28 במרץ, 2024

מודיעין-אנרגיה – שותפות מוגבלת

לכבוד
רשות ניירות ערך
רח' כנפי נשרים 22
ירושלים 95464
באמצעות מגנ"א

לכבוד
הבורסה לניירות ערך בתל-אביב בע"מ
רח' אחוזת בית 2
תל-אביב 6525216
באמצעות מגנ"א

ג.א.נ.,

הנדון: **<u>דוח הערכת משאבים מותנים ומנובאים בחלק הצפוני של פרויקט קולורדו בארה"ב</u>**

בהמשך לדוח המיידי של השותפות מיום 4.1.2023 (אסמכתא 2023-01-002373) בדבר דוח הערכת משאבים מותנים ומנובאים ביחס ל- Alcorn Development Area או Alcorn block בחלק הצפוני של פרויקט קולורדו בארה"ב (להלן: "**הבלוק**" ו"**הדוח הקודם**", **בהתאמה**"), מתכבדת השותפות לעדכן כי ביום 27 במרץ 2024 קיבלה השותפות דוח הערכת משאבים מותנים ומנובאים מעודכן ביחס לבלוק (להלן: "**דוח המשאבים**" או "**הדוח המעודכן**"). יצוין, כי בכוונת השותפים בפרויקט לבצע בשנת 2024 מבחני הפקה בקידוח.

דו"ח המשאבים מתבסס על תוצאות קידוח הערכה (Assessment Drilling) Alcorn 1-10H לשכבת ה- Niobrara לבדיקת פוטנציאל הנפט בשטח הבלוק אשר נועד לאמת את הערכות מפעילת הפרויקט והשותפים בפרויקט לגבי כמות הנפט ולצורך קבלת החלטות לגבי פיתוחו של השטח הצפוני בפרויקט והערכת העתודות המצויות בו, ובדיקת שכבת ה- Entrada למטרת החדרת מים (להלן: "**הקידוח**") וממצאים שנאספו במהלך הקידוח וניתוח של מידע גיאולוגי והנדסי קיים ביחס לפרויקט.

דוח המשאבים הוכן על ידי חברת Ryder Scott Company (להלן: "**המעריך**"), מעריך עתודות מומחה, מוסמך ובלתי תלוי. דוח המשאבים הינו נכון ליום 31.12.2023 ונערך על-פי כללי המערכת לניהול משאבי פטרוליום SPE-PRMS-[1], והוא מצורף **<u>כנספח א'</u>** לדוח מיידי זה.

בדוח המשאבים ציין המעריך, בין היתר, מספר הנחות והסתייגויות ובכלל זה כי: המשאבים המותנים הכלולים בו לא משקפים סיכון פוטנציאלי כלשהו הקשור לסיכוי שלהם להיות מפותחים; היקפי המשאבים המנובאים אינם מותאמים לסיכוי המשוער לגילוי גיאולוגי; הפעולות בבלוק עשויות להיות כפופות לרמות שונות של בקרה ורגולציה ממשלתית. שינויים ברגולציה ובמדיניות ממשלתית עלולים לגרום לשינויים משמעותיים בכמויות המשאבים ולסכומי ההכנסה שניתן לקבל מהם ביחס לכמויות המוערכות בדוח המשאבים; האומדנים של משאבים מותנים ומנובאים שבדוח מבוססים על מחקר מפורט של הנכסים שבהם השותפות מחזיקה חלק. עם זאת, המעריך לא ביצע בדיקה בשטח של הנכסים; בדוח המשאבים לא ניתנה כל התייחסות לחבות סביבתית פוטנציאלית שעשויה להתקיים ואף לא נכללו כל עלויות בגין אחריות פוטנציאלית לשחזור וניקוי נזקים, אם קיימים, שנגרמו על ידי שיטות תפעול בעבר; השותפות ומפעילת הפרויקט הודיעו למעריך כי מסרו לו את כל החשבונות המהותיים, הרישומים, הנתונים הגיאולוגיים וההנדסיים, ודוחות ונתונים נוספים הנדרשים לביצוע דוח המשאבים. המעריך ציין כי בהכנת תחזיות ההפקה הסתמך על נתונים שסיפקה המפעילה לגבי זכויות הבעלות, הפקה ובדיקות באר מבארות שנבדקו, עלויות ישירות רגילות של הפעלת הבארות או החכירה, עלויות אחרות כגון הובלה, מסי ערך ומסי ייצור, עלויות פיתוח, תוכניות פיתוח, מחירי נטישה, מפות מבניות גיאולוגיות, יומני באר ועוד. המעריך סקר נתונים עובדתיים אלה על סבירותם. עם זאת, לא ביצע אימות עצמאי של הנתונים שסופקו על ידי המפעילה.

<u>משאבים מותנים</u>

א. <u>כללי</u>

המעריך ציין כי המשאבים המותנים מסווגים בשלב "הצדקת פיתוח בבחינה" (Development Pending), והם מותנים בהחלטת השקעה סופית (FID) המותנית בהערכה נוספת של הבלוק, ובכלל זה:

- השלמת באר ומבחני הפקה.

- קידוח, השלמה ומבחני הפקה בשתי בארות אופקיות נוספות.

- קיימים שווקים מרובים לאספקת הידרוקרבונים מהבלוק. שווקי המסירה הסופיים והמתקנים הנדרשים תלויים בקצבי ההפקה ובתכולת הגז בנפט שיופק.

- התחייבות להשלמת תוכניות להקמת צנרת ומתקני ייצור ואיסוף כדי לספק את ההידרוקרבונים לשוק.

- השלמת תוכניות פיתוח סופיות, תחזיות ייצור ותזרימי מזומנים המוכיחים מסחריות.

המעריך ציין כי נכון למועד דוח המשאבים, ניתנו אישורים רגולטוריים ואישורי קידוח לקידוחי הערכה נוספים. בהתבסס על הניסיון המוצלח של קבלת היתרים ופיתוח בבלוק ובסמוך לו, ישנה ציפייה סבירה שיינתן אישור רגולטורי לקידוחי פיתוח עתידיים.

המעריך ציין כי המשאבים המותנים בדוח המשאבים נכון ליום 31.12.2023, קשורים למחירי נפט עתידיים המבוססים על מחירי עקום ה- NYMEX. כתוצאה מכוחות כלכליים ופוליטיים כאחד, קיימת אי ודאות מהותית לגבי חיזוי מחירי הנפט העתידיים. כתוצאה מכך, המחירים העתידיים בפועל עשויים להשתנות במידה ניכרת מהמחירים שהונחו בדוח המשאבים. לכמויות המשאבים יש קשר ישיר למחירי הנפט שיתקבלו בפועל; לפיכך, כמויות המשאבים שיופקו בפועל עשויות להיות שונות באופן משמעותי מהכמויות המוערכות המוצגות בדוח המשאבים.

ב. <u>נתוני כמויות</u>
על פי דוח המשאבים, נכון ליום 31.12.2023, המשאבים המותנים Unrisked Gross Contingent Resources (Undeveloped) המצויים בפרויקט הינם:[2]

		C1	C2	C3	סה"כ
Gross resources	**נפט / קונדנסט (חביות)**	58,108	2,940,000	2,786,000	5,784,108
	גז (Mcf)	50,355	2,422,408	2,174,609	4,647,372
חלק השותפות בפרויקט (50%)[3]	**נפט / קונדנסט (חביות)**	29,054	1,470,000	1,393,000	2,892,054
	גז (Mcf)	25,178	1,211,204	1,087,305	2,323,686

ג. <u>שוק</u>
יש להניח כי ניתן יהיו לשווק נפט וגז משטח הפרויקט שיהיו באיכות מתאימה ובעלויות הפקה כדאיות, בקלות יחסית. הנפט הוא "commodity" אשר מחירו נקבע בשווקים הבינלאומיים והניתן למכירה בהיקף כמעט בלתי מוגבל בשוק הבינלאומי במחירים אלה. יצוין, כי נכון למועד פרסום הדוח השותפים בפרויקט מוכרים את הנפט והגז המופקים מהקידוחים בשטח הפרויקט.

להערכת השותפות הנפט/קונדנסט והגז הטבעי אשר יופקו מהבלוק ישווקו במתכונת דומה לשיווק הנפט מהפרויקט.

ד. <u>**אזהרה**</u>
אין וודאות כי יהא זה אפשרי מבחינה מסחרית להפיק שיעור כלשהו מהמשאבים המותנים.

אזהרה בגין מידע צופה פני עתיד - הערכות המעריך בדבר המשאבים המותנים בפרויקט הינן "מידע צופה פני עתיד" כמשמעו בחוק ניירות ערך התשכ"ח-1968. ההערכות לעיל מבוססות, בין היתר, על מידע גיאולוגי, הנדסי ואחר, שקיים ו/או שנתקבל מהקידוח ומקידוחים שונים באזור, והינן בגדר הערכות והשערות מקצועיות בלבד של המעריך ואשר לגביהן לא קיימת כל וודאות. כמויות הנפט ו/או הגז הטבעי, שיתגלו (אם יתגלו) ושיופקו בפועל (אם יופקו), עשויות להיות שונות מהותית מההערכות וההשערות הנ"ל, בין היתר, כתוצאה מתנאים תפעוליים וטכניים ו/או משינויים רגולטוריים ו/או מתנאי היצע וביקוש בשוק הנפט ו/או הגז הטבעי, 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 וגז טבעי, לרבות כתוצאה מהמשך ניתוח ממצאי המשאבים המנובאים וכתוצאה מתנאים תפעוליים ו/או תנאי שוק ו/או תנאים רגולטוריים.

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1 למילון המונחים המקצועיים הכלולים בדוח זה ראו ס"ק יד' להלן.

2 סה"כ הכמויות של המשאבים המותנים מיצג סיכויים לכמויות הפקה שונות שהוגדרו ע"י המעריך הבלתי תלוי בהתייחסו למשתנים גיאולוגיים אשר תלויים, בין היתר, במרחק של קידוחים אפשריים מקידוח PRU ALCRON 1-10. מעוגלים לעשורנית הקרובה.

3 לפני תמלוגים לבעלי זכויות הנפט ולשותף הכללי בשותפות. נתונים אלו אינם נכללים בדוח המשאבים והם מחושבים כ- 50% מסך המשאבים בהתאם לחלקה היחסי של השותפות בפרויקט.

משאבים מנובאים

ה. נתוני כמויות

דו"ח המשאבים מתבסס, בין היתר, על סקרי התלת מימד (3D) POLE MOUNTAIN שנעשו בשטח הפרויקט ע"י חברות EOG ו- SANDRIDGE בשנים 2008 עד 2016. העיבוד האחרון של הסקרים הנ"ל נעשה בשנת 2017. העיבוד האמור שנעשה ע"י חברת STAR GEOPHYSICS, כלל חיבור כל הסקרים לקובץ אחד במימד הזמן.

על פי דוח המשאבים, נכון ליום 31.12.2023, המשאבים המנובאים Unrisked Gross Prospective Resources (Undeveloped) המצויים בפרויקט הינם:

		אי ודאות נמוכה 1U (P90)	אי ודאות בינונית 2U (P50)	אי ודאות גבוהה 3U (P10)
Gross resources	**נפט / קונדנסט (חביות)**	9,625,000	12,495,000	18,101,013
	גז (Mcf)	8,017,465	10,422,726	15,271,043
חלק השותפות בפרויקט (50%)[4]	**נפט / קונדנסט (חביות)**	4,812,500	6,247,500	9,050,506.5
	גז (Mcf)	4,008,732.5	5,211,363	7,635,521.5
סך הכל השיעור המשויך למחזיקי הזכויות ההוניות (Net)[5]	**נפט / קונדנסט (חביות)**	לפני החזר השקעה- 3,782,625 אחרי החזר השקעה - 3,542,000	לפני החזר השקעה- 4,910,535 אחרי החזר השקעה-4,598,160	לפני החזר השקעה - 7,113,699 אחרי החזר השקעה - 6,661,173
	גז (Mcf)	לפני החזר השקעה - 3,150,864 אחרי החזר השקעה- 2,950,427	לפני החזר השקעה - 952,006 אחרי החזר השקעה - 891,446	לפני החזר השקעה - 6,001,520 אחרי החזר השקעה - 5,619,744

בהתחשב במגבלות המידע הגיאולוגי והסייסמי שעמד לרשות המעריך באזורים הרחוקים מקידוח הנסיון, קבע המעריך רמות אי ודאות (uncertainty) שונות לכל אזור.

ו. הפרמטרים הבסיסיים ששימשו לחישוב התרחישים השונים:

בהתבסס על מגבלות הנתונים ומגבלות מספר הבארות להן בוצעו חדירות על פני הבלוק, המעריך העריך שהבארות שמעבר לאזור המשאבים המותנים עדיין לא עמדו בקריטריונים של גילוי וסיווג בארות אלה כמשאבים מנובאים (2U prospective wells). בשל טבעם של מאגרים לא קונבנציונליים, המעריך העריך נפחים שניתנים להשבה (recoverable volumes) בהתבסס על ניתוח פרופיל באר במקום הערכה קונבנציונלית של פחמימנים-במקום (hydrocarbon-in-place) מקוריים ומקדם התאוששות.

המעריך, כמעריך חיצוני, מלווה את שדה הנפט בפרויקט במשך שנים רבות. שדה הנפט בפרויקט מוגדר כמאגר לא קונבנציונלי. כחלק מתהליך הערכת המשאבים בשדה פיתח המעריך עקומות הפקה לכל הבארות בשדה. עקומות ההפקה פותחו לבארות קיימות בהתאם לאנליזת ההפקה שלהן בפועל. בהתאם למגבלות המידע שעמד לרשותו החליט המעריך לקבוע את כמויות המשאבים המנובאים לפי עקומות הפקה קיימות שלפי הערכתו מתאימות למידע הגיאולוגי שעומד לרשותו.

ז. הסיכונים המשמעותיים הכרוכים בתהליך

המעריך ציין שבהתחשב ברמת המידע הקיים ניתן להעריך משאבים מנובאים בשטחו של הבלוק בצמוד לאזורים שבהם הוגדרו משאבים מותנים. כדי להקדם בתהליך ולהגיע לתגלית (DISCOVERY) ולפיתוח קיימים סיכונים, בין היתר, שגודל המאגר ו/או תכונותיו לא יהיו טובים דיים בכדי להצדיק פיתוח כלכלי, עלויות וסיכונים הכרוכים בפיתוח הממצא ועוד. יצוין, כי אומדן המשאבים המנובאים וההסתברות להימצאות הידרוקרבונים, כפי שיפורט להלן, אינו השיקול היחיד בקבלת החלטות קדיחה, ונוספים לו שיקולים אחרים, דוגמת עומק המטרה, גודלה, הסיכוי לפתחה במקרה של ממצא בהתאם להערכות הגודל והכלכליות וכיוצא באלו.

לדיון בגורמי הסיכון הכרוכים בפעילות חיפושים ראו סעיף 20 בפרק א' לדוח התקופתי של השותפות לשנת

[4] לפני תמלוגים לבעלי זכויות הנפט ולשותף הכללי בשותפות. נתונים אלו אינם נכללים בדוח המשאבים והם מחושבים כ- 50% מסך המשאבים בהתאם לחלקה היחסי של השותפות בפרויקט.

