8	84.6
	Santonian	11.5	41.9	124.7	2.9	10.5	31.2
[4]Kingfisher 6	Maastrichtian	36.5	158.5	602.6	9.1	39.6	150.7
[4]Kingfisher 8	Maastrichtian	108.7	309.3	676.8	27.2	77.3	169.2
Kiskadee	Campanian	33.2	119.2	339.8	8.3	29.8	84.9
Macaw	Maastrichtian	45.7	151.3	410.4	11.4	37.8	102.6
Motmot	Campanian	19.2	142.8	964.3	4.8	35.7	241.1
	Santonian	9.5	41.9	155.4	2.4	10.5	38.8
	Coniacian	7.3	54.4	350.1	1.8	13.6	87.5
Toucan	Channel A Complex	69.8	268.1	802.0	17.4	67.0	200.5
	Channel C	14.5	64.8	203.2	3.6	16.2	50.8
	Channel E	71.7	254.2	711.4	17.9	63.5	177.9

[3] לפני חלוקת רווח לממשלת גיאנה ותשלום תמלוגים. חישוב חלקה של השותפות לא נכלל בדוח המשאבים. לאופן חישוב השיעור המשויך בפועל למחזיקי הזכויות ההוניות של השותפות בהכנסות מנכס הנפט, בהינתן תרחיש עתידי של תגלית והפקת הכנסות מנכס הנפט ראו סעיף 1.9.2.8 לפרק א' בדוח התקופתי של השותפות, אשר המידע בו מובא בזאת על דרך ההפניה.

[4] פרוספקט זה נמצא בסמיכות רבה לממצא (Discovery) טנג'ר.

נפט (MMBBL)						שכבת המטרה	הפרוספקט
סה"כ חלקה של השותפות (25%)[3]			סה"כ (100%) בשכבות המטרה בפרוספקטים בשטח הבלוק שנכללו בדוח המשאבים (Gross)				
קטגוריית המשאבים המנובאים							
האומדן הגבוה (High Estimate-3U)	האומדן הטוב ביותר (Best Estimate-2U)	האומדן הנמוך (Low Estimate-1U)	האומדן הגבוה (High Estimate-3U)	האומדן הטוב ביותר (Best Estimate-2U)	האומדן הנמוך (Low Estimate-1U)		
78.0	25.3	5.7	311.8	101.3	23.0	Channel F	Toucan (המשך)
96.0	26.4	5.4	384.0	105.8	21.5	Channel G	
286.8	80.9	16.6	1,147.2	323.8	66.6	Channel M	
38.8	15.9	5.3	155.1	63.7	21.1	Maastrichtian	Towa-Towa
347.5	69.3	12.5	1,390.0	277.4	50.0	Maastrichtian	Trumpeter

3. **<u>להלן טבלה המציגה את מרכיבי הסיכון הגיאולוגי ואת סה"כ ההסתברות להצלחה גיאולוגית בכל אחת משכבות המטרה בפרוספקטים בשטח הבלוק שנכללו בדוח המשאבים (באחוזים):</u>**

Prospect	Reservoir	שלמות המלכודת (Trap Integrity)	איכות המאגר (Reservoir Quality)	איכות סלעי המקור (Source Evaluation)	תזמון/נדידה (Timing/Migration)	סה"כ הסתברות הצלחה גיאולוגית (Probability of Geological Success %)
Bananaquit	Santonian 2&3	50	90	90	90	36
	Santonian 7	50	90	90	90	36
	Coniacian 1	40	90	90	90	29
	Coniacian 2	40	90	90	90	29
	Coniacian 3	40	90	90	90	29
Egret	Campanian	40	90	90	80	26
Hoatzin	Campanian	50	90	90	80	32
	Santonian	50	90	90	80	32
Kingfisher 6	Maastrichtian	70	90	100	90	57
Kingfisher 8	Maastrichtian	70	90	100	90	57
Kiskadee	Campanian	50	90	90	80	32
Macaw	Maastrichtian	60	90	90	80	39
Motmot	Campanian	50	80	90	80	29
	Santonian	50	80	90	80	29
	Coniacian	50	80	90	80	29
Toucan	Channel A Complex	40	90	90	80	26
	Channel C	40	90	90	80	26
	Channel E	40	90	90	80	26
	Channel F	40	90	90	80	26
	Channel G	40	90	90	80	26
	Channel M	40	90	90	80	26
Towa-Towa	Maastrichtian	70	90	90	90	51
Trumpeter	Maastrichtian	60	90	90	90	44

מרכיבי הסיכון הגיאולוגי מתייחסים להסתברות להצלחה במציאת תגלית המכילה כמויות משמעותיות של נפט בר-הפקה. מרכיבי הסיכון הגיאולוגי הוערכו ללא תלות בהערכת אומדני הכמויות ובסיכוי לפיתוח

התגלית (ככל שתהיה).

בדוח המשאבים צוין כי הסיכונים הגיאולוגיים העיקריים של מערכת ההידרוקרבונים (Petroleum System), כוללים את (1) מאפייני המלכודת ואטימתה; (2) קיום סלעי המאגר ואיכותם; (3) קיבולת, איכות ובגרות של סלע המקור; (4) עיתוי, נדידה ושימור של נפט ביחס למלכודת והיווצרות אטימה. הסיכונים המרכזיים והסתברות ההצלחה הגיאולוגית מוצגים בטבלה דלעיל. כן צוין בדוח המשאבים כי הסיכון הגיאולוגי העיקרי לפרוספקטים המפורטים לעיל הוא מאפייני המלכודת ואטימתה (Trap Integrity).

בדוח המשאבים צוין כי כל אחד מהפרוספקטים הוערך בנפרד ובאופן עצמאי. כן צוין כי אם תהיינה תגליות, פרוספקטים שבהם כמויות קטנות עשויים שלא להיות מסחריים לפיתוח עצמאי, ואולם ייתכן שהם יהיו מועמדים לפיתוח לוויני וחיבור לתשתית קיימת בעתיד.

4. **<u>להלן המשתנים הבסיסיים ששימשו לחישוב התרחישים השונים ביחס למשאבים המנובאים (פרוספקטיביים) בשכבות המטרה (Reservoir) בפרוספקטים בשטח הבלוק שנכללו בדוח המשאבים, נכון ליום 31.1.2021:</u>**

Prospect	Reservoir	Gross Rock Volume (Acre-Feet) Lognormal Distribution		Area (Acres)		Average Gross Thickness (Feet)		Net-to-Gross Ratio (Decimal) Normal Distribution	
		Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Bananaquit	Santonian 2&3	20,276	501,545	449	4,607	45	109	0.50	0.90
	Santonian 7	15,723	520,840	732	8,100	21	64	0.40	0.80
	Coniacian 1	87,629	479,599	442	2,573	198	186	0.50	0.90
	Coniacian 2	36,878	846,870	996	8,346	37	101	0.50	0.90
	Coniacian 3	13,787	549,090	467	4,275	30	128	0.50	0.90
Egret	Campanian	245,448	571,487	3,650	6,693	67	85	0.50	0.90
Hoatzin	Campanian	559,715	1,366,872	13,433	16,196	42	84	0.50	0.90
	Santonian	268,518	1,197,020	4,503	10,266	60	117	0.30	0.50
Kingfisher 6	Maastrichtian	525,030	4,734,108	11,031	20,677	48	229	0.30	0.60
Kingfisher 8	Maastrichtian	2,167,444	4,055,508	16,987	29,887	128	136	0.30	0.60
Kiskadee	Campanian	296,982	1,939,844	6,182	11,792	48	165	0.50	0.90
Macaw	Maastrichtian	753,010	2,927,540	9,287	22,024	81	133	0.30	0.60
Motmot	Campanian	172,602	5,245,360	5,105	20,942	34	250	0.50	0.90
	Santonian	203,638	1,615,930	3,713	12,033	55	134	0.30	0.50
	Coniacian	188,387	4,509,400	3,044	16,695	62	270	0.20	0.60

Prospect	Reservoir	Gross Rock Volume (Acre-Feet) Lognormal Distribution		Area (Acres)		Average Gross Thickness (Feet)		Net-to-Gross Ratio (Decimal) Normal Distribution	
		Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Toucan	Channel A Complex	1,915,150	7,379,938	12,912	31,526	148	234	0.20	0.50
	Channel C	344,192	1,266,830	5,444	14,705	63	86	0.20	0.80
	Channel E	1,082,619	3,820,060	11,018	30,851	98	124	0.40	0.80
	Channel F	628,613	2,147,360	6,251	13,149	101	163	0.20	0.80
	Channel G	529,823	2,883,160	4,924	21,971	108	131	0.20	0.80
	Channel M	1,660,042	8,562,970	13,303	49,951	125	171	0.20	0.80
Towa-Towa	Maastrichtian	364,872	1,037,057	2,428	8,990	150	115	0.30	0.60
Trumpeter	Maastrichtian	684,420	11,383,965	3,838	50,249	178	227	0.30	0.60

Prospect	Reservoir	Porosity (Decimal) Normal Distribution		Oil Saturation (Decimal) Normal Distribution		Oil Formation Volume Factor (STB/BBL)[5] Normal Distribution		Oil Recovery Factor (Decimal) Normal Distribution	
		Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Bananaquit	Santonian 2&3	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
	Santonian 7	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
	Coniacian 1	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
	Coniacian 2	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
	Coniacian 3	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
Egret	Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
Hoatzin	Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
	Santonian	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50

[5] מייצג stock tank barrell per reservoir barrell.

