



SAVIA
PERÚ

LOTE Z-2B
LOBITOS

REPORTE FINAL
POZO EXPLORATORIO
SAVIA-Z2B-24-LO6-26XD
(LO6-26XD) SAN MATTEO

GERENCIA DE EXPLORACION

Enero, 2013



LOTE Z-2B

AREA LOBITOS

**REPORTE FINAL
POZO EXPLORATORIO
SAVIA-Z2B-24-LO6-26XD
(LO6-26XD) SAN MATTEO**

GERENCIA DE EXPLORACION

ENERO 2013

INDICE

Reporte Final del Pozo Exploratorio SAVIA-Z2B-24-LO6-26XD (LO6-26XD) SAN MATTEO

Sumario

- *Objetivos*
- *Resultados*

Geología

- *Estratigrafía*
- *Estructura*
- *Sedimentación*
- *Reporte Geológico Diario*
- *Descripción de muestras de canaleta*
- *Cromatografía*
- *Análisis de fluorescencia*
- *Geoquímica*
- *Geofísica*

Reservorios

- *Evaluación Petrofísica*

Perforación

- *Reporte de Perforación*
- *Reportes de Operaciones*
- *Curva de Perforación*
- *Propiedades del lodo*
- *Tuberías de Revestimiento*
- *Reporte de Brocas*
- *Reporte de Surveys*
- *Reporte de Sarta de Perforación*

Anexos

- *Prognosis Geológica*

SUMARIO

Reporte Final del Pozo Exploratorio

SAVIA-Z2B-24-LO6-26XD

Sumario

Objetivos

- El pozo exploratorio LO6-26XD tuvo como objetivo principal probar reservas potenciales de petróleo en las arenas del Reservorio Basal Salina Inferior y Superior al noroeste del Campo Lobitos, considerando el éxito del Pozo LO13-13XD que probó petróleo en un bloque fallado debajo del contacto Petróleo-Agua conocido del área.
- El pozo exploratorio LO6-26XD tuvo un diseño de tipo "S" y fue perforado desde la plataforma LO6, localizada a 8.6 Km de la costa y 1.2 Km al noroeste del pozo LO6-25 del Campo Lobitos, con una profundidad de agua de 335 pies. (Figura 1)
- El principal objetivo fue el Reservorio Basal Salina Inferior esperado a 8690' MD (-7723' VSS).
- El objetivo secundario fueron las arenas del Reservorio Basal Salina Superior esperado a 8110' MD (-7139' VSS), 41' más alto que el pozo LO6-23 que probó 788 BOPD.
- La profundidad final del pozo fue programada a 9607' MD (-8730' VSS).
- Los recursos calculados fueron 6.2 MMBO (4.4 MMBO en el Basal Salina Inferior y 1.8 MMBO en el Basal Salina Superior).

Resultados

- El pozo LO6-26XD alcanzó una profundidad final de 9800' MD (-8911' VSS) en la Formación Balcones.
- El objetivo principal Basal Salina Inferior fue alcanzado a 9208' MD (-8324 VSS), 601' por debajo de la prognosis y se encontró arcilloso.
- El objetivo secundario Basal Salina Superior fue alcanzado a 8646' MD (-7765' VSS), 626' por debajo de la prognosis. El reservorio fue encontrado pero no fueron reportados muestras de petróleo ni de gas.
- La estructura San Matteo fue confirmada luego de perforado el pozo LO6-26XD, las formaciones Mogollón y San Cristóbal fueron mas potentes de lo pronosticado, por tal motivo las formaciones Basal Salina Superior e Inferior se encontraron más profundas.
- La Evaluación Petrofísica indica 24' de Net Pay en Upper Basal Salina sin embargo no se observó presencia de hidrocarburos en los cutting por lo que se decidió abandonar el pozo en Basal Salina y completar en Mogollon y Rio Bravo.
- En conclusión, la sección exploratoria del pozo fue abandonada debido a que el objetivo principal fue encontrado arcilloso y el objetivo secundario fue considerado mojado.

SAN MATTEO PROSPECT LOCATION MAP

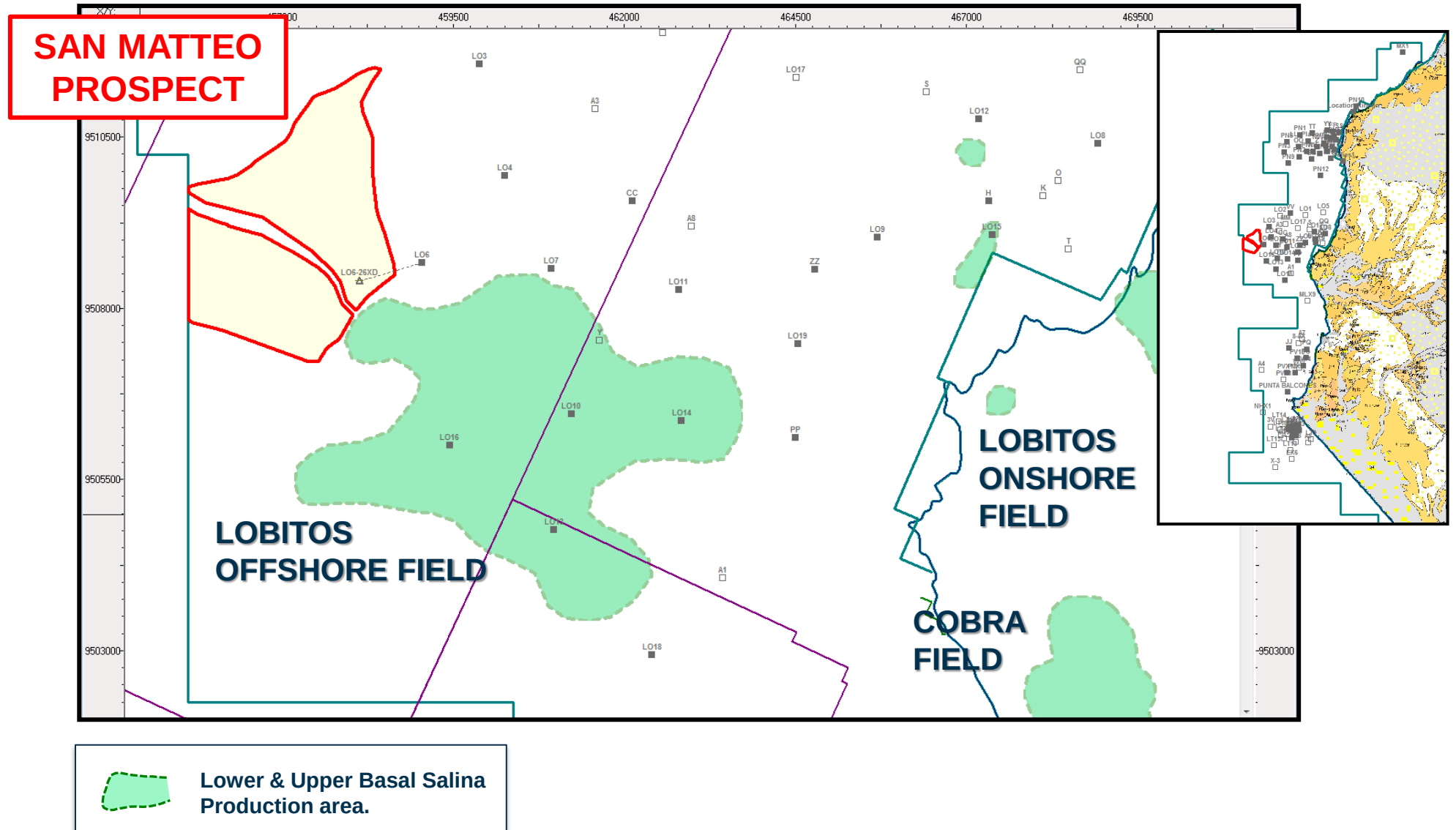


FIGURA 1

GEOLOGÍA

ESTRATIGRAFÍA

Las descripciones litológicas, análisis micro-paleontológicos, y registros eléctricos, indican que la columna atravesada por el pozo LO6-26XD es como sigue:

Formación	MD	SS	Espesor	Arena Neta	“Net Pay”
Talara	Fondo Marino		1603'		
Chacra	2107'	-1938'	1353'		
Rio Bravo	3726'	-3291'	1326'	224'	208'
Palegreda	5310'	-4617'	431'		
Mogollón	5810'	-5048'	966'	121'	78'
San Cristóbal	6874'	-6014'	1751'		
Basal Salina Superior	8646'	-7765'	559'		
Basal Salina Inferior	9208'	-8324'	474'		
Balcones	9685'	-8798'	113'		
Profundidad Final	9800'	-8911'			

La Formación Talara (Fondo Marino - 2107') La litología en la sección superior está conformada predominantemente por arenas y areniscas con algunas intercalaciones de arcillas. Las arenas son blancas, 60% finas a muy finas, 40% medias, trazas de gruesas, granos de cuarzo, hialino, translucido, subangular a subredondeado, bien sorteado. Las areniscas son gris medio, gris medio oscuro, de grano de cuarzo muy fino a fino, subangular a subredondeado, bien clasificado, matriz arcillosa, cemento calcáreo, moderadamente friable, sucio, con inclusiones de minerales oscuros, pobre porosidad visual. Las arcillas son gris olivo, gris amarronado, bloque a sub bloque, terroso, firme a moderadamente firme, microcarbonoso, calcáreo. En la sección inferior la litología está conformada principalmente por arcillas con algunas intercalaciones de arenisca (Figura 2).

La formación Talara es confirmada por la presencia de microforaminíferos característicos como: *Clavigerinella Colombiana*, *Bathysiphon brn*, *Tritaxilina colei*, *Robulus inornatus*, *Nodosaria vertebralis* y otros.

La formación Chacra (2107' - 3726') En la sección superior la litología está conformada principalmente por arcillas intercaladas con limolita y arenisca. Las arcillas son gris medio oscuro, gris olivo oscuro, gris oscuro, ligeramente calcáreas, micro-micáceas, micro-carbonosas en parte, moderadamente firme a firme, localmente limolíticas. En la sección media la litología está conformada por arcilla intercalada con limolita, arenisca y algunas capas de arena. Las areniscas son gris medio claro a gris medio, de grano de cuarzo muy fino a fino subredondeada, bien sorteada, matriz arcillosa, cemento ligeramente calcáreo, friable a moderadamente duro, con glauconita como inclusiones, pobre porosidad visual. En la sección inferior la litología está conformada por arcillas intercaladas con limolita (Figura 2).

Esta secuencia litológica es confirmada por la presencia de microforaminíferos característicos como: *Valvulineria suturalis*, *Valvulineria compressa*, *Virgulina restinensis*, *Robulus multiseptae*, *Desinobulimina expansa*.

La formación Rio Bravo (3726' - 5310') Esta formación está constituida por arenas, areniscas, limolitas y arcillas. Las areniscas son gris medio, gris oscuro medio, granos de cuarzo muy fino a fino, subredondeado, bien clasificado, cemento

calcáreo, ligeramente friable, con inclusiones de minerales oscuros, pobre porosidad visible. Las arenas son blancas, de grano muy fino a fino de cuarzo hialino, subangular a sub redondeado, bien clasificado, con fragmentos líticos oscuros. Hay presencia de fluorescencia de 10 a 25% entre los intervalos 4130' a 4370'. Como accesorios se presentan la calcita, dolomita, pirita, carbón y fragmentos de conchas (Figura 2).

La formación Palegreda (5310' - 5810') es básicamente una secuencia de arcillas con intercalaciones de limolitas. Las arcillas son gris oscuras, gris medio oscuras, localmente gris olivo, no calcárea, micromicácea, microcarbonosa, firmes a moderadamente firmes. Las limolitas son gris oscuro medio, bloque a sub bloque, moderadamente firmes, gradando a arenisca muy fina, micromicácea, microcarbonosa, no calcárea a ligeramente calcárea (Figura 2).

Las determinaciones micropaleontológicas indican la presencia del microforaminíferos característicos: *Valvulineria palegredensis*, acompañados con *Robulus youngquisti*, *Nodosaria affinis*, *Spiroplectamina rossae* y otros.

La formación Mogollón (5810' - 6874') es una secuencia constituida por dos secciones, la primera es una secuencia conformada principalmente por arenas, areniscas e intercaladas con arcillas y limolitas. Las arenas son blancas, de grano de cuarzo muy fino a fino hialino subangular a subredondeado, bien clasificado, con fragmentos líticos oscuros. Las areniscas son gris claro, gris medio claro, ocasionalmente gris amarronado claro, de granos de cuarzo sub angular a sub redondeada muy fino a fino, bien clasificadas, matriz arcillosa, abundante cemento calcáreo en parte, friable, con minerales oscuros como inclusión, pobre a regular porosidad visual. El cuerpo principal que contiene fluorescencia de 6290' a 6400' va de 10 a 50%. Como accesorios tiene fragmentos de conchas y pirita. Toda la sección es estéril en contenido de microfósiles (Figura 2).

La formación San Cristóbal (6874' - 8646') es una secuencia constituida por dos secciones, la primera es una secuencia arcillosa que va hasta la profundidad de 8670', y la segunda sección correspondiente a la base de la formación, son desarrollos de arcillas, limolitas y areniscas. En la primera sección las arcillas son gris oscuro, gris medio oscuro, ocasionalmente gris amarronado, firme a moderadamente firme, micromicácea, microcarbonosa, ligeramente calcáreas a no calcáreas. La segunda sección está constituida por arcillas intercaladas con pequeños lentes de limolita y arenisca. Las limolitas son gris medio oscuro, gris medio, firme a moderadamente firme, micromicácea, microcarbonosa, gradando a arenisca muy fina, calcárea. Como accesorios presenta cierta abundancia de glauconita, pirita y microfósiles (Figura 2).

Las determinaciones micropaleontológicas identificadas a lo largo de las secciones arcillosas resultaron especies del ensamble Palegreda/Salina de pobre a abundante, con retrabajos de Balcones, principalmente la especie *Haplophragmoides atahuallpai*.

La formación Basal Salina Superior (8646' - 9208') es una secuencia conformada por 2 secciones. En la primera sección conformada principalmente por arenas y areniscas Las areniscas son medio gris, medio gris claro, ocasionalmente blancas, de grano muy fino a fino granos de cuarzo, subredondeada, subangular, bien

clasificadas, cemento calcáreo, moderadamente consolidada, con minerales oscuros como inclusiones, pobre porosidad visible. Las arenas son blancas hialinas, de grano (50%) fino a muy fino y (50%) medio, granos de cuarzo, subangular a subredondeada, buen sorteo. Esta sección resultó estéril en contenido de microfósiles (Figura 2).

La formación Basal Salina Inferior (9208' - 9685') está constituida por una sección de arcillas y areniscas; las arcillas son gris oscuro, gris medio oscuro, ocasionalmente gris olivo, no calcáreas, firmes a moderadamente firmes, micromicácea, microcarbonosa, limosa en parte; las areniscas son medio gris, medio gris claro, ocasionalmente blancas, de grano muy fino a fino granos de cuarzo, subredondeada, subangular, bien clasificadas, cemento calcáreo, moderadamente consolidada, con minerales oscuros como inclusiones, pobre porosidad visible. En esta sección se encontró fauna muy pobre del ensamble Palegredda/Salina acompañadas con fauna retrabajada de Balcones (Figura 2).

La formación Balcones (9685' – 9800') es básicamente una sección compuesta de arcillas, las arcillas son gris oscuro, gris medio oscuro, localmente gris olivo, bloque a sub bloque, localmente sublaminar, moderadamente firme a firme, limolíticas en parte, micromicácea, microcarbonosa, ligeramente calcárea a no calcárea (Figura 2).

Se determinó micropaleontológicamente fauna de la formación Balcones especies como *Eponides zaratei*, *Gyroidina nitida*, *Trochammina ondegardoi*, *Haplophragmoides atahuallpai*, *Bathysiphon taurinensis*, *Eponides huaynai*, *Marginulina bullata*, *Robulus discrepans*.

STRATIGRAPHIC COLUMN

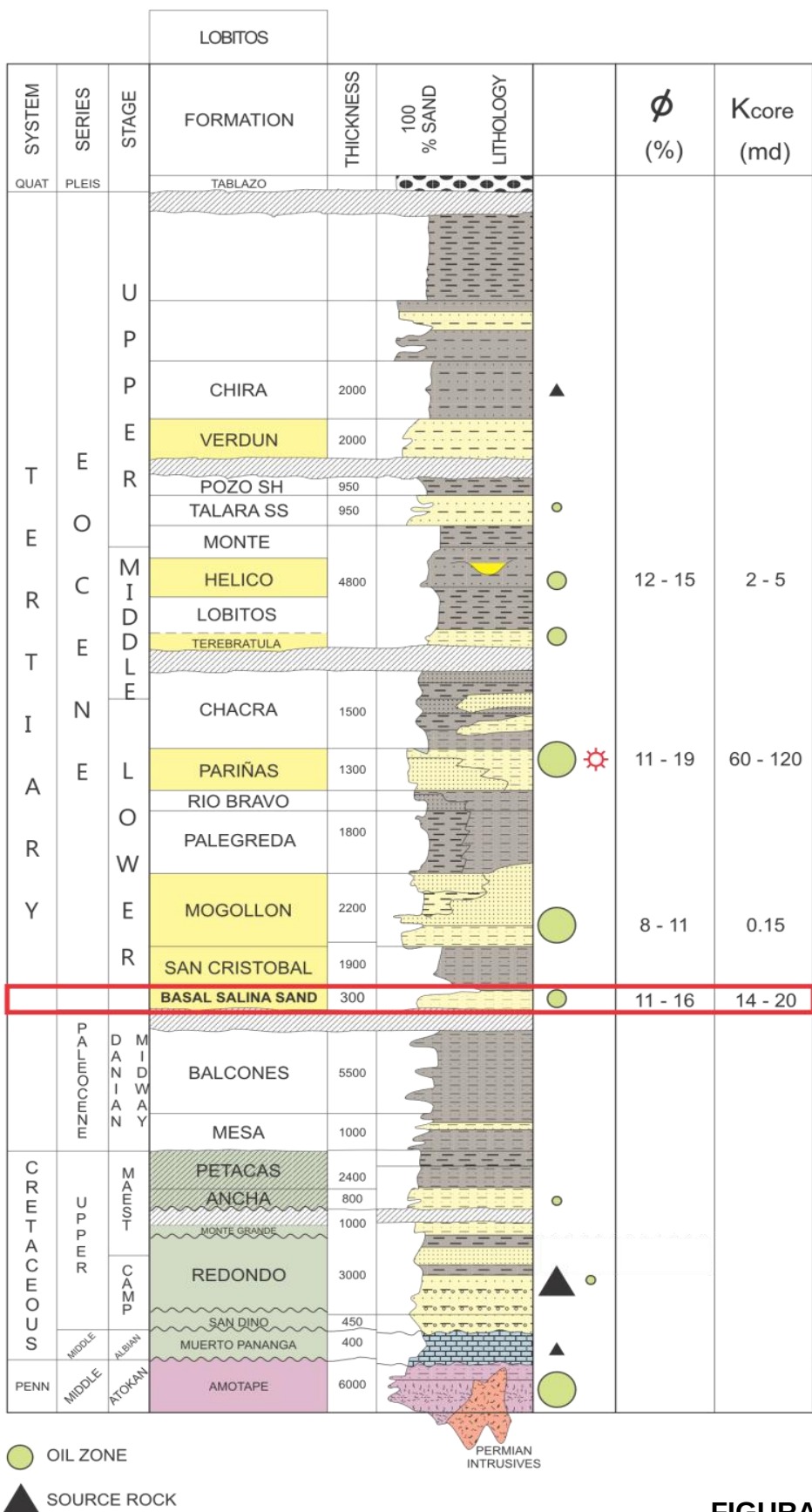


FIGURA 2

ESTRUCTURA

El mapeo estructural del pozo LO6-26XD se realizó con el apoyo del Reprocesamiento Sísmico 3D, geología del subsuelo.

Los resultados obtenidos, luego de perforado el pozo, confirmaron la existencia de la estructura San Matteo, definido como un bloque limitado por fallas; sin embargo, el tope de la formación Basal Salina Inferior que se encontró 601 pies verticales por debajo del tope pronosticado. La formación Basal Salina Superior se encontró 626 pies verticales por debajo de lo pronosticado y no fueron reportados muestras de petróleo en ambas formaciones.

Estructuralmente el Prospecto San Matteo en perspectiva se encuentra buzamiento arriba de la cocina Siches y Malacas que de acuerdo a la generación de petróleo, migraría a través fallas y acumularía sobre la estructura. Luego de la perforación del pozo se comprobó que la falla NW-SE no tuvo comportamiento sellante (Figura 3).

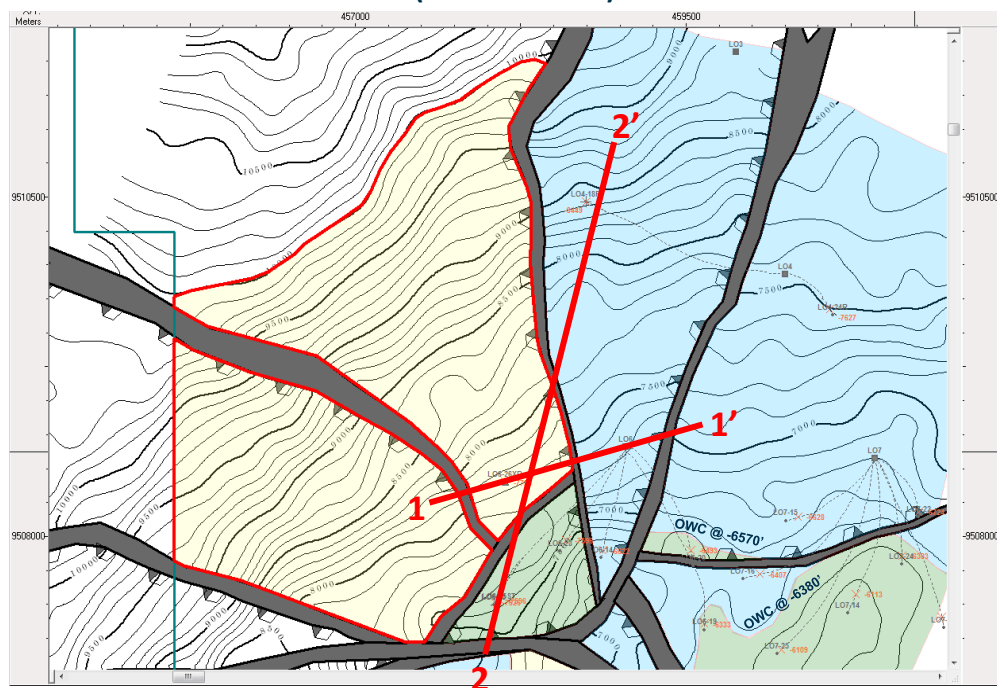
Con respecto a las formaciones Mogollón y San Cristóbal se encontraron a 817 y 319 pies por encima de lo pronosticado; considerando esta diferencia, más el aumento de espesor de estas formaciones con respecto a lo pronosticado, se explicaría la posición estructural de las formaciones Basal Salina Superior e Inferior, anteriormente mencionadas.

La formación Rio Bravo se encontró 384 pies por debajo de lo pronosticado; aunque con un espesor 169 pies verticales menor a lo esperado.

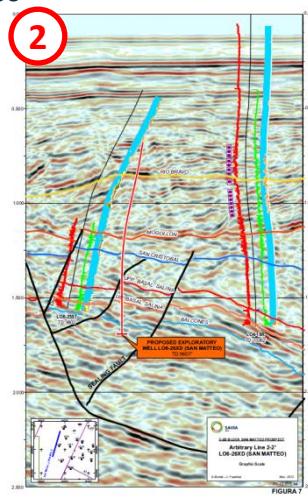
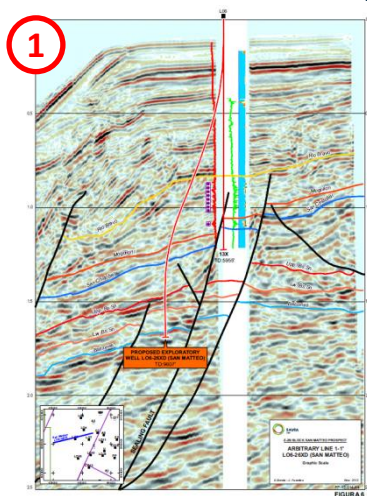


SAVIA
PERÚ

LOWER BASAL SALINA FM DEPTH STRUCTURAL MAP (BEFORE WELL)



Arbitrary Lines



LOWER BASAL SALINA FM DEPTH STRUCTURAL MAP (AFTER WELL)

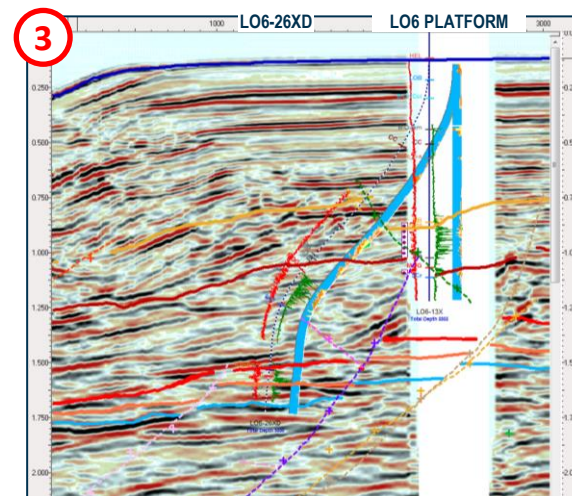
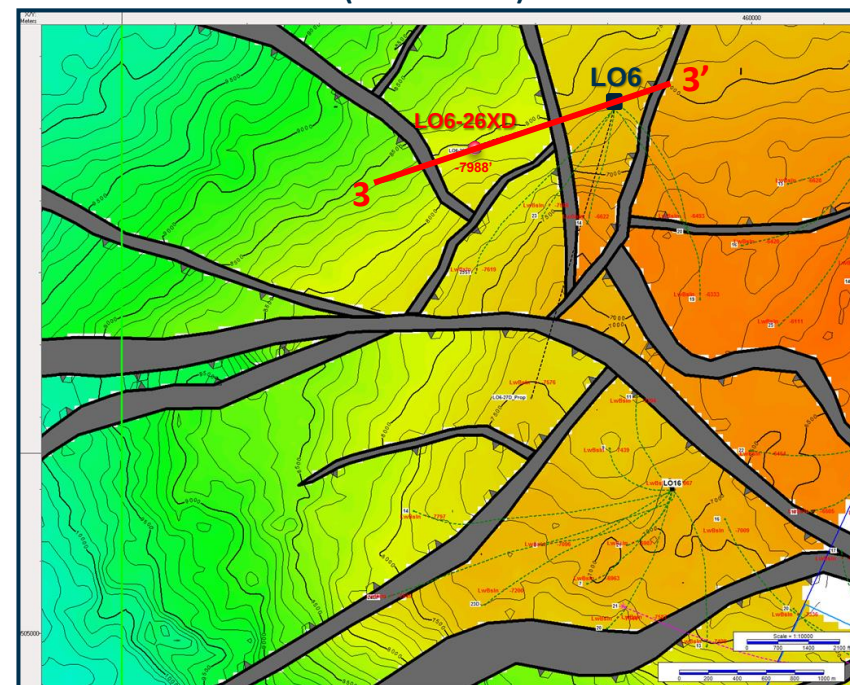


FIGURA 3

SEDIMENTACION

De acuerdo a los mapas de distribución de arena y de atributos sísmicos RMS (Root Square Mean) se estimó la probabilidad de presencia de un buen desarrollo de las formaciones Basal Salina Inferior y Superior hacia el noroeste del Campo Lobitos. El modelo sedimentario de la formación Basal Salina consta de abanicos submarinos con una tendencia SE-NW.