[5] ראו הערת שוליים 4.

2022, שפורסם ביום 26.3.2023 (אסמכתא 2023-01-031923).

ח. <u>מרכיבי הסיכון הגיאולוגי</u>
גורמי הסיכון הגיאולוגיים הכרוכים בתהליך החיפוש בפרויקט, ואומדן ההסתברות להצלחה להמצאות הידרוקרבונים (נפט, קונדנסט וגז טבעי), כפי שצוינו בדוח המשאבים, הינם כדלקמן:

הפרוספקט	Zone	המצאות התצורה Formation Present	עושר בחומר אורגני Organic Richness (TOC)	בגרות תרמלית Thermal Maturity	שבירות השכבה ויכולת ההפקה Brittleness& Producibility	המשכיות השכבה Continuity	סה"כ ההסתברות להצלחה (Chance of Geologic Discovery)
Alcorn Development Area	Niobrara Units A-F	1.00	1.00	0.95	0.85	0.9	0.73

<u>מונחים</u>:
A - המצאות התצורה - ההסתברות לקיומה של שכבת המטרה באזור.

B - חומר אורגני - ההסתברות שהסלעים בשכבות המטרה יכילו חומר אורגני כמקור ליצירת הידרוקרבונים.

C - מטרוציה תרמלית - ההסתברות שהחומר האורגני נחשף לתנאים תרמלים המתאימים להיווצרות תרכובות הידרוקרבוניות.

D - שבירות ויכולת הפקה - יכולת הסלעים בתצורת המטרה להיסדק בצורה טבעית ובפעולות המרצה מלאכותיות. יכולת הסידוק, בין הטבעי ובין זה שנוצר בפעולות ההמרצה, לתרום לקצבי הפקה כלכליים.

E - המשכיות התצורה עם התכונות המתאימות (D,C,B) באזור ותמיכת ההמשכיות בקידוחים נוספים.

סה"כ ההסתברות להצלחה = (E)x (D) x (C) x (B) x (A)

הערכת סיכון גיאולוגי של משאבים מנובאים מתייחסת להסתברות ההצלחה לתגלית של כמות פטרוליום משמעותית הניתנת, באופן פוטנציאלי, לשינוע. ניתוח סיכון זה מבוצע באופן שאינו תלוי בהערכת כמויות הפטרוליום ומבלי לקחת בחשבון את סיכויי הפיתוח. המעריך מציין שהשימוש ב-5 הגורמים הנ"ל נעשה בגלל הגדרת מערכת הנפט כלא קונבנציאלית.

ט. <u>אומדן להסתברות לפיתוח לשם הפקה מסחרית</u>
נכון למועד דוח המשאבים, אין ביכולתה של השותפות ליתן אומדן סטטיסטי להסתברות לפיתוח הבלוק לשם הפקה מסחרית. עם זאת, ניתן להעריך כי השוק הפוטנציאלי העיקרי למשאבים כאמור הוא השוק המקומי. לפיכך, תבחן השותפות חלופות שונות למסחור ההידרוקרבונים (ככל שיתגלו ושיופקו).

י. <u>נימוקי השותפות אודות הבסיס לפרמטרים הבסיסיים ששימשו בחישוב התרחישים</u>:
הפרמטרים ששימשו בחישוב האומדנים השונים מבוססים על ניתוח המידע הגיאולוגי והנדסי שקיים בשטח הפרויקט, מידע שהתקבל מהקידוח ועל ידע כללי מקידוחים במאגרים דומים.

יא. **<u>אזהרה:</u>**
אין ודאות כי חלק כלשהו מהמשאבים האפשריים שצוינו אכן יתגלה; ואם יתגלה, אין ודאות כי יהא זה אפשרי מבחינה מסחרית להפיק חלק כלשהו מהמשאבים; המידע הפרוספקטיבי אינו בגדר הערכה אודות עתודות ומשאבים מותנים אותם ניתן יהיה להעריך רק לאחר קידוח הניסיון, אם בכלל.

אזהרה בגין מידע צופה פני עתיד - הערכות המעריך בדבר המשאבים המנובאים בפרויקט הינן "מידע צופה פני עתיד" כמשמעו בחוק ניירות ערך התשכ"ח-1968. ההערכות לעיל מבוססות, בין היתר, על מידע גיאולוגי, הנדסי ואחר, שקיים ו/או שנתקבל מהקידוח ומקידוחים שונים באזור, והינן בגדר הערכות והשערות מקצועיות בלבד של המעריך ואשר לגביהן לא קיימת כל וודאות. כמויות הנפט ו/או הגז הטבעי, שיתגלו (אם יתגלו) ושיופקו בפועל (אם יופקו), עשויות להיות שונות מהותית מההערכות וההשערות הנ"ל, בין היתר, כתוצאה מתנאים תפעוליים וטכניים ו/או משינויים רגולטוריים ו/או מתנאי היצע וביקוש בשוק הנפט ו/או הגז הטבעי, 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 וגז טבעי, לרבות כתוצאה מהמשך ניתוח ממצאי המשאבים המנובאים וכתוצאה מתנאים תפעוליים ו/או תנאי שוק ו/או תנאים רגולטוריים.

יב. **<u>השוואה בין נתוני הדוח המעודכן לדוח הקודם</u>**
השינוי בכמויות ביחס לדוח הקודם הינו שולי.

יג. <u>חוות דעת של המעריך</u>
מצורף לדוח זה כ**<u>נספח א'</u>** דוח משאבים מותנים ומנובאים בחזקה שהוכן על-ידי המעריך, וכן הסכמת המעריך להכללתו בדוח זה.

יד. <u>הצהרת הנהלה</u>
(1) תאריך ההצהרה: 28.3.2024;
(2) ציון שם התאגיד: מודיעין-אנרגיה - שותפות מוגבלת;
(3) המוסמך להעריך את המשאבים בשותפות, שמו ותפקידו: יניב פרידמן, מנכ"ל השותף הכללי והשותפות;
(4) הרינו לאשר, כי נמסרו למעריך כל הנתונים הנדרשים לצורך ביצוע עבודתו;
(5) הרינו לאשר, כי לא בא לידיעתנו כל מידע המצביע על קיום תלות בין המעריך לבין השותפות;
(6) הרינו לאשר, כי למיטב ידיעתנו המשאבים שדווחו הם האומדנים הטובים והעדכניים ביותר הקיימים ברשותנו;
(7) הרינו לאשר, כי הנתונים שנכללו בדוח זה נערכו לפי המונחים המקצועיים המנויים בפרק ז' לתוספת השלישית לתקנות ניירות ערך (פרטי התשקיף וטיוטת התשקיף – מבנה וצורה), התשכ"ט-1969, ובמשמעות הנודעת להם ב- Petroleum Resources Management System(2007) כפי שפרסמו איגוד מהנדסי הפטרוליום (SPE), הארגון האמריקאי של גיאולוגים בתחום הפטרוליום (AAPG), המועצה העולמית לפטרוליום (WPC) ואיגוד מהנדסי הערכת הפטרוליום (SPEE), כתוקפם בעת פרסום הדוח;
(8) הרינו לאשר כי לא נעשה שינוי בזהות המעריך שביצע הדוח הקודם.
(9) הרינו מסכימים להכללת ההצהרה האמורה לעיל בדוח זה.

_____
יניב פרידמן

טו. <u>מילון מונחים</u>
"**משאבים מותנים (Contingent Resources)**" – מוגדרים על פי ה-PRMS ככמויות של הידרוקרבונים שנכון ליום נתון עשויים להיות בני-הפקה ממאגרים ידועים על ידי יישום של תכניות פיתוח, אך שעדיין אינם נחשבים בני-הפקה מבחינה כלכלית, כתוצאה מתנאי אחד או יותר.

"**משאבים מותנים בשלב בשלות (Project Maturity Sub-Class) של "הצדקת פיתוח בבחינה" (Development Pending)**" - מוגדרים על פי ה- PRMS ככאלו המצויים במאגר בו מתקיימות נסיבות להצדקת הפקתם הכלכלית בטווח הנראה לעין.

"**משאבים מנובאים (Prospective Resources)**" -– מוגדרים על פי ה- PRMS ככמויות של הידרוקרבונים שנכון ליום נתון עשויים להיות בני-הפקה ממאגרים שלא התגלו על ידי יישום של תוכניות פיתוח.

"**כמויות מסחריות**" – כמויות של נפט ו/או גז המאפשרות להפיקן באופן כלכלי.

"**מאגר (Reservoir)**" - שכבה או שכבות של סלע המתאפיינות בנקבוביות וחדירות גבוהות יחסית, המאפשרות קיבולת וזרימה של נוזלים וגז. לעתים משמש גם לתיאור שדה של נפט ו/או גז.

"**מערכת לניהול משאבי פטרוליום (SPE-PRMS) – Petroleum Resources Management System 2018**" - מערכת דיווח להערכת עתודות ומשאבי נפט, כפי שפורסמה על-ידי איגוד מהנדסי הפטרוליום (SPE), הארגון האמריקאי של גיאולוגים בתחום הפטרוליום (AAPG), המועצה העולמית לפטרוליום (WPC), איגוד מהנדסי הערכת הפטרוליום (SPEE), איגוד הגיאופיזיקאים לאקספלורציה (SEG), איגוד הפטרופיזיקאים ואנליסטים של לוגים (SPWLA) וארגון הפיזיקאים והמהנדסים האירופי (EAGE), וכפי שתתוקן מעת לעת.

"**נפט**" – נפט ניגר, בין נוזלי ובין אדי, לרבות שמן, גז טבעי, גזולין טבעי, קונדנסאטים ופחמימנים (הידרוקרבונים) ניגרים להם, וכן אספלט ופחמימנים של נפט מוצקים אחרים כשהם מומסים בתוך נפט ניגר וניתנים להפקה יחד אתו.

"**עתודות (Reserves)**" – מוגדרות על-פי המערכת לניהול משאבי פטרוליום (SPE-PRMS) ככמויות של נפט

הצפויות להיות ברות הפקה על-ידי יישום של תוכנית פיתוח על הצטברויות שנתגלו מיום מסוים ואילך תחת תנאים מוגדרים. על עתודות לענות על ארבעה תנאים: (1) עליהן להתגלות; (2) ברות הפקה; (3) מסחריות; ו- (4) קיימות, בהתאם לפרויקט הפיתוח המיושם.

"**קונדנסט**" –פחמימנים הנמצאים במצב נוזלי בתנאי המאגר, אך יכולים להפוך לגז במעבר מהמאגר לפני השטח.

"**BCF**" – מיליארד רגל מעוקב שהם 0.001 TCF או כ- 0.0283 BCM.

"**BCM**" – מיליארד מטר מעוקב (Billion Cubic Meter).

"**MCF**" – מיליון רגל מעוקב (Million Cubic Feet) שהם 0.001 BCF או כ- 0.00003 BCM.

להלן מקדמי המרה ליחידות בהן נעשה שימוש בדוח לעיל:

BCM	**BCF**	**MMCF**
1	35.3107	35310.7
BCF	**MCF**	**BCM**
1	1000	0.0283
MMCF	**BCF**	**BCM**
1	0.001	0.00003

<u>השותפים בחזקה ושיעור החזקותיהם הם כדלקמן:</u>

השותפות -	50%
- Gondola Resources, LLC	50%

בכבוד רב,

מודיעין-אנרגיה ניהול (1992) בע"מ
השותף הכללי במודיעין-אנרגיה - שותפות מוגבלת
על ידי יניב פרידמן, מנכ"ל
וירון זוארס, סמנכ"ל כספים

נספח א'

MODIIN ENERGY LIMITED PARTNERSHIP

Estimated Gross and Net Unrisked Volumes

Contingent and Prospective Resources

Attributable to Certain

Leasehold Interests

North Park Basin, Colorado

As of

December 31, 2023

Scott J. Wilson, P.E.
Colorado License No. 36112
Senior Vice President

Brett A. Gray
LBOPG License No. 533
Senior Vice President – Geoscience

RYDER SCOTT COMPANY, L.P.
TBPELS Firm Registration No. F-1580

RYDER SCOTT COMPANY
PETROLEUM CONSULTANTS
TBPELS REGISTERED ENGINEERING FIRM F-1580
633 17TH STREET SUITE 1700 DENVER, COLORADO 80202 TELEPHONE (303) 339-8110

March 27, 2024

Modiin Energy Limited Partnership
3 Azrieli Center,
Triangle Tower 45th floor
Tel Aviv 67023

Dear Mr. Friedman, CEO:

At your request, Ryder Scott Company, L.P. (Ryder Scott) has prepared an estimate of the C1, C2 (Incremental), and C3 (Incremental) economically viable contingent resources attributable to certain leasehold interests of Modiin Energy Limited Partnership (Modiin) as of December 31, 2023. Additionally, we have estimated the gross cumulative 1U, 2U, and 3U prospective resources of Modiin as of this same date. The subject properties are located in the state of Colorado, USA. The contingent and prospective resource volumes included herein were estimated based on the definitions and disclosure guidelines contained in the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), Society of Petroleum Evaluation Engineers (SPEE), Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE) 2018 Petroleum Resources Management System (SPE-PRMS), which were revised in June 2018. These definitions are in accordance with internationally recognized standards as stipulated by the Israel Securities Authority (ISA). To determine economic limits for the unrisked resource volumes, NYMEX futures prices and constant cost parameters (SPE-PRMS forecast case) were used. The results of our third-party study, completed on March 27, 2024, are presented herein. No material appraisal or production activities occurred since the prior Ryder Scott report was issued as of December 31, 2022, thus this report is a re-issue of the prior report with minor revisions and updates to reflect the current appraisal plan. This report has been prepared for Modiin'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.

The contingent resources included herein are unrisked and do not reflect any potential risk associated with their chance of development**.** These potentially recoverable prospective resources volumes are not adjusted according to the estimated chance of geologic discovery (P_g) of each prospect. However, the estimated P_g risk factors are shown in Table 2. In the event of a discovery, the prospective volumes are also not adjusted based on their "chance of development" (P_d).

The estimated contingent resources presented in this report, as of December 31, 2023, are related to hydrocarbon prices based on NYMEX Futures Strip price parameters. As a result of both economic and political forces, there is substantial uncertainty regarding the forecasting of future hydrocarbon prices. Consequently, actual future prices may vary considerably from the prices assumed in this report. The resource volumes attributable thereto have a direct relationship to the hydrocarbon prices actually received; therefore, volumes of resources actually recovered may differ significantly from the estimated quantities presented in this report**.**

The properties evaluated by Ryder Scott represent all of the total net contingent and prospective oil and gas resources of Modiin as of December 31, 2023 in the Alcorn block of the North Park Field in the State of Colorado, USA. Modiin's Working interest in the Alcorn block is 50%.

All prospective resources, by definition, are undiscovered and thus are undeveloped resources.

The results of this study are summarized below.