Prospect	Reservoir	Porosity (Decimal) Normal Distribution		Oil Saturation (Decimal) Normal Distribution		Oil Formation Volume Factor (STB/BBL)[5] Normal Distribution		Oil Recovery Factor (Decimal) Normal Distribution	
		Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Kingfisher 6	Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Kingfisher 8	Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Kiskadee	Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
Macaw	Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Motmot	Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
	Santonian	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
	Coniacian	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
Toucan	Channel A Complex	0.22	0.30	0.40	0.80	0.45	0.95	0.10	0.50
	Channel C	0.22	0.30	0.40	0.80	0.45	0.95	0.10	0.50
	Channel E	0.22	0.30	0.40	0.80	0.45	0.95	0.10	0.50
	Channel F	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
	Channel G	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
	Channel M	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Towa-Towa	Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Trumpeter	Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40

5. **<u>הסיכונים המשמעותיים הכרוכים בהמשך התהליך:</u>**

הסיכונים המשמעותיים הכרוכים בשלב זה של הפעילות בבלוק הם, בעיקר, הסיכון כי לא יהיה ממצא של הידרוקרבונים בקידוחים הבאים בשטח הבלוק (ככל שיוחלט עליהם) או שהממצא יהיה בגודל או באיכות קטנים מכפי שהוערך, איכות המאגרים בבלוק (אשר בשלב זה אינם ידועים), וסיכונים נוספים הכרוכים בהמשך התהליך, בהם סיכונים טכניים-תפעוליים לרבות סיכון לתקלות בפעולות הקדיחה, הלוגים החשמליים ומבחני ההפקה (ככל שיהיו). במידה שהפעולות הטכניות-תפעוליות יושלמו ללא תקלות, הסיכונים בהמשך התהליך הנדרש להגעה לממצא מסחרי הם, בין היתר, שנקבוביות ומוליכות (Permeability) שכבות המטרה לא יהיו מספקות על מנת לאפשר זרימה או זרימה בספיקה בעלת משמעות מסחרית, חדירה של מים שלא תאפשר הפקה כלכלית ועוד.

לפירוט גורמי הסיכון והסיכונים המשמעותיים הכרוכים בהמשך התהליך ראו סעיף 1.23 בפרק תיאור עסקי התאגיד בדוח התקופתי של השותפות לשנת 2019.

בנוסף, לצורך המשך הפעילות בשטח הבלוק יידרשו, בין היתר, קבלת אישורים רגולטוריים שונים לביצוע קידוח בשטח הבלוק, לרבות אישורים בקשר עם איכות הסביבה.

6. **<u>הנחות והסתייגויות</u>**

יצוין, כי בדוח המשאבים ציינה NSAI, בין היתר, מספר הנחות והסתייגויות, ובכללן:

א. NSAI לא ערכה בחינת שדה (Field Inspection) של הפרוספקטים;

ב. NSAI לא בחנה חשיפה אפשרית הנובעת מסוגיות איכות סביבה בקשר עם הפרוספקטים. יחד עם זאת, NSAI ציינה כי נכון למועד הדוח לא ידוע לה על חשיפה אפשרית הנובעת מסוגיות איכות סביבה אשר יש בה כדי להשפיע באופן מהותי על כמויות המשאבים המוערכים בדוח המשאבים או על מסחריותם;

ג. כמויות המשאבים המותנים והמנובאים המפורטים בדוח הן אומדנים בלבד ואין לפרשן ככמויות מדוייקות. האומדנים עשויים לגדול או לקטון כתוצאה מתנאי שוק, פעולות עתידיות, שינויים ברגולציה או הביצועים בפועל של המאגר.

7. **<u>אומדן להסתברות לשם הפקה מסחרית</u>**

נכון למועד הדוח, וטרם ביצועו של קידוח אקספלורציה בפרוספקטים המפורטים לעיל, אין ביכולת השותפות ליתן אומדן סטטיסטי להסתברות הפיתוח של איזה מהפרוספקטים להפקה מסחרית. דוח המשאבים אינו כולל ניתוח כלכלי של הפרוספקטים. השוק הפוטנציאלי העיקרי לנפט (ככל שיתגלה), מעצם היותו סחורה (commodity) עולמית שמחיריה נקבעים בבורסות בעולם ואשר ניתן לשינוע במיכליות בים, הוא השוק הבינלאומי.

8. **<u>נימוקי השותפות אודות הבסיס לפרמטרים הבסיסיים ששימשו בחישוב התרחישים</u>**

הפרמטרים ששימשו בחישוב האומדנים השונים מבוססים, בין היתר, על תוצאות הסקר הסייסמי, ממצאי קידוח הניסיון Tanager-1 שערכו השותפים בבלוק וכן על ידע כללי ביחס לשכבות ולמאגרים דומים נוספים.

9. **<u>השוואה לנתוני דוחות קודמים</u>**

בדוח המשאבים התווספו נתונים בדבר המשאבים המותנים שהתגלו במאגר Tanager. כמו כן, נוספו פרוספקטים חדשים בבלוק (כאמור לעיל, תהליך מיפוי הפרוספקטים בבלוק מצוי עדיין בעיצומו, ואותרו פרוספקטים נוספים שאינם כלולים בדוח המשאבים מכיוון שעבודות המיפוי והניתוח שלהם טרם הושלמו. לפיכך, הפרוספקטים המפורטים בדוח המשאבים עשויים להשתנות מעת לעת).
בנוסף על כך, לאור התוצאות הראשוניות של ניתוח ממצאי הקידוח, סיכויי ההצלחה הגיאולוגית בפרוספקטים בשכבת Maastrichtian עלו בצורה משמעותית לעומת הנתונים בדוח המשאבים הקודם. אין שינוי מהותי בסך אומדני כמויות המשאבים הפרוסקטיביים ביחס לדוח המשאבים הקודם.

10. **<u>אזהרה</u>**

אין ודאות כי חלק כלשהו מהמשאבים האפשריים שצוינו אכן יתגלה; אם יתגלה, אין ודאות כי יהיה זה אפשרי מבחינה מסחרית להפיק חלק כלשהו מהמשאבים; המידע הפרוספקטיבי אינו בגדר הערכה על אודות עתודות ומשאבים מותנים, אותם ניתן יהיה להעריך רק לאחר קידוח הניסיון, אם בכלל.

11. **אזהרת מידע צופה** פני עתיד - הערכת NSAI בדבר המשאבים המנובאים (פרוספקטיביים) בבלוק היא מידע צופה פני עתיד, כהגדרת המונח בחוק ניירות ערך, תשכ"ח - 1968. ההערכות לעיל מבוססות, בין היתר, על מידע גיאולוגי, גיאופיסי ואחר, שנתקבל מהסקר הסייסמי ומהקידוח שנערך בפרופספקט טנג'ר, והן בגדר הערכות והשערות מקצועיות בלבד של NSAI ואשר לגביהן לא קיימת כל וודאות. ההערכות הנ"ל עשויות להתעדכן ככל שיצטבר מידע נוסף ו/או כתוצאה ממכלול של גורמים הקשורים בפרויקטים של חיפושים והפקה של גז ונפט, לרבות כתוצאה מהמשך ניתוח ממצאי הסקר הסייסמי והקידוח ותוצאות הבדיקות השונות שנערכו ושעדיין נערכות בקשר עמו.

12. **<u>חוות דעת של NSAI</u>**

דוח המשאבים והסכמת NSAI להכללתו מצורפים כנספח לדוח זה.

13. **<u>הצהרת הנהלה</u>**

(1) תאריך ההצהרה: 14.2.2021;
(2) ציון שם התאגיד המדווח: רציו פטרוליום אנרגיה - שותפות מוגבלת ("**השותפות**");
(3) שם הנושא בתפקיד להערכת המשאבים: מר ליגד רוטלוי, יו"ר דירקטוריון רציו פטרוליום בע"מ, השותף הכללי בשותפות;
(4) הריני לאשר, כי נמסרו ל-NSAI כל הנתונים הרלוונטיים הנדרשים לצורך ביצוע עבודתם;
(5) הריני לאשר, כי לא בא לידיעתנו כל מידע המצביע על קיום תלות בין NSAI לבין השותפות;
(6) הריני לאשר, כי למיטב ידיעתנו המשאבים שדווחו הינם האומדנים הטובים והעדכניים ביותר הקיימים ברשותנו;
(7) הריני לאשר, כי הנתונים שנכללו בדוח זה נערכו לפי המונחים המקצועיים המנויים בפרק ה' לתקנות ניירות ערך (פרטי התשקיף וטיוטת תשקיף- מבנה וצורה), תשכ"ט-1969 ובמשמעות הנודעת להם ב-"PETROLEUM RESOURCES MANAGEMENT SYSTEM 2018", כפי שפרסמו איגוד מהנדסי הפטרוליום (SPE), הארגון האמריקני של גאולוגים בתחום הפטרוליום (AAPG), המועצה העולמית לפטרוליום (WPC) ואיגוד מהנדסי הערכת הפטרוליום (SPEE), כתוקפם בעת הדיווח;
(8) הריני לאשר, כי לא נעשה שינוי בזהות המעריך שביצע את הגילוי בדבר המשאבים המנובאים האחרון שפורסם על ידי השותפות;
(9) הריני מסכים להכללת ההצהרה האמורה לעיל בדוח זה.

_____

ליגד רוטלוי, יו"ר דירקטוריון השותף הכללי

14. **<u>מונחים מקצועיים</u>**

"**איגוד מהנדסי הערכת פטרוליום (SPEE)**" - Society of Petroleum Evaluation Engineers.

"**איגוד מהנדסי פטרוליום (SPE)**" - Society of Petroleum Engineers.

"**אקספלורציה**" - סך הפעולות הקשורות לחיפושי נפט וגז.

"**הידרוקרבונים**" – פחמימנים; שם כולל לנפט וגז שהם תרכובות המורכבות מפחמן ומימן.

"**המועצה העולמית לפטרוליום (WPC)**" – World Petroleum Council.

"**מערכת לניהול משאבי פטרוליום (SPE-PRMS)**" - "Petroleum Resources Management System" (2018), כפי שפורסמה ע"י איגוד מהנדסי הפטרוליום (SPE), הארגון האמריקאי של גיאולוגים בתחום הפטרוליום (AAPG), המועצה העולמית לפטרוליום (WPC) ואיגוד מהנדסי הערכת הפטרוליום (SPEE), וכפי שתתוקן מעת לעת.