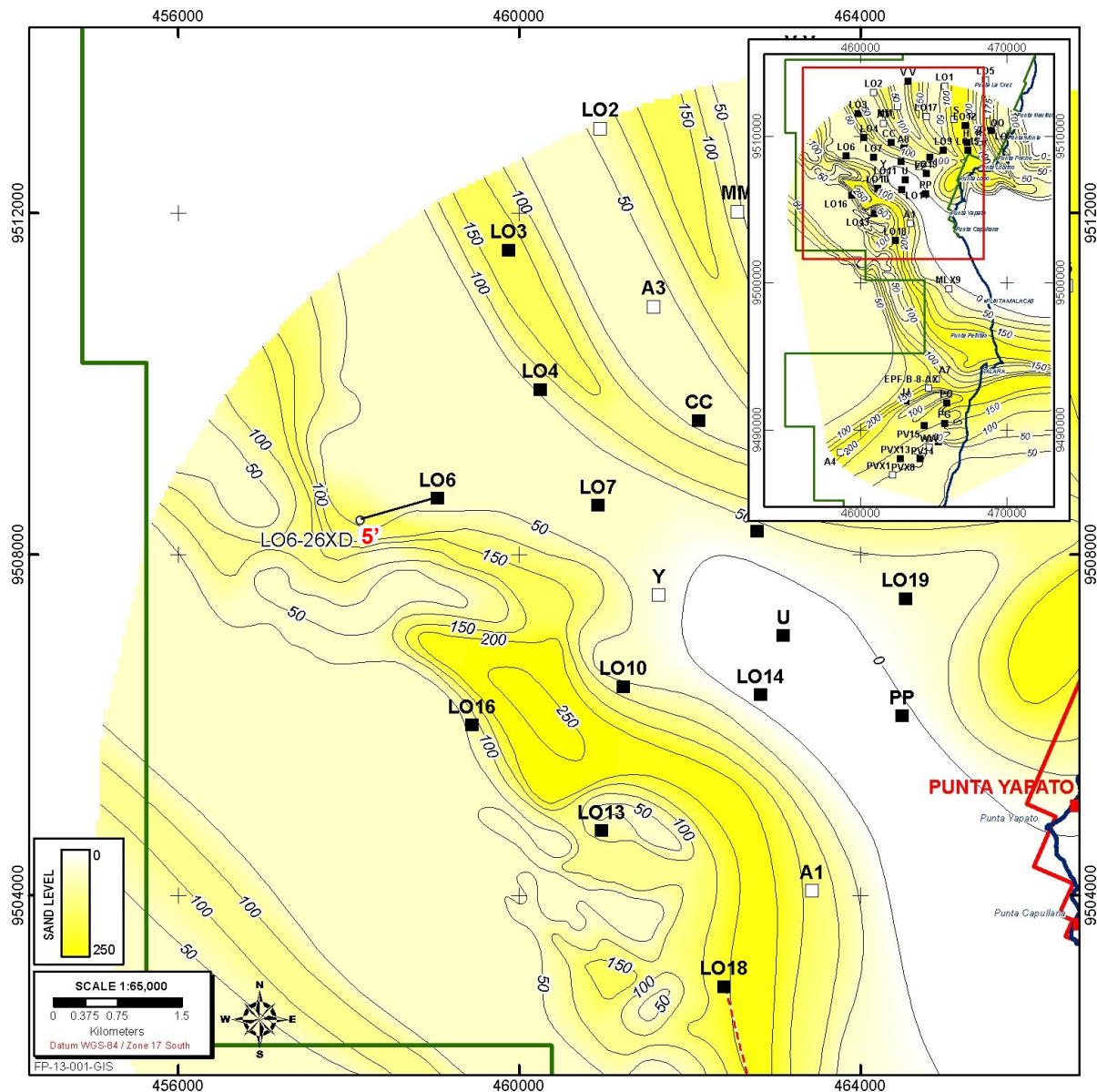
Luego de la perforación del pozo LO6-26XD, se estimó a la formación Basal Salina Inferior una arena neta de aproximadamente 5 pies verticales, siendo esta sección principalmente arcillosa que pertenecería a una facies de “overbank” de tendencia SE-NW, el cual también atravesado en el pozo LO6-23 (Figura 4). Para la formación Basal Salina Superior se encontró desarrollos de arenas asociadas a facies de canales que correlacionarían con el pozo LO6-23, para esta sección se estimó 65 pies verticales de arena neta.

De acuerdo al modelo sedimentario de la formación Mogollón, la sección atravesada correspondería a facies de abanicos submarinos de dirección NE-SW, con una arena neta de 108 pies verticales.

De igual forma el modelo de la formación Río Bravo corresponde a un abanico submarino a marino somero de dirección NW-SE, con una arena neta de 174 pies verticales.

STRATIGRAPHIC RESULTS WELL LO6-26XD LOWER BASAL SALINA

LOWER BASAL SALINA FORMATION RESTORED VERTICAL NET SAND MAP



STRATIGRAPHIC SECTION

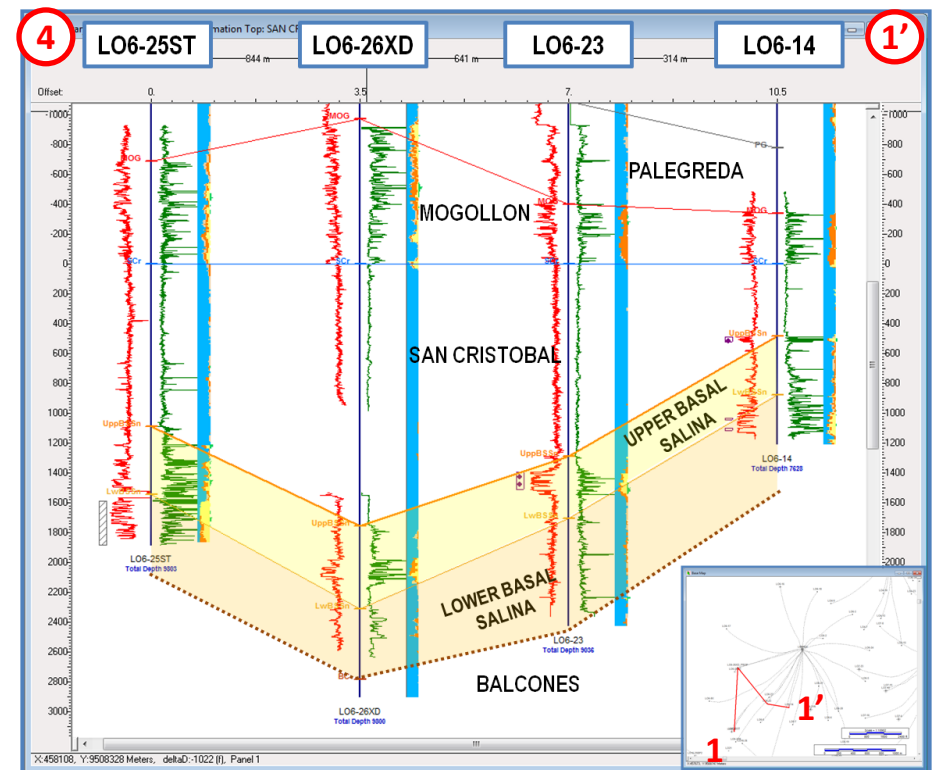


FIGURA 4

REPORTE GEOLÓGICO DIARIO



Z-2B BLOCK
EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 07th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	456' at 00 hrs.	3	-	18"Conductor @ 448'	Low.Basal S. (Main) Upp.Basal (Second.)	8600' 8016'	9607'

24 Hours Summary: cut 18" conductor and bevel on 1st level.Weld adapter to 18" conductor, raiser and install 21 1/4" diverter. tight bolts, weld 8" lateral line, and weld support to diverter.TIH 5" cement DP to 448 ft. M/U cement lines from Medomack to Platform.L/D joint 5" DP and connect 5" pipe joint to cement.Test lines w/ 1000 psi,ok. Cement 18" conductor : W/ close diverter pump 20 bbls water, 41 bbls cement 15.6 ppg. Open diverter continue pumping 9 bbls.Pooh 5" cement DP to 100 ft. Circ to clean pipe. Close diverter, displace w/ 7 bbls water. close well with 10 psi.WOC. Rig down Halliburton lines. continue working with flow line. Lay down 5" cement DP & sent to barge. Spud Date: Dec 05, 2012.

PO: MU 5" DP in stands in derrick.

Next: M/U & RIH dirc BHA W/ 17" tricone bit, tag cement, drill out cement, displace sea water by 8.9 ppg mud.Drill 17" hole.

MW: 8.4 ppg **VISC:** -- **FIL:** --

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 08th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	465' at 00 hrs.	4	9'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: WOC. M/U 17" tricone bit, with Directional BHA & RIH .Drill out cement fr 435' to 456'.Dir. drill rotate fr 456' to 460'. Circulate, and displace sea water by 8.9 ppg mud fluid.run and take Gyro survey.Dir. drill rotate fr 460' to 465'. High torque, posible debris at bottom.Pooh 17" tricone bit to surface.MU & RIH11 3/4" magnet. work on bottom and POOH to surface. Recover 4 kg of debris.MU 13 3/8" canguro

PO: MU & RIH 11 3/4" magnet

Next: Drill 17" hole with directional BHA.

MW: 8.9 ppg

VISC: 46 sec

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 09th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	467' at 00 hrs.	5	2'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: MU & RIH 11 3/4" magnet.Recovered smalls debris.RIH 17" tricone bit, with Directional BHA to 467 ft. Perform take gyro survey. take 5 times without success data. Pooh dir BHA,Perform UBHO visual inspection, ok. Continue POOH BHA. Rig up.CIA Gyro data arrived al location move Gyro tools from barge to platform and check tools. Cia Gyro Data M/U & calibrate gyro survey tool. RIH 17" tricone bit. R/U wire line, POOH tool to surface.

PO: Prepare to perform 2nd run to take survey

Next: Driil 17" directional hole.

MW: 8.9 ppg

VISC: 46 sec

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 10th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	573' at 00 hrs.	6	106'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: RIH 17" tricone bit, with directional BHA. PHOENIX perform operative test with stinger into the mule shoe seat ok. Take gyro survey at 413' and orientate tool face ok. Directional drill slide from 467 ft to 573 ft

PO: Dir drill sliding to 612'. Take gyro survey.

Next: Driil ahead 17" directional hole.

Lithology

Interval Feet	ROP ft/hr	CGL %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
460'-590'	9.1		50		30	20	NF	CLYST: Oliv gy, Brn'sh gy, loc dk gy, occ mddk gy, loc sub tab, mod frm-frm, mic mic, mic carb, mic carb, non calc. Sst: Md gy, Md Lt gy, f – vf gr Qtz sa-sr, w srted, arg mtx, fri/sl fri, calc cmt, w/glauc & dk frag inc SD: Hy, Transl, f-vf, gr, Qtz sa/sr, w srted, w lit. TG: 0.70u; C1: 70,

FORMATION: Talara Fm. @ Surface.

MW: 9 ppg

VISC: 46 sec

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 11th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	743' at 00 hrs.	7	170'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill from 573 ft to 743 ft (170 ft total). Take surveys with Gyro tool according to required. Directional drill from 743 ft to 798 ft.

PO: Dir drill to 798'. Take gyro survey.

Next: POOH Dir BHA install mule shoe -MWD, Change tri-cone bit by 17" PDC bit.RIH and continue drillig 17" hole to csg point.

Lithology

Interval Feet	ROP ft/hr	CGL %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
590'-770'	15.2		20		30	50	NF	CLYST: Oliv gy,Brn'sh gy, loc dk gy, occ mddk gy, loc sub tab, mod frm-frm, mic mic, mic carb, mic carb, non calc. Sst: Md gy, Md Lt gy, f – vf gr Qtz sa-sr, w srtd, arg mtx, fri/sl fri, calc cmt, w/glauc & dk frag inc SD: Hy, Transl, 60%f-vf, 40%m gr, Qtz sa/sr, w srtd ,w lit. gn'sh. TG: 1.69u; C1: 169,

FORMATION: Talara Fm. @ Surface.

MW: 9.1 ppg **VISC:** 46 sec **FIL:** 6.0 ml

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 12th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	986' at 00 hrs.	8	243'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill from 743 ft to 986 ft (243 ft total). Take surveys with Gyro tool according to required. Circulate bottoms up. POOH dir BHA w/17" tricone bit from 986 to surface. MU & RIH 11 3/4" magnet. Recover 1/4 kg of debris.

PO: Run 11 3/4" magnet.

Next: MU & RIH 17" PDC bit w/ dir BHA install mule shoe -MWD. RIH and continue drilling 17" hole to csg point.

Lithology

Interval Feet	ROP ft/hr	CGL %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
770'-800'	18		20		30	50	NF	CLYST: Oliv gy, Brn'sh gy, loc dk gy, occ mddk gy, loc sub tab, mod frm-frm, mic mic, mic carb, non calc. Sst: Md gy, Md Lt gy, f – vf gr Qtz sa-sr, w srted, arg mtx, fri/sl fri, calc cmt, w/glauc & dk frag inc SD: Hy, Transl, 60%f-vf, 40% m gr, Qtz sa/sr, w srted, w lit. gn'sh. TG: 1.94u; C1: 194,
800'-980'	23.8		90		10		NF	CLYST: Oliv blk, Oliv gy, Brn'sh blk, loc Brn'sh gy, loc sub tab, ea, mod frm-mod sft, occ frm, mic mic, mic carb, calc. Sst: Md gy, Md Lt gy, f – vf gr Qtz sa-sr, w srted, arg mtx, fri/sl fri, calc cmt, w/glauc & dk frag inc. TG: 5.24u; C1: 524,

Micropaleontology:

Interval	Determination	Formation
450'-680'	Traces	Helico
680'-800'	Barren	Helico
800'-920'	V poor to poor	Lobitos

FORMATION: Talara Fm. @ Surface.

MW: 9.2 ppg **VISC:** 47 sec **FIL:** 6.0 ml

CMC



9Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 13th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	1358' at 00 hrs.	9	372'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: RIH 17" PDC bit with drirectional BHA, install MWD RIH to bottom (986').Directional drill from 986 ft to 1358 ft (372 ft total). take MWD surveys. Cont. Dir. Drill sliding & rotating from 1358' to 1600'.

PO: Drilling 17" hole at 1600 ft.

Next: Drill ahead 17" hole to csg point. circulate, POOH dirc BHA to surface. MU&RIH slick BHA,condition hole. Run 13 3/8" csg

Lithology

Interval Feet	ROP ft/hr	CGL %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
980'-1070'	82		90			10	NF	CLYST: Oliv blk, Oliv gy, Brn'sh blk , loc Brn'sh gy, loc sub tab, ea,mod frm-mod sft , occ frm, mic mic, mic carb, calc. SD: Hy, Transl, f-vf, gr, Qtz sa/sr, w srted ,w lit. gn'sh. TG: 12.32u; C1: 1232,
1070'-1130'	73		50		40	10	NF	CLYST: Oliv blk, Oliv gy, Brn'sh blk , loc Brn'sh gy, loc sub tab, ea,mod frm-mod sft , occ frm, mic mic, mic carb, calc. Sst: Md gy, Md Lt gy, f – vf gr Qtz sa-sr, w srted, arg mtx, fri/sl fri, calc cmt, w/glauc & dk frag inc.,pvis por. SD: Hy, Transl, f-vf, gr, Qtz sa/sr, w srted ,w lit. gn'sh. TG: 11.81u; C1: 11.81,
1130'-1550'	87		80		20		NF	CLYST: Oliv blk, Oliv gy, Brn'sh blk , loc Brn'sh gy, loc sub tab, ea,mod frm-mod sft , occ frm, mic mic, mic carb, calc. Sst: Md gy, Md Lt gy, f – vf gr Qtz sa-sr, w srted, arg mtx, fri/sl fri, calc cmt, w/glauc & dk frag inc.,pvis por. TG: 8.48u; C1: 831; C2: 6; C3: 2

Micropaleontology:

Interval	Determination	Formation
920'-980'	Common	Lobitos
980'-1220'	Common	Terebratula

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
1462.00	25.20	257.60	1430.65	1380.65	198.82	0.81	-207.07

FORMATION: Talara Fm. @ Surface.

MW: 9.4 ppg

VISC: 46 sec

FIL: 6.0 ml



13Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 14th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	1896' at 00 hrs.	10	538'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill from 1358 ft to 1896 ft (538 ft total). Circulate, pump vis pills, circulate bottoms up, shakers show caving, increasing mud weight from 9.4 to 9.8 ppg. Shakers clean, ok. POOH dir. BHA w/ 17" PDC bit.

PO: POOH slick BHA at 1350 ft.

Next: L/D slick BHA, Run 13 3/8" Surface csg, cement csg, WOC, N/D 21 1/4" diverter, NU 13 5/8"x3M BOP.

Lithology

Interval Feet	ROP ft/hr	CGL %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
1550'-1700'	100		100				NF	CLYST: Oliv blk, Oliv gy, Brn'sh blk, loc Brn'sh gy, loc sub tab, ea, mod frm-mod sft, occ frm, mic mic, mic carb, calc. TG: 17.09u; C1: 1664; C2: 18; C3: 5,
1700'-1896'	108		90	10			NF	CLYST: Med Dk gy, Dk gy, loc sub tab, ea, blk/sub blk, mod frm-frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 32.27u; C1: 3168; C2: 37; C3: 8,

Micropaleontology:

Interval	Determination	Formation
1220'-1400'	Common	Terebratula
1400'-1700'	Poor to very poor	Terebratula
1700'-1880'	Poor to very poor	Chacra

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
1825.00	32.10	254.00	1748.04	-1698.04	374.43	-42.46	-377.34

FORMATION: CHACRA Fm. @ 1700' MD (-1591' VSS)

MW: 9.8 ppg **VISC:** 52 sec **FIL:** 6.0 ml

CMC



13Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 15th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	1896' at 00 hrs.	11	--'	18" Conductor @448'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: POOH slick BHA from 1896 ft to surface.R/U SERTONG equipment.Run 13 3/8" surface casing. from surface to 1896 ft. (total 51 jtsx 13 3/8" csg). Circulate and start cement job (test cement lines,mix lead slurry of 12.8 ppg).

PO: . N/D 21 1/4" diverter.

Next: Install csg head.N/U 13 5/8"x5M BOP test. M/U 5" DP in stands. M/U dir. BHA.

FORMATION: CHACRA Fm. @ 1700' MD (-1591' VSS)

MW: 9.8 ppg **VISC:** 45 sec **FIL:** 6.0 ml

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 16th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	1896' at 00 hrs.	12	--'	13 3/8" Csg@1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Cement 13 3/8" Surface csg: ,L/D bell nipple. N/D diverter.Weld and bevel on 13 3/8" csg, install & test casing head. N/U 13 5/8"x5M BOP stack. M/U and install plug tester. Perform BOP test.

PO: MU 5" DP in stands.

Next: M/U 5" DP in stands, M/U dir. BHA, tag and drill out cmt & form. Perform FIT test. drill 12 1/4" hole.

FORMATION: CHACRA Fm. @ 1700' MD (-1591' VSS)

MW: 9.8 ppg

VISC: 46 sec

FIL: 6.0 ml

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 17th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	1896' at 00 hrs.	13	--'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: MU & RIH Directional BHA with 12 1/4" PDC bit and RIH with 5" DP to Tag top of cement at 1854 ft. Drill out cement f/1854' to 1874'. drill out top and bottom . Stop circulation and close anular BOP and perform casing integrity test. Continue drill out cement f/ 1874' to 1893'. Drill cmt. Shoe and 10 ' of formation. Directional drill rotate from 1906' to 2060'.

PO: Drilling 12 1/4" hole at 2060 ft.

Next: Drill ahead 12 1/4" directional hole.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
1896'-2000'	126	10	80	10			NF	DOL: Dk yell'sh Brn, occ Brn'sh gy, ea, blk/sub blk, sub tab in pt, mod frm/mod hd, mic carb. CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 2.97u; C1: 283; C2: 5; C3: 2,

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
1964.00	31.40	253.80	1866.23	-1816.23	447.57	-42.46	-447.62

FORMATION: CHACRA Fm. @ 1700' MD (-1591' VSS)

MW: 9.8 ppg **VISC:** 44 sec **FIL:** 6.0 ml

CMC



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 18th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	2942' at 00 hrs.	14	1046'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill rotate from 2060' to 3170'.

PO: Drilling 12 1/4" hole at 3170 ft.

Next: Drill ahead 12 1/4" directional hole.

Lithology

Interval Feet	ROP ft/hr	DoI %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
2000'-2420'	165		70	10	10	10	NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Oliv gy, occ Med gy, f - vf gr Qtz sa-sr, w srted, arg mtx, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. SD: Wh Hy, trans,, f-vf, gr Qtz sa/sr, w srted. TG: 7.57u; C1: 722; C2: 11; C3: 6,
2420'-2570'	158		30		60	10	10-NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans,, f-vf, gr Qtz sa/sr, w srted. TG: 15.27u; C1: 1334; C2: 37; C3: 31; C4: 5; C5: 2
2570'-3140'	115		90	10			NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 17.89u; C1: 1676; C2: 24; C3: 11; C4: 2; C5: 1,

Micropaleontology:

Interval	Determination	Formation
1880'-2300'	Very poor	Chacra
2300'-2600'	Poor to very poor	Chacra
2600'-2780'	Abundant	Chacra

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
3008.00	33.70	253.10	2741.54	-2691.54	1016.10	-230.86	-990.85

FORMATION: CHACRA Fm. @ 1700' MD (-1591' VSS)

MW: 10.1 ppg

VISC: 47 sec

FIL: 8.0 ml



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 19th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	3736' at 00 hrs.	15	794'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill from 3170' to 3736'. Circulate, pump hi vis pill. Wiper trip, from 3736 ft. to shoe (1894 ft). without problem.

PO: Drilling 12 1/4" hole at 3880 ft.

Next: Drill ahead 12 1/4" directional hole.

Lithology

Interval Feet	ROP ft/hr	DoI %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
3140'-3290'	82		90	10			NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 12.06u; C1: 1107; C2: 19; C3: 8; C4: 2; C5: 2,
3290'-3320'	70		60	10	20	10	NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans., f-vf, gr Qtz sa/sr, w srted. TG: 27.22u; C1: 2563; C2: 39; C3: 16; C4: 2; C5: 2
3320'-3740'	104		80	20			NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 24.05u; C1: 2239; C2: 40; C3: 18; C4: 3; C5: 1,
3740'-3830'	64		40	20	10	30	NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans., 50% f-50% vf, trc m, gr Qtz sa/sr, w srted. TG: 7.76u; C1: 680; C2: 14; C3: 9; C4: 2; C5: 1,

Micropaleontology:

Interval	Determination	Formation
2780'-2960'	Common to abdt	Chacra
2960'-3200'	Poor to very poor	Chacra
3200'-3740'	Cc vp to p w/Pg Rwk vp	Chacra

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
3767.00	33.90	252.70	3375.55	-3325.55	1433.14	-358.49	-1388.10

FORMATION: Poss. Rio Bravo Fm. @ 3740' MD (-3303' VSS)

MW: 10.3 ppg

VISC: 52 sec

FIL: 8.0 ml

CMC.



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 20th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	4244' at 00 hrs.	16	508'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill from 3736' to 4377'.

PO: Drilling 12 1/4" hole at 4377 ft.

Next: Drill ahead 12 1/4" directional hole.

Lithology

Interval Feet	ROP ft/hr	DoI %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
3830'-3920'	61		30	20	10	40	NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. SD: Wh Hy, trans., 50% f-50% vf, trc m, gr Qtz sa/sr, w srted. TG: 9.96u; C1: 895; C2: 21; C3: 8; C4: 2; C5: 1,
3920'-4130'	54		40	40	20		NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. TG: 9.15u; C1: 817; C2: 20; C3: 7; C4: 2; C5: 2
4130'-4340'	42		10	20	20	50	10-35	CLYST: Med dk gy, Dk gy, occ Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans., 60% f-40% vf, trc m, gr Qtz sa/sr, w srted. Fluorescence: 10% -35% pin point pale yellow natural fluor, slow, weak, pale, even, yellowish white cut fluor, milky white residual ring under U.V. light; non residual ring at natural light. TG: 24.88u; C1: 1845; C2: 82; C3: 71; C4: 25; C5: 9,

Micropaleontology:

Interval	Determination	Formation
3740'-3860'	Cc vp w/Pg Rwk vp	Rio Bravo
3860'-4100'	Barren	Rio Bravo

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
4241.00	33.10	251.50	3769.15	-3719.15	1697.09	-439.55	-1639.44.

FORMATION: Rio Bravo Fm. @ 3740' MD (-3303' VSS)

MW: 10.5 ppg **VISC:** 49 sec **FIL:** 8.0 ml

CMC.



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 21th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	4408' at 00 hrs.	17	164'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill from 4244 ft to 4408 ft. Circulate bottom up, shaker clean, ok. Pooh dir. BHA w/ 12 1/4" PDC bit to change MWD battery and inspection bit. M/U and RIH new 12 1/4" PDC bit, new mud motor and new battery for MWD. Continue RIH dir. BHA w/ 12 1/4" PDC bit from 500' to 4408'. Directional drill rotate from 4408' to 4545'.

PO: Drilling 12 1/4" hole at 4545 ft.

Next: Drill ahead 12 1/4" directional hole.