Estimated Gross and Net Contingent and Prospective Resource Volumes
Certain Leasehold Interests of
Modiin Energy Limited Partnership
As of December 31, 2023

	Unrisked Gross and Net Contingent Incremental and Cumulative Resources (See Definitions)			
	Undeveloped			Total (3C)
	C1	C2	C3	Contingent
Gross Resources				
Oil/Condensate – Barrels	58,108	2,940,000	2,786,000	5,784,108
Gas – Mcf	50,355	2,422,408	2,174,609	4,647,372
Net Resources				
Oil/Condensate – Barrels	24,274	1,228,185	1,163,852	2,416,311
Gas – Mcf	21,036	1,011,961	908,443	1,941,440

	Unrisked Gross and Net Prospective Cumulative Resources (See Definitions)		
	Undeveloped		
	1U	2U	3U
Gross Resources			
Oil/Condensate – Barrels	9,625,000	12,495,000	18,101,013
Gas – Mcf	8,017,465	10,422,726	15,271,043
Net Resources			
Oil/Condensate – Barrels	4,020,844	5,219,787	7,561,699
Gas – Mcf	3,349,296	4,354,094	6,379,479

Liquid hydrocarbons are expressed in standard 42 U.S. gallon barrels (Barrels). All gas volumes are expressed in thousands of cubic feet (Mcf) at the official temperature and pressure bases of the areas in which the gas volumes are located. All gas contingent and prospective resource volumes are reported on an “as sold” basis. The contingent and prospective resources gas volumes are reported before consideration of shrinkage and fuel.

The estimates of the contingent and prospective resources, attributable to properties in this report were prepared using the economic software package PHDWin Petroleum Economic Evaluation Software, a copyrighted program of TRC Consultants L.C. The program was used at the request of Modiin and the operator. Ryder Scott has found this program to be generally acceptable, but notes that certain summaries and calculations may vary due to rounding and may not exactly match the sum of the properties being summarized. The rounding differences are not material.

No income data are reported in this study.

Resources Included in This Report

The C1, C2 and C3 contingent resources and 1U, 2U, and 3U prospective resources included herein conform to the definitions of contingent and prospective resources sponsored and approved by the SPE, WPC, AAPG, SPEE, SEG, SPWLA and EAGE as set forth in the 2018 SPE-PRMS. Where applicable, based on NYMEX futures prices and constant cost parameters (SPE-PRMS forecast case), we estimated the economic limits of the unrisked resource volumes. The estimated quantities of contingent and prospective resources presented in this report, based on these parameters, may differ significantly from the quantities which would be estimated using constant price and cost parameters (SPE-PRMS constant case). Refer to the full SPE-PRMS, which can be located at https://www.spe.org/en/industry/reserves/ for the complete definitions and guidelines.

The various contingent and prospective resources development and production status categories, as described in this report, are also fully defined in the SPE-PRMS located in the website mentioned above. All resources included herein consist of the undeveloped status category.

No attempt was made to quantify or otherwise account for any accumulated gas production imbalances that may exist. The gas volumes presented herein do not include volumes of gas consumed in operations as contingent or prospective resources. The contingent and prospective resource gas volumes are reported before consideration of shrinkage or other losses.

Resources Classification

Recoverable petroleum resources may be classified according to the SPE-PRMS into one of three principal resources classifications: prospective resources, contingent resources, or reserves. Only prospective resources and contingent resources are addressed in this report. The distinction between prospective and contingent resources depends on whether or not there exists one or more wells and other data indicating the potential for moveable hydrocarbons (e.g. the discovery status). Discovered petroleum resources may be classified as either contingent resources or as reserves depending on the chance that if a project is implemented it will reach commercial producing status (e.g. chance of commerciality - P_c). The distinction between various “classifications” of resources and reserves relates to their discovery status and increasing chance of commerciality. Commerciality is not solely determined based on the economic status of a project, which refers to the situation where the income from an operation exceeds the expenses involved in, or attributable to, that operation. Conditions addressed in the determination of commerciality also include technological, economic, legal, environmental, social, and governmental factors. While economic factors are generally related to costs and product prices, the underlying influences include, but are not limited to, market conditions, transportation and processing infrastructure, fiscal terms and taxes.

Certain estimated recoverable volumes have been classified as contingent resources in this report due to one or more contingencies. These contingencies are related to final commitment of the working interest owners to install production facilities and gathering systems.

Resources Uncertainty

All resource estimates involve an assessment of the uncertainty relating the likelihood that the actual remaining quantities recovered will be greater or less than the estimated quantities determined as of the date the estimate is made. The uncertainty depends primarily on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. Estimates will generally be revised only as additional geologic or engineering data becomes available or as economic conditions change. Discussions of contingent resources and prospective resources are presented below with general descriptions of the risks and uncertainties related to each of these resources classifications.

Contingent Resources

Contingent resources are "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." The contingent resources included herein were estimated using deterministic methods and presented as incremental quantities. In accordance with SPE-PRMS, the range of uncertainty for discrete incremental quantities of contingent resources is denoted in the categories C1, C2 and C3. Contingent resources categorized as C2 are those additional contingent resources beyond the contingent resources categorized as C1 and are less likely to be recovered than C1 contingent resources. Contingent resources categorized as C3 are those additional contingent resources that are less likely to be recovered than C1 and C2 contingent resources.

The contingent resources volumes quantities attributable to the different resources categories that are included herein have not been adjusted to reflect these varying degrees of uncertainty associated with them and thus are not comparable. Petroleum quantities classified as contingent resources should not be aggregated with each other without due consideration of the appreciable differences in the criteria associated with their categorization.

There may be a significant risk that accumulations containing contingent resources will not achieve commercial production. Moreover, estimates of resources may increase or decrease as a result of future operations, effects of regulation by governmental agencies or geopolitical risks. As a result, the estimates of oil and gas resources have an intrinsic uncertainty. The contingent resources included in this report are therefore estimates only and should not be construed as being exact quantities. They may or may not be actually recovered.

The chance of development (P_d) represents the probability that a discovered accumulation, will be developed by application of future development projects. For contingent resources, chance of development (P_d) is equal to the chance of commerciality (P_c), which is the probability that the discovered accumulation will commercially mature to the point of delivering saleable hydrocarbon volumes to market. Due to its speculative nature, we have not addressed the chance of development (P_d) or chance of commerciality (P_c) herein.

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." Prospective resources are associated with a probability or chance of geologic discovery (P_g) and a probability or chance of development (P_d). The chance of geologic discovery expresses the probability

that the drilling of an exploratory well to test the prospective accumulation will find or discover an accumulation of a significant quantity of potentially recoverable petroleum. The chance of development (P_d) represents the probability that a discovered accumulation, as defined herein, will be developed by application of future development projects. For prospective resources, the product of the chance of geologic discovery (P_g) and the chance of development (P_d), defines the chance of commerciality (P_c), which is the probability that a prospective accumulation will commercially mature to the point of delivering saleable hydrocarbon volumes to market.

Prospective resources are presented in this report as "unrisked" potentially recoverable volumes. Such volumes have not been adjusted by their chance of geologic discovery (P_g) nor the chance of development (P_d), together the chance of commerciality (P_c). In this report, Ryder Scott has estimated the chance of geologic discovery (P_g), which is presented as a separate factor in Table 2 below. The volumes of prospective resources in this report may or may not ultimately be discovered, economically viable, or technically feasible to produce. There is no certainty that development will occur or, if it does occur, that the estimated recoveries will be achieved. Due to its speculative nature, we have not addressed the chance of development (P_d) herein.

The net unrisked prospective resources included herein were estimated using deterministic methods and are presented as cumulative quantities. For prospective resources estimated using the deterministic approach, quantities of prospective resources are estimated and assigned as Low Estimate (1U), Best Estimate (2U) and High Estimate (3U), based on the level of uncertainty for each successive cumulative volume. It follows that each successive cumulative prospective resources estimate conveys a greater uncertainty.

Possible Effects of Regulation

Operations may be subject to various levels of governmental controls and regulations. These controls and regulations may include matters relating to land tenure and leasing, the legal rights to produce hydrocarbons, drilling and production practices, environmental protection, marketing and pricing policies, royalties, various taxes and levies including income tax and are subject to change from time to time. Such changes in governmental regulations and policies may cause volumes of resources actually recovered and amounts of income actually received to differ significantly from the estimated quantities.

The estimates of contingent and prospective resources presented herein were based upon a detailed study of the properties in which Modiin owns an interest; however, we have not made any field examination of the properties. No consideration was given in this report to potential environmental liabilities that may exist nor were any costs included for potential liability to restore and clean up damages, if any, caused by past operating practices.

Methodology Employed for Estimates of Resources

The estimation of resource quantities involves two distinct determinations. The first determination results in the estimation of the quantities of recoverable oil and gas and the second determination results in the estimation of the uncertainty associated with those estimated quantities. The process of estimating the quantities of recoverable oil and gas resources relies on the use of certain generally accepted analytical procedures. These analytical procedures fall into three broad categories or methods: (1) performance-based methods, (2) volumetric-based methods and (3) analogy. These methods may be used individually or in combination by the reserves evaluator in the process of estimating the quantities of resources. Reserves evaluators must select the method or combination of methods which in their

professional judgment is most appropriate given the nature and amount of reliable geoscience and engineering data available at the time of the estimate, the established or anticipated performance characteristics of the reservoir being evaluated, and the stage of development or producing maturity of the property.

In many cases, the analysis of the available geoscience and engineering data and the subsequent interpretation of these data may indicate a range of possible outcomes in an estimate, irrespective of the method selected by the evaluator. When a range in the quantity of recoverable hydrocarbons is identified, the evaluator must determine the uncertainty associated with the incremental quantities of those recoverable hydrocarbons. If the quantities are estimated using the deterministic incremental approach, the uncertainty for each discrete incremental quantity is addressed by the resources category assigned by the evaluator. Therefore, it is the categorization of incremental recoverable quantities that addresses the inherent uncertainty in the estimated quantities reported.

Estimates of resources quantities and their associated categories or classifications may be revised in the future as additional geoscience or engineering data become available. Furthermore, estimates of the recoverable quantities and their associated categories or classifications may also be revised due to other factors such as changes in economic conditions, results of future operations, effects of regulation by governmental agencies or geopolitical or economic risks as previously noted herein.

The contingent and prospective resources for the properties included herein were estimated by analogy. The data utilized from the analogues in conjunction with well and seismic data incorporated into our analysis were considered sufficient for the purpose thereof.

Assumptions and Data Considered for Estimates of Resources

To estimate recoverable oil and gas resources and related economic lives, we consider many factors and assumptions including, but not limited to, the use of reservoir parameters derived from geological, geophysical and engineering data which cannot be measured directly, economic criteria based on the cost and price assumptions as noted herein, and forecasts of future production rates. Under the SPE-PRMS Section 1.1.0.6, “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.” Accordingly, we have applied the same criteria for commercially recoverable to the unrisked contingent resources included in this report, but which may lack a firm intention to proceed with the development.

Modiin and the operator have informed us that they have furnished us all of the material accounts, records, geological and engineering data, and reports and other data required for this investigation. In preparing our forecasts of future production and income, we have relied upon data furnished by the operator with respect to property interests owned, production and well tests from examined wells, normal direct costs of operating the wells or leases**,** other costs such as transportation and/or processing fees, ad valorem and production taxes, development costs, development plans, abandonment costs product prices, geological structural and isochore maps, well logs, and core analyses. Ryder Scott reviewed such factual data for its reasonableness; however, we have not conducted an independent verification of the data supplied by the operator.

In summary, we consider the assumptions, data, methods and analytical procedures used in this report appropriate for the purpose hereof, and we have used all such methods and procedures that we consider necessary and appropriate to prepare the estimates of contingent and prospective resources herein.

Area Overview

Ryder Scott evaluated contingent and prospective resource volumes associated with the Alcorn development area, Figure 1 below. The development area is centrally located in the North Park Basin and will produce hydrocarbons associated with Marl and Chalk units, A through E, of the Niobrara formation.

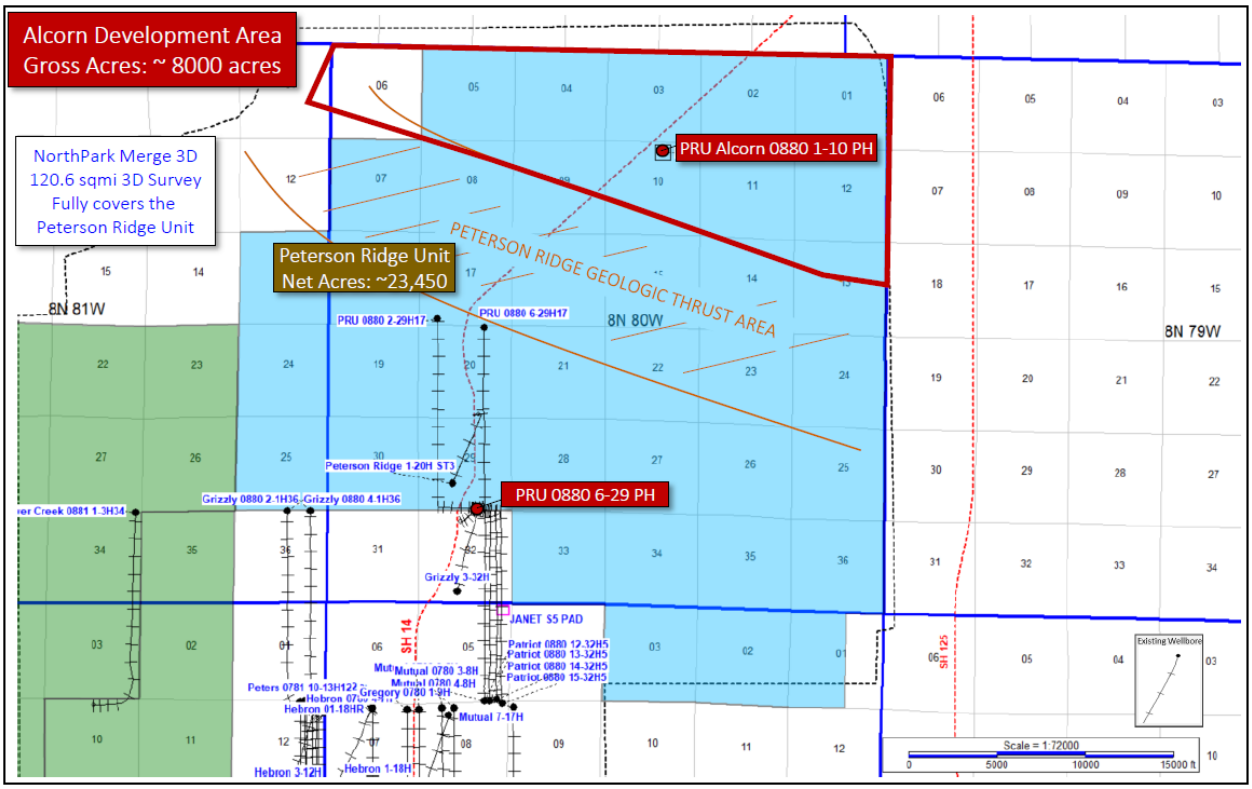

Figure 1 Alcorn Development Area Overview (Source: Gondola Resources - Modiin Energy - Fulcrum Energy Operating)

Geoscience Review

The Alcorn development area is an isolated fault block separated from the Peterson Ridge Block and Patriot Block to the south by the Peterson Ridge Geologic Thrust Area, see Figure 2 below. The Alcorn Block was drilled in October of 2022 by the PRU Alcorn 0880 1-10PH (Alcorn pilot 1-10PH) pilot well. The Alcorn pilot 1-10PH well encountered difficulties during casing cementation operations, with the potential of having insufficient cement between the formations of interest and shallow formations capable of withstanding hydraulic fracture operations. Given the uncertainty in the casing cement, the Alcorn pilot 1-10PH well will not be hydraulically fractured during completion operations. Delays due to the cement job, weather, and equipment constraints, The Alcorn pilot 1-10PH has not been completed to date. The operator intends to test the well in 2024 with a conventional completion and to collect fluid samples. The closest vertical analogue well is the PRU 0880 6 29H17PH (Patriot pilot 6 29H17PH) pilot well located in the Patriot Block to the south.