"**סקר סייסמי**" - שיטה המאפשרת (ביבשה או בים) הדמיה של תת הקרקע ואיתור המבנים הגיאולוגיים. הסקר מבוצע על-ידי החדרת גלים סייסמים לתת הקרקע והחזרתם מהאופקים השונים המצויים בחתך שנבדק. כיום משתמשים בעיקר בסקרים דו-מימדיים (2D) וסקרים תלת מימדיים (3D). הסקרים הדו מימדיים, משמשים בעיקר להכרות ראשונית של תת הקרקע באזור הנסקר ולאיתור כללי של מבנים העשויים לשמש מלכודות לנפט. הסקרים התלת מימדיים מבוצעים באזורים שאותרו כמבטיחים בסקרים הדו מימדיים (שעלותם גבוהה יותר מסקר דו מימדי והנתונים והתוצאות באיכות גבוהה יותר) והתמונה המתקבלת בהם היא מפורטת ומאפשרת, בין השאר, איתור מיקום אופטימאלי לביצוע קידוחים ולהערכה מדויקת יותר של גודל המבנה.

"**פטרוליום**" (PETROLEUM); "**משאבים פרוספקטיביים (מנובאים)**" (PROSPECTIVE RESOURCES); "**נתגלה**" (DISCOVERED); "**תגלית (ממצא)**" (DISCOVERY); "**רזרבות (עתודות)**" (RESERVES), "**משאבים מותנים**" (CONTINGENT RESOURCES); "**רזרבות (עתודות) מוכחות**" (PROVED RESERVES); "**רזרבות (עתודות) צפויות**" (PROBABLE RESERVES); "**רזרבות (עתודות) אפשריות**" (POSSIBLE RESERVES); "**אומדן כמויות נמוך**" (LOW ESTIMATE); "**אומדן כמויות הטוב ביותר**" (BEST ESTIMATE); "**אומדן כמויות גבוה**" (HIGH ESTIMATE); "**משאבים מותנים בקטגוריית 1C,2C,3C**" ("**1C,2C,3C**"); "**בהפקה**" (ON PRODUCTION); "**אושר לפיתוח**" (APPROVED FOR DEVELOPMENT); "**מוצדק לפיתוח**" (JUSTIFIED FOR DEVELOPMENT); "**הצדקת פיתוח בבחינה**" (PENDING) DEVELOPMENT; "**תוכנית פיתוח הושעתה או בחינת אפשרויות פיתוח עלולה להתעכב באופן מהותי**" (DEVELOPMENT UNCLARIFIED OR ON HOLD); "**נטישת באר**" (ABANDONMENT WELL); "**פיתוח אינו מעשי**" (DEVELOPMENT NOT VIABLE); קונדנסט

(Condensate); "**קידוח יבש** (DRY HOLE)" ; "**רזרבות (עתודות) בקטגוריה 1P/2P/3P (1P/2P/3P)**" - כמשמעות מונחים אלה במערכת לניהול משאבי פטרוליום (SPE-PRMS).

"**MMBBL**" – מיליון חביות (Millions of Barrels).

<u>השותפים בבלוק Kaieteur בגיאנה ושיעור החזקותיהם הם כדלקמן:</u>

אקסון (המפעילה)	35%
רציו גיאנה	25%
Cataleya Energy Limited (השותף המקומי)	25%
Hess Guyana (Block B) Exploration Limited	15%

בכבוד רב,

רציו פטרוליום בע"מ
השותף הכללי ברציו פטרוליום אנרגיה - שותפות מוגבלת
על-ידי ליגד רוטלוי, יו"ר

<u>דוח הערכת משאבים מותנים ומשאבים מנובאים (פרוספקטיביים) ביחס לחלק משטח בלוק Kaieteur שהוכן על-ידי NSAI והסכמת NSAI להכללתו בדוח המיידי</u>

NETHERLAND, SEWELL & ASSOCIATES, INC.
WORLDWIDE PETROLEUM CONSULTANTS
ENGINEERING • GEOLOGY • GEOPHYSICS • PETROPHYSICS

February 14, 2021

Mr. Ligad Rotlevy
Ratio Petroleum Energy – Limited Partnership
85 Yehuda Halevi Street
Tel Aviv 65796
Israel

Dear Mr. Rotlevy:

As independent consultants, Netherland, Sewell & Associates, Inc. hereby grants permission to Ratio Petroleum Energy – Limited Partnership (referred to herein as "Ratio Petroleum") to use our report dated February 12, 2021, to be filed with the Israel Securities Authority (ISA). This report sets forth our estimates of the unrisked contingent and prospective oil resources, as of January 31, 2021, to the Ratio Petroleum working interest in the Tanager Discovery and certain prospects located in the Kaieteur Block, offshore Guyana.

Sincerely,

NETHERLAND, SEWELL & ASSOCIATES, INC.

By: Richard B. Talley, Jr.

Richard B. Talley, Jr., P.E.
Senior Vice President

RBT:MAG

2100 ROSS AVENUE, SUITE 2200 • DALLAS, TEXAS 75201-2737 • PH: 214-969-5401 • FAX: 214-969-5411
1301 MCKINNEY STREET, SUITE 3200 • HOUSTON, TEXAS 77010-3034 • PH: 713-654-4950 • FAX: 713-654-4951
nsai@nsai-petro.com
netherlandsewell.com

NETHERLAND, SEWELL & ASSOCIATES, INC.
WORLDWIDE PETROLEUM CONSULTANTS
ENGINEERING • GEOLOGY • GEOPHYSICS • PETROPHYSICS

February 12, 2021

Ratio Petroleum Energy – Limited Partnership
85 Yehuda Halevi Street
Tel Aviv 65796
Israel

Ladies and Gentlemen:

In accordance with your request, we have estimated the unrisked contingent and prospective oil resources, as of January 31, 2021, to the Ratio Petroleum Energy – Limited Partnership (Ratio Petroleum) working interest in the Tanager Discovery and certain prospects located in the Kaieteur Block, offshore Guyana. It is our understanding that Ratio Guyana Limited (Ratio Guyana) owns a 25 percent direct working interest in the Kaieteur Block and that Ratio Guyana is wholly owned by Ratio Petroleum. As requested, we have also estimated the full technical oil volumes associated with the Tanager Discovery; these estimates include on-block and off-block volumes. We completed our evaluation on or about the date of this letter.

The estimates in this report have been prepared in accordance with the definitions and guidelines set forth in the 2018 Petroleum Resources Management System (PRMS) approved by the Society of Petroleum Engineers (SPE) and in accordance with internationally recognized standards, as stipulated by the Israel Securities Authority (ISA). As presented in the 2018 PRMS, petroleum accumulations can be classified, in decreasing order of likelihood of commerciality, as reserves, contingent resources, or prospective resources. Different classifications of petroleum accumulations have varying degrees of technical and commercial risk that are difficult to quantify; thus reserves, contingent resources, and prospective resources should not be aggregated without extensive consideration of these factors. Definitions are presented immediately following this letter. This report has been prepared for Ratio Petroleum's use in filing with the ISA; in our opinion the assumptions, data, methods, and procedures used in the preparation of this report are appropriate for such purpose.

CONTINGENT RESOURCES

Contingent resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by the application of development project(s) not currently considered to be commercial owing to one or more contingencies. The contingent resources shown in this report are contingent upon finalization and approval of development plans, demonstration of economic viability of the project, and commitment to develop the resources. If these contingencies are successfully addressed, some portion of the contingent resources estimated in this report may be reclassified as reserves; our estimates have not been risked to account for the possibility that the contingencies are not successfully addressed. We did not perform an economic analysis on these resources; as such, the economic status of these resources is undetermined. There is no certainty that it will be commercially viable to produce any portion of the contingent resources. The project maturity subclass for these contingent resources is development unclarified.

We estimate the unrisked gross (100 percent) contingent oil resources and the Ratio Petroleum unrisked working interest contingent oil resources for the on-block portion of the Tanager Discovery, as of January 31, 2021, to be:

		Unrisked Gross (100%) Contingent Oil Resources (MMBBL)			Unrisked Working Interest Contingent Oil Resources (MMBBL)		
Block	Reservoir	Low Estimate (1C)	Best Estimate (2C)	High Estimate (3C)	Low Estimate (1C)	Best Estimate (2C)	High Estimate (3C)
Kaieteur	Maastrichtian	11.3	42.7	86.0	2.8	10.7	21.5

2100 ROSS AVENUE, SUITE 2200 • DALLAS, TEXAS 75201 • PH: 214-969-5401 • FAX: 214-969-5411
1301 MCKINNEY STREET, SUITE 3200 • HOUSTON, TEXAS 77010 • PH: 713-654-4950 • FAX: 713-654-4951
info@nsai-petro.com
netherlandsewell.com

A material portion of the volumes associated with the Tanager Discovery are off-block volumes. As requested, we estimate the unrisked gross (100 percent) contingent oil resources for the Tanager Discovery by area, as of January 31, 2021, to be:

	Unrisked Gross (100%) Contingent Oil Resources (MMBBL)		
Area	Low Estimate (1C)	Best Estimate (2C)	High Estimate (3C)
Kaieteur Block	11.3	42.7	86.0
Off-Block	6.4	22.6	45.0
Total	17.7	65.3	131.0

The oil volumes shown include crude oil only. Oil volumes are expressed in millions of barrels (MMBBL); a barrel is equivalent to 42 United States gallons. These properties are not expected to produce commercial volumes of gas.

The contingent resources shown in this report have been estimated using deterministic methods. Once all contingencies have been successfully addressed, the approximate probability that the quantities of contingent resources actually recovered will equal or exceed the estimated amounts is generally inferred to be 90 percent for the low estimate, 50 percent for the best estimate, and 10 percent for the high estimate. The estimates of contingent resources included herein have not been adjusted for development risk.