Lithology

Interval Feet	ROP ft/hr	DoI %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
4340'-4370'	34		20		20	60	10	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blk/sub blk, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans., 60% f-40% vf, trc m, gr Qtz sa/sr, w srted. Fluorescence: 10% pin point pale yellow natural fluor, slow, weak, pale, even, yellowish white cut fluor, milky white residual ring under U.V. light; non residual ring at natural light. TG: 9.65u; C1: 816; C2: 22; C3: 16; C4: 6; C5: 2,
4370'-4490'	58		20	20	30	30	NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. SD: Wh Hy, trans., 60% f-40% vf, trc m, gr Qtz sa/sr, w srted. TG: 11.50u; C1: 1023; C2: 22; C3: 11; C4: 3; C5: 2

Micropaleontology:

Interval
4100'-4400'

Determination
Barren

Formation
Rio Bravo

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
4431.00	34.00	251.30	3928.09	-3878.09	1801.12	-471.81	-1738.42

FORMATION: Rio Bravo Fm. @ 3740' MD (-3303' VSS)

MW: 10.5 ppg

VISC: 48 sec

FIL: 8.0 ml

CMC.



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 22th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	4994' at 00 hrs.	18	586'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill rotate from 4545' to 5250'.

PO: Drilling 12 1/4" hole at 5250 ft.

Next: Drill ahead 12 1/4" directional hole.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
4490'-4670'	49		50	30	20		NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. TG: 9.66u; C1: 857; C2: 20; C3: 10; C4: 2; C5: 2,
4670'-4730'	39		20	20	30	30	20-Tr	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. SD: Wh Hy, trans., 60% f-40% vf, trc m, gr Qtz sa/sr, w srted. Fluorescence: 20% pin point pale yellow natural fluor, slow, weak, pale, even, yellowish white cut fluor, milky white residual ring under U.V. light; non residual ring at natural light. TG: 4.52u; C1: 368; C2: 11; C3: 6; C4: 2; C5: 2
4730'-5080'	47		50	20	10	20	NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans., 60% f-40% vf, gr Qtz sa/sr, w srted. TG: 4.65u; C1: 402; C2: 7; C3: 3; C4: 1; C5: 2,
5080'-5200'	67		30	10	30	30	NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blkly/sub blkly, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, fr vis por. SD: Wh Hy, trans., 60% f-40% vf, gr Qtz sa/sr, w srted. TG: 10.72u; C1: 991; C2: 12; C3: 6; C4: 1; C5: 2,

Micropaleontology:

Interval
4400'-4520'
4520'-4880'

Determination
Cc vp w/Pg Rwk vp
Barren

Formation
Rio Bravo
Rio Bravo

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
5095.00	31.70	251.40	4483.84	-4433.84	2163.87	-588.29	-2082.38

FORMATION: Rio Bravo Fm. @ 3740' MD (-3303' VSS)

MW: 10.6 ppg **VISC:** 46 sec **FIL:** 8.0 ml

CMC.



Z-2B BLOCK

EXPLORATORY WELL LO6-26XD GEOLOGICAL REPORT

Date: Dec 23th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
PP-40	5898' at 00 hrs.	19	904'	13 3/8" Csg @1894'	Low.Basal S. (main) Upp.Basal S. (sec.)	8600' 8016'	9607'

24 Hours Summary: Directional drill rotate from 5250' to 5898'. Circulate. POOH 12 1/4" PDC bit with dir BHA.

PO: L/D 12 1/4" PDC bit.

Next: MU & RIH Slick BKA with Tricone bit, circulate, POOH slick BHA. Run 9 5/8" csg.

Lithology

Interval Feet	ROP ft/hr	DoI %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
5200'-5500'	77		60	10	10	20	NF	CLYST: Med dk gy, Brn'sh gy, occ Oliv blk, ea, blkyl/sub blkyl, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkyl, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. SD: Wh Hy, trans., 60% f-40% vf, trc m, gr Qtz sa/sr, w srted. TG: 14.33u; C1: 1350; C2: 12; C3: 6; C4: 2; C5: 1,
5500'-5810'	111		80	20			NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blkyl/sub blkyl, mod sft-sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkyl, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 11.20u; C1: 1036; C2: 13; C3: 6; C4: 2; C5: 2
5810'-5899'	64		20	10	10	60	NF	CLYST: Med dk gy, Dk gy, occ Gy'sh blk, ea, blkyl/sub blkyl, mod frm-frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkyl, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. SD: Wh Hy, trans., 50% f-50% vf, gr Qtz sa/sr, w srted. TG: 9.45u; C1: 847; C2: 17; C3: 8; C4: 1; C5: 2,

Micropaleontology:

Interval	Determination	Formation
4880'-5480'	Barren	Rio Bravo
5480'-5840'	Pg fauna vp	Palegreda
5840'-5899'	Barren	Mogollon

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
5830.00	30.50	254.00	5115.30	-5065.30	2539.88	-706.07	-2442.53

FORMATION: PALEGREDA Fm. @ 5500' MD (-4781' VSS)

MOGOLLON Fm. @ 5810' MD (5048' VSS)

MW: 10.7 ppg

VISC: 45 sec

FIL: 8.0 ml

CMC.



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 24th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	5898' at 00 hrs.	20	---	13 3/8" Csg @1894'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: M/U 12 1/4" tricone bit and slick BHA, RIH, restrictions at 4240', worked string reaming and cleaning from 4200' to 4290', RIH to bottom (5898'), conditioned hole, POOH with circulation and rotation from 5898' to 5500' (tight hole), POOH to 3600', RIH to bottom, increased MW to 10.8 ppg, POOH to 4200' (normal drag).

PO: POOH slick BHA at 4200'.

Next: POOH slick BHA to surface, Run 9 5/8" csg, cement job, WOC.

FORMATION: MOGOLLON Fm. @ 5810' MD (-5048' VSS)

MW: 10.8 ppg

VISC: 48 sec

FIL: 8.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 25th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	5898' at 00 hrs.	21	---	13 3/8" Csg @1894'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: POOH to 1788', waited on mechanics and crane cable to tender crane, RIH to 5898', conditioned hole, POOH to surface, R/U csg tools, Run 9 5/8" csg.

PO: Running 9 5/8" csg at 192'.

Next: Finish run 9 5/8" csg, cement job, WOC.

FORMATION: MOGOLLON Fm. @ 5810' MD (-5048' VSS)

MW: 10.8 ppg **VISC:** 46 sec **FIL:** 8.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 26th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	5898' at 00 hrs.	22	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Ran 9 5/8" csg to 5898', M/U cement lines, performed cement job, WOC.

PO: Cutting 9 5/8" csg.

Next: Install csg head, N/U 13 3/8" BOP, M/U directional BHA.

FORMATION: MOGOLLON Fm. @ 5810' MD (-5048' VSS)

MW: 10.8 ppg

VISC: 46 sec

FIL: 8.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 27th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	5898' at 00 hrs.	23	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: M/U BOP. BOP test. M/U new BHA directional with 8 ½ " PDC bit.

PO: M/U dir. BHA w/ 8 1/2" PDC bit.

Next: P7U & M/U 5" DP 7 stands. RIH with 8 1/2" PDC bit with directional BHA to drilling ahead

FORMATION: MOGOLLON Fm. @ 5810' MD (-5048' VSS)

MW: 10.8 ppg

VISC: 45 sec

FIL: 8.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 28th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	5898' at 00 hrs.	24	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Install MWD tool & continue RIH from 300' to 5802' (TOC). Drillout from 5802' to 5870'. Circulate at 5870'. Perform CIT w/1500 psi by 10 min, ok. Drillout cement from 5870' to 5885' (9 5/8" csg shoes). Circulate. Continue rotary drilling new formation from 5885' to 5983'.

PO: Rotary drilling at 5983 ft.

Next: Directional drilling ahead.

Remark: No sample gas due chromatograph problems.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
5899'-5960'			20	10	30	40	NF-20	CLYST: Med dk gy, Dk gy, occ Oliv gy, ea, blk/sub blk, mod sft- sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Dk gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md lt gy, Lt gy, f - vf gr Qtz sa-sr, w srtd, fri/sl fri, abdt calc cmt in pt, occ mod consol, w/dk min inc, p to fr vis por. SD: Wh Hy, trans., 50% f-50% vf, trc m, gr Qtz sa/sr, w srtd. Fluorescence: 5% -20% pin point yellowish white natural fluor, slow, weak, pale, even, yellowish white cut fluor, milky white residual ring under U.V. light; non residual ring at natural light. TG: ; C1: ; C2: ; C3: ; C4: ; C5:

FORMATION: MOGOLLON Fm. @ 5810' MD (-5048' VSS)

MW: 10.7 ppg

VISC: 48 sec

FIL: 5.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 29th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	6737' at 00 hrs.	25	839'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drilling rotating & sliding from 5983' to 6926'.

PO: Drilling sliding at 6926 ft.

Next: Continue drilling ahead.

Remark: No sample gas due chromatograph problems.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
5960'-6660'			30	10	40	20	NF-50	CLYST: Med dk gy, Dk gy, occ Oliv gy, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Dk gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md lt gy, Lt gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, abdt calc cmt in pt, occ mod consol, w/dk min inc, p to fr vis por. SD: Wh Hy, trans., 50% f-50% vf, trc m, gr Qtz sa/sr, w srted. Fluorescence: 10% -50% pin point yellowish white natural fluor, slow, weak, pale, even, yellowish white cut fluor, milky white residual ring under U.V. light; non residual ring at natural light. TG: ; C1: ; C2: ; C3: ; C4: ; C5:
6660'-6720'			20	10	10	60	NF	CLYST: Med dk gy, Dk gy, occ Oliv gy, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Dk gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md lt gy, Lt gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, abdt calc cmt in pt, occ mod consol, w/dk min inc, p to fr vis por. SD: Wh Hy, trans., 50% f-50% vf, trc m, gr Qtz sa/sr, w srted. TG: ; C1: ; C2: ; C3: ; C4: ; C5:
6720'-6850'			90	10			NF	CLYST: Med dk gy, Dk gy, occ Oliv gy, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Dk gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: ; C1: ; C2: ; C3: ; C4: ; C5:
6850'-6920'			30	10	10	50	NF	CLYST: Med dk gy, Dk gy, occ Oliv gy, ea, blk/sub blk, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Dk gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md lt gy, Lt gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, abdt calc cmt in pt, occ mod consol, w/dk min inc, p to fr vis por. SD: Wh Hy, trans., 60% f-30% vf, 10% m, gr Qtz sa/sr, w srted. TG: ; C1: ; C2: ; C3: ; C4: ; C5:

Micropaleontology:

Interval
5899'-6670'

Determination
Barren

Formation
Mogollon

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
6850.00	17.60	247.90	6041.39	-5991.39	2959.99	-829.63	-2841.39

FORMATION: MOGOLLON Fm. @ 5810' MD (-5048' VSS)

MW: 10.9 ppg

VISC: 49 sec

FIL: 5.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 30th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	7569' at 00 hrs.	26	832'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drilling rotating & sliding from 6926' to 7680'.

PO: Drilling sliding at 7680 ft.

Next: Continue drilling ahead up to UBS formation top, perform short trip to hole calibrate.

Remark: Chromatograph operating from 6:30pm. (Dec 29, 2012).

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
6920'-7670'	43		100				NF	CLYST: Med dk gy, Dk gy, occ Oliv gy, ea, blkly/sub blkly, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. TG: 7.76u ; C1: 500; C2: 29 ; C3: 19 ; C4: 10 ; C5: 13

Micropaleontology:

Interval	Determination	Formation
6670'-6910'	Barren	Mogollon
6910'-7390'	Pg/Sn fauna vp to p	San cristobal

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
7609.00	8.60	241.20	6781.45	-6731.45	3124.19	-886.04	-2996.03

FORMATION: SAN CRISTOBAL Fm. @ 6910' MD (-6048' VSS)

MW: 11.8 ppg **VISC:** 54 sec **FIL:** 5.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: December 31th, 2012

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	7854' at 00 hrs.	27	285'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drilling rotating & sliding from 7680' to 7792'. Short trip. RIH. Drilling rotating & sliding from 7792' to 7977'

PO: Drilling sliding at 7977 ft.

Next: Continue drilling ahead.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
7670'-7950'	66		100				NF	CLYST: Med dk gy, Dk gy, occ Brn'sh gy, Blck, ea, blkly/sub blkly, mod sft- sft, occ frm, slty in pt, mic mic, mic carb, non calc. TG: 14.85u ; C1: 1324; C2: 25 ; C3: 13 ; C4: 5.4 ; C5: 3

Micropaleontology:

Interval	Determination	Formation
7390'-7630'	Pg/Sn fauna p to abdt	San cristobal
7630'-7790'	Pg/Sn fauna abdt w/Balc Rwk vp	San cristobal

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
7893.00	4.70	230.30	7063.42	-7013.42	3156.02	-903.72	-3024.06

FORMATION: SAN CRISTOBAL Fm. @ 6910' MD (-6048' VSS)

MW: 11.8 ppg **VISC:** 54 sec **FIL:** 5.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 01th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	8423' at 00 hrs.	28	569'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drilling rotating & sliding from 7792' to 8613'.

PO: Drilling rotary at 8613 ft.

Next: Continue drilling ahead.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
7950'-8160'	39		100				NF	CLYST: Med dk gy, Dk gy, occ Brn'sh gy, Blck, ea, blkly/sub blkly, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. TG: 10.08u ; C1: 966; C2: 12 ; C3: 4 ; C4: 2 ;
8160'-8210'	36		80		20		NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blkly/sub blkly, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. TG: 14.34u; C1: 1378; C2: 16; C3: 6; C4: 2;
8210'-8580'	40		100				NF	CLYST: Med dk gy, Dk gy, occ Gy'sh blk, ea, blkly/sub blkly, mod frm-frm , slty in pt, mic mic, mic carb, non calc. TG: 9.41u; C1: 896; C2: 11; C3: 5; C4: 3;

Micropaleontology:

Interval	Determination	Formation
7790'-8080'	Pg/Sn fauna c to p w/Balc Rwk vp	San cristobal
8080'-8220'	Pg/Sn fauna vp	San cristobal
8220'-8280'	Pg/Sn fauna abdt w/Balc Rwk vp	San Cristobal

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
8463.00	4.50	234.70	7632.35	-7582.35	3189.00	-921.89	-3053.17

FORMATION: SAN CRISTOBAL Fm. @ 6910' MD (-6048' VSS)

MW: 11.8 ppg

VISC: 52 sec

FIL: 5.0 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 10th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	37	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: WTF, Pepesa and ITS mechanics, continue attempt to repair the hydraulic generator of logging cabin, without success. Arrive to location Ferreyros technician, review WTF generator and find a burned sensor and fuel pump inoperative. WTF & Pepesa organizes rig floor and install "T" to support logging wireline and WTF operator take tension and weight. WTF & Pepesa recover logging wireline from 9760 ft to 8900 ft, Pepesa organize logging wireline on platform.

PO: WTF & Pepesa recover logging wireline to 8900 ft.

Next: Finish Recover wireline and logging tools, condition hole and run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 57 sec **FIL:** 4.6 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 11th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	38	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: Continue WTF & Pepesa recover wireline from 8900 ft to 5600 ft. Change maneuver to recover 175 ft of wireline by each run of TD. Continue WTF & Pepesa recover wireline from 5600 ft to surface. L/D logging tools, lubricator, pulleys and equipments. Circulate. Wash down from 8460 ft to 9800 ft .

PO: POOH 5" DP to 8850 ft.

Next: POOH 5" DP to surface and run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 56 sec **FIL:** 4.6 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 12th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	39	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: POOH 5" DP from 9800 ft to 1000 ft, Pepesa crew cut and slip 120 ft 1 1/4" drilling lines. Continue POOH 5" DP from 1000 ft to surface, R/U ITS 5 1/2" csg running tools on rig floor. P/U & M/U 5.5" drillable csg float equipment, Run 155 jts 5.5" csg, at 5855 ft. Circulated. Co. ITS installed fill uptooland spider elevator. Continue RIH 5.5" casing from 5855' to 8900'.

PO: Run 235 jts 5.5" csg, at 8900 ft.

Next: Cement job 5 1/2" csg, WOC, install section "C" of well head, RIH 2 7/8 tbg to change by wo fluid.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 53 sec **FIL:** 4.6 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 02nd, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	8994' at 00 hrs.	29	571'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drilling rotating & sliding from 8613' to 8994'. Mud loss was observed 50 bbl, Mud Engineers condition mud system with bridge materials. Perform short trip. POOH 8 1/2" directional BHA from 8993 ft to 7700 ft, with back reaming. RIH from 7700' to 8994'. Circulate. Drill rotating from 8994' to 9070'.

PO: Drilling rotary at 9070 ft.

Next: Continue drilling ahead.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Slst %	Sst %	Sd %	Fluor %	Description
8580'-8670'	46		100				NF	CLYST: Med dk gy, Dk gy, occ Brn'sh gy, Blck, ea, blkly/sub blkly, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. TG: 17.39u ; C1: 1780; C2: 18 ; C3: 6 ; C4: 2 ;
8670'-8860'	43		70	20	10		NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blkly/sub blkly, mod sft- sft , occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srtd, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. TG: 10.84u; C1: 1043; C2: 13; C3: 4; C4: 1;
8860'-8990'	34		30		40	30	NF	CLYST: Med dk gy, Dk gy, occ Gy'sh blk, ea, blkly/sub blkly, mod frm-frm , slty in pt, mic mic, mic carb, non calc. SST: Med gy, Med dk gy, occ med lt gy, vf - v gr Qtz sa-sr, w srtd, fri-mod fri, arg mtb, calc cmt, w/dk min & glauc inc, p vis por. SD: Wh Hy, trans., 60%f, 30%vf, 10% m, gr Qtz sa/sr, w srtd. TG: 8.28u; C1: 794; C2: 11; C3: 3; C4: 1;
8990'-9030'	21		60	10	10	20	NF	CLYST: Med dk gy, Dk gy, occ Gy'sh blk, ea, blkly/sub blkly, mod frm-frm , slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blkly, sub tab, mod frm, mic mic, mic carb, sl calc. SST: Med gy, Med dk gy, occ med lt gy, vf - v gr Qtz sa-sr, w srtd, fri-mod fri, arg mtb, calc cmt, w/dk min & glauc inc, p vis por. SD: Wh Hy, trans., 60%f, 40%vf, tr m, gr Qtz sa/sr, w srtd. TG: 10.72u; C1: 1002; C2: 15; C3: 6; C4: 4;

Micropaleontology:

Interval
8280'-8860'
8860'-8980'

Determination
Pg/Sn fauna c to abdt w/Balc Rwk vp
Barren

Formation
San cristobal
Basal Salina

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
8937.00	6.60	219.30	8104.22	-8054.22	3228.07	-952.97	-3084.90

FORMATION: UPP. BASAL SALINA Fm. @ 8870' MD (-7988' VSS)

MW: 11.8 ppg

VISC: 50 sec

FIL: 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 03rd, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9420' at 00 hrs.	30	426'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drill rotating from 9070' to 9561'.

PO: Drilling rotary at 9561 ft.

Next: Continue drilling ahead to 9800'.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
9030'-9270'	25		90	10			NF	CLYST: Med dk gy, Dk gy, occ Brn'sh gy, Blck, ea, blk/sub blk, mod sft- sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. TG: 8.38u ; C1: 800; C2: 11 ; C3: 4 ; C4: 1 ;
9270'-9400'	28		60	10	30		NF	CLYST: Med dk gy, Dk gy, min Oliv blk, ea, blk/sub blk, mod sft- sft, occ frm, slty in pt, mic mic, mic carb, non calc. SLTST: Md dk gy, Md gy, ea, sub blk, sub tab, mod frm, mic mic, mic carb, sl calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srted, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. TG: 9.38u; C1: 905; C2: 10; C3: 3; C4: 1;
9400'-9560'	41		90		10		NF	CLYST: Med dk gy, Dk gy, occ Gy'sh blk, ea, blk/sub blk, mod frm-frm, slty in pt, mic mic, mic carb, non calc. SST: Med gy, Med dk gy, occ med lt gy, vf - v gr Qtz sa-sr, w srted, fri-mod fri, arg mtx, calc cmt, w/dk min & glauc inc, p vis por. TG: 9.03u; C1: 870; C2: 11; C3: 3; C4: 1;

Micropaleontology:

Interval	Determination	Formation
8980'-9100'	Barren	Basal Salina
9100'-9340'	Pg/Sn fauna vp w/Balc Rwk vp	Basal Salina

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
9506.00	6.40	199.00	8669.78	-8619.78	3274.02	-1005.91	-3117.52

FORMATION: UPP. BASAL SALINA Fm. @ 8870' MD (-7988' VSS)

MW: 11.8 ppg

VISC: 53 sec

FIL: 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 04th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	31	380'	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9607'

24 Hours Summary: Drill rotating from 9561' to 9800'. Circulated on bottom hole. POOH with circulation and rotation from 9800' to 6600'.

PO: POOH 8 1/2" directional BHA to 6600 ft.

Next: Finish POOH and L/D directional BHA and RIH 8 1/2" slick BHA.

Lithology

Interval Feet	ROP ft/hr	Dol %	Clyst %	Sltst %	Sst %	Sd %	Fluor %	Description
9560'-9680'	30		90		10		NF	CLYST: Med dk gy, Dk gy, occ Brn'sh gy, ea, blk/sub blk, mod sft- sft, occ frm, slty in pt, mic mic, mic carb, non calc. Sst: Md dk gy, Med gy, f - vf gr Qtz sa-sr, w srtd, fri/sl fri, calc cmt, w/gn & dk frag inc, p vis por. TG: 9.81u ; C1: 944; C2: 14 ; C3: 3 ; C4: 1 ;
9680'-9800'	35		100				NF	CLYST: Dk gy, Med Dk gy, mnr gn'sh blk, ea, blk/sub blk, mod frm-frm, occ v frm, slty in pt, mic mic, mic carb, non calc. TG: 7.43u; C1: 713; C2: 10; C3: 3; C4: 1;

Micropaleontology:

Interval	Determination	Formation
9340'-9680'	Pg/Sn fauna vp w/Balc Rwk vp	Basal Salina
9680'-9800'	Balcones fauna vp	Balcones

Surveys:

Depth (ft)	Incl (deg)	Azimuth (deg)	TVD (ft)	VSS (ft)	HD (ft)	NS (ft)	EW (ft)
9800.00	7.41	188.95	8961.60	-8911.60	3290.84	-1040.79	-3125.01

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 52 sec **FIL:** 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 05th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	32	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: Continue POOH with circulation and rotation from 6000' to surface. M/U BHA of clean with tricone bit + RIH BHA of clean from surface to 5804' + circulated. Cut off drilling line. Continue RIH BHA of clean from 5804' to 8963'. RIH BHA of clean with rotation and circulation from 8963' to 9754' + pumped pill + circulated. POOH BHA of clean from 9754' to 8000'.

PO: POOH 8 1/2" Slick BHA to 8000 ft.

Next: Finish L/D 8 1/2" slick BHA, Run WTF logging tools, run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 50 sec **FIL:** 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 06th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	33	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: Continue POOH 8 1/2" slick BHA from 7200 ft 5800 ft to surface and L/D slick BHA. Pepesa crew L/D belt nipple & flowline sleeve. R/U 13 5/8" flange and install lubricator. WTF crew R/U equipments. RIH to 6000 ft and log from 6000 ft to 5800 ft, correlate depth, calibrate and check tools. RIH logging tools from 6000 ft and tag at 7160 ft, attempted several times to pass without success. WTF begin log from 7160 ft to 5887 ft & continue POOH logging tool to surface. L/D WFT logging tools & lubricator. M/U & RIH 8 1/2" slick BHA to 4000'.

PO: RIH 8 1/2" Slick BHA to 4000 ft.

Next: Condition Hole with 8 1/2" slick BHA, Run WTF logging tools, run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 52 sec **FIL:** 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 07th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	34	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: Continue RIH from 4000 ft to 8890 ft, work drilling string in several point with rotation & circulation. Circulate to displace 6500 units gas. Continue wash down from 8890 ft to 8940 ft, drilling strig tag at 8940 ft, At 9700 ft TGT Chromatograph record 8800 gas units, circulate to displace. Wash down from 9700 ft to 9800 ft. Circulate. Pump 40 bbl heavy viscosity pill, observed, pump pressure decrease gradually up to 1600 psi. POOH 8 1/2" slick BHA from 9800 ft to 8600 ft. RIH slick BHA from 8600' to 9800'. Circulate. POOH 8 1/2" slick BHA from 9800' to 7580'.

PO: Continue POOH 8 1/2" slick BHA to 7580 ft.

Next: Finish POOH & L/D 8 1/2" slick BHA, Run WTF logging tools, run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 57 sec **FIL:** 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 08th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	35	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: Continue POOH 8 1/2" slick BHA from 9300 ft to surface. R/U 13 5/8" flange with 7 1/16" WTF adapter, install lubricator. M/U WTF logging tools on rig floor and run up to 7715 ft. At 7715 ft tag, attempted several times to pass without success. POOH logging tool to surface. WTF crew change logging tools configuration and run logging tools up to 7723 ft where tag, attempted several times and pass from 7715 ft to 7890 ft. WTF begin log from 7890 ft to 7715 ft & continue POOH logging tool to surface. L/D Logging tools, lubricator, pulleys and equipments. M/U & RIH 5" Mule Shoe, 5" DP to 2700 ft, previously run rabbit (2.6").

PO: RIH mule shoe and 5" DP to 2700 ft.

Next: RIH 5" DP to bottom and POOH at 7890 ft to run WTF logging tools. Run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 58 sec **FIL:** 4.8 ml



Z-2B BLOCK

EXPLORATORY WELL SAN MATTEO (LO6-26XD) - GEOLOGICAL REPORT

Date: January 09th, 2013

RIG	Total Depth	Drig Days	Progress	Last Casing	Objective	MD	FTD
P-40	9800' at 00 hrs.	36	---	9 5/8" Csg @ 5898'	Up. Basal Salina (sec) Lw. Basal Salina (main)	8016' 8600'	9800'

24 Hours Summary: Circulate. POOH 5" DP from 9800 ft to 8475 ft . Connect 4 1/2" IF x 7 1/16" adapter to install lubricator. RIH WTF logging tools to 9785 ft & begin logging f/ 9785 ft to 9500 ft. Wireline drum stop due to problems w/ WTF Hydraulic generator logging cabin, attempts to repair the hydraulic generator of logging cabin, without success. WTF, Pepesa and ITS mechanics, continue attempt to repair the hydraulic generator of logging cabin, without success.

PO: Waiting WTF "T" to recover the wireline.

Next: Recover wireline of hole and wait other logging cabin and run logging tools. Run 5.5" csg.