The Pole Mountain 3D seismic survey was acquired in 2007 by EOG and was supplemented by the Peterson Ridge 3D and Rabbit Ears 3D surveys acquired by Sandridge in 2017. In 2017, all three seismic surveys were reprocessed into a single post stack migration volume in time by STAR Geophysics, Inc. Ryder Scott reviewed the seismic interpretation in a workstation session with Fulcrum representatives. Review of the seismic time volume and the well control shows a significant velocity anomaly associated with the Peterson Ridge block, with the Alcorn pilot 1-10PH well being shallow to the Patriot pilot 6 29H17PH well in time, but the correlation in Figure 3 shows the Alcorn pilot 1-10PH to be in fact deeper in depth. Well control from vertical wells are utilized to correct for the velocity anomaly, but some uncertainty exists in the structural dip away from control.

In general, the seismic interpretation reasonably conforms to seismic reflectors and represents major faulting observed in the data. It was noted that additional faulting not interpreted is present in the Alcorn block towards the northern limit of the seismic survey. In addition, there is some stratigraphic variability observed in the seismic reflectors, with onlapping sequences present. The uncertainty associated with the possibility of further compartmentalization is captured in contingent and prospective resource categories assigned to type wells utilized for recoverable volume estimates.

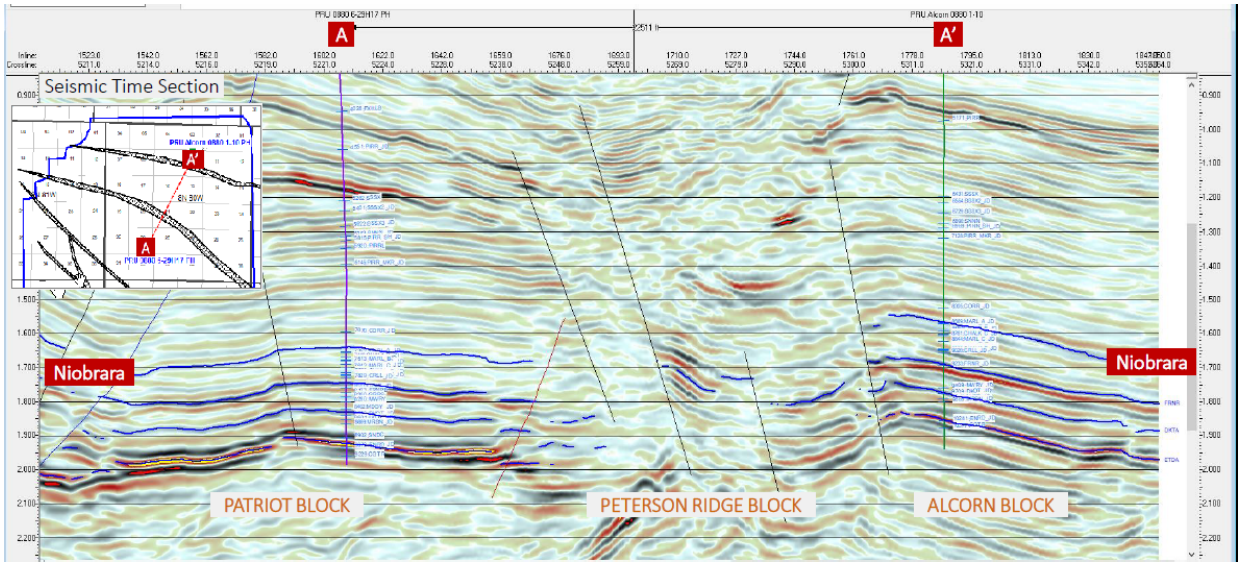

Figure 2 Northeast-Southwest Arb Line in Time (Source: Gondola Resources - Modiin Energy - Fulcrum Energy Operating)

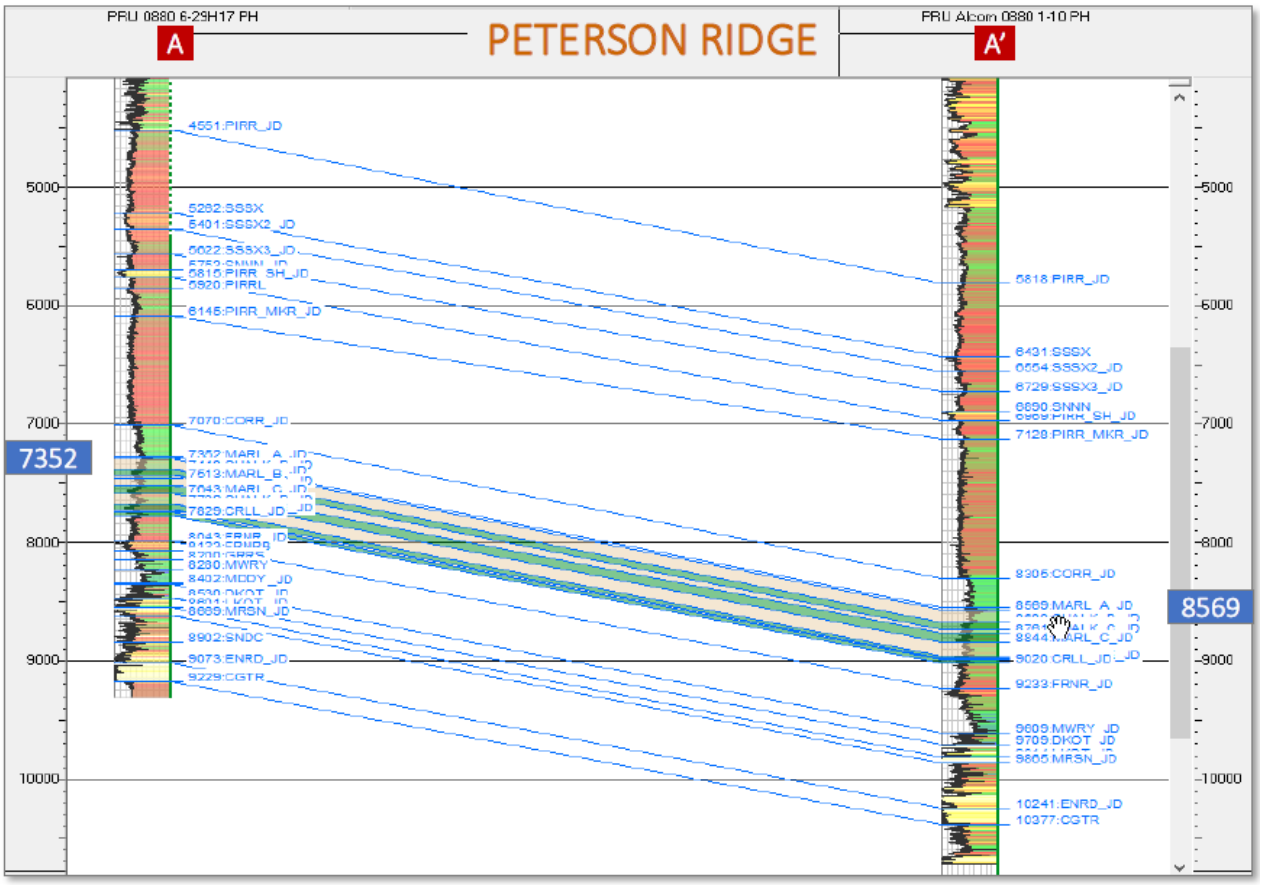

Figure 3 PRU 0880 6-29H17PH to PRU Alcorn 0880 1-10PH well correlation in depth (Source: Gondola Resources - Modiin Energy - Fulcrum Energy Operating)

The Alcorn pilot 1-10PH well was logged with a standard triple combo well log suite and well cuttings were sampled for RockEval Pyrolysis evaluated by Stratochem Services. The Patriot pilot 6 29H17PH well has a triple combo logs and rotary side wall core data with source rock analyses from GeoMark Research.

Pyrolysis data for the Alcorn pilot (Figure 5) demonstrates the formations of interest to contain very high total organic content (TOC) with source rock maturity varying between the peak oil window (POW) to Late Mature (LM) and more gas prone. Source rock evaluation for the Patriot pilot 6 29H17PH well (Figure 6) show the well maturity in the oil prone window which is consistent with reservoir production in nearby lateral wells. The use of cuttings versus rotary sidewall samples, significantly different pyrolytic temperature programs, and different labs introduce uncertainty in the predicting the amount of gas present in the Alcorn well. Given the Alcorn pilot is 200 ft deeper than the deepest lateral section in the Patriot production wells, development wells close to the Alcorn pilot hole are expected to have a higher initial GOR, but still liquid hydrocarbon bearing across the acreage. The GOR is expected to change from high GOR in the east (section 1 and 12) to lower GOR in the west (section 5) based on the change in formation depth. The structural map (Figure 11) displays the change in depth across the acreage of interest.

Ryder Scott reviewed the provided well correlations (Figure 4), petrophysical interpretation, and core lab reports, which confirm the presence of hydrocarbon within the formation of interest and review

of petrophysical properties (Figure 7) between the Alcorn and Patriot wells show the primary reservoir target of the C Chalk qualifies as a valid analogue.

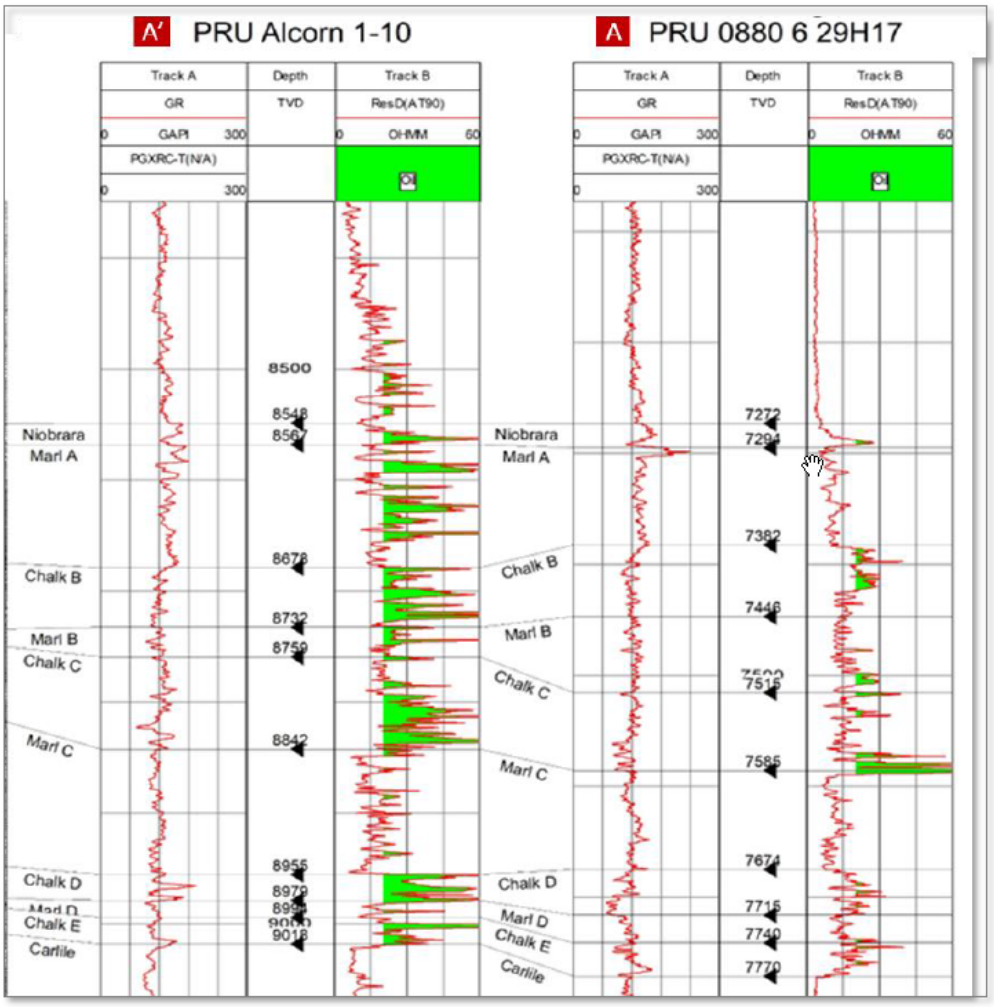

Figure 4 Patriot and Alcorn pilot well correlations (Source: Gondola Resources - Modiin Energy - Fulcrum Energy Operating)

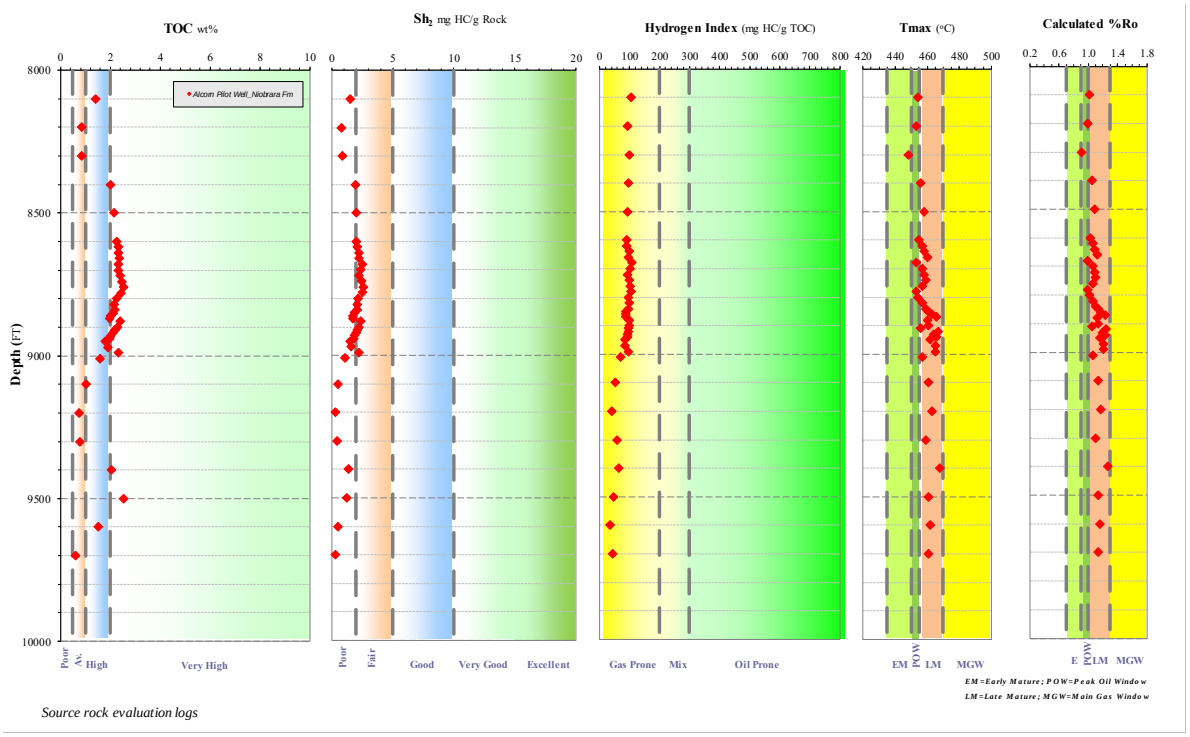

Figure 5 PRU Alcorn 0880 1-10PH RockEval Pyrolysis Results (Source: Stratochem services report)