PROSPECTIVE RESOURCES

Prospective resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. The prospective resources included in this report should not be construed as reserves or contingent resources; they represent exploration opportunities and quantify the development potential in the event a petroleum discovery is made. A geologic risk assessment was performed for these prospects, as discussed in subsequent paragraphs. This report does not include economic analysis for these prospects. Based on analogous field developments, it appears that, assuming a discovery is made, the unrisked best estimate prospective resources in this report have a reasonable chance of being economically viable. There is no certainty that any portion of the prospective resources will be discovered. If they are discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources.

Totals of unrisked prospective resources beyond the prospect level are not reflective of volumes that can be expected to be recovered and are therefore not shown. Because of the geologic risk associated with each prospect, meaningful totals beyond this level can be defined only by summing risked prospective resources. Such risk is often significant.

We estimate the unrisked gross (100 percent) prospective oil resources and the Ratio Petroleum unrisked working interest prospective oil resources for these prospects by reservoir, as of January 31, 2021, to be:

	Unrisked Gross (100%) Prospective Oil Resources (MMBBL)			Unrisked Working Interest Prospective Oil Resources (MMBBL)		
Prospect/Reservoir	Low Estimate (1U)	Best Estimate (2U)	High Estimate (3U)	Low Estimate (1U)	Best Estimate (2U)	High Estimate (3U)
Bananaquit						
Santonian 2&3	1.8	12.4	76.2	0.4	3.1	19.1
Santonian 7	1.2	9.5	68.2	0.3	2.4	17.0
Coniacian 1	5.7	22.6	73.8	1.4	5.7	18.5
Coniacian 2	2.8	18.8	112.8	0.7	4.7	28.2
Coniacian 3	1.1	9.2	71.3	0.3	2.3	17.8

Prospect/Reservoir	Unrisked Gross (100%) Prospective Oil Resources (MMBBL) Low Estimate (1U)	Best Estimate (2U)	High Estimate (3U)	Unrisked Working Interest Prospective Oil Resources (MMBBL) Low Estimate (1U)	Best Estimate (2U)	High Estimate (3U)
Egret						
Campanian	19.0	59.7	143.8	4.7	14.9	36.0
Hoatzin						
Campanian	44.0	139.3	338.3	11.0	34.8	84.6
Santonian	11.5	41.9	124.7	2.9	10.5	31.2
Kingfisher 6						
Maastrichtian	36.5	158.5	602.6	9.1	39.6	150.7
Kingfisher 8						
Maastrichtian	108.7	309.3	676.8	27.2	77.3	169.2
Kiskadee						
Campanian	33.2	119.2	339.8	8.3	29.8	84.9
Macaw						
Maastrichtian	45.7	151.3	410.4	11.4	37.8	102.6
Motmot						
Campanian	19.2	142.8	964.3	4.8	35.7	241.1
Santonian	9.5	41.9	155.4	2.4	10.5	38.8
Coniacian	7.3	54.4	350.1	1.8	13.6	87.5
Toucan						
Channel A Complex	69.8	268.1	802.0	17.4	67.0	200.5
Channel C	14.5	64.8	203.2	3.6	16.2	50.8
Channel E	71.7	254.2	711.4	17.9	63.5	177.9
Channel F	23.0	101.3	311.8	5.7	25.3	78.0
Channel G	21.5	105.8	384.0	5.4	26.4	96.0
Channel M	66.6	323.8	1,147.2	16.6	80.9	286.8
Towa-Towa						
Maastrichtian	21.1	63.7	155.1	5.3	15.9	38.8
Trumpeter						
Maastrichtian	50.0	277.4	1,390.0	12.5	69.3	347.5

The oil volumes shown include crude oil only. These properties are not expected to produce commercial volumes of gas.

The prospective resources shown in this report have been estimated using probabilistic methods and are dependent on a petroleum discovery being made. If a discovery is made and development is undertaken, the probability that the recoverable volumes will equal or exceed the unrisked estimated amounts is 90 percent for the low estimate, 50 percent for the best estimate, and 10 percent for the high estimate.

Unrisked prospective resources are estimated ranges of recoverable oil volumes assuming their discovery and development and are based on estimated ranges of undiscovered in-place volumes. Geologic risking of prospective resources addresses the probability of success for the discovery of a significant quantity of potentially recoverable petroleum; this risk analysis is conducted independent of estimations of petroleum volumes and without regard to the chance of development. Principal geologic risk elements of the petroleum system include (1) trap and seal characteristics; (2) reservoir presence and quality; (3) source rock capacity, quality, and maturity; and (4) timing, migration, and preservation of petroleum in relation to trap and seal formation. Risk assessment is a highly subjective process dependent upon the experience and judgment of the evaluators and is subject to revision with further data acquisition or interpretation. The primary geologic risk for these prospects is trap integrity. The geologic

risk elements and overall probability of geologic success for each prospect by reservoir are shown in the following table:

Prospect/Reservoir	Geologic Risk Element (%)				Probability of Geologic Success (%)
	Trap Integrity	Reservoir Quality	Source Evaluation	Timing/ Migration	
Bananaquit					
Santonian 2&3	50	90	90	90	36
Santonian 7	50	90	90	90	36
Coniacian 1	40	90	90	90	29
Coniacian 2	40	90	90	90	29
Coniacian 3	40	90	90	90	29
Egret					
Campanian	40	90	90	80	26
Hoatzin					
Campanian	50	90	90	80	32
Santonian	50	90	90	80	32
Kingfisher 6					
Maastrichtian	70	90	100	90	57
Kingfisher 8					
Maastrichtian	70	90	100	90	57
Kiskadee					
Campanian	50	90	90	80	32
Macaw					
Maastrichtian	60	90	90	80	39
Motmot					
Campanian	50	80	90	80	29
Santonian	50	80	90	80	29
Coniacian	50	80	90	80	29
Toucan					
Channel A Complex	40	90	90	80	26
Channel C	40	90	90	80	26
Channel E	40	90	90	80	26
Channel F	40	90	90	80	26
Channel G	40	90	90	80	26
Channel M	40	90	90	80	26
Towa-Towa					
Maastrichtian	70	90	90	90	51
Trumpeter					
Maastrichtian	60	90	90	90	44

Each prospect was evaluated to determine ranges of in-place and recoverable petroleum and was risked as an independent entity without dependency between potential prospect drilling outcomes. If petroleum discoveries are made, smaller-volume prospects may not be commercial to independently develop, although they may become candidates for satellite developments and tie-backs to existing infrastructure at some future date. The development infrastructure and data obtained from early discoveries will alter both geologic risk and future economics of subsequent discoveries and developments.

It should be understood that the prospective resources discussed and shown herein are those undiscovered, highly speculative resources estimated beyond reserves or contingent resources where geological and geophysical data

suggest the potential for discovery of petroleum but where the level of proof is insufficient for classification as reserves or contingent resources. The unrisked prospective resources shown in this report are the range of volumes that could reasonably be expected to be recovered in the event of the discovery and development of these prospects.

GENERAL INFORMATION

For the purposes of this report, we did not perform any field inspection of the properties. We have not investigated possible environmental liability related to the properties; however, we are not currently aware of any possible environmental liability that would have any material effect on the resources quantities estimated in this report or the commerciality of such resources estimates.

The contingent and prospective resources shown in this report are estimates only and should not be construed as exact quantities. Estimates may increase or decrease as a result of market conditions, future operations, changes in regulations, or actual reservoir performance.

The Kaieteur Block and the off-block portion of the Tanager Discovery are covered by a 3-D seismic data set. The seismic data were acquired in 2017 by Polarcus Limited and final processing was completed in 2018. All seismic interpretation was performed on the prestack depth migrated data.

For the purposes of this report, we used technical and economic data including, but not limited to, geologic maps, seismic data, well test data, and property ownership interests. We were provided with all the necessary data to prepare the estimates for these properties, and we were not limited from access to any material we believe may be relevant. The contingent and prospective resources in this report have been estimated using a combination of deterministic and probabilistic methods; these estimates have been prepared in accordance with generally accepted petroleum engineering and evaluation principles set forth in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the SPE (SPE Standards). We used standard engineering and geoscience methods, or a combination of methods, including volumetric analysis and analogy, that we considered to be appropriate and necessary to classify, categorize, and estimate volumes in accordance with the 2018 PRMS definitions and guidelines. Certain parameters used in our volumetric analysis are summarized in Tables I and II. As in all aspects of oil and gas evaluation, there are uncertainties inherent in the interpretation of engineering and geoscience data; therefore, our conclusions necessarily represent only informed professional judgment. The prospective information is not an assessment regarding the reserves and contingent resources, which can be assessed only after exploratory drilling, if at all.

Netherland, Sewell & Associates, Inc. (NSAI) was engaged on December 22, 2020, by Mr. Ligad Rotlevy, chairman of Ratio Petroleum Ltd., the general partner of Ratio Petroleum, to perform this assessment. The data used in our estimates were obtained from Ratio Petroleum, public data sources, and the nonconfidential files of NSAI and were accepted as accurate. Supporting work data are on file in our office. We have not examined the contractual rights to the properties or independently confirmed the actual degree or type of interest owned. We are independent petroleum engineers, geologists, geophysicists, and petrophysicists; we do not own an interest in these prospects nor are we employed on a contingent basis. Furthermore, no limitations or restrictions were placed upon NSAI by officials of Ratio Petroleum.

QUALIFICATIONS

NSAI performs consulting petroleum engineering services under Texas Board of Professional Engineers Registration No. F-2699. We provide a complete range of geological, geophysical, petrophysical, and engineering services, and we have the technical expertise and ability to perform these services in any oil and gas producing area in the world. The staff are familiar with the recognized industry reserves and resources definitions, specifically those promulgated by the U.S. Securities and Exchange Commission, by the Alberta Securities Commission, and by the SPE, Society of Petroleum Evaluation Engineers, World Petroleum Council, and American Association of

NETHERLAND, SEWELL & ASSOCIATES, INC.