FORMATION: BALCONES Fm. @ 9685' MD (-8798' VSS)

MW: 11.8 ppg **VISC:** 58 sec **FIL:** 4.8 ml

***DESCRIPCIÓN DE MUESTRAS
DE CANALETA***

LITHOLOGICAL DESCRIPTION

WELL: LO6-26XD

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
Started logging & Monitoring Data from 456 feet on December 07th, 2012 In Talara Formation.			
456 – 460		Do not samples on shakers due to drilled with sea water.	
460 – 470	40 30 30	SANDSTONE: medium gray (N5), medium light gray (N6), fine very to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, with glauconite and dark minerals, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics and green. CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: glauconite, calcite.	
470 – 500	60 20 20	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), fine very to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, with glauconite and dark minerals, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH 10% CEMENT.	
500 – 530	70 20 10	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), minor dark gray (N3), earthy, blocky to subblocky, subtabular in part, moderately firm to firm, occasionally soft, slightly soluble, micromicaceous, microcarbonaceous, slightly calcareous in part. SANDSTONE: medium gray (N5), medium dark gray (N4), locally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, slightly calcareous cement, moderately friable to moderately consolidated, occasionally friable, with glauconite and dark minerals, poor visual porosity. No Oil Show. SAND: white (N9), fine, minor very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, coal. NOTE: SAMPLE CONTAMINATED WITH 10% CEMENT.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
530 – 560	50	SANDSTONE: medium gray (N5), medium dark gray (N4), locally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, slightly calcareous cement, moderately friable to moderately consolidated, occasionally friable, with glauconite and dark minerals, locally microcarbonaceous, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), minor dark gray (N3), earthy, blocky to subblocky, subtabular in part, moderately firm to moderately soft, occasionally soft, slightly soluble, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	20	SAND: white (N9), fine, minor very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH 10% CEMENT.	
560 – 590	60	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), minor dark gray (N3), earthy, blocky to subblocky, subtabular in part, moderately firm to moderately soft, occasionally soft, slightly soluble, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	30	SANDSTONE: medium gray (N5), medium dark gray (N4), locally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, slightly calcareous cement, moderately friable to moderately consolidated, occasionally friable, with glauconite and dark minerals, locally microcarbonaceous, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), fine, minor very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, coal. NOTE: SAMPLE CONTAMINATED WITH TRACES CEMENT.	
590 – 620	50	SAND: white (N9), fine to very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics and green.	
	30	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, with glauconite and dark minerals, poor visual porosity. No Oil Show.	
	20	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, locally soft, microcarbonaceous, slightly calcareous in part. Accessories: calcite, glauconite.	
620 – 650	50	SAND: white (N9), 60% fine to very fine, 40% medium, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics and green.	
	40	SANDSTONE: medium gray (N5), medium dark gray (N4), locally medium light gray (N6), fine to very fine quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to moderately consolidated, locally friable, dirty en part, with glauconite and dark minerals, poor visual porosity. No Oil Show. CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, amorphous, firm to moderately firm, locally soft, microcarbonaceous, non calcareous. Accessories: calcite, glauconite.	
650 – 680	60	SAND: white (N9), 60% fine to very fine, 40% medium, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics and green.	
	30	SANDSTONE: medium gray (N5), medium dark gray (N4), locally medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals, poor visual porosity. No Oil Show.	
	10	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), occasionally medium dark gray (N4), earthy, subblocky, occasionally blocky, amorphous, firm to moderately firm, locally soft, microcarbonaceous, non calcareous. Accessories: calcite.	
680 – 710	60	CLAYSTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), locally olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky a subblocky, subtabular in part, amorphous, firm to moderately firm, locally soft, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	30	SANDSTONE: medium gray (N5), medium dark gray (N4), locally medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement in part, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics and green. Accessories: calcite, microfossils.	
710 – 740	60	SAND: white (N9), 60% fine to very fine, 40% medium, traces coarse, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark, green, brown lithics.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), locally medium dark gray (N4), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement in part, moderately consolidated to moderately friable, locally consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	CLAYSTONE: olive black (5Y 2/1), brownish gray (5YR 4/1), olive gray (5Y 4/1), occasionally medium dark gray (N4), earthy, subblocky a blocky, subtabular in part, amorphous, moderately firm	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		to moderately soft, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, pyrite.	
740 – 770	40 30 30	SAND: white (N9), 50% fine, 30% very fine, 20% medium, quartz grain, hyaline, translucent, subangular to subrounded, fair sorted, with dark, green, brown lithics. SANDSTONE: medium gray (N5), medium light gray (N6), locally medium dark gray (N4), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement in part, moderately consolidated to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), olive black (5Y 2/1), earthy, subblocky a blocky, subtabular in part, amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
770 – 800	50 30 20	SAND: white (N9), 60% fine to very fine, 40% medium, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. SANDSTONE: medium gray (N5), medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), medium dark gray (N4), earthy, blocky a subblocky, locally subtabular, occasionally amorphous, moderately firm to moderately soft, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
800 – 830	70 20 10	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally medium dark gray (N4), earthy, blocky a subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, soft in part, micromicaceous, microcarbonaceous, slightly calcareous in part. SANDSTONE: medium gray (N5), medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty, locally micropyrritic, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. Accessories: calcite, pyrite.	
830 – 860	90	CLAYSTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), locally medium dark gray (N4), earthy, blocky a subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, soft in	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr	part, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty, locally micropyrritic, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. Accessories: calcite, pyrite.	
860 – 890	100 Tr	CLAYSTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), occasionally medium dark gray (N4), earthy, blocky a subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, soft in part, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
890 – 920	90 10 Tr	CLAYSTONE: olive black (5Y 2/1), brownish black (5YR 2/1), locally brownish gray (5YR 4/1), earthy, blocky a subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty in part, locally micropyrritic, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. Accessories: dolomite, pyrite, microfossils.	
920 – 950	90 10 Tr	CLAYSTONE: olive gray (5Y 4/1), olive black (5Y 2/1), brownish black (5YR 2/1), locally brownish gray (5YR 4/1), earthy, subblocky a blocky, subtabular in part, amorphous, moderately firm to moderately soft, occasionally firm, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty in part, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), fine to very fine, traces medium, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark, green and brown lithics. Accessories: dolomite, calcite, microfossils.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
950 – 980	100 Tr	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky a subblocky, subtabular in part, occasionally amorphous, moderately firm to moderately soft, occasionally firm, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty in part, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils, calcite.	
980 – 1010	90 10 Tr	CLAYSTONE: olive black (5Y 2/1), brownish black (5YR 2/1), occasionally olive gray (5Y 4/1), earthy, blocky a subblocky, locally subtabular, amorphous, firm to moderately firm, locally moderately soft, micromicaceous, microcarbonaceous, calcareous. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils, pyrite, glauconite.	
1010 – 1040	100 Tr Tr	CLAYSTONE: olive black (5Y 2/1), brownish black (5YR 2/1), occasionally olive gray (5Y 4/1), earthy, blocky a subblocky, locally subtabular, amorphous, firm to moderately firm, locally moderately soft, micromicaceous, microcarbonaceous, calcareous. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils.	
1040 – 1070	90 10 Tr	CLAYSTONE: olive black (5Y 2/1), brownish gray (5YR 4/1), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, locally moderately soft, micromicaceous, microcarbonaceous, calcareous. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils, glauconite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
1070 – 1100	50	CLAYSTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, locally moderately soft, micromicaceous, microcarbonaceous, calcareous.	
	40	SANDSTONE: medium dark gray (N4), medium gray (N5), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. Accessories: dolomite, microfossils, glauconite.	
1100 – 1130	60	CLAYSTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, locally moderately soft, micromicaceous, microcarbonaceous, calcareous.	
	30	SANDSTONE: medium dark gray (N4), medium gray (N5), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. Accessories: microfossils, dolomite.	
1130 – 1160	70	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, occasionally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous.	
	30	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark and green lithics. Accessories: microfossils, dolomite.	
1160 – 1190	70	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, occasionally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous.	
	30	SANDSTONE: medium dark gray (N4), olive gray (5Y 4/1), medium gray (N5), occasionally medium light gray (N6), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		consolidated to moderately friable, occasionally consolidated, dirty, occasionally micropyrritic, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: microfossils, dolomite.	
1190 – 1220	80 20	CLAYSTONE: olive black (5Y 2/1), brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, occasionally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium dark gray (N4), olive gray (5Y 4/1), medium gray (N5), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: microfossils, dolomite.	
1220 – 1250	70 30 Tr	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium dark gray (N4), olive gray (5Y 4/1), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1), occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: microfossils, pyrite.	
1250 – 1280	80 20 Tr	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium dark gray (N4), olive gray (5Y 4/1), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1), occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: microfossils.	
1280 – 1310	80 20	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: medium dark gray (N4), olive gray (5Y 4/1), occasionally medium gray (N5), very fine to fine quartz grain,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: microfossils, dolomite.	
1310 – 1340	80 20	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils.	
1340 – 1370	90 10	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils.	
1370 – 1400	90 10	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils.	
1400 – 1430	90 10	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, microfossils.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
1430 – 1460	80	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous.	
	10	SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1), occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: calcite.	
1460 – 1490	80	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous.	
	10	SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1), occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: calcite.	
1490 – 1520	80	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous.	
	10	SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1), occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: calcite.	
1520 – 1550	90	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous.	
	10	SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1),	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: calcite.	
1550 – 1580	100 Tr Tr	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, amorphous, moderately soft to moderately firm, locally soft, occasionally silty, micromicaceous, microcarbonaceous, calcareous. SANDSTONE: olive gray (5Y 4/1), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. DOLOMITE: light brownish gray (5YR 6/1), light olive gray (5Y 6/1), occasionally cream, earthy, subblocky a blocky, firm to moderately hard, occasionally microcarbonaceous. Accessories: calcite.	
1580 – 1610	100 Tr Tr	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, locally soft, micromicaceous, microcarbonaceous, slightly calcareous in part. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. DOLOMITE: dark yellowish brown (10YR 4/2), pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, firm to moderately hard, microcarbonaceous. Accessories: calcite.	
1610 – 1640	100 Tr Tr	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), occasionally dark greenish gray (5G 4/1), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. DOLOMITE: dark yellowish brown (10YR 4/2), pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, firm to moderately hard, microcarbonaceous. Accessories: calcite, pyrite.	
1640 – 1670	100 Tr	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	friable to friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. DOLOMITE: dark yellowish brown (10YR 4/2), pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, firm to moderately hard, microcarbonaceous. Accessories: calcite.	
1670 – 1700	90	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, friable to moderately friable, dirty in part, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: dolomite, pyrite, microfossils.	
TOP CHACRA FM. AT 1700.0 ft. MD (RT); 1641.68 ft. TVD (RT)			
1700 – 1730	70	CLAYSTONE: olive black (5Y 2/1), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	20	SILTSTONE: medium dark gray (N4), olive gray (5Y 4/1), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, friable to moderately friable, dirty in part, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: dolomite, pyrite, microfossils.	
1730 – 1760	70	CLAYSTONE: olive black (5Y 2/1), dark gray (N3), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	20	SILTSTONE: medium dark gray (N4), olive gray (5Y 4/1), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	10	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, firm to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		moderately hard, microcarbonaceous. Accessories: pyrite, microfossils, calcite.	
1760 – 1790	90	CLAYSTONE: olive black (5Y 2/1), dark gray (N3), locally medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, firm, occasionally moderately hard, microcarbonaceous. Accessories: pyrite, microfossils, calcite.	
1790 – 1820	80	CLAYSTONE: olive black (5Y 2/1), dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, moderately hard, occasionally firm, microcarbonaceous. Accessories: microfossils, pyrite, calcite.	
1820 – 1850	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, subblocky to subtabular, occasionally blocky, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, moderately hard, occasionally firm, microcarbonaceous. Accessories: microfossils, calcite.	
1850 – 1880	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, moderately hard, occasionally firm, microcarbonaceous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: microfossils, calcite.	
1880 – 1896	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, moderately hard, occasionally firm, microcarbonaceous. Accessories: microfossils, calcite.	
1896 – 1910	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), minor pale yellowish brown (10YR 6/2), occasionally brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, moderately firm to moderately hard, microcarbonaceous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH 40% CEMENT.	
1910 – 1940	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone. NOTE: SAMPLE CONTAMINATED WITH 10% CEMENT.	
1940 – 1970	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		NOTE: SAMPLE CONTAMINATED WITH TRACES CEMENT.	
1970 – 2000	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), minor pale yellowish brown (10YR 6/2), occasionally brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, moderately firm to moderately hard, microcarbonaceous. Accessories: calcite, limestone.	
2000 – 2030	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), minor pale yellowish brown (10YR 6/2), occasionally brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, moderately firm to moderately hard, microcarbonaceous. Accessories: calcite, limestone.	
2030 – 2060	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	DOLOMITE: dark yellowish brown (10YR 4/2), minor pale yellowish brown (10YR 6/2), occasionally brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, moderately firm to moderately hard, microcarbonaceous. Accessories: calcite, limestone.	
2060 – 2090	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), minor olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, amorphous, moderately soft to soft, moderately firm in part, silty in part, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SANDSTONE: medium dark gray (N4), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	Oil Show. SAND: white (N9), medium to fine, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, locally rounded, well sorted. Accessories: calcite, limestone.	
2090 – 2120	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, moderately firm to moderately soft, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), 60% fine, 40% medium, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, subtabular in part, firm, occasionally moderately hard, microcarbonaceous. Accessories: calcite, pyrite, limestone, gypsum.	
2120 – 2150	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, moderately soft, in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, dolomite, abundant gypsum.	
2150 – 2180	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, moderately soft, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite, dolomite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
2180 – 2210	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, moderately soft, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, microfossils. NOTE: SAMPLE CONTAMINATED WITH SHAVING METALS.	
2210 – 2240	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, moderately firm to moderately soft, locally firm, soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite.	
2240 – 2270	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, moderately firm to moderately soft, locally firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, coal, pyrite, microfossils.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
2270 – 2300	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, moderately firm to moderately soft, locally firm, slightly soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, limestone, microfossils.	
2300 – 2330	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, moderately firm to moderately soft, locally firm, slightly soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	DOLOMITE: dark yellowish brown (10YR 4/2), occasionally pale yellowish brown (10YR 6/2), earthy, blocky to subblocky, subtabular in part, firm, occasionally moderately hard, microcarbonaceous. Accessories: calcite.	
2330 – 2360	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, amorphous, moderately firm to moderately soft, locally firm, slightly soluble in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
2360 – 2390	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4),	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), 70% fine, 30% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite, microfossils.	
2390 – 2420	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite, microfossils.	
2420 – 2450	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	TR
	30	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. Fluorescence: traces pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: abundant gypsum, calcite.	
2450 – 2480	70	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. Fluorescence: 10% pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky	10

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20 10	white residual ring under U. V. light; non residual ring at natural light. CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: abundant gypsum, calcite.	
2480 – 2510	70 20 10	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. Fluorescence: traces pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light; non residual ring at natural light. CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: gypsum, calcite.	TR
2510 – 2540	60 30 10	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. Fluorescence: traces pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous. SAND: white (N9), fine to very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: gypsum, pyrite, calcite.	TR
2540 – 2570	50	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	40	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous.	
	10	SAND: white (N9), fine to very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: gypsum, pyrite, calcite.	
2570 – 2600	70	CLAYSTONE: medium dark gray (N4), olive black (5Y 2/1), dark gray (N3), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: pyrite, calcite, microfossils.	
2600 – 2630	90	CLAYSTONE: medium dark gray (N4), olive black (5Y 2/1), dark gray (N3), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
2630 – 2660	90	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, locally subtabular to sublaminae, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, calcareous.	
	10	SILTSTONE: medium dark gray (N4), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, locally moderately consolidated, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, microfossils, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
2660 – 2690	100 Tr	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, locally subtabular to sublaminae, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, calcareous. SILTSTONE: medium dark gray (N4), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: microfossils, calcite.	
2690 – 2720	100 Tr Tr	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, locally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous in part. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, microfossils.	
2720 – 2750	90 10 Tr	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, locally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous in part. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, microfossils.	
2750 – 2780	100	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, locally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with glauconite inclusion, poor visual porosity. No Oil Show. Accessories: glauconite, calcite, microfossils.	
2780 – 2810	90	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, locally soft, soluble in part, occasionally glauconite inclusions, micromicaceous, microcarbonaceous, calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with glauconite inclusion, poor visual porosity. No Oil Show. Accessories: glauconite, calcite, microfossils.	
2810 – 2840	90	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, locally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: pyrite, glauconite, calcite, microfossils.	
2840 – 2870	80	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), occasionally dark gray (N3), dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, locally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: dolomite, pyrite, calcite.	
2870 – 2900	80	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), occasionally dark gray (N3), earthy, blocky to subblocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, occasionally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, pyrite, calcite, glauconite, coal.	
2900 – 2930	80	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), occasionally dark gray (N3), earthy, blocky to subblocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, occasionally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, pyrite, calcite, glauconite.	
2930 – 2960	80	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), occasionally dark gray (N3), earthy, blocky to subblocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, occasionally soft, soluble in part, micromicaceous, microcarbonaceous, calcareous.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		moderately friable to friable, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, calcite, glauconite, pyrite.	
2960 – 2990	90	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular to sublaminae in part, occasionally amorphous, moderately firm to firm, occasionally soft, soluble in part, occasionally con glauconite inclusions, micromicaceous, microcarbonaceous, calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, glauconite, calcite, microfossils, coal.	
2990 – 3020	100	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, moderately firm to firm, occasionally soft, slightly soluble, micromicaceous, microcarbonaceous, calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: dolomite, calcite.	
3020 – 3050	100	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, occasionally soft, slightly soluble, micromicaceous, microcarbonaceous, calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite, microfossils.	
3050 – 3080	100	CLAYSTONE: olive black (5Y 2/1), medium dark gray (N4), brownish gray (5YR 4/1), dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, occasionally soft, slightly soluble, micromicaceous, microcarbonaceous, calcareous in part.	
	Tr	SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite, pyrite.	
3080 – 3110	100 Tr	CLAYSTONE: medium dark gray (N4), brownish gray (5YR 4/1), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite, glauconite.	
3110 – 3140	100 Tr	CLAYSTONE: medium dark gray (N4), brownish gray (5YR 4/1), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite, microfossils, pyrite.	
3140 – 3170	100 Tr Tr	CLAYSTONE: medium dark gray (N4), brownish gray (5YR 4/1), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, microfossils, glauconite.	
3170 – 3200	90 10	CLAYSTONE: medium dark gray (N4), brownish gray (5YR 4/1), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), occasionally dark gray (N3), earthy, blocky to subblocky, locally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite.	
3200 – 3230	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite.	
3230 – 3260	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: calcite, dolomite, pyrite.	
3260 – 3290	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, occasionally inclusion glauconite, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part. Accessories: dolomite, calcite, pyrite.	
3290 – 3320	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, locally moderately soft, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: dolomite, microfossils, pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
3320 – 3350	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, locally moderately soft, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
3350 – 3380	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, locally moderately soft, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
3380 – 3410	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, microfossils.	
3410 – 3440	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky, locally blocky, subtabular, occasionally sublaminae, amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, microfossils.	
3440 – 3470	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky, locally blocky, subtabular, occasionally sublaminae, amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, microfossils.	
3470 – 3500	100	CLAYSTONE: medium dark gray (N4), brownish gray (5YR 4/1), locally olive gray (5Y 4/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
3500 – 3530	100	CLAYSTONE: medium dark gray (N4), brownish gray (5YR 4/1), locally olive gray (5Y 4/1), occasionally dark yellowish brown (10YR 4/2), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite.	
3530 – 3560	100 Tr	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: limestone, calcite.	
3560 – 3590	90 10 Tr	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SAND: white (N9), very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: pyrite, gypsum, calcite.	
3590 – 3620	70 30	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: gypsum, pyrite, calcite.	
3620 – 3650	70	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally olive black (5Y 2/1), occasionally dark yellowish brown (10YR 4/2), earthy, subblocky to blocky, locally subtabular, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20 10	part, soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, pyrite, calcite.	
3650 – 3680	80 20	CLAYSTONE: olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately soft to moderately firm, locally soft, silty in part, soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: dolomite, pyrite, calcite.	
3680 – 3710	80 20 Tr	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, subblocky to blocky, locally subtabular, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium gray (N5), medium dark gray (N4), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: dolomite, pyrite, calcite.	
3710 – 3740	70 30 Tr	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, subblocky to blocky, locally subtabular, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, occasionally calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium gray (N5), medium dark gray (N4), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, shell fragments, dolomite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
TOP RIO BRAVO FM. AT 3740.0 ft. MD (RT); 3353.29 ft. TVD (RT)			
3740 – 3770	40	SAND: white (N9), 50% very fine, 50% fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, subblocky to blocky, locally subtabular, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, occasionally calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. Accessories: shell fragments, calcite, dolomite.	
3770 – 3800	40	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, subblocky to blocky, locally subtabular, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), 50% very fine, 50% fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: shell fragments, calcite, dolomite.	
3800 – 3830	50	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), brownish gray (5YR 4/1), locally dark gray (N3), earthy, subblocky to blocky, locally sublaminar, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), 60% very fine, 40% fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, amorphous, moderately firm to firm, occasionally soft, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous in part.	
	Tr	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
3830 – 3860	50	SAND: white (N9), 60% fine, 40% very fine, traces medium, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: medium dark gray (N4), dark gray (N3), olive gray (5Y 4/1), occasionally brownish gray (5YR 4/1), earthy, subblocky to blocky, locally sublaminae, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, amorphous, moderately firm to firm, occasionally soft, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous in part.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: pyrite, calcite, shell fragments.	
3860 – 3890	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally sublaminae, amorphous, moderately soft to moderately firm, occasionally soft, silty in part, slightly soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, amorphous, moderately firm to firm, occasionally soft, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous in part.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: pyrite, calcite, shell fragments.	
3890 – 3920	40	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky, occasionally blocky, amorphous, moderately soft to moderately firm, silty in part, slightly soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, occasionally blocky, amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, pyrite.	
3920 – 3950	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately soft to moderately firm, silty in part, slightly soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, occasionally blocky, amorphous, moderately soft to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
3950 – 3980	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite.	
3980 – 4010	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally glauconite inclusion, grading to very fine sandstone, calcareous.	
	30	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
4010 – 4040	40	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous.	
	30	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
4040 – 4070	60	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, occasionally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, occasionally subtabular, amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
4070 – 4100	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	50	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
4100 – 4130	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, amorphous, firm, locally moderately firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	50	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous. SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
4130 – 4160	50 20 20 10	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. Fluorescence: 10% pin point pale yellow natural fluorescence, slow, weak, faint, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. Accessories: pyrite, calcite, coal, shell fragments.	10
4160 – 4190	50 20 20 10	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor to fair visual porosity. Fluorescence: 25% pin point pale yellow natural fluorescence, slow, weak, faint, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous.	25

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, pyrite, shell fragments. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL MUD.	
4190 – 4220	60 20 10 10	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), light gray (N7), very light gray (N8), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, with dark minerals inclusion, poor to fair visual porosity. Fluorescence: 35% pin point pale yellow natural fluorescence, slow, weak, faint, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous in part. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL MUD.	35
4220 – 4250	50 20 20 10	SAND: white (N9), 60% fine, 40% very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), light gray (N7), very light gray (N8), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, with dark minerals inclusion, poor to fair visual porosity. Fluorescence: 30% pin point pale yellow natural fluorescence, slow, weak, faint, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous in part. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL MUD.	30
4250 – 4280	40 20	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: light gray (N7), medium light gray (N6), very light gray (N8), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, with dark minerals inclusion, poor to fair	15

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	visual porosity. Fluorescence: 15% pin point pale yellow natural fluorescence, slow, weak, pale, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous in part.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: shell fragments, pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4280 – 4310	40	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	SANDSTONE: light gray (N7), medium light gray (N6), very light gray (N8), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, with dark minerals inclusion, poor to fair visual porosity.	
	20	Fluorescence: 20% pin point pale yellow natural fluorescence, slow, weak, pale, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous in part.	20
	10	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4310 – 4340	60	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous in part.	
	10	SANDSTONE: light gray (N7), medium light gray (N6), very light gray (N8), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, with dark minerals inclusion, poor to fair visual porosity.	10