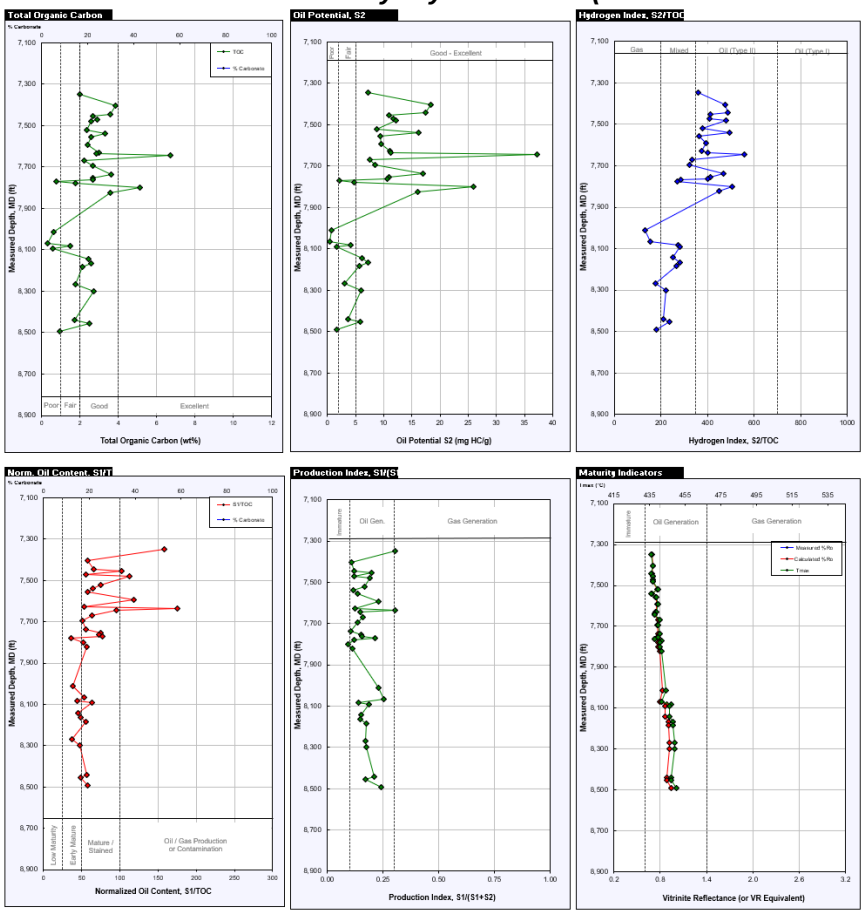

Figure 6 PRU 0880 6 29H17PH RSWC Source Rock Evaluation (Source: GeoMark Research, LTD report)

Patriot Pad Pilot Hole A

PRU 6-29	ooip	ft	sw	por
A Chalk	1,349,275	22.00	67.72%	4.84%
A Marl	7,348,938	99.00	60.04%	5.49%
B Chalk	8,992,357	75.00	37.70%	6.15%
B Marl	7,079,479	80.00	47.55%	5.39%
C Chalk	8,411,919	81.00	45.02%	5.68%
C Marl	8,231,816	58.00	58.07%	5.64%
D Chalk	4,923,718	46.50	49.00%	5.34%
D Marl	2,838,912	19.50	39.63%	6.47%
E Chalk	4,312,675	27.50	38.46%	6.72%
		508.50	49.24%	5.75%

Chalk	27,989,944
Marl	25,499,145
total	53,489,089

Alcorn Pad Pilot Hole A'

Alcorn 1-10	ooip	ft	sw	por
A Chalk	858,433	16.0	62.52%	4.08%
A Marl	7,534,346	112.5	54.71%	4.61%
B Chalk	5,745,953	51.0	41.58%	5.27%
B Marl	2,227,476	27.5	53.66%	4.76%
C Chalk	9,891,248	80.0	47.12%	5.91%
C Marl	8,764,461	115.0	58.11%	5.13%
D Chalk	3,037,299	29.5	44.36%	5.08%
D Marl	509,778	7.0	57.56%	4.91%
E Chalk	3,995,360	26.5	29.53%	5.99%
		465.0	49.91%	5.08%

Chalk	23,528,293
Marl	19,036,061
total	42,564,354

Figure 7 Patriot and Alcorn petrophysical averages
(Source: Gondola Resources - Modiin Energy - Fulcrum Energy Operating)

Contingent Resource Evaluation

As of this report, several contingency factors need to be overcome in the development of the Alcorn block before the reported contingent volumes can be classified as reserves:

- Final investment decision (FID) is contingent on the further appraisal of the Alcorn block with several stage gates.
  - Gate 1: Successful conventional well completion and well production test of the PRU Alcorn 0880 1-10PH well.
  - Gate 2: Upon success of Gate 1, the drilling, completion, and testing of two lateral wells offsetting the PRU Alcorn 0880 1-10PH well.
- Multiple markets exist in which the hydrocarbon can be delivered, the final delivery markets and required facilities are dependent on the production rates and gas content of the produced hydrocarbon.
  - Plans for pipelines, and production facilities will need to be finalized and developed to deliver the hydrocarbon to market.
- Finalized development plans, production forecasts, and cash flows demonstrate commerciality

Currently, regulatory approval and drilling permits for additional appraisal wells have been granted. Based on the successful track record of permitting and development in the Alcorn and the developed Patriot area, there is a reasonable expectation that regulatory approval will be granted for future development wells, and it is not considered a contingency factor.

The Alcorn development project is actively being studied, undergoing feasibility assessments, and has planned near term operations. Utilizing the SPE/PRMS project maturity sub-classes (Figure 8), the Contingent Resources are classified as “Development Pending”.

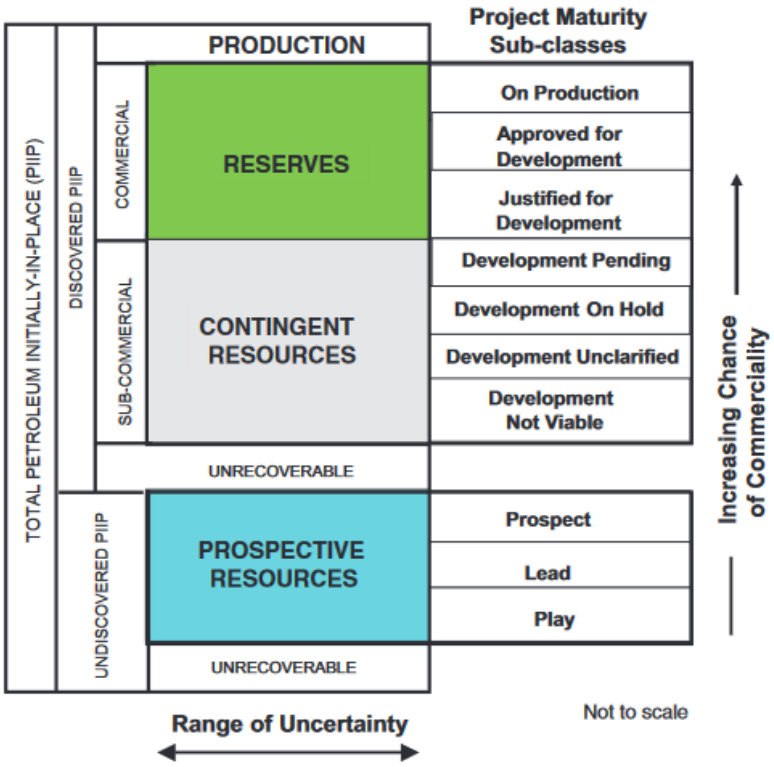

Figure 8 SPE/PRMS Project Maturity Sub-Classes (Source: SPE/PRMS Guidelines)

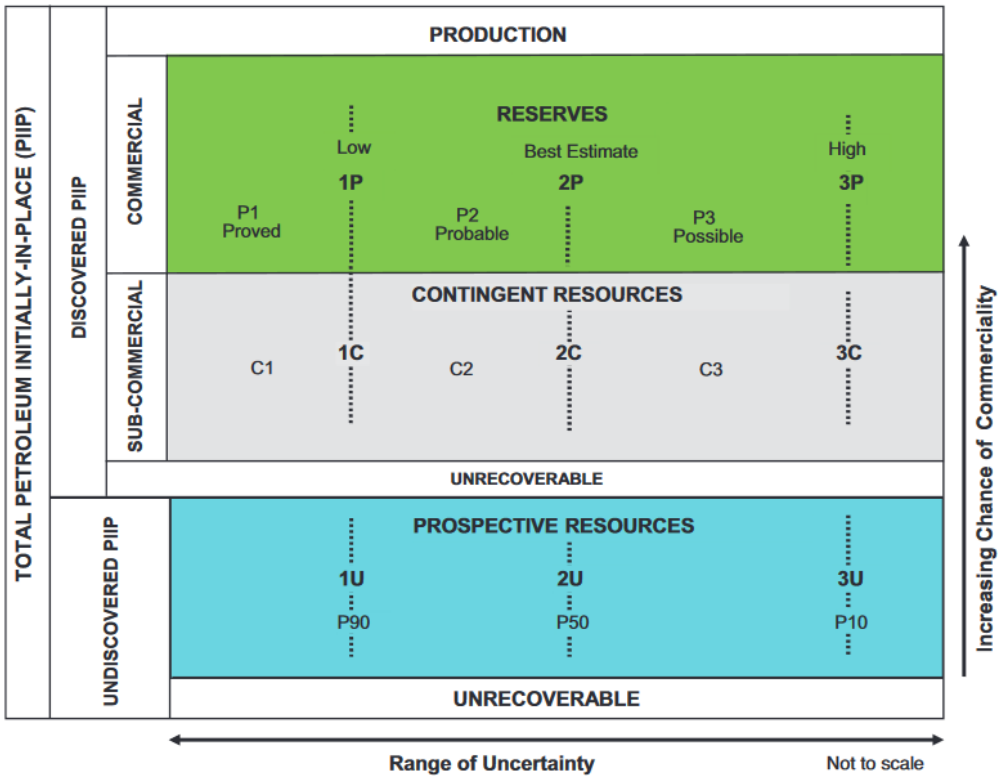

Figure 9 SPE/PRMS Resources Classification framework (Source: SPE/PRMS Guidelines)

Based on the provided supporting data from geophysical and petrophysical analysis, Ryder Scott assessed a valid analogy between the Alcorn and Patriot pilot wells, which qualifies the PRU Alcorn 0880 1-10PH as a valid discovery well. Given the lack of production test information, Ryder Scott has assigned C2 and C3 contingent resource volumes to offsetting future development wells based on the SPE/PRMS classification framework, Figure 9 above. These wells have the same technical uncertainty as wells in the corresponding reserves classifications, but are dependent on commerciality and contingency factors that have yet to be overcome. Contingent resource well assignments are displayed in Figure 10.

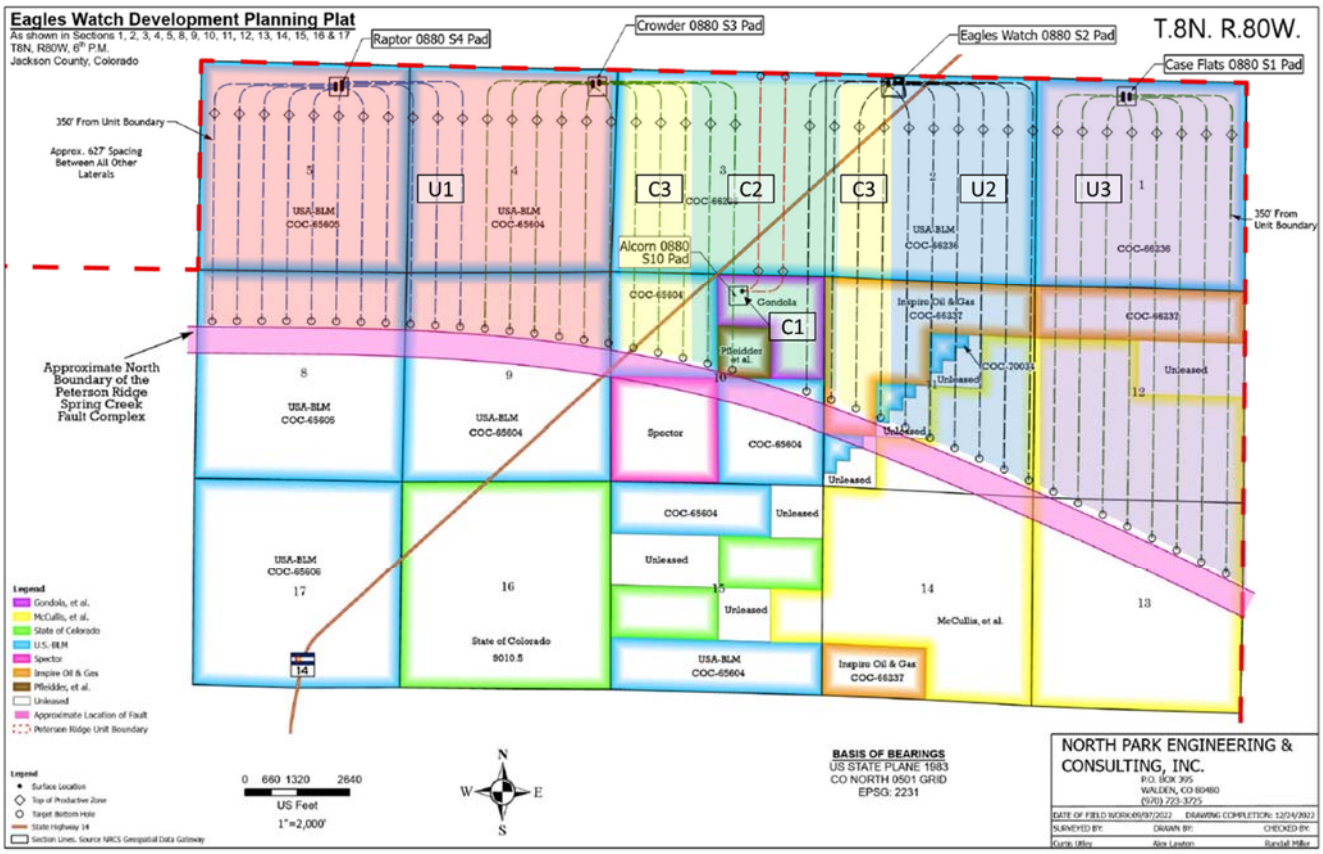

Figure 10 Alcorn Development Locations Map

Prospective Resource Evaluation

Based on constraints of the data and limited well penetrations across the Alcorn block, Ryder Scott has assessed the wells beyond the contingent resource area has yet to meet the criteria of discovery and have classified these wells as prospective resources. Due to the nature of unconventional reservoirs, Ryder Scott has estimated recoverable volumes based on type well profile analysis rather than a conventional assessment of original hydrocarbon-in-place and a recovery factor.