Petroleum Geologists. The technical persons primarily responsible for preparing the estimates presented herein meet the requirements regarding qualifications, independence, objectivity, and confidentiality set forth in the SPE Standards.

This assessment has been led by Mr. John R. Cliver and Mr. Zachary R. Long. Mr. Cliver and Mr. Long are Vice Presidents in the firm's Houston office at 1301 McKinney Street, Suite 3200, Houston, Texas 77010, USA. Mr. Cliver is a Licensed Professional Engineer (Texas Registration No. 107216). He has been practicing consulting petroleum engineering at NSAI since 2009 and has over 5 years of prior industry experience. Mr. Long is a Licensed Professional Geoscientist (Texas Registration No. 11792). He has been practicing consulting petroleum geoscience at NSAI since 2007 and has over 2 years of prior industry experience.

Sincerely,

NETHERLAND, SEWELL & ASSOCIATES, INC.
Texas Registered Engineering Firm F-2699

By:
C.H. (Scott) Rees III, P.E.
Chairman and Chief Executive Officer

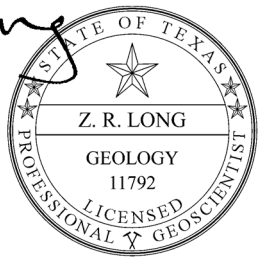
By:
John R. Cliver, P.E. 107216
Vice President

Date Signed: February 12, 2021

JRC:PNH

By:
Zachary R. Long, P.G. 11792
Vice President

Date Signed: February 12, 2021



NETHERLAND, SEWELL & ASSOCIATES, INC.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

This document contains information excerpted from definitions and guidelines prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE) and reviewed and jointly sponsored by the SPE, World Petroleum Council, American Association of Petroleum Geologists, Society of Petroleum Evaluation Engineers, Society of Exploration Geophysicists, Society of Petrophysicists and Well Log Analysts, and European Association of Geoscientists & Engineers.

Preamble

Petroleum resources are the quantities of hydrocarbons naturally occurring on or within the Earth's crust. Resources assessments estimate quantities in known and yet-to-be-discovered accumulations. Resources evaluations are focused on those quantities that can potentially be recovered and marketed by commercial projects. A petroleum resources management system provides a consistent approach to estimating petroleum quantities, evaluating projects, and presenting results within a comprehensive classification framework.

This updated PRMS provides fundamental principles for the evaluation and classification of petroleum reserves and resources. If there is any conflict with prior SPE and PRMS guidance, approved training, or the Application Guidelines, the current PRMS shall prevail. It is understood that these definitions and guidelines allow flexibility for entities, governments, and regulatory agencies to tailor application for their particular needs; however, any modifications to the guidance contained herein must be clearly identified. The terms "shall" or "must" indicate that a provision herein is mandatory for PRMS compliance, while "should" indicates a recommended practice and "may" indicates that a course of action is permissible. The definitions and guidelines contained in this document must not be construed as modifying the interpretation or application of any existing regulatory reporting requirements.

1.0 Basic Principles and Definitions

1.0.0.1 A classification system of petroleum resources is a fundamental element that provides a common language for communicating both the confidence of a project's resources maturation status and the range of potential outcomes to the various entities. The PRMS provides transparency by requiring the assessment of various criteria that allow for the classification and categorization of a project's resources. The evaluation elements consider the risk of geologic discovery and the technical uncertainties together with a determination of the chance of achieving the commercial maturation status of a petroleum project.

1.0.0.2 The technical estimation of petroleum resources quantities involves the assessment of quantities and values that have an inherent degree of uncertainty. These quantities are associated with exploration, appraisal, and development projects at various stages of design and implementation. The commercial aspects considered will relate the project's maturity status (e.g., technical, economical, regulatory, and legal) to the chance of project implementation.

1.0.0.3 The use of a consistent classification system enhances comparisons between projects, groups of projects, and total company portfolios. The application of PRMS must consider both technical and commercial factors that impact the project's feasibility, its productive life, and its related cash flows.

1.1 Petroleum Resources Classification Framework

1.1.0.1 Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid state. Petroleum may also contain non-hydrocarbons, common examples of which are carbon dioxide, nitrogen, hydrogen sulfide, and sulfur. In rare cases, non-hydrocarbon content can be greater than 50%.

1.1.0.2 The term resources as used herein is intended to encompass all quantities of petroleum naturally occurring within the Earth's crust, both discovered and undiscovered (whether recoverable or unrecoverable), plus those quantities already produced. Further, it includes all types of petroleum whether currently considered as conventional or unconventional resources.

1.1.0.3 Figure 1.1 graphically represents the PRMS resources classification system. The system classifies resources into discovered and undiscovered and defines the recoverable resources classes: Production, Reserves, Contingent Resources, and Prospective Resources, as well as Unrecoverable Petroleum.

1.1.0.4 The horizontal axis reflects the range of uncertainty of estimated quantities potentially recoverable from an accumulation by a project, while the vertical axis represents the chance of commerciality, P_c, which is the chance that a project will be committed for development and reach commercial producing status.

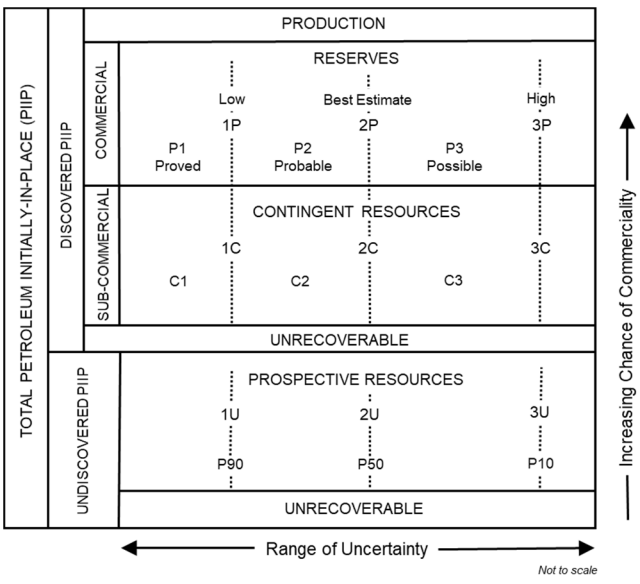


Figure 1.1—Resources classification framework

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

1.1.0.5 The following definitions apply to the major subdivisions within the resources classification:

A. **Total Petroleum Initially-In-Place** (PIIP) is all quantities of petroleum that are estimated to exist originally in naturally occurring accumulations, discovered and undiscovered, before production.

B. **Discovered PIIP** is the quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations before production.

C. **Production** is the cumulative quantities of petroleum that have been recovered at a given date. While all recoverable resources are estimated, and production is measured in terms of the sales product specifications, raw production (sales plus non-sales) quantities are also measured and required to support engineering analyses based on reservoir voidage (see Section 3.2, Production Measurement).

1.1.0.6 Multiple development projects may be applied to each known or unknown accumulation, and each project will be forecast to recover an estimated portion of the initially-in-place quantities. The projects shall be subdivided into commercial, sub-commercial, and undiscovered, with the estimated recoverable quantities being classified as Reserves, Contingent Resources, or Prospective Resources respectively, as defined below.

A. 1. **Reserves** are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must satisfy four criteria: discovered, recoverable, commercial, and remaining (as of the evaluation's effective date) based on the development project(s) applied.

2. Reserves are recommended as sales quantities as metered at the reference point. Where the entity also recognizes quantities consumed in operations (CiO) (see Section 3.2.2), as Reserves these quantities must be recorded separately. Non-hydrocarbon quantities are recognized as Reserves only when sold together with hydrocarbons or CiO associated with petroleum production. If the non-hydrocarbon is separated before sales, it is excluded from Reserves.

3. Reserves are further categorized in accordance with the range of uncertainty and should be sub-classified based on project maturity and/or characterized by development and production status.

B. **Contingent Resources** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, by the application of development project(s) not currently considered to be commercial owing to one or more contingencies. Contingent Resources have an associated chance of development. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the range of uncertainty associated with the estimates and should be sub-classified based on project maturity and/or economic status.

C. **Undiscovered PIIP** is that quantity of petroleum estimated, as of a given date, to be contained within accumulations yet to be discovered.

D. **Prospective Resources** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of geologic discovery and a chance of development. Prospective Resources are further categorized in accordance with the range of uncertainty associated with recoverable estimates, assuming discovery and development, and may be sub-classified based on project maturity.

E. **Unrecoverable Resources** are that portion of either discovered or undiscovered PIIP evaluated, as of a given date, to be unrecoverable by the currently defined project(s). A portion of these quantities may become recoverable in the future as commercial circumstances change, technology is developed, or additional data are acquired. The remaining portion may never be recovered because of physical/chemical constraints represented by subsurface interaction of fluids and reservoir rocks.

1.1.0.7 The sum of Reserves, Contingent Resources, and Prospective Resources may be referred to as "remaining recoverable resources." Importantly, these quantities should not be aggregated without due consideration of the technical and commercial risk involved with their classification. When such terms are used, each classification component of the summation must be provided.

1.1.0.8 Other terms used in resource assessments include the following:

A. **Estimated Ultimate Recovery (EUR)** is not a resources category or class, but a term that can be applied to an accumulation or group of accumulations (discovered or undiscovered) to define those quantities of petroleum estimated, as of a given date, to be potentially recoverable plus those quantities already produced from the accumulation or group of accumulations. For clarity, EUR must reference the associated technical and commercial conditions for the resources; for example, proved EUR is Proved Reserves plus prior production.