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	Fluorescence: 10% pin point pale yellow natural fluorescence, slow, weak, pale, even, yellowish white cut fluorescence, milky white residual ring under U. V. light; non residual ring at natural light. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4340 – 4370	60 20 20 Tr	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: light gray (N7), medium light gray (N6), very light gray (N8), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, with dark minerals inclusion, occasionally microcarbonaceous, poor to fair visual porosity. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, subblocky to blocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, calcareous in part. Fluorescence: 10% pin point pale yellow natural fluorescence, slow, weak, pale, even, yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, occasionally soft, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	10
4370 – 4400	40 30 20 10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor to fair visual porosity. No Oil Show. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4400 – 4430	30 30 20 20	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to moderately consolidated, occasionally friable, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4430 – 4460	40 30 20 10	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous in part. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4460 – 4490	40 20	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous in part. SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20 20	moderately friable to friable, locally moderately consolidated, dirty in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4490 – 4520	30 30 30 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous in part. SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, locally moderately consolidated, dirty in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
4520 – 4550	40 30 20 10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. CLAYSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty, local soluble, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
4550 – 4580	40	CLAYSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	40	amorphous, firm to moderately firm, silty, local soluble, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
4580 – 4610	50	CLAYSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty, local soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
4610 – 4640	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty, local soluble, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
4640 – 4670	60	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
4670 – 4700	40	SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Fluorescence: 20% pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	20
	30	SAND: white (N9), very fine, minor fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
4700 – 4730	40	SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Fluorescence: traces pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	TR
	20	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	20	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
4730 – 4760	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
4760 – 4790	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
4790 – 4820	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6),	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
4820 – 4850	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, sublaminae, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
4850 – 4880	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, sublaminae, amorphous, moderately firm to firm, micromicaceous, silty in part, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, occasionally micropyrritic, poor visual porosity. No Oil Show. Accessories: pyrite, calcite, dolomite.	
4880 – 4910	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, sublaminae, amorphous, moderately firm to firm, micromicaceous, silty in part, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
4910 – 4940	40 30 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
4940 – 4970	50 20 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
4970 – 5000	60 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite.	
5000 – 5010	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable locally moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
5010 – 5020	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5020 – 5030	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, slickenside.	
5030 – 5040	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
5040 – 5050	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite, pyrite.	
5050 – 5060	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, slightly calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20 Tr	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
5060 – 5070	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, occasionally micropyrilic, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite, pyrite, coal.	
5070 – 5080	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, occasionally micropyrilic, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite, pyrite.	
5080 – 5090	40	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, slickenside, pyrite, dolomite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5090 – 5100	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, slickenside, pyrite, dolomite.	
5100 – 5110	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite, dolomite, slickenside.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5110 – 5120	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite, dolomite, slickenside. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5120 – 5130	40	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite, dolomite, slickenside. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5130 – 5140	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: light gray (N7), medium light gray (N6), minor medium gray (N5), very fine to fine quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30 10	translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, slickenside pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5140 – 5150	30 30 30 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, slickenside pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5150 – 5160	30 30 30 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, pyrite, dolomite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5160 – 5170	40 30 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite, dolomite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5170 – 5180	40 30 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite, dolomite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5180 – 5190	50 20 20	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5190 – 5200	50 30 10 10	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5200 – 5210	40 30 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5210 – 5220	60 30 10 Tr	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, occasionally microcarbonaceous, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5220 – 5230	50 30 10 10	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5230 – 5240	40 30 20	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), medium gray (N5), minor light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	calcareous cement, moderately friable to friable, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5240 – 5250	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH (CaCO₃) CHEMICAL MUD.	
5250 – 5260	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to friable, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5260 – 5270	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), very fine	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
5270 – 5280	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5280 – 5290	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
5290 – 5300	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), very fine, minor fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5300 – 5310	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5310 – 5320	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5320 – 5330	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), very fine	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 10	to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5330 – 5340	50 20 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky to blocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5340 – 5350	40 30 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5350 – 5360	60 20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminae, amorphous, moderately firm to firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5360 – 5370	60	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, moderately firm to firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5370 – 5380	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, moderately firm to firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
5380 – 5390	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, moderately firm to firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, with dark	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite.	
5390 – 5400	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, moderately firm to firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, occasionally micropyrictic, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SAND: white (N9), very fine to fine, traces medium, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite.	
5400 – 5410	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, firm to moderately firm, occasionally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty, occasionally micropyrictic, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite.	
5410 – 5420	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, subblocky to blocky, locally subtabular, occasionally sub laminar, amorphous, firm to moderately firm, occasionally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally dirty,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, pyrite, slikeneside.	
5420 - 5430	60	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, firm to moderately firm, occasionally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, pyrite, slikeneside.	
5430 – 5440	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sub laminar, amorphous, firm to moderately firm, occasionally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine to fine, traces medium, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, slikeneside.	
5440 – 5450	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, subblocky, locally blocky to subtabular, occasionally amorphous, firm to moderately firm, occasionally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine, traces fine, quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	translucent, subangular to subrounded, well sorted. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5450 – 5460	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, subblocky, locally blocky to subtabular, occasionally amorphous, firm to moderately firm, occasionally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine, traces fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
5460 – 5470	60	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), earthy, subblocky, locally blocky to subtabular, occasionally amorphous, firm to moderately firm, locally soft, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine, traces fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
5470 – 5480	60	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular, in part, occasionally sublaminae, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine, traces fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, sliken side.	
5480 – 5490	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular, in part, occasionally sublaminar, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	10	SAND: white (N9), very fine, traces fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5490 – 5500	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular, in part, occasionally sublaminar, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), very fine, traces fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
PALEGREDA FM TOP. AT 5500.0 ft. MD (RT); 4831.24 ft. TVD (RT)			
5500 – 5510	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular, in part, occasionally sublaminar, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, occasionally micropyritic, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5510 – 5520	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular, in part, occasionally sublaminae, amorphous, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5520 – 5530	70	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
5530 – 5540	Tr	SAND: white (N9), very fine, traces fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	
	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5540 – 5550	80 20 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrictic, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5550 – 5560	80 20 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrictic, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5560 – 5570	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrictic, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
5570 – 5580	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive black (5Y 2/1), earthy, blocky to subblocky,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N5), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
5580 – 5590	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous to slightly calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5590 – 5600	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous to slightly calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5600 – 5610	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular to sublaminal, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous to slightly calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5610 – 5620	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, firm to moderately firm, silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous to slightly calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5620 – 5630	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular to sublaminae, occasionally amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5630 – 5640	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), olive black (5Y 2/1), occasionally grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5640 – 5650	100 Tr Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), olive black (5Y 2/1), occasionally grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5650 – 5660	80 10 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), olive black (5Y 2/1), occasionally grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5660 – 5670	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), olive black (5Y 2/1), occasionally grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5670 – 5680	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), olive black (5Y 2/1), occasionally grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5680 – 5690	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately consolidated, locally moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5690 – 5700	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5700 – 5710	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	microcarbonaceous, non calcareous to slightly calcareous. SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. Accessories: calcite.	
5710 – 5720	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. Accessories: calcite.	
5720 – 5730	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
5730 – 5740	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5740 – 5750	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5750 – 5760	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	medium dark gray (N4), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5760 – 5770	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5770 – 5780	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5780 – 5790	90	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally medium dark gray (N4), earthy, subblocky, locally blocky to subtabular, occasionally sublaminae, amorphous, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), olive black (5Y 2/1), earthy, subblocky locally blocky to subtabular, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		NOTE:SAMPLE CONTAMINATED WITH CHEMICAL.	
5790 – 5800	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), dark gray (N4), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite. NOTE:SAMPLE CONTAMINATED WITH CHEMICAL.	
5800 – 5810	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), dark gray (N4), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
MOGOLLON FM TOP. AT 5810.00 ft. MD (RT); 5098.11 ft. TVD (RT)			
5810 – 5820	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: dark gray (N3), dark gray (N4), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5820 – 5830	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium dark gray (N4), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, scarce calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, shell fragments. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5830 – 5840	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, micromicaceous in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SAND: white (N9), 50% very fine, 50% fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, shell fragments, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5840 – 5850	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, micromicaceous in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5850 – 5860	50	SAND: white (N9), 50% very fine, 50% fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky, minor blocky, subtabular in part, locally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, micromicaceous in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, slickenside, shell fragments, coal. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5860 – 5870	60	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky, minor blocky, subtabular in part, locally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, micromicaceous in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, slickenside, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5870 – 5880	60	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky, minor blocky, subtabular in part, locally sublaminae, amorphous, moderately firm to firm, silty in part, locally sublaminae, amorphous, moderately firm to firm, silty in	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, micromicaceous in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, slickenside, pyrite, coal. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5880 – 5890	50	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky, minor blocky, subtabular in part, locally sublaminal, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, locally moderately consolidated, dirty in part, micromicaceous in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, slickenside. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5890 – 5898	70	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky, minor blocky, subtabular in part, locally sublaminal, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky, minor blocky, occasionally amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement in part, moderately friable to friable, locally moderately consolidated, dirty in part, micromicaceous in part, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, slickenside. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5898 – 5900	60 30 10	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5900 – 5910	40 30 20 10	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), locally light brownish gray (5YR 6/1), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, abundant calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, dirty in part, micromicaceous in part, occasionally micropyrritic, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcareous fragments, slickenside, shell fragments, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5910 – 5920	60 20 20	SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: light gray (N7), medium light gray (N6), locally light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, abundant calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, micromicaceous in part, occasionally micropyrritic, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcareous fragments, slickenside, shell fragments, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5920 – 5930	80	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: light gray (N7), medium light gray (N6), locally light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, occasionally micromicaceous, with dark minerals and glauconite inclusion, poor visual porosity. No Oil Show.	
	10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcareous fragments, shell fragments, pyrite, slickenside, NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5930 – 5940	40	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	20
	30	SANDSTONE: light gray (N7), medium light gray (N6), occasionally light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, abundant calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor to fair visual porosity. Fluorescence: 20% pin point yellowish white natural fluorescence, slow, weak, pale, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, shell fragments, pyrite, NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5940 – 5950	30	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	5
	30	SANDSTONE: light gray (N7), medium light gray (N6), occasionally light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, abundant calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor to fair visual porosity. Fluorescence: 5% pin point yellowish white natural fluorescence, slow, weak, pale, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: shell fragments, calcite, pyrite, NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
5950 – 5960	40	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: light gray (N7), medium light gray (N6), occasionally light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, abundant calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor to fair visual porosity. No Oil Show.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite, NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
5960 – 5970	40	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	TR
	30	SANDSTONE: light gray (N7), medium light gray (N6), occasionally light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	Fluorescence: traces pin point yellowish white natural fluorescence, slow, weak, pale, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	
	10	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
5970 – 5980	40	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	30	Accessories: calcite, pyrite, NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
	20	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
5980 – 5990	40	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	Accessories: pyrite, calcite, slickenside NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
	10	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
		Accessories: pyrite, calcite.	
5990 – 6000	40	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 50% fine, 50% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
		Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
6000 – 6010	50	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SAND: white (N9), 50% fine, 50% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		calcareous. Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
6010 – 6020	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SAND: white (N9), 50% fine, 50% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6020 – 6030	40	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 50% fine, 50% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6030 – 6040	30	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	20	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite, shell fragments.	
6040 – 6050	40	SAND: white (N9), 70% very fine to fine, 30% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite, shell fragments.	
6050 – 6060	50	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. Fluorescence: 20% pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	
	20	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	20

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: pyrite, calcite.	
6060 – 6070	30	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity.	
	30	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 70% very fine to fine, 30% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6070 – 6080	60	SAND: white (N9), 60% very fine, 40% fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, amorphous, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6080 – 6090	50	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable, occasionally dirty, occasionally micromicaceous, locally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite, coal.	
6090 – 6100	50	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite, coal.	
6100 – 6110	40	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite, coal.	
6110 – 6120	30	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine, traces medium quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30	friable to moderately friable, occasionally dirty, occasionally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6120 – 6130	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine, traces medium quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6130 – 6140	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6140 – 6150	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6150 – 6160	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6160 – 6170	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30 10	occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), 70% very fine to fine, 30% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite, dolomite.	
6170 – 6180	40 30 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 80% very fine to fine, 20% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6180 – 6190	60 20 20 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6190 – 6200	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30	occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6200 – 6210	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6210 – 6220	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		dark lithics. Accessories: pyrite, calcite.	
6220 – 6230	50	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6230 – 6240	50	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6240 – 6250	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6250 – 6260	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 90% very fine to fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6260 – 6270	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SAND: white (N9), 60% very fine. 40% fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6270 – 6280	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr	dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 60% very fine. 40% fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6280 – 6290	50 30 10 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 60% very fine, 40% fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6290 – 6300	50 30 10 10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. Fluorescence: 10% pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	10

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
6300 – 6310	50	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. Fluorescence: 20% pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	20
	20	SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6310 – 6320	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, dirty, occasionally microcarbonaceous, with dark minerals inclusion, poor visual porosity. Fluorescence: 20% pin point pale yellow natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	20
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
6320 – 6330	60	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 50% pin point yellowish white natural fluorescence,	50

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. Accessories: pyrite, calcite.	
6330 – 6340	40	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 40% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	40
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6340 – 6350	50	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 20% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	20
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: pyrite, calcite.	
6350 – 6360	60	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 20% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	20

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6360 – 6370	50 30 20	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 10% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), locally earthy, subblocky, locally blocky, subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	10
6370 – 6380	40 40 20	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 10% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	10
6380 – 6390	50 30	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 10% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with	10

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	dark lithics. CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
6390 – 6400	50	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. Fluorescence: 10% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light.	10
	30	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), locally earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite.	
6400 – 6410	60	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally with dark minerals inclusion, fair visual porosity. No Oil Show.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
6410 – 6420	70	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, occasionally with dark minerals inclusion, fair visual porosity. No Oil Show. Accessories: calcite.	
6420 – 6430	50	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, occasionally with dark	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30	minerals inclusion, fair visual porosity. No Oil Show. CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), occasionally grayish black (N2), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6430 – 6440	40	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, occasionally with dark minerals inclusion, fair visual porosity. No Oil Show.	
	30	CLAYSTONE: olive black (5Y 2/1), olive gray (5Y 4/1), locally dark gray (N3), occasionally grayish black (N2), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 70 %fine, 30% very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6440 – 6450	40	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), 60 %fine, 30% very fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6450 – 6460	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30 10 10	firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 60 %fine, 30% very fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6460 – 6470	50 30 10 10	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. Fluorescence: 10% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), 60 %fine, 30% very fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	10
6470 – 6480	40 40	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. Fluorescence: 10% pin point yellowish white natural fluorescence, slow, weak, faint, even, pale yellowish white cut fluorescence, milky white residual ring under U. V. light, non residual ring at natural light. CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non	10

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6480 – 6490	40	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6490 – 6500	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6500 – 6510	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6510 – 6520	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, slickenside.	
6520 – 6530	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, slickenside.	
6530 – 6540	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	calcareous to non calcareous. SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, slickenside, pyrite.	
6540 – 6550	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, with dark minerals inclusion, poor to fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite, slickenside.	
6550 – 6560	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SAND: white (N9), fine to very fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite.	
6560 – 6570	40	SAND: white (N9), 50% very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, subblocky to blocky, subtabular in part, locally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6570 – 6580	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, subblocky to blocky, subtabular in part, locally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6580 – 6590	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), locally earthy, subblocky to blocky, subtabular in part, locally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
6590 – 6600	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6600 – 6610	80	CLAYSTONE: medium dark gray (N4), locally brownish gray (5YR 4/1), occasionally dark gray (N3), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6610 – 6620	80	CLAYSTONE: medium dark gray (N4), locally brownish gray (5YR 4/1), occasionally dark gray (N3), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	Tr	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6620 – 6630	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	10	SAND: white (N9), very fine to fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, slickenside.	
6630 – 6640	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	20	SAND: white (N9), fine to very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, slickenside.	
6640 – 6650	50	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	30	SAND: white (N9), fine to very fine, quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6650 – 6660	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	20	SAND: white (N9), fine to very fine, quartz grain, hyaline,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr	translucent, subangular to subrounded, well sorted, with dark lithics. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6660 – 6670	40 40 10 10	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
6670 – 6680	60 20 10 10	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor to fair visual porosity. No Oil Show. Accessories: calcite.	
6680 – 6690	70 10	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 10	cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor to fair visual porosity. No Oil Show. CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, non calcareous. Accessories: calcite.	
6690 – 6700	60 20 10 10	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor to fair visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, non calcareous. Accessories: calcite.	
6700 – 6710	50 30 10 10	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor to fair visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, non calcareous. Accessories: calcite, pyrite.	
6710 – 6720	50 30	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor to fair visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, non calcareous. Accessories: calcite, pyrite.	
6720 – 6730	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite.	
6730 – 6740	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, dolomite.	
6740 – 6750	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr	slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
6750 – 6760	90 10 Tr Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite, pyrite.	
6760 – 6770	80 10 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite	
6770 – 6780	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr Tr	blocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite.	
6780 – 6790	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to blocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite, pyrite.	
6790 – 6800	90 10 Tr Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
6800 – 6810	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr	subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
6810 – 6820	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to blocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
6820 – 6830	80 10 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to blocky, locally subtabular, occasionally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, dolomite.	
6830 – 6840	70	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SAND: white (N9), fine to very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics	
	10	SANDSTONE: medium gray (N5), medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
6840 – 6850	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	20	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
6850 – 6860	90	SAND: white (N9), 70% very fine, 30% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to blocky, locally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: slickenside, calcite.	
6860 – 6870	50	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, locally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, abundant calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6870 – 6880	60	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, locally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, slickenside.	
6880 – 6890	50	SAND: white (N9), 50% very fine, 50% fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	30	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	subblocky, subtabular in part, locally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6890 – 6900	40	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, subblocky to blocky, subtabular in part, locally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite.	
6900 – 6910	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), brownish gray (5YR 2/1), earthy in part, subblocky to blocky, subtabular in part, locally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	30	SAND: white (N9), 60% fine, 40% very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
SAN CRISTOBAL FM TOP. AT 6910.00 ft. MD (RT); 6098.45 ft. TVD (RT)			
6910 – 6920	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 2/1), olive gray (5Y 4/1), earthy in part, subblocky to blocky, subtabular in part, locally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly non calcareous.	
	10	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally medium dark gray (N4), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
6920 – 6930	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), brownish gray (5YR 2/1), earthy in part, subblocky to blocky, subtabular in part, locally sublaminar, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	
	Tr	SILTSTONE: medium dark gray (N4), dark gray (N3), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally medium dark gray (N4), light brownish gray (5YR 6/1), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement in part, moderately friable to friable, occasionally moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
6930 – 6940	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, moderately friable to friable, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	Tr	SAND: white (N9), fine to very quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, dolomite, pyrite.	
6940 – 6950	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), fine to very quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, pyrite.	
6950 – 6960	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
6960 – 6970	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, calcareous cement, friable to moderately friable, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous non calcareous. Accessories: calcite, pyrite.	
6970 – 6980	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous non calcareous. Accessories: calcite, pyrite, microfossils.	
6980 – 6990	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	subtabular to sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
6990 – 7000	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
7000 – 7010	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
7010 – 7020	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular to sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, locally moderately consolidated, locally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
7020 – 7030	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
7030 – 7040	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
7040 – 7050	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite, dolomite, limestone, microfossils.	
7050 – 7060	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite, limestone.	
7060 – 7070	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally brownish gray (5YR 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite.	
7070 – 7080	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, dolomite.	
7080 – 7090	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, pyrite, microfossils.	
7090 – 7100	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite.	
7100 – 7110	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7110 – 7120	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, limestone, pyrite.	
7120 – 7130	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7130 – 7140	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7140 – 7150	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, limestone.	
7150 – 7160	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
7160 – 7170	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite.	
7170 – 7180	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite.	
7180 – 7190	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous. Accessories: calcite, pyrite, dolomite.	
7190 – 7200	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous. SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, dolomite.	
7200 – 7210	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous. SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, dolomite.	
7210 – 7220	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, non calcareous. Accessories: calcite, pyrite.	
7220 – 7230	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite, limestone.	
7230 – 7240	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite.	
7240 – 7250	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
7250 – 7260	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7260 – 7270	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite, dolomite.	
7270 – 7280	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7280 – 7290	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
7290 – 7300	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
7300 – 7310	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
7310 – 7320	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous non calcareous. Accessories: calcite, pyrite.	
7320 – 7330	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
7330 – 7340	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7340 – 7350	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7350 – 7360	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7360 – 7370	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, slightly calcareous non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7370 – 7380	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), locally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, limestone, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7380 – 7390	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7390 – 7400	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, limestone. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7400 – 7410	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7410 – 7420	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7420 – 7430	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7430 – 7440	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7440 – 7450	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasional brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7450 – 7460	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7460 – 7470	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7470 – 7480	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, dolomite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7480 – 7490	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, dolomite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7490 – 7500	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone, pyrite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7500 – 7510	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone, pyrite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7510 – 7520	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone, pyrite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7520 – 7530	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone, pyrite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7530 – 7540	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, dolomite, limestone. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7540 – 7550	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7550 – 7560	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7560 – 7570	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7570 – 7580	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7580 – 7590	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7590 – 7600	Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
7600 – 7610	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7610 – 7620	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. LIMESTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), massive, blocky to subblocky, occasionally subplaty, firm to moderately hard, micritic in part. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7620 – 7630	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: limestone, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7630 – 7640	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: limestone, pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7640 – 7650	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	LIMESTONE: brownish gray (5YR 4/1), olive gray (5Y 4/1), massive, blocky to subblocky, occasionally subplaty, firm to moderately hard, micritic in part. Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7650 – 7660	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. SILTSTONE: medium dark gray (N4), dark gray (N3), earthy, blocky to subblocky, amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, locally grading to very fine sandstone, slightly calcareous to non calcareous. Accessories: pyrite, limestone, calcite, microfossils. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7660 – 7670	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: pyrite, limestone, calcite.	
7670 – 7680	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous in part. Accessories: limestone, pyrite, calcite.	
7680 – 7690	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous to non calcareous. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL. Accessories: pyrite, calcite.	
7690 – 7700	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, slightly calcareous to non calcareous. Accessories: pyrite, calcite, limestone.	
7700 – 7710	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally brownish gray (5YR 4/1), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: pyrite, calcite, limestone, microfossils.	
7710 – 7720	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite, microfossils, limestone.	
7720 – 7730	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite, microfossils, coal.	
7730 – 7740	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite, microfossils, dolomite.	
7740 – 7750	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite, dolomite, microfossils, limestone.	
7750 – 7760	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: limestone, pyrite, calcite, microfossils.	
7760 – 7770	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular to sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: pyrite, calcite, microfossils.	
7770 – 7780	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular to sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: pyrite, calcite, dolomite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
7780 – 7790	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular to sublaminar, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous. Accessories: pyrite, calcite, dolomite.	
7790 – 7800	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, subblocky to blocky, locally subtabular, sublaminar in part, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite.	
7800 – 7810	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), grayish black (N2), locally black (N1), earthy, occasionally rough, subblocky to blocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, microfossils, dolomite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7810 – 7820	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), grayish black (N2), locally black (N1), earthy, occasionally rough, subblocky to blocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, microfossils, dolomite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7820 – 7830	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), grayish black (N2), locally black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite.	
7830 – 7840	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite, dolomite.	
7840 – 7850	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7850 – 7860	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7860 – 7870	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7870 – 7880	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7880 – 7890	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7890 – 7900	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7900 – 7910	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
7910 – 7920	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally moderately hard, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7920 – 7930	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally moderately hard, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, dolomite, pyrite.	
7930 – 7940	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, occasionally rough, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, occasionally moderately hard, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, dolomite, pyrite.	
7940 – 7950	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: dolomite, calcite, pyrite.	
7950 – 7960	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: dolomite, calcite, pyrite.	
7960 – 7970	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: dolomite, calcite, pyrite.	
7970 – 7980	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, occasionally very firm, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: dolomite, calcite, pyrite.	
7980 – 7990	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, occasionally very firm, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SILTSTONE: medium dark gray (N4), earthy, blocky to subblocky, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: dolomite, calcite, pyrite, microfossils.	
7990 – 8000	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, occasionally very firm, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: dolomite, calcite, pyrite, microfossils.	
8000 – 8010	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, occasionally very firm, micromicaceous, microcarbonaceous, slightly calcareous. Accessories: calcite, pyrite, dolomite.	
8010 – 8020	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, subblocky to blocky, occasionally subtabular, sublaminal, firm to moderately firm,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		occasionally very firm, micromicaceous, microcarbonaceous, slightly calcareous. Accessories: calcite, pyrite, dolomite.	
8020 – 8030	90 10	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally very firm, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
8030 – 8040	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally very firm, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
8040 – 8050	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
8050 – 8060	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
8060 – 8070	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
8070 – 8080	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, microfossils, pyrite.	
8080 – 8090	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
8090 – 8100	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8100 – 8110	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8110 – 8120	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite.	
8120 – 8130	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8130 – 8140	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite.	
8140 – 8150	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8150 – 8160	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally very firm, locally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
8160 – 8170	80 20 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite.	
8170 – 8180	80 20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), very fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: calcite, dolomite, pyrite.	
8180 – 8190	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
8190 – 8200	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
8200 – 8210	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, locally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8210 – 8220	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, locally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8220 – 8230	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), light gray (N7), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, locally micromicaceous, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
8230 – 8240	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8240 – 8250	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
8250 – 8260	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8260 – 8270	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8270 – 8280	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		calcareous. Accessories: calcite, dolomite.	
8280 – 8290	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8290 – 8300	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8300 – 8310	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, microfossils, pyrite.	
8310 – 8320	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite, microfossils.	
8320 – 8330	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
8330 – 8340	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
8340 – 8350	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		calcareous. Accessories: calcite, dolomite, pyrite.	
8350 – 8360	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8360 – 8370	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8370 – 8380	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
8380 – 8390	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
8390 – 8400	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
8400 – 8410	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8410 – 8420	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8420 – 8430	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8430 – 8440	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8440 – 8450	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
8450 – 8460	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8460 – 8470	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8470 – 8480	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		calcareous. Accessories: calcite, dolomite.	
8480 – 8490	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), olive gray (5YR 4/1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8490 – 8500	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous. Accessories: calcite, dolomite.	
8500 – 8510	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous. Accessories: calcite, dolomite.	
8510 – 8520	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous. Accessories: calcite, dolomite.	
8520 – 8530	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), black (N1), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous. Accessories: calcite, dolomite.	
8530 – 8540	Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, scarce argillaceous matrix, calcareous cement, moderately friable to moderately consolidate, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
8540 – 8550	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite.	
8550 – 8560	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
8560 – 8570	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, pyrite.	
8570 – 8580	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
8580 – 8590	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite.	
8590 – 8600	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, occasionally micropyrritic, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: pyrite, calcite, dolomite.	
8600 – 8610	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy in part, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, occasionally micropyrritic, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
8610 – 8620	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, occasionally micropyrritic, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous. Accessories: calcite, dolomite.	
8620 – 8630	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, occasionally micropyrritic, micromicaceous, microcarbonaceous, slightly calcareous to non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, dolomite, pyrite, microfossils.	
8630 – 8640	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally glauconite inclusion, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite, microfossils.	
8640 – 8650	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally glauconite inclusion, slightly calcareous to non calcareous. Accessories: calcite, dolomite, pyrite.	
8650 – 8660	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally glauconite inclusion, slightly calcareous to non calcareous. Accessories: calcite, dolomite, microfossils.	
8660 – 8670	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally glauconite inclusion, slightly calcareous to non calcareous. Accessories: glauconite, calcite, pyrite, microfossils.	
8670 – 8680	90 10	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, occasionally glauconite inclusion, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, glauconite.	
8680 – 8690	80 10 10	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, occasionally glauconite inclusion, slightly calcareous in part. SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		sandstone, calcareous. Accessories: calcite, glauconite.	
8690 – 8700	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, occasionally glauconite inclusion, slightly calcareous in part.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, glauconite.	
8700 – 8710	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, occasionally micropyrritic, occasionally glauconite inclusion, slightly calcareous in part.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, glauconite, pyrite, microfossils.	
8710 – 8720	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, firm to moderately firm, silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	30	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	10	SANDSTONE: medium gray (N5), medium dark gray (N4), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, glauconite, microfossils.	
8720 – 8730	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30 10	blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), locally medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, glauconite, pyrite.	
8730 – 8740	70 20 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), locally medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, glauconite, pyrite.	
8740 – 8750	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), locally medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, glauconite.	
8750 – 8760	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium dark gray (N4), medium gray (N5), locally medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
8760 – 8770	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, subtabular in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), locally medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, glauconite, pyrite.	
8770 – 8780	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium dark gray (N4), medium gray (N5), locally medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, limestone, glauconite.	
8780 – 8790	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, limestone, glauconite, pyrite.	
8790 – 8800	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, locally silty, micromicaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, limestone, glauconite, pyrite.	
8800 – 8810	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, glauconite, pyrite.	
8810 – 8820	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, occasionally subtabular, sublaminae, firm, locally moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, dolomite, glauconite.	
8820 – 8830	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, occasionally subtabular, sublaminae, firm, locally moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone, dolomite, glauconite.	
8830 – 8840	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, occasionally subtabular, sublaminae, firm, locally moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, limestone, glauconite.	
8840 – 8850	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, occasionally subtabular, sublaminae, firm, locally moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, glauconite.	
8850 – 8860	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, occasionally subtabular, sublaminae, firm, locally moderately firm, locally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: dolomite, calcite, glauconite.	
8860 – 8870	50 30	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: abundant glauconite, calcite, pyrite.	
UPPER BASAL SALINA FM TOP. AT 8870.00 ft. MD (RT); 8037.67 ft. TVD (RT)			
8870 – 8880	60	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	30	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	10	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: abundant glauconite, calcite.	
8880 – 8890	50	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky, locally blocky, subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	30	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics.	
	20	SANDSTONE: medium dark gray (N4), medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: glauconite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
8890 – 8900	40	CLAYSTONE: dark gray (N3), medium dark gray (N4), earthy, subblocky, locally blocky, subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	30	SANDSTONE: medium dark gray (N4), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty, with glauconite and dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted, with dark lithics. Accessories: glauconite, calcite.	
8900 – 8910	60	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30	locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally grayish black (N2), medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	10	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, slikenite, glauconite, pyrite.	
8910 – 8920	40	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), occasionally grayish black (N2), medium dark gray (N4), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	SAND: white (N9), very fine to fine quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, glauconite, slikenite, pyrite.	
8920 – 8930	40	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	SAND: white (N9), 50% fine, 30% very fine, 20% medium, quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, glauconite, slikenite, pyrite.	
8930 – 8940	50	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), fine to medium quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	30	SAND: white (N9), 60% medium, 40% very fine to fine, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, occasionally angular, well sorted.	
	20	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		calcareous. Accessories: calcite, pyrite, glauconite.	
8940 – 8950	60 30 10	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), fine to medium quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SAND: white (N9), 50% medium, 50% very fine to fine, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, occasionally angular, well sorted. Accessories: calcite, pyrite, glauconite.	
8950 – 8960	50 30 20	SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), fine to medium quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. SAND: white (N9), 50% medium, 40% coarse to very coarse, 10% conglomerated quartz grain, hyaline, translucent, subangular, minor angular, locally subrounded, locally, fair sorted. CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. Accessories: calcite, pyrite.	
8960 – 8970	60 20 20	SAND: white (N9), 60% fine, 30% very fine, 10% medium quartz grain, hyaline, translucent, subangular to subrounded, occasionally angular, well sorted. SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, occasionally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: milonite, slickenside, pyrite.	
8970 – 8980	70 20	SAND: white (N9), 60% fine, 30% very fine, 10% medium, traces coarse quartz grain, hyaline, translucent, subangular to subrounded, occasionally angular, well sorted. SANDSTONE: medium light gray (N6), light gray (N7), occasionally medium gray (N5), fine very to fine quartz grain, hyaline, subangular	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. Accessories: abundant milonite, slickenside, pyrite.	
8980 – 8990	90 10	SAND: white (N9), 60% very fine, 40% fine quartz grain, hyaline, translucent, subangular to subrounded, occasionally angular, well sorted. CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. Accessories: abundant milonite, slickenside, pyrite.	
8990 – 9000	40 30 30	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), earthy, subblocky to blocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SAND: white (N9), 60% fine, 30% very fine, 10% medium, traces coarse quartz grain, hyaline, translucent, subangular, minor angular, locally subrounded, well sorted. SANDSTONE: medium light gray (N6), light gray (N7), locally medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, milonite, pyrite. NOTE: SAMPLE CONTAMINATED WITH (LCM) CHEMICAL.	
9000 – 9010	70 20 10	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, sublaminae, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous in part. SAND: white (N9), light gray (N7), 40% fine, 40% medium, 20% coarse to very coarse, traces conglomerated quartz grain, hyaline, translucent, subangular to angular, locally subrounded, fair sorted. SANDSTONE: medium light gray (N6), light gray (N7), locally medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, milonite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9010 – 9020	50	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30 10 10	dark gray (N4), earthy, subblocky to blocky, locally subtabular, sublaminal, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous in part. SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular, minor angular, locally subrounded, well sorted. SANDSTONE: medium light gray (N6), medium gray (N5), locally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), minor medium gray (N5), earthy, subblocky to blocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: milonite, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9020 – 9030	40 30 20 10	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, sublaminal, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), minor medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular, minor angular, locally subrounded, well sorted. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: milonite, calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9030 – 9040	40 40 20	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, sublaminal, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	porosity. No Oil Show. SAND: white (N9), 60% fine, 40% very fine, traces medium quartz grain, hyaline, translucent, subangular, minor angular, locally subrounded, well sorted. Accessories: calcite, pyrite.	
9040 – 9050	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, sublaminae, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9050 – 9060	80	CLAYSTONE: dark gray (N3), olive black (5Y 2/1), locally medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, sublaminae, firm to moderately firm, silty in part, micromicaceous, microcarbonaceous, slightly calcareous in part.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, amorphous, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9060 – 9070	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, dirty, with dark minerals inclusion, poor visual	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		porosity. No Oil Show. Accessories: milonite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9070 – 9080	80	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, locally friable, locally dirty, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: milonite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9080 – 9090	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, locally friable, locally dirty, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: milonite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9090 – 9100	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm, locally moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	
	Tr	SANDSTONE: medium gray (N5), locally medium light gray (N6), occasionally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix in part, calcareous cement, moderately friable to moderately consolidated, locally friable, locally dirty, occasionally micropyrritic, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: milonite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9100 – 9110	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm, locally moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: milonite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9110 – 9120	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm, locally moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. Accessories: pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9120 – 9130	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium dark gray (N4), medium gray (N5), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9130 – 9140	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9140 – 9150	90	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10 Tr	microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, moderately firm to firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), locally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9150 – 9160	90 10 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), locally medium dark gray (N4), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, locally friable, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9160 – 9170	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, subblocky, locally blocky to subtabular, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous to calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9170 – 9180	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), black (N1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9180 – 9190	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9190 – 9200	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally subtabular, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: pyrite, calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9200 – 9210	80 20	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), brownish black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SANDSTONE: medium light gray (N6), light gray (N7), locally medium gray (N5), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, locally consolidated, locally, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9210 – 9220	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), brownish black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, locally consolidated, locally, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9220 – 9230	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, locally consolidated, locally, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9230 – 9240	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, occasionally slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, locally consolidated, locally, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9240 – 9250	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), locally olive gray (5Y 4/1), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately consolidated to moderately friable, locally consolidated, locally, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
9250 – 9260	100 Tr	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), occasionally dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9260 – 9270	90 10	CLAYSTONE: medium dark gray (N4), olive gray (5Y 4/1), occasionally dark gray (N3), earthy, blocky to subblocky, locally subtabular, occasionally sublaminar, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally amorphous, firm to moderately	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite.	
9270 – 9280	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite.	
9280 – 9290	50	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	40	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, occasionally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite.	
9290 – 9300	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, slickendide, milonite.	
9300 – 9310	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminal, moderately firm to firm, micromicaceous,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	30	microcarbonaceous, non calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite.	
9310 – 9320	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
9320 – 9330	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, slickenside.	
9330 – 9340	70	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminal, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	10	moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, slickenside, pyrite.	
9340 – 9350	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, slickenside, pyrite, milonite, dolomite.	
9350 – 9360	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, slickenside.	
9360 – 9370	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		poor visual porosity. No Oil Show. Accessories: calcite.	
9370 – 9380	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally moderately consolidated, dirty in part, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. Accessories: calcite, slickenside.	
9380 – 9390	70	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	20	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite, milonite.	
9390 – 9400	60	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, micromicaceous, microcarbonaceous, non calcareous.	
	30	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show.	
	10	SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous.	
	Tr	SAND: white (N9), very fine to fine, traces medium quartz grain, hyaline, translucent, subangular to subrounded, well sorted. Accessories: calcite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
9400 – 9410	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
9410 – 9420	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, friable to moderately friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, slickenside.	
9420 – 9430	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), brownish gray (5YR 4/1), earthy, subblocky to blocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. SILTSTONE: medium dark gray (N4), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, dolomite.	
9430 – 9440	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. Accessories: calcite, dolomite, pyrite.	
9440 – 9450	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. Accessories: calcite, dolomite, pyrite.	
9450 – 9460	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. Accessories: calcite, dolomite, pyrite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9460 – 9470	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9470 – 9480	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, slickenside. NOTE: SAMPLE CONTAMINATED WITH CHEMICAL.	
9480 – 9490	100 Tr Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. SILTSTONE: medium dark gray (N4), occasionally medium gray (N5), earthy, subblocky to blocky, amorphous in part, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite, dolomite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
9490 – 9500	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, pyrite.	
9500 – 9510	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite, slickenside.	
9510 – 9520	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
9520 – 9530	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, slickenside.	
9530 – 9540	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9540 – 9550	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. Accessories: calcite, pyrite.	
9550 – 9560	90 10	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), grayish black (N2), earthy in part, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, silty in part, micromicaceous, microcarbonaceous, non calcareous to slightly calcareous. SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to friable, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, dolomite.	
9560 – 9570	100 Tr	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite.	
9570 – 9580	80 20	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. SANDSTONE: medium gray (N5), medium light gray (N6), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, pyrite, slickenside.	
9580 – 9590	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, sliken side.	
9590 – 9600	80	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	20	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, sliken side, limestone.	
9600 – 9610	90	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	10	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite.	
9610 – 9620	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous.	
	Tr	SANDSTONE: medium light gray (N6), medium gray (N5), occasionally light gray (N7), very fine to fine quartz grain, hyaline, subangular to subrounded, well sorted, argillaceous matrix, calcareous cement, moderately friable to moderately consolidated, occasionally dirty, with dark minerals inclusion, poor visual porosity. No Oil Show. Accessories: calcite, sliken side.	
9620 – 9630	100	CLAYSTONE: medium dark gray (N4), dark gray (N3), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
9630 – 9640	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm,	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
9640 – 9650	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
9650 – 9660	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
9660 – 9670	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
9670 – 9680	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous. Accessories: calcite.	
9680 – 9690	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, grading to very fine sandstone, slightly calcareous.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
		Accessories: calcite, pyrite.	
BALCONES FM TOP. AT 9685.00 ft. MD (RT); 8847.60 ft. TVD (RT)			
9690 – 9700	100 Tr	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive gray (5Y 4/1), olive black (5Y 2/1), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, slightly calcareous. Accessories: dolomite, calcite.	
9700 – 9710	90 10	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, moderately firm to firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. SILTSTONE: medium gray (N5), medium dark gray (N4), earthy, blocky to subblocky, locally amorphous, firm to moderately firm, micromicaceous, microcarbonaceous, occasionally micropyrritic, grading to very fine sandstone, slightly calcareous. Accessories: dolomite, calcite.	
9710 – 9720	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, locally moderately soft, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, dolomite.	
9720 – 9730	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
9730 – 9740	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally olive gray (5Y 4/1), grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite.	
9740 – 9750	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), olive black (5Y 2/1), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	