Seismic data and evidence of reservoir continuity from wells beyond the lease area provided confidence in the continuity of the reservoir, but the increasing reservoir depth to over 10,000 ft (see Figure 11 below) requires well control to confirm the discovery of recoverable hydrocarbon. Down-dip prospective well locations east of the Alcorn contingent resources have higher uncertainty and are

classified as U2 and U3 prospective resources. Up-dip prospective well locations west of the Alcorn contingent resources have lower uncertainty and are classified as U1 prospective resources.

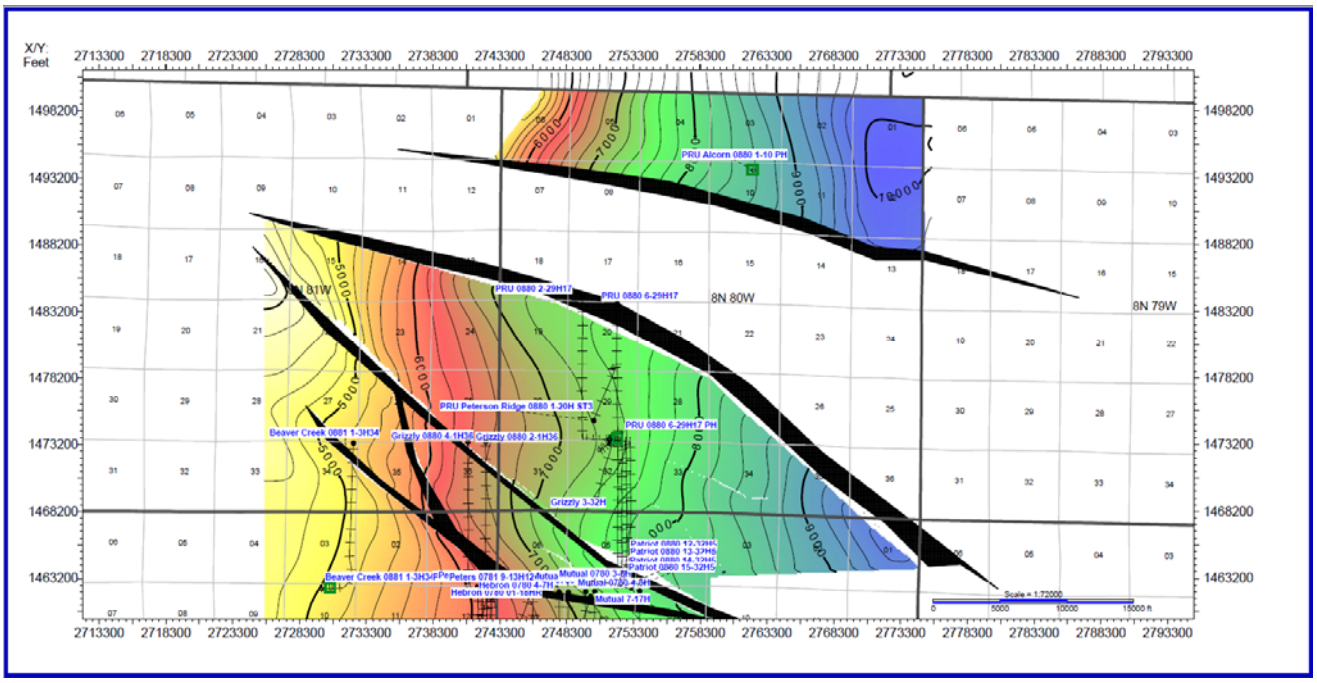

Figure 11 Top of Niobrara Depth Structure
(Source: Gondola Resources - Modiin Energy - Fulcrum Energy Operating)

Chance of Geologic Discovery (P_g)

The PRMS defines *chance of geologic discovery* as, "The estimated probability that exploration activities will confirm the existence of a significant accumulation of potentially recoverable petroleum." Ryder Scott understands the word "significant" to mean that results from exploration activities (a well) are sufficiently encouraging for the project to move forward but makes no assumptions regarding the probability of development or commerciality.

For unconventional shale plays, Ryder Scott calculates the *chance of geologic discovery* as the product of five independent risk factors, assigned individual values from zero to one, defined as follows:

- **Formation Presence:** Is the source rock present in the area?
- **Organic Richness (TOC %):** Has adequate organic content to generate hydrocarbons?
- **Thermal Maturity (Ro fraction):** Has the Source Rock adequate thermal maturity to enter in generation window?
- **Brittleness and Producibility:** Is lithology brittle enough to respond to fracturing (hydraulic or natural) and generate sufficient fractures to provide economic production rates?

- **Continuity:** Is the effective lithology (source rock quality and brittleness) to reasonably assume similar production characteristics achievable (similar production curve), continuous across the area, and justify the drilling of several wells?

An individual parameter value of 0.5 indicates a neutral opinion regarding the risk factor of the prospect area. Values greater than 0.5 indicate a positive opinion based on available data whereas values less than 0.5 indicate a negative opinion. Positive information, a well finding the prospective reservoir present for example, results in parameter values greater than 0.5. Negative information, a well finding the prospective reservoir absent for example, results in parameter values less than 0.5. Taking into account the data provided by Modiin, Ryder Scott has assigned the following values to these factors in the following table.

Table 1 Ryder Scott estimate of Pg for the Alcorn Development Area

Prospect	Zone	Geologic Risk Factor					Chance of Geologic Discovery (Pg)
		Formation Presence	Organic Richness (TOC)	Thermal Maturity	Brittleness & Producibility	Continuity	
Alcorn Development Area	Niobrara Units A-F	1.00	1.00	0.95	0.85	0.90	0.73

Standards of Independence and Professional Qualification

Ryder Scott is an independent petroleum engineering consulting firm that has been providing petroleum consulting services throughout the world since 1937. Ryder Scott is employee-owned and maintains offices in Houston, Texas; Denver, Colorado; and Calgary, Alberta, Canada. We have approximately eighty engineers and geoscientists on our permanent staff. By virtue of the size of our firm and the large number of clients for which we provide services, no single client or job represents a material portion of our annual revenue. We do not serve as officers or directors of any privately-owned or publicly-traded oil and gas company and are separate and independent from the operating and investment decision-making process of our clients. This allows us to bring the highest level of independence and objectivity to each engagement for our services.

Ryder Scott actively participates in industry related professional societies and organizes an annual public forum focused on the subject of reserves evaluations and SEC regulations. Many of our staff have authored or co-authored technical papers on the subject of reserves related topics. We encourage our staff to maintain and enhance their professional skills by actively participating in ongoing continuing education.

Prior to becoming an officer of the Company, Ryder Scott requires that staff engineers and geoscientists receive professional accreditation in the form of a registered or certified professional engineer's license or a registered or certified professional geoscientist's license, or the equivalent thereof, from an appropriate governmental authority or a recognized self-regulating professional organization. Regulating agencies require that, in order to maintain active status, a certain amount of continuing education hours be completed annually, including an hour of ethics training. Ryder Scott fully supports this technical and ethics training with our internal requirement mentioned above.

We are independent petroleum engineers with respect to Modiin. Neither we nor any of our employees have any financial interest in the subject properties and neither the employment to do this work nor the compensation is contingent on our estimates of resources for the properties which were reviewed.

The results of this study, presented herein, are based on technical analyses conducted by teams of geoscientists and engineers from Ryder Scott. The professional qualifications of the undersigned, the technical person primarily responsible for overseeing, reviewing and approving the evaluation of the contingent and prospective resources information discussed in this report, are included as an attachment to this letter.

Terms of Usage

This report was prepared for the exclusive use and sole benefit of Modiin Energy Limited Partnership and may not be put to other use without our prior written consent for such use. The data and work papers used in the preparation of this report are available for examination by authorized parties in our offices. Please contact us if we can be of further service.

Very truly yours,

RYDER SCOTT COMPANY, L.P.
TBPELS Firm Registration No. F-1580

Scott J. Wilson, P.E.
Colorado License No. 36112
Senior Vice President

Brett A. Gray
LBOPG License No. 533
Senior Vice President – Geoscience

SJW-BAG (LPC)/pl

Professional Qualifications of Primary Technical Person(s)

The conclusions presented in this report are the result of technical analysis conducted by teams of geoscientists and engineers from Ryder Scott Company, L.P. Mr. Scott James Wilson was the primary technical person responsible for the estimate of the reserves, future production, and income presented herein.

Mr. Wilson, an employee of Ryder Scott Company L.P. (Ryder Scott) since 2000, is a Senior Vice President responsible for coordinating and supervising staff and consulting engineers of the company in ongoing reservoir evaluation studies worldwide. Before joining Ryder Scott, Mr. Wilson served in a number of engineering positions with Atlantic Richfield Company. For more information regarding Mr. Wilson's geographic and job specific experience, please refer to the Ryder Scott Company website at https://www.ryderscott.com/company/employees/denver-employees.

Mr. Wilson earned a Bachelor of Science degree in Petroleum Engineering from the Colorado School of Mines in 1983 and an MBA in Finance from the University of Colorado in 1985, graduating from both with High Honors. He is a registered Professional Engineer by exam in the States of Alaska, Colorado, Texas, and Wyoming. He is also an active member of the Society of Petroleum Engineers; serving as co-Chairman of the SPE Reserves and Economics Technology Interest Group, and Gas Technology Editor for SPE's Journal of Petroleum Technology. He is a member and past chairman of the Denver section of the Society of Petroleum Evaluation Engineers. Mr. Wilson has published several technical papers, one chapter in Marine and Petroleum Geology and two in SPEE monograph 4, which was published in 2016. He is the primary inventor on four US patents and won the 2017 Reservoir Description and Dynamics award for the SPE Rocky Mountain Region.

In addition to gaining experience and competency through prior work experience, several state Boards of Professional Engineers require a minimum number of hours of continuing education annually, including at least one hour in the area of professional ethics, which Mr. Wilson fulfills as part of his registration in four states. As part of his continuing education, Mr. Wilson attends internally presented training as well as public forums relating to the definitions and disclosure guidelines contained in the United States Securities and Exchange Commission Title 17, Code of Federal Regulations, Modernization of Oil and Gas Reporting, and Final Rule released January 14, 2009 in the Federal Register. Mr. Wilson attends additional hours of formalized external training covering such topics as the SPE/WPC/AAPG/SPEE Petroleum Resources Management System, reservoir engineering and petroleum economics evaluation methods, procedures and software and ethics for consultants.

Based on his educational background, professional training and more than 35 years of practical experience in the estimation and evaluation of petroleum reserves, Mr. Wilson has attained the professional qualifications as a Reserves Estimator and Reserves Auditor set forth in Article III of the “Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information” promulgated by the Society of Petroleum Engineers as of June 2019.

Professional Qualifications of Primary Technical Person(s)

The conclusions presented in this report are the result of technical analysis conducted by teams of geoscientists and engineers from Ryder Scott Company, L.P. Brett Allen Gray was the primary technical person responsible for overseeing the analysis of certain petrophysical, geophysical and geological data relating to the volumetric estimates presented herein.

Mr. Gray, an employee of Ryder Scott Company, L.P. (Ryder Scott) since 2007 is a Senior Vice President / Petroleum Geoscientist and Project Coordinator responsible for coordinating and supervising staff and consulting geoscientists of the company in ongoing reservoir evaluation studies worldwide. For more information regarding Mr. Gray's geographic and job specific experience, please refer to the Ryder Scott Company website at www.ryderscott.com/Company/Employees.

Mr. Gray earned a Bachelor of Science degree in Geology from Texas A&M University in 2007 and is a registered Professional Geoscientist in the State of Louisiana. He is also a member of the American Association of Professional Geologists, Society of Petrophysicists and Well Log Analysts, Houston Geological Society, Professional Petroleum Data Management Association, and Society of Petroleum Engineers.

In addition to gaining experience and competency through prior work experience, the Louisiana Board of Professional Geoscientists requires a minimum of fifteen hours of continuing education annually, including at least one hour in the area of professional ethics, which Mr. Gray fulfills. As part of his 2023 continuing education hours, Mr. Gray attended or instructed over 48 hours of formalized training including attending the 2023 Ryder Scott Reserves Conference. As part of his previous continuing education hours, Mr. Gray attended an internally presented 27 hours of formalized training relating to the definitions and disclosure guidelines contained in the United States Securities and Exchange Commission Title 17, Code of Federal Regulations, Modernization of Oil and Gas Reporting, Final Rule released January 14, 2009 in the Federal Register. In addition, Mr. Gray attended the 2013 two-day workshop, Application of Petroleum Resources Management System, presented by the Society of Petroleum Engineers. In October 2019, Mr. Gray co-instructed a four-day "Technical Workshop for Reserves and Resources Estimators" in Quito, Ecuador with attendees from oil & gas operators, the Ecuador Ministry of Hydrocarbons, and the Hydrocarbon Regulation and Control Agency (ARCH).

Based on his educational background, professional training and more than fifteen years of practical experience in the estimation and evaluation of petroleum reserves, Mr. Gray has attained the professional qualifications as a Reserves Estimator and Reserves Auditor as set forth in Article III of the "Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information" promulgated by the Society of Petroleum Engineers as of June 2019.

PETROLEUM RESERVES and RESOURCES CLASSIFICATIONS and DEFINITIONS

As Adapted From:
2018 PETROLEUM RESOURCES MANAGEMENT SYSTEM (SPE-PRMS)[1]
Sponsored and Approved by:
SOCIETY OF PETROLEUM ENGINEERS (SPE)
WORLD PETROLEUM COUNCIL (WPC)
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS (AAPG)
SOCIETY OF PETROLEUM EVALUATION ENGINEERS (SPEE)
SOCIETY OF EXPLORATION GEOPHYSICISTS (SEG)
SOCIETY OF PETROPHYSICISTS AND WELL LOG ANALYSTS (SPWLA)
EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS (EAGE)

SECTION A - PREAMBLE - RESERVES

Reserves are those quantities of petroleum which are anticipated to be commercially recovered from known accumulations from a given date forward under defined conditions. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either proved or unproved. Unproved reserves are less certain to be recovered than proved reserves and may be further sub-classified as probable and possible reserves to denote progressively increasing uncertainty in their recoverability.

Estimation of reserves is done under conditions of uncertainty. The method of estimation is called deterministic if a single best estimate of reserves is made based on known geological, engineering, and economic data. The method of estimation is called probabilistic when the known geological, engineering, and economic data are used to generate a range of estimates and their associated probabilities. Identifying reserves as proved, probable, and possible has been the most frequent categorization method and gives an indication of the probability of recovery. Because of the differences in uncertainty, caution should be exercised when aggregating reserves of different categories.

Reserves estimates will generally be revised as additional geologic or engineering data becomes available or as economic conditions change.

Reserves may be attributed to either natural energy or improved recovery methods. Improved recovery methods include all methods for supplementing natural reservoir energy or altering natural forces in the reservoir to increase ultimate recovery. Examples of such methods are pressure maintenance, cycling, waterflooding, thermal methods, chemical flooding, and the use of miscible and immiscible displacement fluids. Other improved recovery methods may be developed in the future as petroleum technology continues to evolve.