B. **Technically Recoverable Resources (TRR)** are those quantities of petroleum producible using currently available technology and industry practices, regardless of commercial considerations. TRR may be used for specific Projects or for groups of Projects, or, can be an undifferentiated estimate within an area (often basin-wide) of recovery potential.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

1.2 Project-Based Resources Evaluations

1.2.0.1 The resources evaluation process consists of identifying a recovery project or projects associated with one or more petroleum accumulations, estimating the quantities of PIIP, estimating that portion of those in-place quantities that can be recovered by each project, and classifying the project(s) based on maturity status or chance of commerciality.

1.2.0.2 The concept of a project-based classification system is further clarified by examining the elements contributing to an evaluation of net recoverable resources (see Figure 1.2).

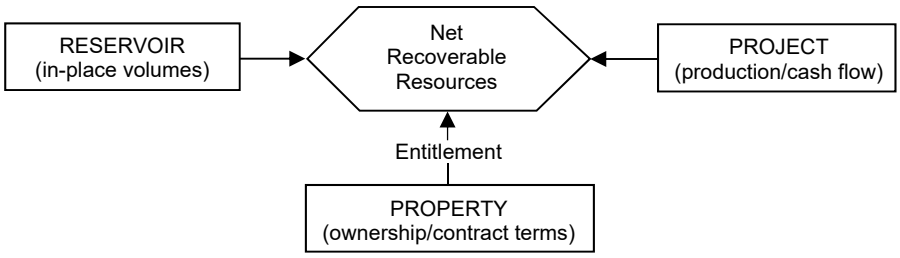


Figure 1.2—Resources evaluation

1.2.0.3 **The reservoir** (contains the petroleum accumulation): Key attributes include the types and quantities of PIIP and the fluid and rock properties that affect petroleum recovery.

1.2.0.4 **The project:** A project may constitute the development of a well, a single reservoir, or a small field; an incremental development in a producing field; or the integrated development of a field or several fields together with the associated processing facilities (e.g., compression). Within a project, a specific reservoir's development generates a unique production and cash-flow schedule at each level of certainty. The integration of these schedules taken to the project's earliest truncation caused by technical, economic, or the contractual limit defines the estimated recoverable resources and associated future net cash flow projections for each project. The ratio of EUR to total PIIP quantities defines the project's recovery efficiency. Each project should have an associated recoverable resources range (low, best, and high estimate).

1.2.0.5 **The property** (lease or license area): Each property may have unique associated contractual rights and obligations, including the fiscal terms. This information allows definition of each participating entity's share of produced quantities (entitlement) and share of investments, expenses, and revenues for each recovery project and the reservoir to which it is applied. One property may encompass many reservoirs, or one reservoir may span several different properties. A property may contain both discovered and undiscovered accumulations that may be spatially unrelated to a potential single field designation.

1.2.0.6 An entity's net recoverable resources are the entitlement share of future production legally accruing under the terms of the development and production contract or license.

1.2.0.7 In the context of this relationship, the project is the primary element considered in the resources classification, and the net recoverable resources are the quantities derived from each project. A project represents a defined activity or set of activities to develop the petroleum accumulation(s) and the decisions taken to mature the resources to reserves. In general, it is recommended that an individual project has assigned to it a specific maturity level sub-class (See Section 2.1.3.5, Project Maturity Sub-Classes) at which a decision is made whether or not to proceed (i.e., spend more money) and there should be an associated range of estimated recoverable quantities for the project (See Section 2.2.1, Range of Uncertainty). For completeness, a developed field is also considered to be a project.

1.2.0.8 An accumulation or potential accumulation of petroleum is often subject to several separate and distinct projects that are at different stages of exploration or development. Thus, an accumulation may have recoverable quantities in several resources classes simultaneously.

1.2.0.10 Not all technically feasible development projects will be commercial. The commercial viability of a development project within a field's development plan is dependent on a forecast of the conditions that will exist during the time period encompassed by the project (see Section 3.1, Assessment of Commerciality). Conditions include technical, economic (e.g., hurdle rates, commodity prices), operating and capital costs, marketing, sales route(s), and legal, environmental, social, and governmental factors forecast to exist and impact the project during the time period being evaluated. While economic factors can be summarized as forecast costs and product prices, the underlying influences include, but are not limited to, market conditions (e.g., inflation, market factors, and contingencies), exchange rates, transportation and processing infrastructure, fiscal terms, and taxes.

1.2.0.11 The resources being estimated are those quantities producible from a project as measured according to delivery specifications at the point of sale or custody transfer (see Section 3.2.1, Reference Point) and may permit forecasts of CiO quantities (see Section 3.2.2., Consumed in Operations). The cumulative production forecast from the effective date forward to cessation of production is the remaining recoverable resources quantity (see Section 3.1.1, Net Cash-Flow Evaluation).

1.2.0.12 The supporting data, analytical processes, and assumptions describing the technical and commercial basis used in an evaluation must be documented in sufficient detail to allow, as needed, a qualified reserves evaluator or qualified reserves auditor to clearly understand each project's basis for the estimation, categorization, and classification of recoverable resources quantities and, if appropriate, associated commercial assessment.

2.0 Classification and Categorization Guidelines

2.1 Resources Classification

2.1.0.1 The PRMS classification establishes criteria for the classification of the total PIIP. A determination of a discovery differentiates between discovered and undiscovered PIIP. The application of a project further differentiates the recoverable from unrecoverable resources. The project is then evaluated to determine its maturity status to allow the classification distinction between commercial and sub-commercial projects. PRMS requires the project's recoverable resources quantities to be classified as either Reserves, Contingent Resources, or Prospective Resources.

2.1.1 Determination of Discovery Status

2.1.1.1 A discovered petroleum accumulation is determined to exist when one or more exploratory wells have established through testing, sampling, and/or logging the existence of a significant quantity of potentially recoverable hydrocarbons and thus have established a known accumulation. In the absence of a flow test or sampling, the discovery determination requires confidence in the presence of hydrocarbons and evidence of producibility, which may be supported by suitable producing analogs (see Section 4.1.1, Analogs). In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place quantity demonstrated by the well(s) and for evaluating the potential for commercial recovery.

2.1.1.2 Where a discovery has identified potentially recoverable hydrocarbons, but it is not considered viable to apply a project with established technology or with technology under development, such quantities may be classified as Discovered Unrecoverable with no Contingent Resources. In future evaluations, as appropriate for petroleum resources management purposes, a portion of these unrecoverable quantities may become recoverable resources as either commercial circumstances change or technological developments occur.

2.1.2 Determination of Commerciality

2.1.2.1 Discovered recoverable quantities (Contingent Resources) may be considered commercially mature, and thus attain Reserves classification, if the entity claiming commerciality has demonstrated a firm intention to proceed with development. This means the entity has satisfied the internal decision criteria (typically rate of return at or above the weighted average cost-of-capital or the hurdle rate). Commerciality is achieved with the entity's commitment to the project and all of the following criteria:

A. Evidence of a technically mature, feasible development plan.
B. Evidence of financial appropriations either being in place or having a high likelihood of being secured to implement the project.
C. Evidence to support a reasonable time-frame for development.
D. A reasonable assessment that the development projects will have positive economics and meet defined investment and operating criteria. This assessment is performed on the estimated entitlement forecast quantities and associated cash flow on which the investment decision is made (see Section 3.1.1, Net Cash-Flow Evaluation).
E. A reasonable expectation that there will be a market for forecast sales quantities of the production required to justify development. There should also be similar confidence that all produced streams (e.g., oil, gas, water, CO2) can be sold, stored, re-injected, or otherwise appropriately disposed.
F. Evidence that the necessary production and transportation facilities are available or can be made available.
G. Evidence that legal, contractual, environmental, regulatory, and government approvals are in place or will be forthcoming, together with resolving any social and economic concerns.

2.1.2.2 The commerciality test for Reserves determination is applied to the best estimate (P50) forecast quantities, which upon qualifying all commercial and technical maturity criteria and constraints become the 2P Reserves. Stricter cases [e.g., low estimate (P90)] may be used for decision purposes or to investigate the range of commerciality (see Section 3.1.2, Economic Criteria). Typically, the low- and high-case project scenarios may be evaluated for sensitivities when considering project risk and upside opportunity.

2.1.2.3 To be included in the Reserves class, a project must be sufficiently defined to establish both its technical and commercial viability as noted in Section 2.1.2.1. There must be a reasonable expectation that all required internal and external approvals will be forthcoming and evidence of firm intention to proceed with development within a reasonable time-frame. A reasonable time-frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While five years is recommended as a benchmark, a longer time-frame could be applied where justifiable; for example, development of economic projects that take longer than five years to be developed or are deferred to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.

2.1.2.4 While PRMS guidelines require financial appropriations evidence, they do not require that project financing be confirmed before classifying projects as Reserves. However, this may be another external reporting requirement. In many cases, financing is conditional upon the same criteria as above. In general, if there is not a reasonable expectation that financing or other forms of commitment (e.g., farm-outs) can be arranged so that the development will be initiated within a reasonable time-frame, then the project should be classified as Contingent Resources. If financing is reasonably expected to be in place at the time of the final investment decision (FID), the project's resources may be classified as Reserves.

2.2 Resources Categorization

2.2.0.1 The horizontal axis in the resources classification in Figure 1.1 defines the range of uncertainty in estimates of the quantities of recoverable, or potentially recoverable, petroleum associated with a project or group of projects. These estimates include the uncertainty components as follows:

A. The total petroleum remaining within the accumulation (in-place resources).
B. The technical uncertainty in the portion of the total petroleum that can be recovered by applying a defined development project or projects (i.e., the technology applied).
C. Known variations in the commercial terms that may impact the quantities recovered and sold (e.g., market availability; contractual changes, such as production rate tiers or product quality specifications) are part of project's scope and are included in the horizontal axis, while the chance of satisfying the commercial terms is reflected in the classification (vertical axis).