INTERVAL (Feet)	%	DESCRIPTION	FLUOR. (%)
9750 – 9760	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: pyrite, calcite.	
9760 – 9770	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally very firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: pyrite, calcite.	
9770 – 9780	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), occasionally grayish black (N2), earthy, blocky to subblocky, locally subtabular, occasionally sublaminae, firm to moderately firm, occasionally silty, micromicaceous, microcarbonaceous, slightly calcareous in part. Accessories: calcite, pyrite.	
9780 – 9790	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), minor grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally very firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
9790 – 9800	100	CLAYSTONE: dark gray (N3), medium dark gray (N4), minor grayish black (N2), earthy, blocky to subblocky, subtabular in part, occasionally sublaminae, firm to moderately firm, occasionally very firm, silty in part, micromicaceous, microcarbonaceous, non calcareous. Accessories: calcite, pyrite.	
FINAL TOTAL DEPTH 9800.0 ft. MD(RT); 8961.60 ft. TVD(RT)			

CROMATOGRAFÍA

GAS SHOWS DATA RECORD

WELL: LO6-26XD

DEPTH (feet)		DITCH SAMPLE GAS							FORMATION
		TYPE	TGC (units)	C1(ppm)	C2(ppm)	C3(ppm)	C4(ppm)	C5(ppm)	
474	595	BG	0.69	69	0	0	0	0	TALARA
596	603	FMG	1.86	186	0	0	0	0	TALARA
604	625	BG	0.64	64	0	0	0	0	TALARA
626	647	BG	1.66	166	0	0	0	0	TALARA
723	739	FMG	6.21	621	0	0	0	0	TALARA
648	775	BG	1.30	130	0	0	0	0	TALARA
775	795	BG	2.32	232	0	0	0	0	TALARA
796	845	BG	2.05	205	0	0	0	0	TALARA
846	894	BG	7.43	743	0	0	0	0	TALARA
895	935	BG	5.00	500	0	0	0	0	TALARA
935	955	BG	2.00	200	0	0	0	0	TALARA
955	986	BG	7.50	750	0	0	0	0	TALARA
987	1024	BG	7.42	742	0	0	0	0	TALARA
1025	1062	BG	19.83	1983	0	0	0	0	TALARA
1063	1085	BG	3.36	337	0	0	0	0	TALARA
1086	1152	BG	18.66	1866	0	0	0	0	TALARA
1153	1155	CG	26.37	2637	0	0	0	0	TALARA
1155	1206	BG	10.29	1029	0	0	0	0	TALARA
1206	1220	FMG	25.45	2545	0	0	0	0	TALARA
1220	1337	BG	6.40	640	0	0	0	0	TALARA
1338	1524	BG	8.38	805	10	5	0	0	TALARA
1525	1534	FMG	15.11	1464	19	5	0	0	TALARA
1535	1552	BG	5.43	519	10	2	0	0	TALARA
1553	1581	BG	12.82	1240	19	0	0	0	TALARA
1582	1599	BG	15.50	1496	23	0	0	0	TALARA
1600	1645	BG	10.37	996	16	4	0	0	TALARA
1646	1662	FMG	81.10	8046	22	9	0	0	TALARA
1663	1825	BG	13.58	1314	17	5	0	0	CHACRA
1826	1864	BG	62.85	6131	68	12	0	0	CHACRA

1865	1874	FMG	116.29	11354	126	18	0	0	CHACRA
1875	1895	BG	62.21	6057	63	10	0	0	CHACRA
1896	1948	BG	1.55	150	4	2	0	0	CHACRA
1949	2025	BG	4.62	408	7	2	0	0	CHACRA
2026	2078	BG	1.67	157	3	2	0	0	CHACRA
2079	2105	FMG	9.71	940	11	4	0	0	CHACRA
2106	2121	BG	0.41	33	3	2	0	0	CHACRA
2122	2128	CG	21.34	2079	20	7	0	0	CHACRA
2129	2159	BG	2.69	255	4	2	0	0	CHACRA
2160	2219	BG	26.70	2596	26	10	0	0	CHACRA
2220	2286	BG	3.08	285	8	4	0	0	CHACRA
2287	2464	BG	7.20	667	15	9	0	0	CHACRA
2465	2511	FMG	47.64	4225	110	94	12	6	CHACRA
2512	2625	BG	5.19	437	13	10	2	2	CHACRA
2626	2690	BG	20.77	1940	28	12	2	2	CHACRA
2691	2817	BG	9.74	941	11	5	0	0	CHACRA
2818	2887	BG	5.99	526	9	4	2	2	CHACRA
2887	2973	BG	27.07	2565	32	15	3	2	CHACRA
2973	2978	CG	65.04	6214	71	33	5	3	CHACRA
2978	3063	BG	32.26	3026	54	20	4	2	CHACRA
3064	3093	BG	15.99	1774	29	12	3	1	CHACRA
3094	3162	BG	24.32	2302	33	14	3	1	CHACRA
3163	3168	CG	59.28	5709	75	31	0	0	CHACRA
3169	3268	BG	8.59	776	14	6	2	2	CHACRA
3269	3290	BG	14.01	1286	25	9	2	2	CHACRA
3291	3315	FMG	43.72	4177	53	22	5	1	CHACRA
3316	3356	BG	16.00	1501	27	11	2	1	CHACRA
3357	3381	BG	42.69	4035	67	26	3	1	CHACRA
3382	3507	BG	46.88	4429	74	29	5	2	CHACRA
3508	3579	BG	14.03	1301	22	10	2	2	CHACRA
3580	3601	BG	8.71	762	20	11	2	2	CHACRA
3602	3702	BG	12.14	1063	36	26	4	2	CHACRA
3703	3763	BG	14.03	1262	31	16	2	2	CHACRA
3764	3830	BG	5.50	485	11	3	2	2	RIO BRAVO
3831	3874	BG	7.24	636	15	7	1	1	RIO BRAVO
3875	3966	BG	11.82	1074	26	8	2	2	RIO BRAVO
3967	4037	BG	12.42	1131	25	9	2	2	RIO BRAVO
4038	4107	BG	6.30	543	16	6	2	1	RIO BRAVO

4108	4129	BG	4.44	366	12	6	2	2	RIO BRAVO
4130	4168	BG	12.53	755	48	32	13	11	RIO BRAVO
4169	4179	FMG	32.45	2560	88	75	14	6	RIO BRAVO
4180	4200	BG	19.09	1308	56	59	27	11	RIO BRAVO
4201	4221	FMG	65.77	4693	314	266	85	9	RIO BRAVO
4222	4340	BG	22.28	1648	64	55	27	4	RIO BRAVO
4341	4407	BG	11.06	949	24	15	5	2	RIO BRAVO
4407	4420	BG	5.48	450	13	8	2	2	RIO BRAVO
4421	4490	BG	11.94	1085	25	9	2	1	RIO BRAVO
4491	4613	BG	9.68	868	19	8	2	2	RIO BRAVO
4614	4642	BG	4.90	414	11	5	2	1	RIO BRAVO
4643	4677	BG	13.64	1184	31	21	6	2	RIO BRAVO
4678	4698	BG	4.19	335	10	7	3	2	RIO BRAVO
4699	4875	BG	5.03	432	8	5	2	2	RIO BRAVO
4876	4994	BG	1.97	135	4	2	2	2	RIO BRAVO
4995	5079	BG	4.14	360	4	3	1	1	RIO BRAVO
5080	5190	BG	12.34	1158	15	6	2	2	RIO BRAVO
5191	5259	BG	10.64	979	13	6	2	1	RIO BRAVO
5260	5286	BG	5.79	510	7	4	2	2	RIO BRAVO
5287	5350	BG	16.37	1550	14	7	1	1	RIO BRAVO
5351	5531	BG	15.18	1436	12	6	1	1	RIO BRAVO
5532	5557	BG	6.17	549	8	4	2	1	RIO BRAVO
5558	5898	BG	10.18	930	17	6	1	2	PALEGREDA
7380	7550	BG	8.67	485	25	23	8	15	SAN CRISTOBAL
7551	7570	BG	16.94	1456	36	23	12	6	SAN CRISTOBAL
7571	7690	BG	5.69	390	22	14	5	9	SAN CRISTOBAL
7691	7761	BG	5.16	309	32	17	8	1	SAN CRISTOBAL
7762	7765	CG	25.61	2483	23	7	0	0	SAN CRISTOBAL
7766	7791	BG	12.56	1190	17	4	5	0	SAN CRISTOBAL
7792	7849	BG	6.07	526	11	6	2	2	SAN CRISTOBAL
7850	7874	BG	10.21	963	8	4	1	1	SAN CRISTOBAL
7875	7945	BG	6.26	585	7	3	1	1	SAN CRISTOBAL
7946	8025	BG	6.03	568	8	3	2	0	SAN CRISTOBAL
8026	8068	BG	10.91	1051	11	5	2	0	SAN CRISTOBAL
8069	8130	BG	9.10	872	11	4	1	0	SAN CRISTOBAL
8131	8157	BG	18.38	1771	23	7	2	0	SAN CRISTOBAL
8158	8160	FMG	70.24	6866	53	19	1	0	SAN CRISTOBAL
8161	8235	BG	14.80	1437	18	4	0	0	SAN CRISTOBAL

8236	8550	BG	9.11	875	14	4	1	0	SAN CRISTOBAL
8551	8612	BG	13.01	1253	14	5	2	0	SAN CRISTOBAL
8613	8620	CG	39.00	3777	35	9	4	0	SAN CRISTOBAL
8621	8634	BG	15.67	1503	18	5	1	0	SAN CRISTOBAL
8635	8646	FMG	117.20	11511	70	24	2	0	SAN CRISTOBAL
8647	8658	BG	11.91	1152	14	4	1	0	SAN CRISTOBAL
8659	8667	FMG	23.68	2309	21	4	3	0	SAN CRISTOBAL
8668	8770	BG	12.22	982	13	4	1	0	SAN CRISTOBAL
8771	8807	BG	14.55	1405	16	5	1	0	SAN CRISTOBAL
8808	8931	BG	9.62	926	12	3	1	0	SAN CRISTOBAL
8931	8993	BG	6.37	617	7	3	2	0	UPPER BASAL SALINA
8994	8998	TRIP GAS	22.81	2148	31	14	8	0	UPPER BASAL SALINA
8999	9030	BG	8.15	765	7	6	4	0	UPPER BASAL SALINA
9031	9202	BG	9.22	879	12	4	2	1	UPPER BASAL SALINA
9203	9213	FMG	13.52	1306	12	5	2	0	UPPER BASAL SALINA
9214	9225	FMG	15.11	1457	18	4	3	0	UPPER BASAL SALINA
9226	9276	BG	5.11	488	6	2	1	0	UPPER BASAL SALINA
9277	9287	FMG	39.99	3896	39	10	1	0	UPPER BASAL SALINA
9288	9372	BG	6.27	620	6	2	1	0	UPPER BASAL SALINA
9373	9392	FMG	24.35	2367	26	8	1	0	UPPER BASAL SALINA
9393	9560	BG	8.41	808	12	3	2	0	UPPER BASAL SALINA
9561	9599	BG	9.84	949	13	3	1	0	UPPER BASAL SALINA
9600	9605	FMG	18.74	1800	35	4	0	0	UPPER BASAL SALINA
9606	9753	BG	9.88	952	14	3	1	0	BALCONES
9754	9799	BG	6.25	593	9	3	2	0	BALCONES
BG	BACKGROUND GAS								
FMG	FORMATION GAS								
CG	CONNECTION GAS								
SG	SWAB GAS								
STG	SHORT TRIP GAS								
TG	TRIP GAS								
CHR TST	TEST CHROMATOGRAPH								

ANÁLISIS DE FLUORESCENCIA



FLUORESCENCE DATA RECORD

WELL: LO6-26XD



INTERVALS (Meters)	FORMATION	NATURAL FLUORESCENCE						COLOR	SPEED CUT				REACTION			INTENSITY CUT				FORM CUT			COLOR CUT	RESIDUAL RING	
		NIL	TRACES	POOR	FAIR	GOOD	%		CRUSH	SLOW	FAST	FLASH	FAINT	WEAK	STRONG	DULL	FAINT	PALE	BRIGHT	EVEN	BLOOMING	STREAMING		U.V.L.	NAT. L.
2420 - 2450	CHACRA		X					PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
2450 - 2480	CHACRA						10	PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
2480 - 2510	CHACRA		X					PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
2510 - 2540	CHACRA		X					PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
4130 - 4160	RIO BRAVO						10	PL YEL		X				X			X			X			YELSH WH	MKY WH	
4160 - 4190	RIO BRAVO						25	PL YEL		X				X			X			X			YELSH WH	MKY WH	NIL
4190 - 4220	RIO BRAVO						35	PL YEL		X				X			X			X			YELSH WH	MKY WH	NIL
4220 - 4250	RIO BRAVO						30	PL YEL		X				X			X			X			YELSH WH	MKY WH	NIL
4250 - 4280	RIO BRAVO						15	PL YEL		X				X				X		X			YELSH WH	MKY WH	NIL
4280 - 4310	RIO BRAVO						20	PL YEL		X				X				X		X			YELSH WH	MKY WH	NIL
4310 - 4340	RIO BRAVO						10	PL YEL		X				X				X		X			YELSH WH	MKY WH	NIL
4340 - 4370	RIO BRAVO						10	PL YEL		X				X				X		X			YELSH WH	MKY WH	NIL
4670 - 4700	RIO BRAVO						20	PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
4700 - 4730	RIO BRAVO		X					PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
5930 - 5940	MOGOLLON						20	YELSH WH		X				X				X		X			PL YELSH WH	MKY WH	NIL
5940 - 5950	MOGOLLON						5	YELSH WH		X				X				X		X			PL YELSH WH	MKY WH	NIL
5960 - 5970	MOGOLLON		X					YELSH WH		X				X				X		X			PL YELSH WH	MKY WH	NIL
6050 - 6060	MOGOLLON						20	PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
6290 - 6300	MOGOLLON						10	PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL
6300 - 6310	MOGOLLON						20	PL YEL		X				X			X			X			PL YELSH WH	MKY WH	NIL

[illegible]

GEOQUÍMICA

GEOQUÍMICA

En base a estudios geoquímicos de fluidos líquidos, gaseosos y de roca de los pozos perforados en la cuenca Talara hay evidencias de generación y migración en la cocina Siches; y entrapamiento de hidrocarburos en el campo Lobitos, cercano al pozo exploratorio LO6-26XD (San Matteo).

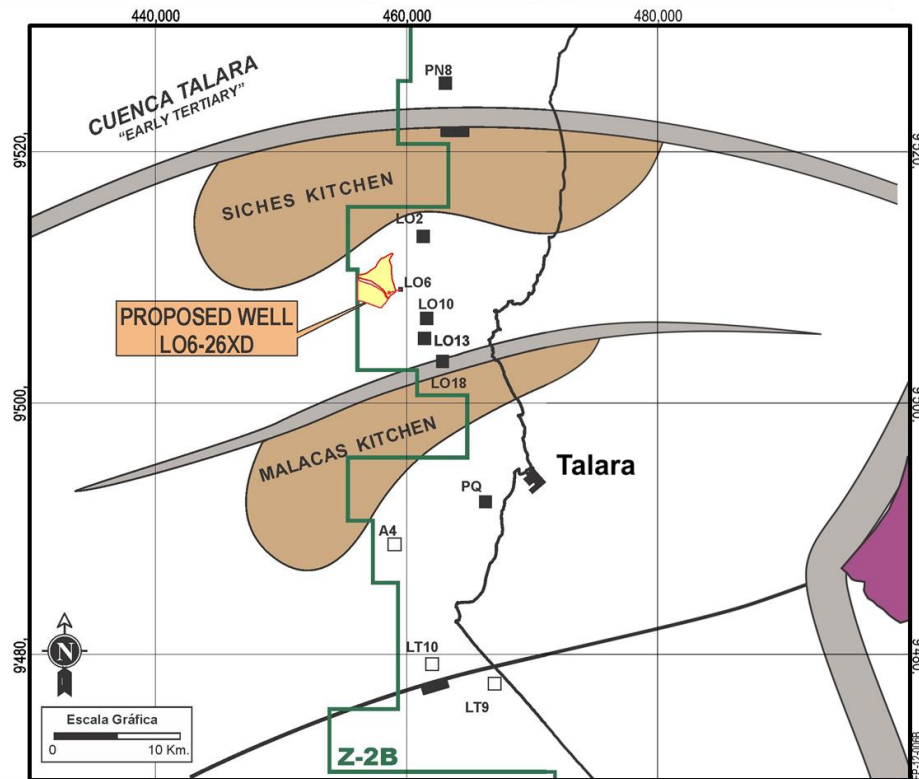
La estructura San Matteo es un bloque fallado perforado por el pozo LO6-26XD y que encontró al Basal Salina sin evidencias de hidrocarburos (mojado) lo que indica que dicho reservorio no tuvo las condiciones de entrapamiento durante la migración (posición estructural) y que la falla sustentada como “sello” no funcionó como se estimaba (Figura 5).