[1] Petroleum Resources Management System prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE); reviewed and jointly sponsored by the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG), the Society of Petroleum Evaluation Engineers (SPEE), Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE), March 2007 and revised June 2018.

Reserves may be attributed to either conventional or unconventional petroleum accumulations under the SPE-PRMS. Petroleum accumulations are considered as either conventional or unconventional based on the nature of their in-place characteristics, extraction method applied, or degree of processing prior to sale. Examples of unconventional petroleum accumulations include coalbed or coalseam methane (CBM/CSM), basin-centered gas (low permeability), tight gas and tight oil (low permeability), shale gas, gas hydrates, natural bitumen (very high viscosity oil) and oil shale deposits. These unconventional accumulations may require specialized extraction technology and/or significant processing prior to sale. The SPE-PRMS acknowledges unconventional petroleum accumulations as reserves regardless of their in-place characteristics, the extraction method applied, or the degree of processing required.

Reserves do not include quantities of petroleum being held in inventory and may be reduced for usage, processing losses and/or non-hydrocarbons that must be removed prior to sale.

SPE-PRMS RESERVES DEFINITIONS

In March 2007, the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), and Society of Petroleum Evaluation Engineers (SPEE) jointly approved the "Petroleum Resources Management System" ("SPE-PRMS"); subsequently also supported by the Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE). SPE-PRMS was revised in June 2018. The SPE-PRMS consolidates, builds on, and replaces guidance previously contained in the 2000 "Petroleum Resources Classification and Definitions" and the 2001 "Guidelines for the Evaluation of Petroleum Reserves and Resources" publications.

The intent of the SPE, WPC, AAPG, SPEE, SEG, SPWLA, and EAGE in approving additional categories beyond proved reserves is to facilitate consistency among professionals using such terms. In presenting these definitions, none of these organizations are recommending public disclosure of reserves categorized as unproved. Public disclosure of the quantities categorized as unproved reserves is left to the discretion of the countries or companies involved and should not be construed as replacing guidelines for public disclosures under the guidelines established by regulatory and/or other governmental agencies.

Reference should be made to the full SPE-PRMS for the complete definitions and guidelines as the following definitions, descriptions and explanations rely wholly or in part on excerpts from the SPE-PRMS document (direct passages excerpted from the SPE-PRMS document are denoted in italics and footnoted with Section references herein).

RESERVES DEFINITIONS

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: they must be 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.*[2]

ADDITIONAL TERMS USED IN RESERVES EVALUATIONS (SPE-PRMS DEFINITIONS)

[2] Table 1, "Reserves", Definition & Guidelines

Improved recovery. Improved Recovery is *the extraction of additional petroleum, beyond primary recovery, from naturally occurring reservoirs by supplementing the natural forces in the reservoir. It includes waterflooding and gas injection for pressure maintenance, secondary processes, tertiary processes and any other means of supplementing natural reservoir recovery processes. Improved recovery also includes thermal and chemical processes to improve the in-situ mobility of viscous forms of petroleum. (Also called enhanced recovery.)*[3]

Improved recovery projects must meet the same Reserves technical and commercial maturity criteria as primary recovery projects.[4] Similarly there should be an expectation that the project will be economically viable, which includes *the requirement that there is evidence of firm intention to proceed with development within a reasonable time-frame*[5] (generally within 5 years; further delays should be clearly justified). If there is significant project risk, the forecast incremental recoveries should be classified as Contingent Resources.

The judgment on commerciality is based on pilot project results within the subject reservoir or by comparison to a reservoir with analogous rock and fluid properties and where a similar established improved recovery project has been successfully applied.[6]

Incremental recoveries through improved recovery methods that have yet to be established through routine, commercially successful applications are included as Reserves only after a favorable production response from the subject reservoir from either (a) a representative pilot or (b) an installed portion of the project, where the response provides support for the analysis on which the project is based. The improved recovery project's resources will remain classified as Contingent Resources Development Pending until the pilot has demonstrated both technical and commercial feasibility and the full project passes the Justified for Development "decision gate." [7]

The types of in-place petroleum resources defined as conventional and unconventional may require different evaluation approaches and/or extraction methods. However, the PRMS resources definitions, together with the classification system, apply to all types of petroleum accumulations regardless of the in-place characteristics, extraction method applied, or degree of processing required.[8]

A project is commercial when there is evidence of a firm intention to proceed with development within a reasonable time-frame. Typically, this requires that the best estimate case meet or exceed the minimum evaluation decision criteria (e.g., rate of return, investment payout time). There must be a reasonable expectation that all required internal and external approvals will be forthcoming. Also, there must be evidence of a technically mature, feasible development plan and the essential social, environmental, economic, political, legal, regulatory, decision criteria, and contractual conditions are met.[9]

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

[3] Appendix A, "Improved Recovery"
[4] Section 2.3.4.2
[5] Table 1, "Reserves", Guidelines
[6] Section 2.3.4.3
[7] Section 2.3.4.4
[8] Section 2.4.0.1
[9] Appendix A, "Commercial"

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.[10]

PROVED RESERVES (SPE-PRMS DEFINITIONS)

Proved oil and gas reserves. *Proved Reserves are 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 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. [11]

In the absence of data on fluid contacts, Proved quantities in a reservoir are limited by the lowest known hydrocarbons (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. (see "2001 Supplemental Guidelines", Chapter 8).

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.[12]

PROBABLE RESERVES (SPE-PRMS DEFINITIONS)

Probable oil and gas reserves*. Probable Reserves are 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.*

[10] Section 2.1.2.3
[11] Table 3, "Proved Reserves", Definition & Guidelines
[12] Table 3, "Proved Reserves", Definition & Guidelines

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.[13]

POSSIBLE RESERVES (SPE-PRMS DEFINITIONS)

Possible oil and gas reserves*. Possible Reserves are 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.[14]

SECTION B - PREAMBLE – RESERVES & RESOURCES

Reserves and resources classification systems are intended to provide a consistent approach to estimating petroleum quantities and evaluating projects and thereby allow the evaluator to follow the progression of changes in the exploration and production life cycle of a reservoir, field, or project that arise as a result of obtaining more technical information or as a result of a change in the economic status. Most systems incorporate terminology to describe the progression of a project from the delineation of an initial prospect, to the confirmation of the prospect through exploration drilling, onto the appraisal and development phase, and finally from initial production through depletion. *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.*[15] These reserves and resources definitions thus provide the decision making framework to manage risk and uncertainty through the classification and categorization of the recoverable hydrocarbon volumes.

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.[16]

Reserves are a subset of resources and *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.*[17]

[13] Table 3, "Probable Reserves", Definition & Guidelines
[14] Table 3, "Possible Reserves", Definition & Guidelines
[15] Section 1.0.0.1 A
[16] Section 1.1.0.2
[17] Section 1.1.0.6 A 1

All reserves and resources estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. Estimates will generally be revised as additional geologic or engineering data becomes available or as economic conditions change. Commercial factors must also be considered in the classification of resources.

Estimation of reserves and resources is done under conditions of uncertainty. The method of estimation is called deterministic if a single best estimate of reserves and resources is made based on known geological, engineering, and economic data. The method of estimation is called probabilistic when the known geological, engineering, and economic data are used to generate a range of estimates and their associated probabilities. Because of the differences in uncertainty, caution should be exercised when aggregating quantities of petroleum from different reserves categories and/or resources classifications.

Reserves and resources may be attributed to either natural energy or improved recovery methods. Improved recovery methods include all methods for supplementing natural reservoir energy or altering natural forces in the reservoir to increase ultimate recovery. Examples of such methods are pressure maintenance, cycling, waterflooding, thermal methods, chemical flooding, and the use of miscible and immiscible displacement fluids. Other improved recovery methods may be developed in the future as petroleum technology continues to evolve.

Reserves and resources may be attributed to either conventional or unconventional petroleum accumulations under the SPE-PRMS. Petroleum accumulations are considered as either conventional or unconventional based on the nature of their in-place characteristics, extraction method applied, or degree of processing prior to sale. Examples of unconventional petroleum accumulations include coalbed or coalseam methane (CBM/CSM), basin-centered gas (low permeability), tight gas and tight oil (low permeability), shale gas, gas hydrates, natural bitumen (very high viscosity oil) and oil shale deposits. These unconventional accumulations may require specialized extraction technology and/or significant processing prior to sale. The SPE-PRMS acknowledges unconventional petroleum accumulations as reserves and resources regardless of their in-place characteristics, the extraction method applied, or the degree of processing required.

Reserves and resources do not include quantities of petroleum being held in inventory and may be reduced for usage, processing losses and/or non-hydrocarbons that must be removed prior to sale.

SPE-PRMS RESOURCES DEFINITIONS

In March 2007, the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), and Society of Petroleum Evaluation Engineers (SPEE) jointly approved the “Petroleum Resources Management System” (“SPE-PRMS”); subsequently supported by the Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE). SPE-PRMS was revised in June 2018. The SPE-PRMS consolidates, builds on, and replaces guidance previously contained in the 2000 “Petroleum Resources Classification and Definitions” and the 2001 “Guidelines for the Evaluation of Petroleum Reserves and Resources” publications.

Reference should be made to the full SPE-PRMS for the complete definitions and guidelines as the following definitions, descriptions and explanations rely wholly or in part on excerpts from the SPE-PRMS document (direct passages excerpted from the SPE-PRMS document are denoted in italics and footnoted with Section references herein). For convenience, Table 1: “Recoverable Resources Classes and Sub-Classes” from the SPE-PRMS has been reproduced in full and included as an attachment to this document.

The SPE-PRMS incorporates the petroleum initially-in-place as well as the recoverable and unrecoverable petroleum quantities into a common resources classification framework. *Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid state.*[18]

The SPE-PRMS defines the major resources classes: Production, Reserves, Contingent Resources, and Prospective Resources, as well as Unrecoverable petroleum. The basic classification scheme requires establishment of criteria for a petroleum discovery and thereafter the distinction between commercial (Reserves) and sub-commercial projects (Contingent Resources) in known accumulations. Under this classification scheme, estimated recoverable quantities from accumulations that have yet to be discovered are termed Prospective Resources. Further, the SPE-PRMS includes all types of petroleum whether currently considered "conventional" or "unconventional".

Figure 1 shown at the end of this document is a graphical representation of the SPE-PRMS resources classification system. The SPE-PRMS "classifies" reserves and resources according to project maturity and increasing *chance of commerciality* (vertical axis), *which is the chance that a project will be committed for development and reach commercial producing status.*[19] It also "categorizes" reserves and resources according to the *range of uncertainty* (horizontal axis) *of the estimated quantities potentially recoverable from an accumulation by a project*.[20] The following definitions apply to the major subdivisions within the resources classification:

RESOURCES CLASSIFICATION (SPE-PRMS)

Recoverable petroleum resources as described herein may be classified into one of three principal resources classifications: Prospective Resources, Contingent Resources, or Reserves. The distinction between Prospective and Contingent Resources depends on whether or not there exists one or more wells and other data indicating the potential for moveable hydrocarbons (e.g. the discovery status). Discovered petroleum resources may be classified as either Contingent Resources or as Reserves depending on the chance that if a project is implemented it will reach commercial producing status (e.g. chance of commerciality). The distinction between various "classifications" of Resources and Reserves relates to their discovery status and increasing chance of commerciality as described herein.

TOTAL PETROLEUM-INITIALLY-IN-PLACE

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.[21]

Total Petroleum-Initially-in-Place may be subdivided into Discovered Petroleum-Initially-in-Place and Undiscovered Petroleum-Initially-in-Place, with Discovered Petroleum-Initially-in-Place being limited to known accumulations.

It is recognized that not all of the Petroleum-Initially-in-Place quantities may constitute potentially recoverable resources since the estimation of the proportion which may be recoverable can be subject to significant uncertainty and will change with variations in commercial circumstances, technological developments and data availability.

[18] Section 1.1.0.1
[19] Section 1.1.0.4
[20] Section 1.1.0.4
[21] Section 1.1.0.5 A

Given the aforementioned constraints, a portion of the Petroleum-Initially-in-Place may need to be classified as Unrecoverable.

DISCOVERED PETROLEUM-INITIALLY-IN-PLACE

Discovered PIIP is the quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations before production.[22]

Discovered PIIP may be subdivided into Commercial and Sub-commercial categories, with the estimated potentially recoverable portion being classified as Reserves and Contingent Resources respectively, as defined below.

KNOWN ACCUMULATION

The SPE-PRMS defines an accumulation as *an individual body of naturally occurring petroleum in a reservoir*.[23] For an accumulation to be considered as "known", it must have been discovered. Discovered is defined as *a petroleum accumulation where one or several exploratory wells through testing, sampling, and/or logging have demonstrated the existence of a significant quantity of potentially recoverable hydrocarbons and thus have established a known accumulation.*[24] The SPE-PRMS states that in this context, *"significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for technical recovery.*[25] Known accumulations may contain Reserves and/or Contingent Resources.

RESERVES

Reserves are defined as 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 further satisfy four criteria: discovered, recoverable, commercial, and remaining (as of the evaluation's effective date) based on the development project(s) applied.[26]

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.[27] Reference should be made to the full SPE-PRMS for the complete definitions and guidelines.

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. 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

[22] *Section 1.1.0.5 B*
[23] Appendix A, "Accumulation"
[24] Appendix A, "Discovered"
[25] Appendix A, "Discovered"
[26] Section 1.1.0.6 A.1.
[27] Section 1.1.0.6 A.3

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.[28] Reference should be made to the full SPE-PRMS for the complete definitions and guidelines.

UNDISCOVERED PETROLEUM-INITIALLY-IN-PLACE

Undiscovered PIIP is that quantity of petroleum estimated, as of a given date, to be contained within accumulations yet to be discovered.[29]

The estimated potentially recoverable portion of Undiscovered PIIP is classified as Prospective Resources, as defined below.

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. 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.[30] Reference should be made to the full SPE-PRMS for the complete definitions and guidelines.

UNRECOVERABLE

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.[31]

ADDITIONAL TERMS USED IN RESOURCES CLASSIFICATION (SPE-PRMS)

CHANCE OF COMMERCIALITY

The "Chance of Commerciality", as denoted in the SPE-PRMS and as shown in Figure 1, is *the estimated probability that the project will achieve commercial maturity to be developed. For Prospective Resources, this is the product of the chance of geologic discovery and the chance of development. For Contingent Resources and Reserves, it is equal to the chance of development.*[32]

The chance of commerciality is determined by the probability of a discrete event occurring. In the context of the SPE-PRMS, the discrete event is comprised of one of several conditions, as noted below, which impact the project's commercial viability.

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[28] Section 1.1.0.6 B.
[29] Section 1.1.0.6 C.
[30] Section 1.1.0.6 D.
[31] Section 1.1.0.6 E.
[32] Appendix A, "Chance of Commerciality"

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. 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.[33]

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).[34] *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.*[35]

COMMERCIALITY APPLIED TO RESERVES

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, CO_2) 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*

[33] Section 1.2.0.10
[34] Section 1.2.0.4
[35] Section 1.2.0.8

place or will be forthcoming, together with resolving any social and economic concerns.[36]

To be included in the Reserves class, a project must be sufficiently defined to establish both its technical and commercial viability as noted above *(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.*[37]

For a project to be included in a 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.*[38]

COMMERCIALITY APPLIED TO CONTINGENT RESOURCES

Potentially recoverable quantities from known accumulations that *are not currently considered to be commercially recoverable owing to one or more contingencies*[39] should be classified as Contingent Resources.