2.2.0.2 The uncertainty in a project's recoverable quantities is reflected by the 1P, 2P, 3P, Proved (P1), Probable (P2), Possible (P3), 1C, 2C, 3C, C1, C2, and C3; or 1U, 2U, and 3U resources categories. The commercial chance of success is associated with resources classes or sub-classes and not with the resources categories reflecting the range of recoverable quantities.

2.2.1 Range of Uncertainty

2.2.1.1 Uncertainty is inherent in a project's resources estimation and is communicated in PRMS by reporting a range of category outcomes. The range of uncertainty of the recoverable and/or potentially recoverable quantities may be represented by either deterministic scenarios or by a probability distribution (see Section 4.2, Resources Assessment Methods).

2.2.1.2 When the range of uncertainty is represented by a probability distribution, a low, best, and high estimate shall be provided such that:

A. There should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
B. There should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
C. There should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

2.2.1.3 In some projects, the range of uncertainty may be limited, and the three scenarios may result in resources estimates that are not significantly different. In these situations, a single value estimate may be appropriate to describe the expected result.

2.2.1.4 When using the deterministic scenario method, typically there should also be low, best, and high estimates, where such estimates are based on qualitative assessments of relative uncertainty using consistent interpretation guidelines. Under the deterministic incremental method, quantities for each confidence segment are estimated discretely (see Section 2.2.2, Category Definitions and Guidelines).

2.2.1.5 Project resources are initially estimated using the above uncertainty range forecasts that incorporate the subsurface elements together with technical constraints related to wells and facilities. The technical forecasts then have additional commercial criteria applied (e.g., economics and license cutoffs are the most common) to estimate the entitlement quantities attributed and the resources classification status: Reserves, Contingent Resources, and Prospective Resources.

2.2.2 Category Definitions and Guidelines

2.2.2.1 Evaluators may assess recoverable quantities and categorize results by uncertainty using the deterministic incremental method, the deterministic scenario (cumulative) method, geostatistical methods, or probabilistic methods (see Section 4.2, Resources Assessment Methods). Also, combinations of these methods may be used.

2.2.2.2 Use of consistent terminology (Figures 1.1 and 2.1) promotes clarity in communication of evaluation results. For Reserves, the general cumulative terms low/best/high forecasts are used to estimate the resulting 1P/2P/3P quantities, respectively. The associated incremental quantities are termed Proved (P1), Probable (P2) and Possible (P3). Reserves are a subset of, and must be viewed within the context of, the complete resources classification system. While the categorization criteria are proposed specifically for Reserves, in most cases, the criteria can be equally applied to Contingent and Prospective Resources. Upon satisfying the commercial maturity criteria for discovery and/or development, the project quantities will then move to the appropriate resources sub-class. Table 3 provides criteria for the Reserves categories determination.

2.2.2.3 For Contingent Resources, the general cumulative terms low/best/high estimates are used to estimate the resulting 1C/2C/3C quantities, respectively. The terms C1, C2, and C3 are defined for incremental quantities of Contingent Resources.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

2.2.2.4 For Prospective Resources, the general cumulative terms low/best/high estimates also apply and are used to estimate the resulting 1U/2U/3U quantities. No specific terms are defined for incremental quantities within Prospective Resources.

2.2.2.5 Quantities in different classes and sub-classes cannot be aggregated without considering the varying degrees of technical uncertainty and commercial likelihood involved with the classification(s) and without considering the degree of dependency between them (see Section 4.2.1, Aggregating Resources Classes).

2.2.2.6 Without new technical information, there should be no change in the distribution of technically recoverable resources and the categorization boundaries when conditions are satisfied to reclassify a project from Contingent Resources to Reserves.

2.2.2.7 All evaluations require application of a consistent set of forecast conditions, including assumed future costs and prices, for both classification of projects and categorization of estimated quantities recovered by each project (see Section 3.1, Assessment of Commerciality).

Table 1—Recoverable Resources Classes and Sub-Classes

Class/Sub-Class	Definition	Guidelines
Reserves	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions.	Reserves must satisfy four criteria: discovered, recoverable, commercial, and remaining based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the development and production status. To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability (see Section 2.1.2, Determination of Commerciality). This includes the requirement that there is evidence of firm intention to proceed with development within a reasonable time-frame. A reasonable time-frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While five years is recommended as a benchmark, a longer time-frame could be applied where, for example, development of an economic project is deferred at the option of the producer for, among other things, market-related reasons or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented. To be included in the Reserves class, there must be a high confidence in the commercial maturity and economic producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.
On Production	The development project is currently producing or capable of producing and selling petroleum to market.	The key criterion is that the project is receiving income from sales, rather than that the approved development project is necessarily complete. Includes Developed Producing Reserves. The project decision gate is the decision to initiate or continue economic production from the project.
Approved for Development	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is ready to begin or is under way.	At this point, it must be certain that the development project is going ahead. The project must not be subject to any contingencies, such as outstanding regulatory approvals or sales contracts. Forecast capital expenditures should be included in the reporting entity's current or following year's approved budget. The project decision gate is the decision to start investing capital in the construction of production facilities and/or drilling development wells.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

Class/Sub-Class	Definition	Guidelines
Justified for Development	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.	To move to this level of project maturity, and hence have Reserves associated with it, the development project must be commercially viable at the time of reporting (see Section 2.1.2, Determination of Commerciality) and the specific circumstances of the project. All participating entities have agreed and there is evidence of a committed project (firm intention to proceed with development within a reasonable time-frame). There must be no known contingencies that could preclude the development from proceeding (see Reserves class). The project decision gate is the decision by the reporting entity and its partners, if any, that the project has reached a level of technical and commercial maturity sufficient to justify proceeding with development at that point in time.
Contingent Resources	Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies.	Contingent Resources may include, for example, projects for which there are currently no viable markets, where commercial recovery is dependent on technology under development, where evaluation of the accumulation is insufficient to clearly assess commerciality, where the development plan is not yet approved, or where regulatory or social acceptance issues may exist. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the economic status.
Development Pending	A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future.	The project is seen to have reasonable potential for eventual commercial development, to the extent that further data acquisition (e.g., drilling, seismic data) and/or evaluations are currently ongoing with a view to confirming that the project is commercially viable and providing the basis for selection of an appropriate development plan. The critical contingencies have been identified and are reasonably expected to be resolved within a reasonable time-frame. Note that disappointing appraisal/evaluation results could lead to a reclassification of the project to On Hold or Not Viable status. The project decision gate is the decision to undertake further data acquisition and/or studies designed to move the project to a level of technical and commercial maturity at which a decision can be made to proceed with development and production.
Development on Hold	A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay.	The project is seen to have potential for commercial development. Development may be subject to a significant time delay. Note that a change in circumstances, such that there is no longer a probable chance that a critical contingency can be removed in the foreseeable future, could lead to a reclassification of the project to Not Viable status. The project decision gate is the decision to either proceed with additional evaluation designed to clarify the potential for eventual commercial development or to temporarily suspend or delay further activities pending resolution of external contingencies.
Development Unclarified	A discovered accumulation where project activities are under evaluation and where justification as a commercial development is unknown based on available information.	The project is seen to have potential for eventual commercial development, but further appraisal/evaluation activities are ongoing to clarify the potential for eventual commercial development. This sub-class requires active appraisal or evaluation and should not be maintained without a plan for future evaluation. The sub-class should reflect the actions required to move a project toward commercial maturity and economic production.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

Class/Sub-Class	Definition	Guidelines
Development Not Viable	A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time because of limited production potential.	The project is not seen to have potential for eventual commercial development at the time of reporting, but the theoretically recoverable quantities are recorded so that the potential opportunity will be recognized in the event of a major change in technology or commercial conditions. The project decision gate is the decision not to undertake further data acquisition or studies on the project for the foreseeable future.
Prospective Resources	Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.	Potential accumulations are evaluated according to the chance of geologic discovery and, assuming a discovery, the estimated quantities that would be recoverable under defined development projects. It is recognized that the development programs will be of significantly less detail and depend more heavily on analog developments in the earlier phases of exploration.
Prospect	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target.	Project activities are focused on assessing the chance of geologic discovery and, assuming discovery, the range of potential recoverable quantities under a commercial development program.
Lead	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation to be classified as a Prospect.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to confirm whether or not the Lead can be matured into a Prospect. Such evaluation includes the assessment of the chance of geologic discovery and, assuming discovery, the range of potential recovery under feasible development scenarios.
Play	A project associated with a prospective trend of potential prospects, but that requires more data acquisition and/or evaluation to define specific Leads or Prospects.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to define specific Leads or Prospects for more detailed analysis of their chance of geologic discovery and, assuming discovery, the range of potential recovery under hypothetical development scenarios.

Table 2—Reserves Status Definitions and Guidelines

Status	Definition	Guidelines
Developed Reserves	Expected quantities to be recovered from existing wells and facilities.	Reserves are considered developed only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Where required facilities become unavailable, it may be necessary to reclassify Developed Reserves as Undeveloped. Developed Reserves may be further sub-classified as Producing or Non-producing.
Developed Producing Reserves	Expected quantities to be recovered from completion intervals that are open and producing at the effective date of the estimate.	Improved recovery Reserves are considered producing only after the improved recovery project is in operation.
Developed Non-Producing Reserves	Shut-in and behind-pipe Reserves.	Shut-in Reserves are expected to be recovered from (1) completion intervals that are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells that will require additional completion work or future re-completion before start of production with minor cost to access these reserves. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

Status	Definition	Guidelines
Undeveloped Reserves	Quantities expected to be recovered through future significant investments.	Undeveloped Reserves are to be produced (1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g., when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.