Sin embargo, los reservorios Rio Bravo y Mogollón que se encuentran en el mismo bloque con posición estructural distinta al Basal Salina tienen evidencias de petróleo y gas, lo que indicaría que las secuencias arcillosas verticales de San Cristóbal, Palegreda y Chacra se comportaron como sellos al igual que las fallas limitantes del bloque.

En conclusión es poco probable encontrar fluidos de hidrocarburos en los bloques extendidos al noroeste del pozo exploratorio LO6-26XD ya que tendrían el mismo comportamiento, por debajo de un nivel contacto petróleo agua.

Existe la posibilidad de re migración de fluidos petrolíferos debido al comportamiento de buzamientos distintos del Rio Bravo y Mogollón con el Basal Salina y que este libero el crudo que contenía por efecto de “tilt” hacia otros reservorios debidamente entrapados.

GEOCHEMICAL PLAY MAP : WELL LO6-26XD



MALACAS KITCHEN	
TOC	1.40%
Ro	1.11%
Tmax	438°C
Kerogen Type	II, Exinite/Liptinite and III Vitrinite
Biomarkers	Oleanane
Source Rock	Marine, Carbonaceous Shales, Redondo Fm.
Age	Upper Cretaceous, Campanian-Maastrichtian
Based on geochemical analysis from PEOCO 3-1 well (3757'-3765')	

SCHEMATIC GEOLOGICAL SECTION

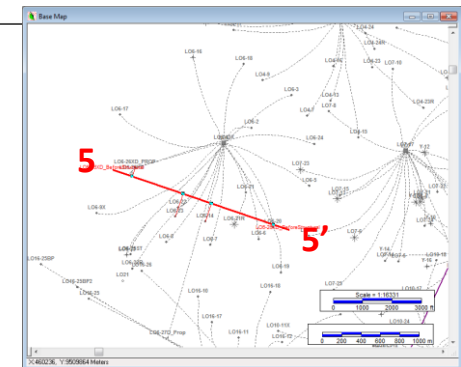
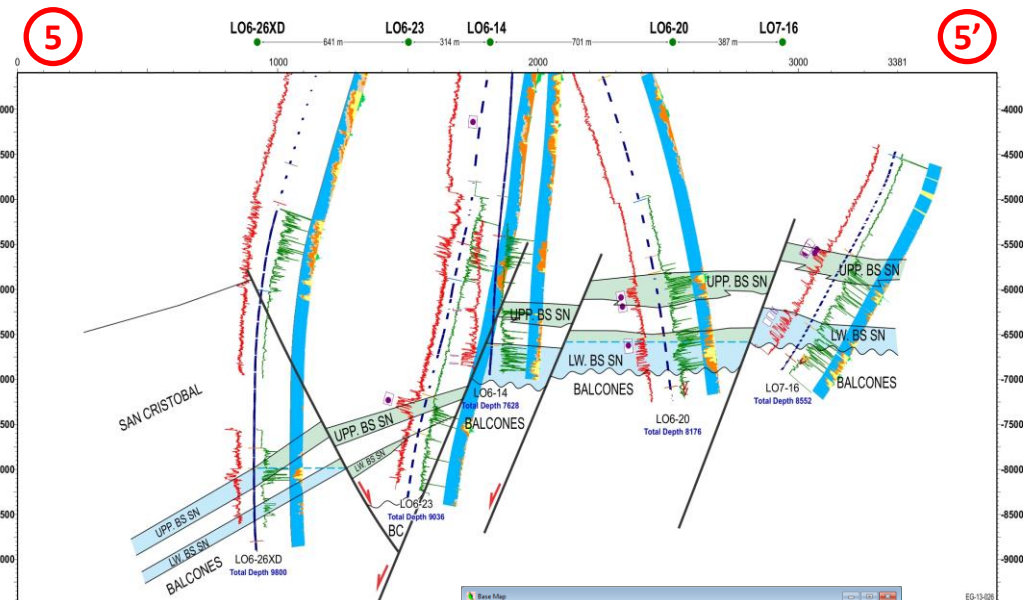


FIGURA 5

GEOFÍSICA

GEOFÍSICA

La información sísmica usada para el prospecto de San Matteo fue la interpretación de aproximadamente 100 Km² de sísmica 3D PSTM. La técnica empleada para el reprocesamiento fue del tipo MFS (Multifocussing Stack) en donde se apreció la mejora respecto al procesamiento convencional, la calidad de datos interpretada se califica como de regular.

El pozo LO6-26XD se encontraba estructuralmente en un bloque fallado más bajo, para lo cual se hizo uso de los pozos amarre sísmico con los pozos LO6-25ST, LO6-23 y LO4-18R circundantes a la zona de interés. Los horizontes interpretados fueron los correspondientes al, Balcones, Basal Salina Inferior, Basal Salina Superior, Palegreda y Rio-Bravo.

Los resultados encontrados con el pozo LO6-26XD confirmaron la presencia de un bloque fallado más abajo encontrándose a las secuencia a partir del San Cristóbal hasta la formación Balcones más abajo que lo pronosticado ello debido principalmente al propio mapeo de dichas secuencias y al crecimiento de la secuencia del San Cristóbal. Las variaciones de velocidades encontradas para esta ubicación no fueron grandes, ya que se contaba con un pozo cercano (LO6-23) quien contaba con registro de velocidades Check Shot razón por la cual no se tomó dicho registro en este pozo. (Figura 6)

De acuerdo a la reinterpretación del área se confirma la configuración estructural, un bloque fallado hundido que por los resultados de la prueba se encontraría con agua al nivel de Basal Salina Inferior, sin embargo quedaría algunas zonas todavía más altas que podrían ser de interés futuro y con la posibilidad de encontrar mejor desarrollo de las arenas del Basal Salina Inferior.

SEISMIC SECTION: WELL LO6-26XD

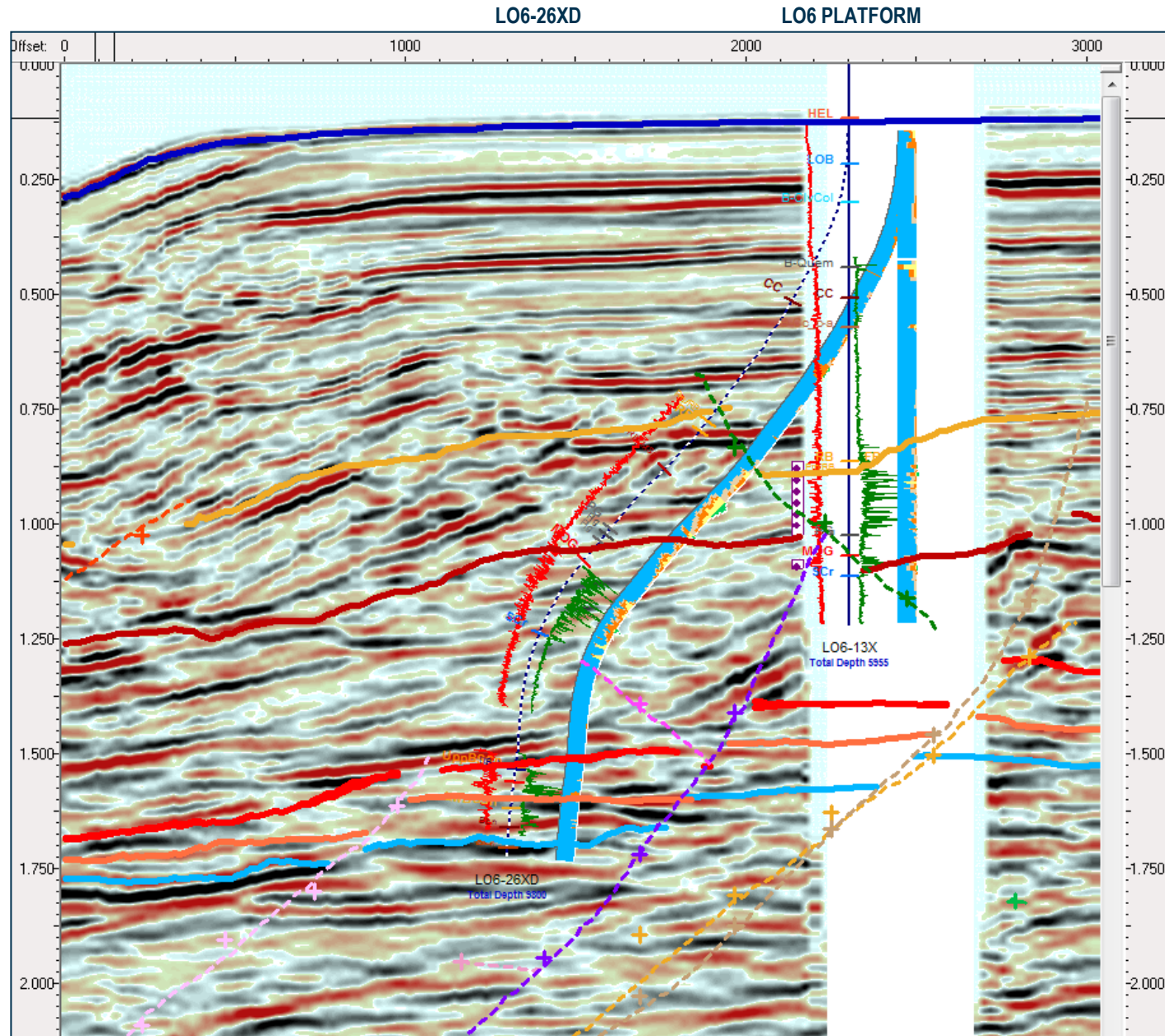


FIGURA 6

RESERVORIOS

EVALUACIÓN PETROFÍSICA

POZO EXPLORATORIO LO6-26XD (SAN MATTEO) LOBITOS EVALUACION PETROFISICA

Los resultados de la evaluación petrofísica del pozo exploratorio LO6-26XD (San Matteo) LOBITOS, usando los programas del Power-Bench son presentados en el presente informe. Esta evaluación comprende a los reservorios Rio Bravo, Mogollón y Basal Salina.

La formación Rio Bravo tiene un total de 174' TVD de Arena Neta Petrolífera, Mogollón tiene un total de 70' TVD de Arena Neta Petrolífera y Basal Salina Superior e Inferior 24' y 1' TVD de Arena Neta Petrolífera respectivamente. Los resultados de la presente evaluación son mostradas en las siguientes tablas.

PARAMETROS

Zona	CORTE		
Nombre	PHI	SW	VCL
Rio Bravo	0.06	0.60	0.50
Mogollón	0.06	0.60	0.50
Basal Salina	0.03	0.60	0.50

RESULTADOS

Formación Miembro	TOPE		BASE		ESPESOR		NET RES		NET PAY		AVG SAND		AVG PAY		
	(MD)	(TVD)	(MD)	(TVD)	(MD)	(TVD)	(MD)	(TVD)	(MD)	(TVD)	PHI	VCL	PHI	SW	VCL
RIO BRAVO	3726'	3341'	5310'	4667'	1584'	1326'	224'	187'	208'	174'	0.098	0.329	0.099	0.479	0.324
MOGOLLON	5810'	5098'	6874'	6064'	1064'	966'	122'	109'	79'	71'	0.084	0.280	0.086	0.529	0.267
Up. Basal Sna	8646'	7815'	9208'	8374'	562'	559'	65'	65'	24'	24'	0.085	0.199	0.096	0.525	0.139
Lw.Basal Sna	9208'	8374'	9685'	8848'	477'	474'	5'	5'	1'	1'	0.061	0.446	0.76	0.586	0.365

Rio Bravo

La evaluación petrofísica encontró al reservorio Rio Bravo con intercalaciones de lutitas y areniscas, mostrando los mejores desarrollos arenosos en el intervalo de 4128' a 4347'. No se tomaron registros de resistividad ni el de porosidad de Densidad, la evaluación petrofísica realizada es mediante la construcción de curvas calculadas con algoritmos que permitieron realizar la Evaluación Petrofísica. Se tiene presencia de hidrocarburos, en los intervalos de 3738'-3750', 3834'-3865', 3967'-3980' y de 4179'-4347'.

Mogollón

La evaluación petrofísica encontró al reservorio Mogollón, con intercalaciones de areniscas y lutitas, con pobres desarrollos arenosos, los promedios de resistividades presentes en las arenas son de 20 a 25 ohm, porosidades promedio de 8% y saturaciones de agua de 53%. El reservorio Mogollón se muestra generalmente con poca presencia de hidrocarburos. Se tiene presencia de hidrocarburos puntualmente en los intervalos siguientes de 5910'-5930', 6082'-6104', 6210'-6223', 6310'-6387' y de 6435'-6450'.

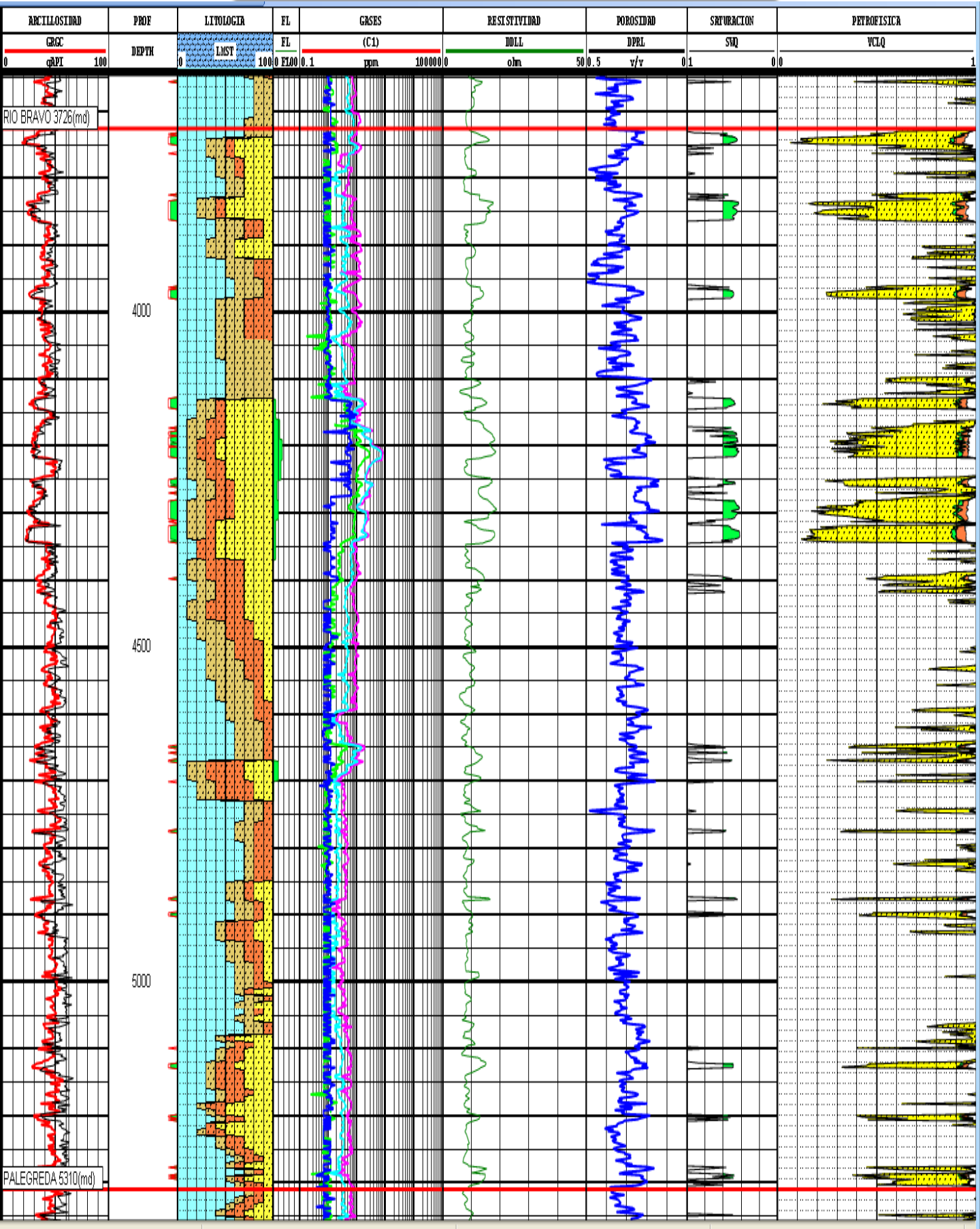
Basal Salina

La evaluación petrofísica encuentra al reservorio Basal Salina Superior generalmente en su fase lutácea, hacia su tope se encuentra arcillosa, hacia su parte inferior con presencia de desarrollos arenosos en el intervalo de 8876' a 8992'. El reservorio Basal Salina Inferior se encontró arcilloso. Cabe señalar que la toma de registros eléctricos en la sección de Basal Salina fue desfasada en profundidad y con deficiente calidad de los registros tomados, se realizaron las correcciones de profundidad y otras para mejorar la calidad de los registros. Las resistividades promedio de las areniscas son de 25 a 35 ohm, porosidades promedio de 9 % y saturaciones de agua de 52 %. Se tiene pobre presencia de hidrocarburos, la presencia de hidrocarburos se encuentra en el intervalo de 8926' a 8985'.

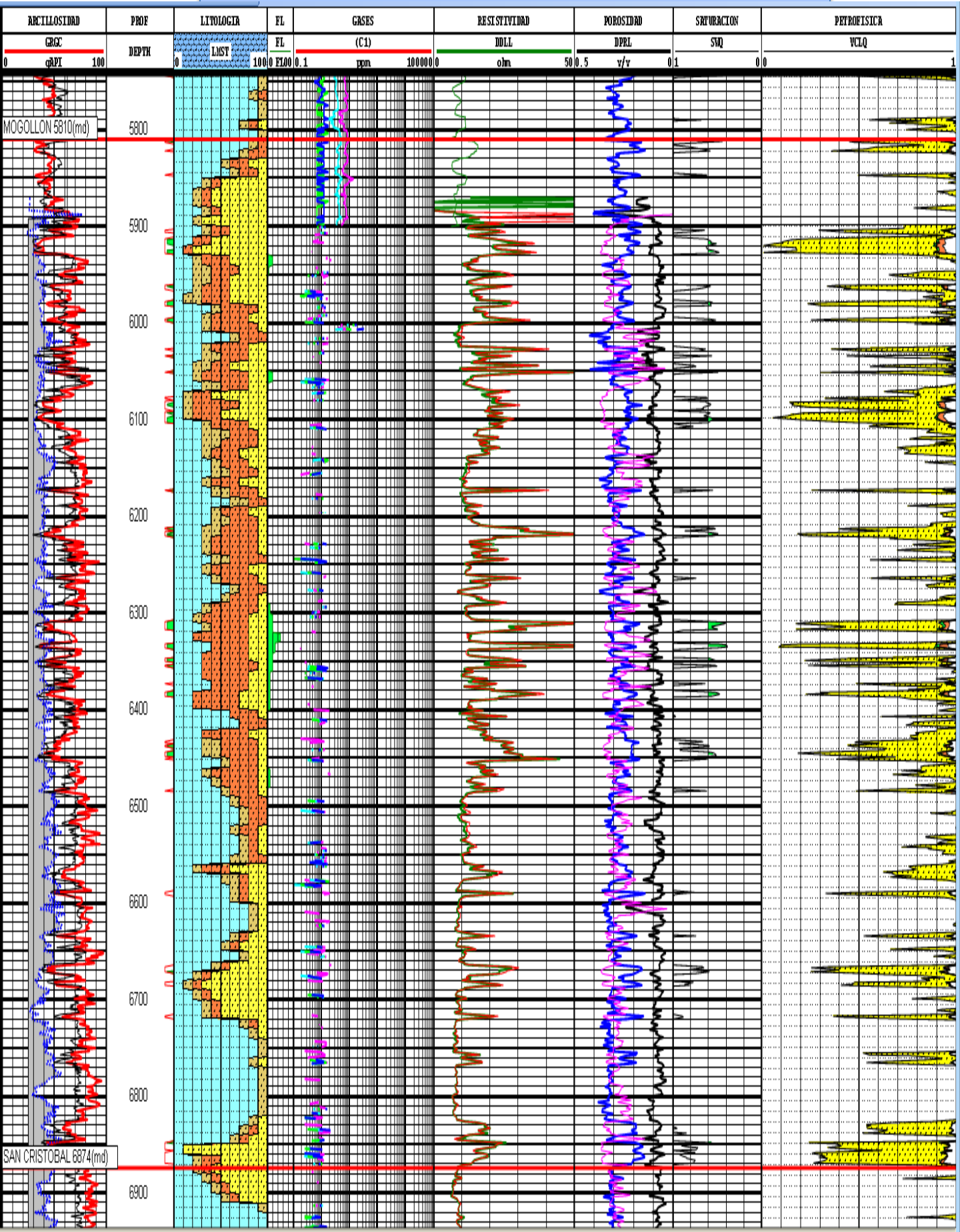
Lima Enero del 2013

Edwin Mendiola Bazaldúa

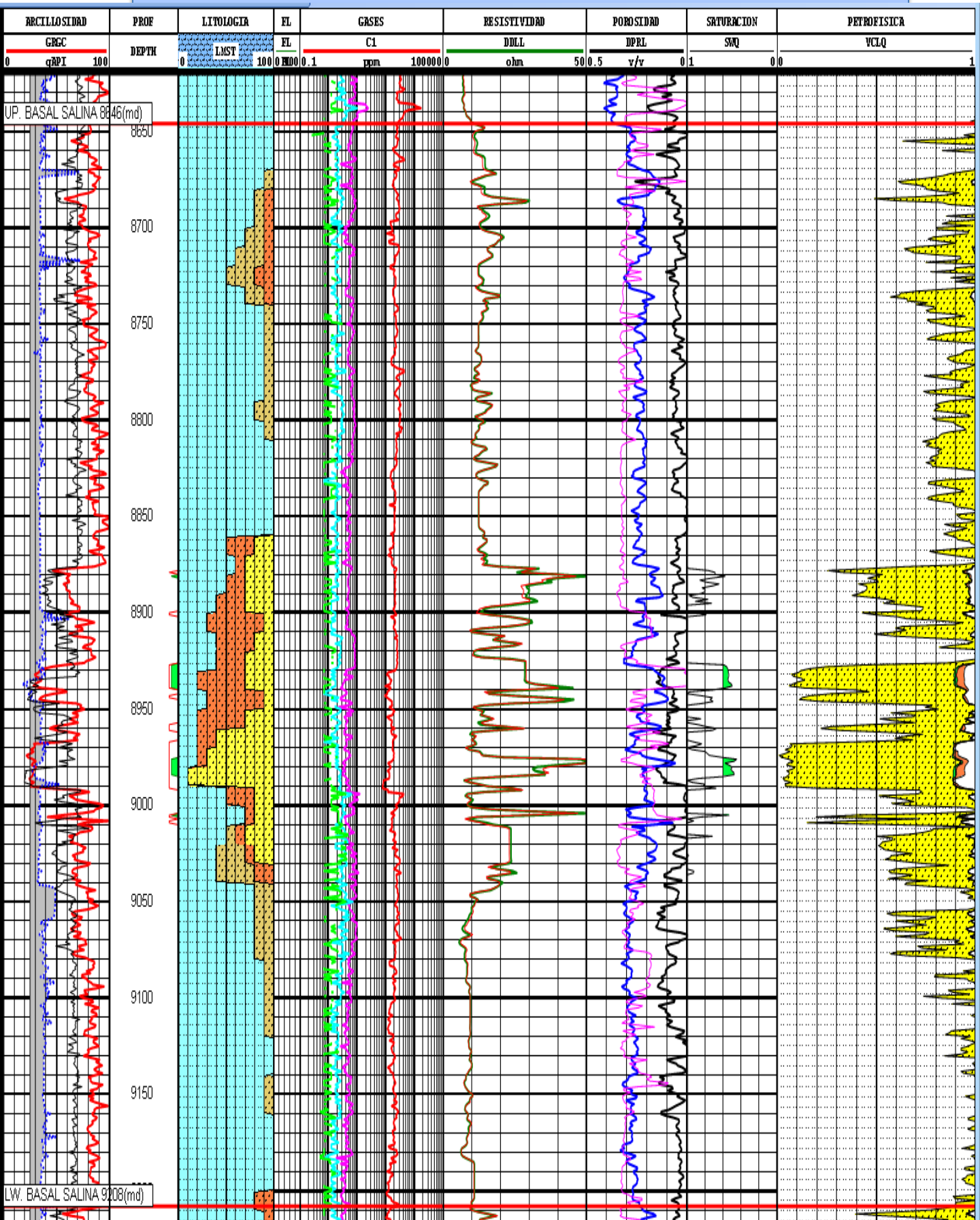
WELL LO6-26XD Fm: RIO BRAVO



WELL LO6-26XD Fm: MOGOLLON



WELL LO6-26XD Fm: Up. BASAL SALINA



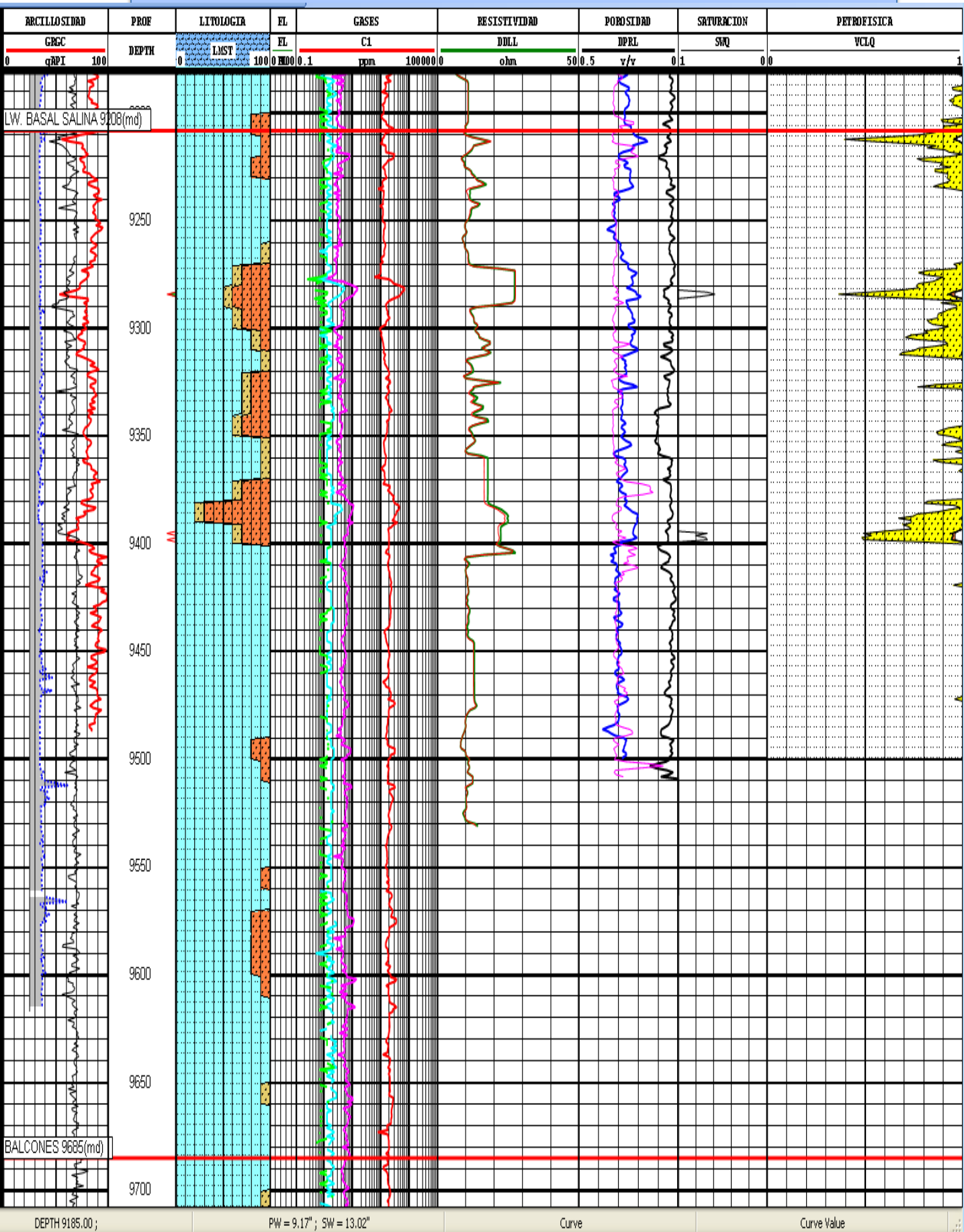
DEPTH 8639.00 ;

PW = 9.17" ; SW = 13.02"

Curve

Curve Value

WELL L06-26XD Fm: Lw. BASAL SALINA



PERFORACIÓN

REPORTE DE PERFORACIÓN

Location: LOBITOS	Rig : PEPESA-40	Report Date: 11-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 10-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	60,608	1,438,010	27

DRILLING DATA

MD at 24:00 hr:	743.0 ft	Footage 24:00 hr:	170.00 ft	Drilling hours :	20.50	Days on Loc :	28	Drlg. days :	7
TVD at 24:00 hr:	743.0 ft	Avg ROP :	8.29 ft/hr.	Cum. Drilling Hrs :	38.00	Days on Well :	28	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		20.50		3.50			
Cumulative	2.00	37.50		142.50			10.00

STATUS

Current Status :

Taking Gyro survey.