Based on assumptions regarding future conditions and the impact on ultimate economic viability, projects currently classified as Contingent Resources may be broadly divided into two groups:

A. ***Economically Viable Contingent Resources*** *are those quantities associated with technically feasible projects where cash flows are positive under reasonably forecasted conditions but are not Reserves because it does not meet the commercial criteria defined* above *(in Section 2.1.2.).*

B. ***Economically Not Viable Contingent Resources*** *are those quantities for which development projects are not expected to yield positive cash flows under reasonable forecast conditions.*[40]

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).*[41]

RESOURCES CATEGORIZATION (SPE-PRMS)

All estimates of the quantities of petroleum potentially recoverable from an accumulation classified as having Prospective or Contingent Resources or Reserves involve uncertainty. The relative degree of

[36] Section 2.1.2.1
[37] Section 2.1.2.3
[38] Table 1 “Reserves”, Guidelines
[39] Table 1, “Contingent Resources”, Definition
[40] Section 2.1.3.7.1
[41] Section 1.1.0.6 E.

uncertainty may be conveyed by placing the estimated quantities into one of several "categories" as described herein.

RANGE OF UNCERTAINTY

The Range of Uncertainty, as denoted in the SPE-PRMS and as shown in Figure 1, reflects a range of estimated quantities potentially recoverable from an accumulation by a project. *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.*[42]

DETERMINISTIC METHODS (SPE-PRMS)

For estimates using Deterministic Methods, an evaluator chooses *an assessment method based on discrete estimate(s) made based on available geoscience, engineering, and economic data and corresponds to a given level of certainty.*[43]

In the deterministic method, quantities are estimated by taking a discrete value or array of values for each input parameter to produce a discrete result. For the low-, best- and high-case estimates, the internally consistent deterministic inputs are selected to reflect the resultant confidence of the project scenario and the constraints applied for the resources category and resources class. A single outcome of recoverable quantities is derived for each deterministic increment or scenario. Two approaches are included in the deterministic method—the scenario (or cumulative) method and the incremental method—and should yield similar results.[44]

RESERVES

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).[45]

CONTINGENT RESOURCES

For Contingent Resources, the range of uncertainty is generally expressed in deterministic scenario (cumulative) terms or in terms of probability using probabilistic methods. *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.*[46]

[42] Section 2.2.2.1
[43] Appendix A, "Deterministic Method"
[44] Section 4.2.1.1
[45] Section 2.2.2.2
[46] Section 2.2.2.3

Should evaluators choose to characterize the range of uncertainty for Contingent in discrete incremental quantities, they should denote such quantities as such and provide sufficient detail in their report to allow an independent evaluator or auditor to clearly understand the basis for estimation and categorization of the recoverable quantities.

PROSPECTIVE RESOURCES

For Prospective Resources, the range of uncertainty is generally expressed in deterministic scenario (cumulative) terms as low, best and high estimates or in terms of probability using probabilistic methods. *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.*[47]

BEST ESTIMATE

To best communicate uncertainty in estimates of resources volumes, a range of potential results can be reported. However, if a single representative result is required to be reported, the "best estimate" should represent *the most realistic assessment of recoverable quantities. If probabilistic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.*[48] The term "best estimate" is used here as a generic expression for the estimate considered being closest to the quantity that will actually be recovered from the accumulation between the date of the estimate and the time of abandonment. *The best estimate is generally considered to represent the sum of Proved and Probable estimates (2P) for Reserves or 2C when Contingent Resources are cited, when aggregating a field, multiple fields, or an entity's resources.*[49] *It should be noted that under the deterministic incremental method, discrete estimates are made for each category and should not be aggregated without due consideration of associated confidence.*[50] In the case of Contingent Resources and Prospective Resources, the best estimate would be represented by the 2C and 2U, respectively. If probabilistic methods are used, this term would generally be a measure of central tendency of the uncertainty distribution (most likely/mode, median/P50 or mean). The terms "Low Estimate" and "High Estimate" should provide a reasonable assessment of the range of uncertainty in the Best Estimate.

PROBABILISTIC METHODS (SPE-PRMS)

If probabilistic methods are used, these estimated quantities should be based on methodologies analogous to those applicable to the definitions of Reserves, Contingent Resources and Prospective Resources; therefore, in general, the resulting probabilities should correspond to the deterministic (cumulative) terms as follows:

- There should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the 1P, 1C or 1U (Low Estimate).
- There should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the 2P, 2C or 2U (Best Estimate).
- There should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the 3P, 3C or 3U (High Estimate).

COMPARABILITY OF SIMILAR RESERVES AND RESOURCES CATEGORIES

As indicated in Figure 1, the 1C, 2C and 3C Contingent Resources estimates and the 1U, 2U and 3U Prospective Resources estimates of potentially recoverable volumes should reflect some comparability with the reserves categories of Proved (1P), Proved plus Probable (2P) and Proved plus

[47] Section 2.2.2.4
[48] Appendix A, "Best Estimate", Definition
[49] Section 2.2.2.10
[50] Section 2.2.2.11

Probable plus Possible (3P), respectively. *While there may be significant chance that sub-commercial and undiscovered accumulations will not achieve commercial production, it is useful to consider the range of potentially recoverable quantities independent of such likelihood when considering what resources class to assign the project quantities.*[51]

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.[52]

AGGREGATION

Petroleum quantities classified as Reserves, Contingent Resources, or Prospective Resources should not be aggregated with each other without a clear understanding and explanation of the technical and commercial risk involved with their classification. In particular, there may be a chance that accumulations containing Contingent Resources and/or Prospective Resources will not achieve commercial maturity.[53] Similarly, reserves and resources of different categories should not be aggregated with each other without due consideration of the significant differences in the criteria associated with their categorization.

[51] Section 2.2.1.6
[52] Section 2.2.2.6
[53] Section 4.2.6.1

RESOURCES CLASSIFICATION SYSTEM (SPE-PRMS)

GRAPHICAL REPRESENTATION

Figure 1 is a graphical representation of the SPE-PRMS resources classification framework. *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, which is the chance that a project will be committed for development and reach commercial producing status.*[54]

Figure 1
SPE-PRMS
RESOURCES CLASSIFICATION FRAMEWORK

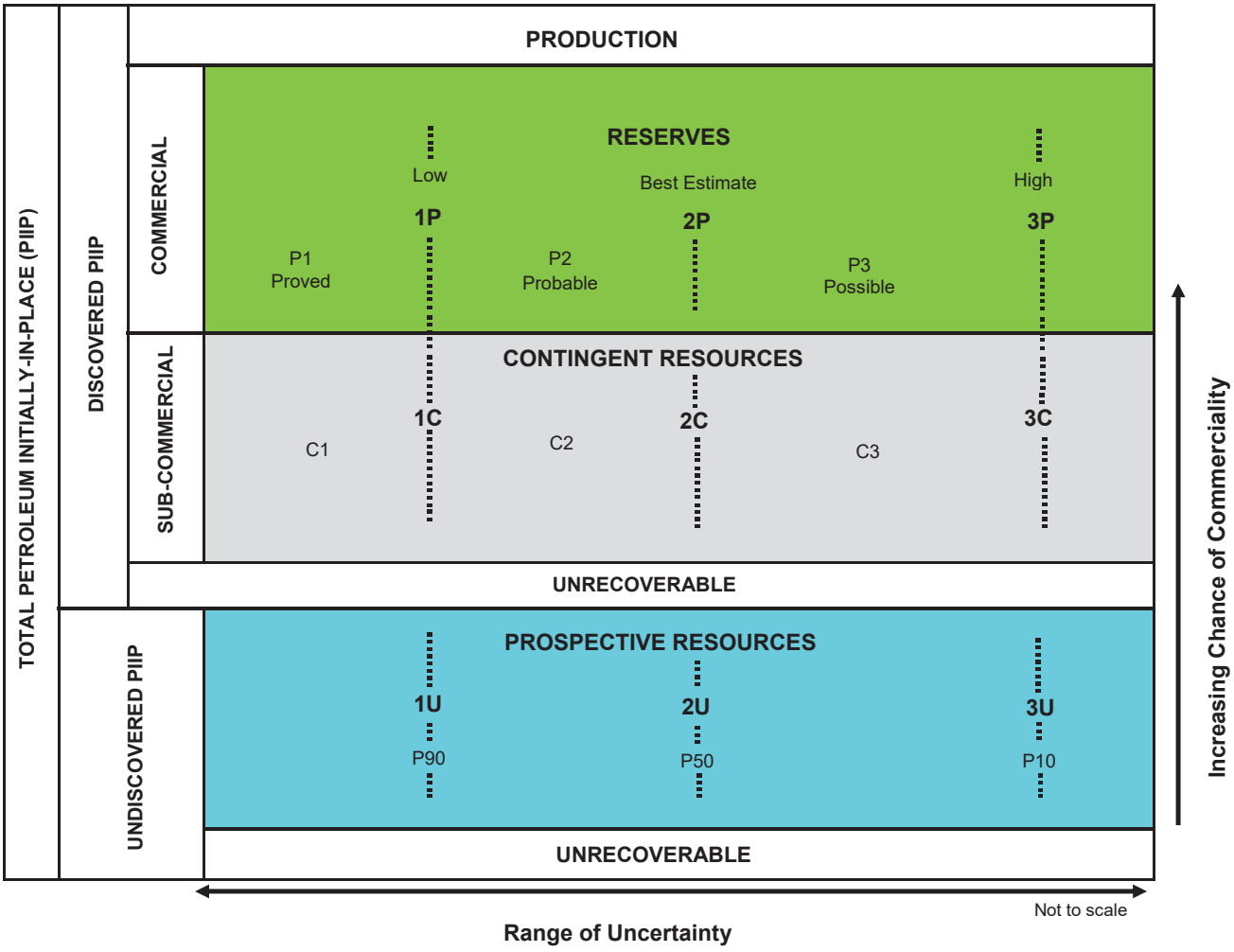

Figure 1.1-Resources classification framework

[54] Section 1.1.0.4

RESOURCES CLASSIFICATION SYSTEM (SPE-PRMS)

GRAPHICAL REPRESENTATION

Figure 2 is a graphical illustration of the manner in which SPE-PRMS resources *may be sub-classified according to project maturity levels and the associated actions (i.e., business decisions) required to move a project toward commercial production.*[55]

Figure 2
SPE-PRMS
SUB-CLASSES BASED ON PROJECT MATURITY

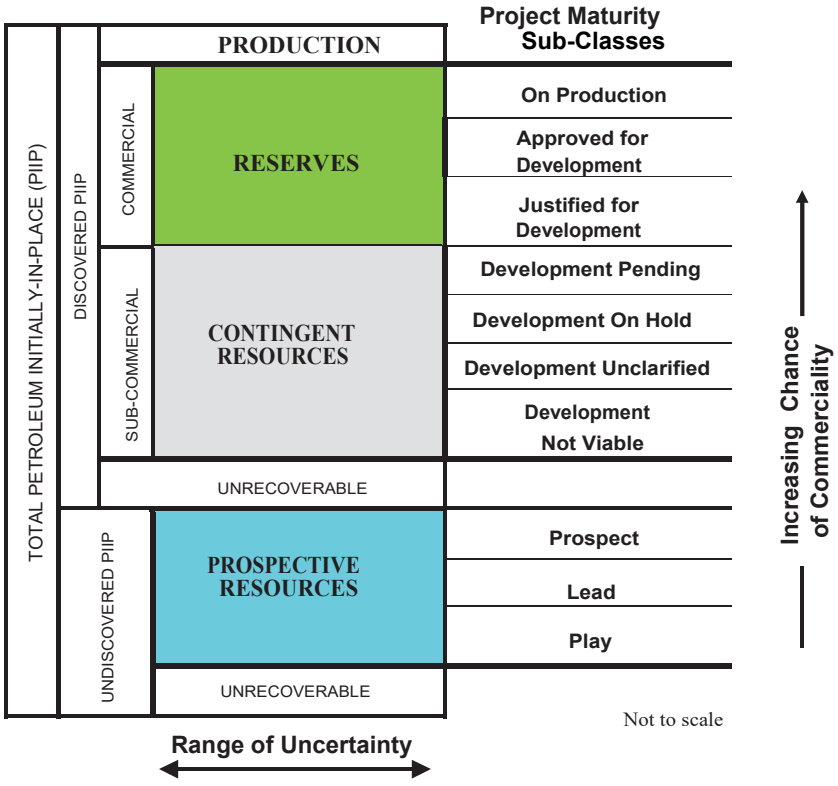

Figure 2.1—Sub-classes based on project maturity

[55] Section 2.1.3.5.1

Table 1—Recoverable Resources Classes and Sub-Classes[1]

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.

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.

Class/Sub-Class	Definition	Guidelines
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.
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.

PETROLEUM RESERVES and RESOURCES STATUS DEFINITIONS and GUIDELINES

As Adapted From:
2018 PETROLEUM RESOURCES MANAGEMENT SYSTEM (SPE-PRMS)
Sponsored and Approved by:
SOCIETY OF PETROLEUM ENGINEERS (SPE)
WORLD PETROLEUM COUNCIL (WPC)
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS (AAPG)
SOCIETY OF PETROLEUM EVALUATION ENGINEERS (SPEE)
SOCIETY OF EXPLORATION GEOPHYSICISTS (SEG)
SOCIETY OF PETROPHYSICISTS AND WELL LOG ANALYSTS (SPWLA)
EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS (EAGE)

RESERVES

Reserves status categories define the development and producing status of wells and reservoirs. The SPE-PRMS Table 2 defines the reserves status categories as follows:

DEVELOPED RESERVES (SPE-PRMS DEFINITIONS)

Developed Reserves are 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

Developed Producing Reserves are 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

Developed Non-Producing Reserves include shut-in and behind-pipe Reserves.

Shut-In

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

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.

UNDEVELOPED RESERVES (SPE-PRMS DEFINITIONS)

Undeveloped Reserves are 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.

CONTINGENT RESOURCES

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 status categories may address the development and producing status of wells and reservoirs or may reflect the project maturity and/or be characterized by their economic status as noted in the SPE-PRMS Table 1 and Figure 2.

PROSPECTIVE RESOURCES

Prospective resources are by definition undeveloped as they are potentially recoverable from undiscovered accumulations. Prospective resources status categories reflect project maturity as noted in the SPE-PRMS Table 1 and Figure 2.

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CONSENT OF INDEPENDENT PETROLEUM ENGINEERS

As independent consultants, the undersigned hereby grants permission to Modiin Energy Limited Partnership (the "Partnership") to use our report dated March 27, 2024 in public reports to be filed with the Israel Security Authority (ISA) and the Tel Aviv Stock Exchange (TASE). This report sets forth our estimates of gross and net unrisked volumes, contingent and prospective resources, as of December 31, 2023, to the interests in certain oil properties located in Colorado, USA.

Very truly yours,

Ryder Scott Company, L.P.

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Denver, Colorado
March 27, 2024

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