Table 3—Reserves Category Definitions and Guidelines

Category	Definition	Guidelines
Proved Reserves	Those quantities of petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable from a given date forward from known reservoirs and under defined economic conditions, operating methods, and government regulations.	If deterministic methods are used, the term "reasonable certainty" is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the estimate. The area of the reservoir considered as Proved includes (1) the area delineated by drilling and defined by fluid contacts, if any, and (2) adjacent undrilled portions of the reservoir that can reasonably be judged as continuous with it and commercially productive on the basis of available geoscience and engineering data. In the absence of data on fluid contacts, Proved quantities in a reservoir are limited by the LKH as seen in a well penetration unless otherwise indicated by definitive geoscience, engineering, or performance data. Such definitive information may include pressure gradient analysis and seismic indicators. Seismic data alone may not be sufficient to define fluid contacts for Proved reserves. Reserves in undeveloped locations may be classified as Proved provided that: A. The locations are in undrilled areas of the reservoir that can be judged with reasonable certainty to be commercially mature and economically productive. B. Interpretations of available geoscience and engineering data indicate with reasonable certainty that the objective formation is laterally continuous with drilled Proved locations. For Proved Reserves, the recovery efficiency applied to these reservoirs should be defined based on a range of possibilities supported by analogs and sound engineering judgment considering the characteristics of the Proved area and the applied development program.
Probable Reserves	Those additional Reserves that analysis of geoscience and engineering data indicates are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves.	It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate. Probable Reserves may be assigned to areas of a reservoir adjacent to Proved where data control or interpretations of available data are less certain. The interpreted reservoir continuity may not meet the reasonable certainty criteria. Probable estimates also include incremental recoveries associated with project recovery efficiencies beyond that assumed for Proved.

PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by
the Society of Petroleum Engineers (SPE) Board of Directors, June 2018

Category	Definition	Guidelines
Possible Reserves	Those additional reserves that analysis of geoscience and engineering data indicates are less likely to be recoverable than Probable Reserves.	The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability (P10) that the actual quantities recovered will equal or exceed the 3P estimate. Possible Reserves may be assigned to areas of a reservoir adjacent to Probable where data control and interpretations of available data are progressively less certain. Frequently, this may be in areas where geoscience and engineering data are unable to clearly define the area and vertical reservoir limits of economic production from the reservoir by a defined, commercially mature project. Possible estimates also include incremental quantities associated with project recovery efficiencies beyond that assumed for Probable.
Probable and Possible Reserves	See above for separate criteria for Probable Reserves and Possible Reserves.	The 2P and 3P estimates may be based on reasonable alternative technical interpretations within the reservoir and/or subject project that are clearly documented, including comparisons to results in successful similar projects. In conventional accumulations, Probable and/or Possible Reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from Proved areas by minor faulting or other geological discontinuities and have not been penetrated by a wellbore but are interpreted to be in communication with the known (Proved) reservoir. Probable or Possible Reserves may be assigned to areas that are structurally higher than the Proved area. Possible (and in some cases, Probable) Reserves may be assigned to areas that are structurally lower than the adjacent Proved or 2P area. Caution should be exercised in assigning Reserves to adjacent reservoirs isolated by major, potentially sealing faults until this reservoir is penetrated and evaluated as commercially mature and economically productive. Justification for assigning Reserves in such cases should be clearly documented. Reserves should not be assigned to areas that are clearly separated from a known accumulation by non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results); such areas may contain Prospective Resources. In conventional accumulations, where drilling has defined a highest known oil elevation and there exists the potential for an associated gas cap, Proved Reserves of oil should only be assigned in the structurally higher portions of the reservoir if there is reasonable certainty that such portions are initially above bubble point pressure based on documented engineering analyses. Reservoir portions that do not meet this certainty may be assigned as Probable and Possible oil and/or gas based on reservoir fluid properties and pressure gradient interpretations.

NETHERLAND, SEWELL & ASSOCIATES, INC.

SUMMARY OF VOLUMETRIC PARAMETERS FOR CONTINGENT RESOURCES
TANAGER DISCOVERY, KAIETEUR BLOCK, OFFSHORE GUYANA
AS OF JANUARY 31, 2021

	Gross Rock Volume (acre-feet)			Area (acres)			Average Gross Thickness[1] (feet)			Net-to-Gross Ratio (decimal)		
Discovery/Reservoir	Low Estimate	Best Estimate	High Estimate	Low Estimate	Best Estimate	High Estimate	Low Estimate	Best Estimate	High Estimate	Low Estimate	Best Estimate	High Estimate
Tanager												
Maastrichtian	396,823	563,687	730,551	7,295	8,783	10,270	54	64	71	0.28	0.35	0.45

	Porosity[2] (decimal)			Oil Saturation[3] (decimal)			Oil Formation Volume Factor (STB/RB)[4]			Oil Recovery Factor (decimal)		
Discovery/Reservoir	Low Estimate	Best Estimate	High Estimate	Low Estimate	Best Estimate	High Estimate	Low Estimate	Best Estimate	High Estimate	Low Estimate	Best Estimate	High Estimate
Tanager												
Maastrichtian	0.26	0.26	0.26	0.50	0.49	0.45	0.99	0.99	0.99	0.10	0.22	0.30

Note: For the purposes of this report, we used technical and economic data including, but not limited to, geologic maps, seismic data, well test data, and property ownership interests.

(1) Average gross thickness is calculated by dividing the gross rock volume by the area.
(2) The increasing net-to-gross ratio between cases includes lower porosity rock which results in a lower porosity in the best and high estimate cases relative to the low estimate case.
(3) The increasing net-to-gross ratio between cases includes less saturated rock which results in a lower oil saturation in the best and high estimate cases relative to the low estimate case.
(4) The abbreviation STB/RB represents stock tank barrels per reservoir barrel.

Table I

NETHERLAND, SEWELL & ASSOCIATES, INC.

SUMMARY OF VOLUMETRIC PARAMETERS FOR PROSPECTIVE RESOURCES
KAIETEUR BLOCK, OFFSHORE GUYANA
AS OF JANUARY 31, 2021

	Gross Rock Volume (acre-feet) Lognormal Distribution		Area (acres)		Average Gross Thickness[1] (feet)		Net-to-Gross Ratio (decimal) Normal Distribution	
Prospect/Reservoir	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Bananaquit								
Santonian 2&3	20,276	501,545	449	4,607	45	109	0.50	0.90
Santonian 7	15,723	520,840	732	8,100	21	64	0.40	0.80
Coniacian 1	87,629	479,599	442	2,573	198	186	0.50	0.90
Coniacian 2	36,878	846,870	996	8,346	37	101	0.50	0.90
Coniacian 3	13,787	549,090	467	4,275	30	128	0.50	0.90
Egret								
Campanian	245,448	571,487	3,650	6,693	67	85	0.50	0.90
Hoatzin								
Campanian	559,715	1,366,872	13,433	16,196	42	84	0.50	0.90
Santonian	268,518	1,197,020	4,503	10,266	60	117	0.30	0.50
Kingfisher 6								
Maastrichtian	525,030	4,734,108	11,031	20,677	48	229	0.30	0.60
Kingfisher 8								
Maastrichtian	2,167,444	4,055,508	16,987	29,887	128	136	0.30	0.60
Kiskadee								
Campanian	296,982	1,939,844	6,182	11,792	48	165	0.50	0.90
Macaw								
Maastrichtian	753,010	2,927,540	9,287	22,024	81	133	0.30	0.60
Motmot								
Campanian	172,602	5,245,360	5,105	20,942	34	250	0.50	0.90
Santonian	203,638	1,615,930	3,713	12,033	55	134	0.30	0.50
Coniacian	188,387	4,509,400	3,044	16,695	62	270	0.20	0.60
Toucan								
Channel A Complex	1,915,150	7,379,938	12,912	31,526	148	234	0.20	0.50
Channel C	344,192	1,266,830	5,444	14,705	63	86	0.20	0.80
Channel E	1,082,619	3,820,060	11,018	30,851	98	124	0.40	0.80
Channel F	628,613	2,147,360	6,251	13,149	101	163	0.20	0.80
Channel G	529,823	2,883,160	4,924	21,971	108	131	0.20	0.80
Channel M	1,660,042	8,562,970	13,303	49,951	125	171	0.20	0.80
Towa-Towa								
Maastrichtian	364,872	1,037,057	2,428	8,990	150	115	0.30	0.60
Trumpeter								
Maastrichtian	684,420	11,383,965	3,838	50,249	178	227	0.30	0.60

	Porosity (decimal) Normal Distribution		Oil Saturation (decimal) Normal Distribution		Oil Formation Volume Factor (STB/RB)[2] Normal Distribution		Oil Recovery Factor (decimal) Normal Distribution	
Prospect/Reservoir	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Bananaquit								
Santonian 2&3	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Santonian 7	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Coniacian 1	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
Coniacian 2	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
Coniacian 3	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
Egret								
Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
Hoatzin								
Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
Santonian	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Kingfisher 6								
Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Kingfisher 8								
Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Kiskadee								
Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
Macaw								
Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Motmot								
Campanian	0.24	0.32	0.40	0.80	0.45	0.95	0.10	0.50
Santonian	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Coniacian	0.16	0.24	0.40	0.80	0.45	0.95	0.10	0.50
Toucan								
Channel A Complex	0.22	0.30	0.40	0.80	0.45	0.95	0.10	0.50
Channel C	0.22	0.30	0.40	0.80	0.45	0.95	0.10	0.50
Channel E	0.22	0.30	0.40	0.80	0.45	0.95	0.10	0.50
Channel F	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Channel G	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Channel M	0.19	0.27	0.40	0.80	0.45	0.95	0.10	0.50
Towa-Towa								
Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40
Trumpeter								
Maastrichtian	0.22	0.30	0.40	0.80	0.75	0.98	0.10	0.40

Note: For the purposes of this report, we used technical and economic data including, but not limited to, geologic maps, seismic data, well test data, and property ownership interests.

[1] Average gross thickness is calculated by dividing the gross rock volume by the area. For certain reservoirs, the structural character of the reservoir results in lower average gross thickness in the high estimate case relative to the low estimate case.

[2] The abbreviation STB/RB represents stock tank barrels per reservoir barrel.