24 Hr. Summary :

Directional drill from 573 ft to 743 ft (170 ft total). drili in slide mode 153 ft (90%) with controlled parameters due to risk of collision: 515 gpm, 680 psi, diff 50 psi,WOB 14/18 klbs, avg ROP 8.5 ft/hr. Drill in rotate mode 17 ft (10%) with 516 gpm, 718 psi, 12 klb WOB,50 RPM. 1.5 k ft-lb TQ. take surveys with Gyro tool according to required. geology sample at 740 ft: 60% sand, 20% clystone,20% sandstone.

24 Hr. Forecast :

POOH Dir BHA install mule shoe -MWD, Change tri-cone bit by 17" PDC bit.RIH and continue drillig 17" hole to csg point.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	05:00	5.00	6B	PT	573	612	Dir. drill sliding from 573' to 612'.WOB 10 klbs, pres 650 psi, diff 70 psi, 514 gpm, ROP 7 ft/hr. Shakers show 100% formation.Trz cement. last geology sample 60% claystone,30 % sanstone, 10 % sand
05:00	06:00	1.00	16	PT			Run Gyro data tool, take survey @ 494'. inc 1.22 deg, azm 261.44 deg.
06:00	15:00	9.00	6B	PT	612	660	Dir. drill sliding from 612' to 660'.WOB 10/15 klbs, pres 680 psi, diff 50psi, 515 gpm, ROP 7 ft/hr. Shakers show 95% formation.5% cement. last geology sample @ 650 ft, 10% claystone,40 % sanstone, 50
15:00	19:00	4.00	6B	PT	660	702	dir. drill sliding from 660' to 702'. WOB 18 klbs pres 670 psi, diff 45 psi, 510 gpm.
19:00	19:30	0.50	16	PT			Run Gyro data tool, take survey @ 647', inc 4.12 deg, azm 292.48 deg.
19:30	20:00	0.50	25	PT			Cia Phoenix turn string and position tool face. Gyro data prepare to run tool and perform confirmation tool face position.
20:00	20:30	0.50	16	PT			Run Gyro data tool, take survey @ 647', inc 3.64 deg, azm 297.44 deg.
20:30	21:30	1.00	6B	PT	702	722	dir. drill sliding from 702' to 722'. WOB 15/18 klbsm pres 720 psi, diff 50 psi, 519 gpm.
21:30	22:30	1.00	6A	PT	722	739	Dir. drill rotate from 722 ft to 739 ft. 516 gpm, 718 psi, 12 klb WOB,50 RPM. 1.5 k ft-lb TQ.
22:30	23:30	1.00	16	PT			Run Gyro data tool, take survey @680 ft. inc 4.68 deg, azm 308.91deg.
23:30	00:00	0.50	6B	PT	739	743	dir. drill sliding from 739' to 743'. WOB 14 klbsm pres 710 psi, diff 40 psi, 519 gpm.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Del RQ 28987 aprobado por 6,000 gl. solo se recibio 4,300 gl diesel de embarcacion Sofia Christine, Nos deben 1,700 gls diesel.

Embarcacion Zuluf buzos llega a locacion a las 7:30 am, ajustan grampas de 3 y 5 elevacion. retorna a Talara a las 4:00pm. Winche queda en locacion agarrado con la grampa de la 3 elevacion.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	04:00	4.00	6B	PT	743	780	dir. drill sliding from 743' to 780'. WOB 12/14 klbsm pres 710 psi, diff 40 psi, 519 gpm.
04:00	05:30	1.50	6A	PT	780	798	Dir. drill rotate from 780 ft to 798 ft. 516 gpm, 710 psi, 12 klb WOB,50 RPM. 1.5 K ft-lbTQ. geology sample at 770 ft: 40% sand, 30% clystone,30% sandstone.
05:30	06:00	0.50	16	PT			Run Gyro data tool, take survey.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456							

MUD PROPERTIES

Company :				HALLIBURTON				Type :				AQUAGEL				Mud Engineers :				HERNANDO LEON			
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)				
18:00	702	9	46	12	22	9	24	28	8.9	0.39	0.19	.61	300	100		0.25	2.8		10				
24:00	742	9.1	46	13	22	9	25	30	8.9	0.38	0.17	.58	300	100		0.25	3.8		10				

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
GYRO SURVEY	556	1.24	257.98					
GYRO SURVEY	647	4.12	292.48					
GYRO SURVEY	680	4.68	308.91					

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 2		Name : 17" BHA							
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" tricone bit	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" DC	3	90.00	8	2.875	6 5/8" Reg				
8" Jar	1	18.11	8	2.75	6 5/8" Reg			2.05	
Cross Over	1	2.68	8	2.08	4 1/2" IF				
6.5" DC	3	90.65	6.5	2.875	4 1/2" IF				
5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		702.14							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL	1	3	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB		80
BARITE	100LB		1320	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG	10	160
CAUSTIC SODA FLAKE	25LKG	1	32	CLAYSEAL PLUS	55GAL	1	14
DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB	4	33
PAC-L	50LB		40	SAPP	25KG		40
SODIUM BICARBONATE	25KG		35	X-TEND II	2LB		11

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	10-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	9,373	4,300	1,186	120		12,367
TK PEPESA	0	1,186		1,186		0
Total (gl)	9,373	5,486	1,186	1,306		12,367

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	1	HULLIBURTON	2
NORTH SERVICES		PEPESA	44
PHOENIX	5	RISK CONTROL	
SAVIA	4	SIMEDIC	1
TCS	11	TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3		
Total People :		89	

Last Modification : 11-DEC-12 06:11 AM

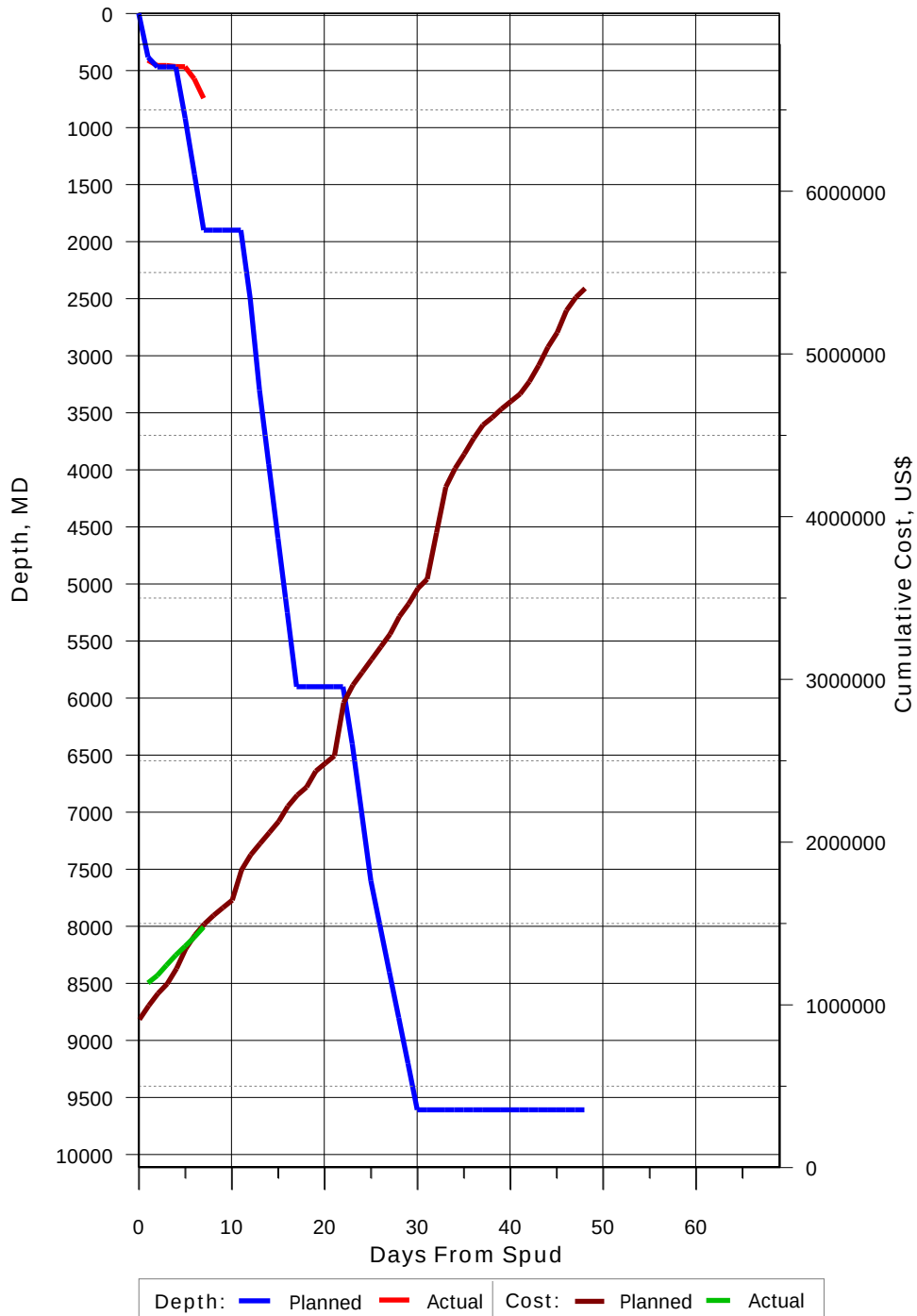
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 12-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 11-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	89,374	1,527,384	28

DRILLING DATA

MD at 24:00 hr:	986.0 ft	Footage 24:00 hr:	243.00 ft	Drilling hours :	19.50	Days on Loc :	29	Drlg. days :	8
TVD at 24:00 hr:	986.0 ft	Avg ROP :	12.46 ft/hr.	Cum. Drilling Hrs :	57.00	Days on Well :	29	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		19.50		4.50			
Cumulative	2.00	57.00		147.00			10.00

STATUS

Current Status :

Run 11 3/4" magnet.

24 Hr. Summary :

Directional drill from 743 ft to 986 ft (243 ft total). drl in slide mode 138 ft (57%) with: pres 1085 psi, diff 62 psi, 635 gpm. WOB14/18 klbs, avg ROP 11ft/hr. Drill in rotate mode 105 ft (43%) with WOB 16 klbs, 50 rpm, pres 1540 psi, TQ, 1.5 kft-lbs. 800 gpm. take surveys with Gyro tool according to required. geology sample at 986 ft: 100% clystone.Circulate bottoms up. pump vis pil. Pooh dir BHA w/ 17" tricone bit from 986 ft to 650 ft with circulation.

24 Hr. Forecast :

MU & RIH 17" PDC bit w/ dir BHA install mule shoe -MWD. RIH and continue drillig 17" hole to csg point.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	04:00	4.00	6B	PT	743	780	Dir. drill sliding from 743' to 780'. WOB 12/14 klbsm pres 710 psi, diff 40 psi, 519 gpm.
04:00	05:30	1.50	6A	PT	780	798	Dir. drill rotate from 780 ft to 798 ft. 516 gpm, 710 psi, 12 klb WOB,50 RPM. 1.5 K ft-lbTQ. geology sample at 770 ft: 40% sand, 30% clystone,30% sandstone.
05:30	06:30	1.00	16	PT			Run Gyro data tool, take survey @ 743', inc 6.7 deg, azm 305.62 deg.
06:30	11:00	4.50	6B	PT	798	840	Dir. drill sliding from 789' to 840'. WOB 15 klbsm pres 1100 psi, diff 35 psi, 650 gpm. String vibrate, possible debris at bottom.
11:00	13:30	2.50	6A	PT	840	892	Dir. drill rotate from 840' to 892'. WOB 18 klbs, 50 rpm, pres 1650 psi, 805 gpm. MW: 8.9 ppg.
13:30	14:00	0.50	16	PT			Run Gyro data tool, take survey @ 833', inc 9.83 deg, azm 291.88 deg.
14:00	14:30	0.50	16	PT			Dir. Phoenix turn string on surface to position tool face. Cia. Gyro data, run and take survey to confirm tool face position.
14:30	20:00	5.50	6B	PT	892	951	Dir. drill sliding from 892' to 952'. WOB 18 klbsm pres 1085 psi, diff 62 psi, 635 gpm. String vibrate, possible debris at bottom.
20:00	21:30	1.50	6A	PT	951	986	Dir. drill rotate from 951' to 986'. WOB 16 klbs, 50 rpm, pres 1540 psi, TQ, 1.5 kft-lbs. 800 gpm. String vibrate, possible debris at bottom.
21:30	22:00	0.50	16	PT			Run Gyro data tool, take survey @ 931', inc 13.03 deg, azm 282.94 deg.
22:00	23:00	1.00	9	PT			Circulate bottoms up. pump vis pill. shakers clean, ok. work pipe on bottom before POOH to run magnet.
23:00	00:00	1.00	11	PT			Pooh dir BHA w/ 17" tricone bit from 986 ft to 650 ft with circulation. 30 klbs overpull.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Del RQ 28987 aprobado por 6,000 gl. solo se recibió 4,300 gl diesel de embarcacion Sofia Christine, Nos deben 1,700 gls diesel.

Remolcador Lobitos Express entrego 56 casing 13 3/8", canasta de materiales, unidades de Cia. Sertong. y 50,000 gl agua.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	11	PT			Cont. Pooh dir BHA w/ 17" tricone bit from 650 ft to shoe (448 ft) with circulation. cont POOH to surface without problems.
02:30	05:30	3.00	14	PT			MU & RIH 11 3/4" magnet. work at bottom. POOH magnet. recover 1/4 kg of debris.
05:30	06:00	0.50	14	PT			Run 11 3/4" magnet.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 12-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 11-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					HERNANDO LEON				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
17:00	900	9.2	47	12	22	9	25	30	0.39	0.39	0.21	.65	300	100		0.25	3.8		15
24:00	986	9.2	47	12	22	9	26	32	0.39	0.39	0.22	.63	300	100		0.25	3.8		15

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 2			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" tricone bit	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" DC	3	90.00	8	2.875	6 5/8" Reg				
8" Jar	1	18.11	8	2.75	6 5/8" Reg			2.05	
Cross Over	1	2.68	8	2.08	4 1/2" IF				
6.5" DC	3	90.65	6.5	2.875	4 1/2" IF				
5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		702.14							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL	1	2	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB	8	32
BARITE	100LB		1320	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG	4	156
CAUSTIC SODA FLAKE	25LKG	1	31	CLAYSEAL PLUS	55GAL		14
DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB	1	32
PAC-L	50LB		40	SAPP	25KG		40
SODIUM BICARBONATE	25KG	2	33	X-TEND II	2LB		11

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 12-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 11-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	10-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	12,367		920	180		11,267
TK PEPESA	0	920		920		0
Total (gl)	12,367	920	920	1,100		11,267

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	1	HULLIBURTON	2
NORTH SERVICES		PEPESA	44
PHOENIX	4	RISK CONTROL	
SAVIA	4	SIMEDIC	1
TCS	11	TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3		
Total People :		88	

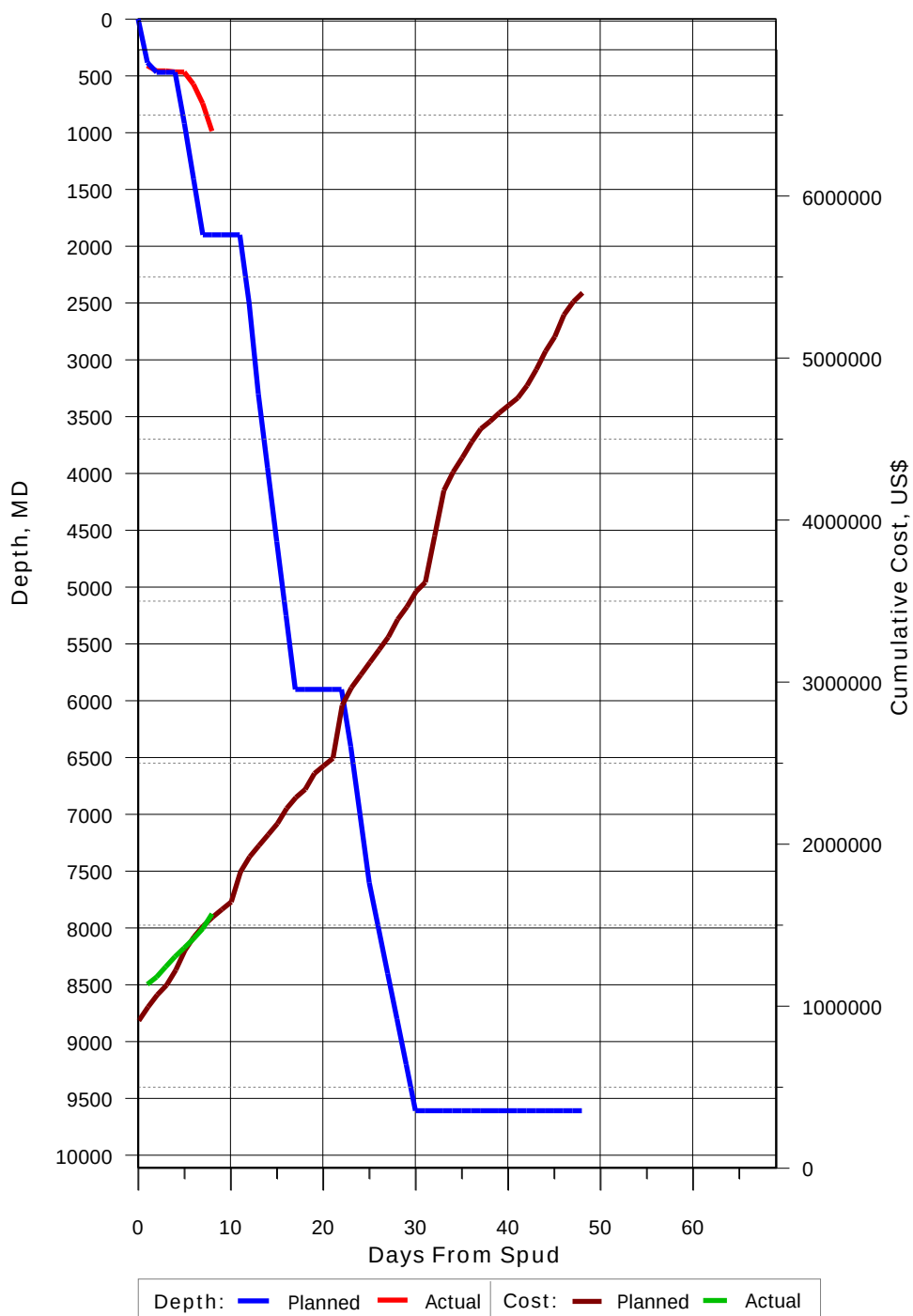
Last Modification : 12-DEC-12 06:07 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	12-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	11-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 13-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 12-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	60,935	1,588,319	29

DRILLING DATA

MD at 24:00 hr:	1358.0 ft	Footage 24:00 hr:	372.00 ft	Drilling hours :	8.00	Days on Loc :	30	Drlg. days :	9
TVD at 24:00 hr:	1336.0 ft	Avg ROP :	46.50 ft/hr.	Cum. Drilling Hrs :	65.00	Days on Well :	30	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		8.00		10.00			6.00
Cumulative	2.00	65.00		157.00			16.00

STATUS

Current Status :

Drilling 17" hole at 1600 ft.

24 Hr. Summary :

POOH dir BHA w/ 17" tricone bit from 650 ft to surface. MU & RIH 11 3/4" magnet: 1st :run recovered 1/4 kg of debris, 2nd run recovered small flat iron junk. TIH 17" PDC bit with directional BHA, install MWD RIH to bottom (986'). Directional drill from 986 ft to 1358 ft (372 ft total), drill in slide mode 213 ft (57%) with: pres 1750 psi, 770 gpm. WOB 14 klbs, avg ROP 45 ft/hr. Drill in rotate mode 159 ft (43%) with WOB 14 klbs, 50 rpm, pres 1780 psi, TQ, 1 kft-lbs. 800 gpm. avg ROP 50 ft/hr. take MWD surveys. Last geology sample@ 1350 90% clystone, 10% sandstone.

24 Hr. Forecast :

Drill ahead 17" hole to csg point. circulate, POOH dir BHA to surface. MU&RIH slick BHA, condition hole. Run 13 3/8" csg

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	11	PT			Cont. Pooh dir BHA w/ 17" tricone bit from 650 ft to shoe (448 ft) with circulation. cont POOH to surface without problems.
02:30	05:30	3.00	14	PT			MU & RIH 11 3/4" magnet. work at bottom. POOH magnet. recover 1/4 kg of debris.
05:30	08:00	2.50	14	PT			2nd Run 11 3/4" magnet to 986'. Work at botom, Pooh magnet, recover small flat iron junk.
08:00	08:30	0.50	14	PT			L/D 11 3/4" magnet. Prepare to run 17" PDC bit.
08:30	12:30	4.00	11	PT			TIH 17" PDC bit S519 MHPX, Mud motor, cross over, ponny monel, 15" stabilizer, UBHO, MWD, Monels, 3x8"DC.
12:30	13:00	0.50	25	PT			Savia Personnal arrived to location (Manuel Inga), perform safety meeting with all services companies.
13:00	14:00	1.00	11	PT			Continue TIH dir BHA w/ 17" PDC bit to 987', last stand with pump.
14:00	14:30	0.50	6A	PT	986	990	Dir. drill rotating from 986' to 990'. WOB 8 klbs, 750 gpm, 40 rpm, TQ 1 kft-lb, pres 1500 psi. Take survey @ 915' inc 12.0 deg, azm 284 deg. MW: 9.2 ppg.
14:30	15:00	0.50	6B	PT	990	1010	Dir. drill sliding from 990' to 1000'. WOB 10 klbs, pres 1480 psi, 770 gpm.
15:00	16:00	1.00	6A	PT	1010	1060	Dir. drill rotating from 1010' to 1060'. WOB 10 klbs, 770 gpm, 50 rpm, TQ 1 kft-lb, pres 1600 psi.
16:00	16:30	0.50	16	PT			Ream, conection, Take survey @ 988' inc 13.9 deg, azm 278.3 deg.
16:30	17:30	1.00	6B	PT	1060	1111	Dir. drill sliding from 1060' to 1111'. WOB 12 klbs, pres 1690 psi, 770 gpm.
17:30	18:00	0.50	6A	PT	1111	1155	Dir. drill rotating from 1111' to 1155'. WOB 14 klbs, 770 gpm, 50 rpm, TQ 1 kft-lb, pres 1700 psi.
18:00	18:30	0.50	16	PT			Ream, conection, Take survey @ 1083' inc 15.1 deg, azm 271.2 deg.
18:30	19:00	0.50	6B	PT	1155	1185	Dir. drill sliding from 1155' to 1185'. WOB 14 klbs, pres 1700 psi, 770 gpm.
19:00	19:30	0.50	6A	PT	1185	1220	Dir. drill rotating from 1185' to 1220'. WOB 14 klbs, 770 gpm, 50 rpm, TQ 1 kft-lb, pres 1710 psi.
19:30	20:30	1.00	6B	PT	1220	1249	Dir. drill sliding from 1220' to 1245'. WOB 14 klbs, pres 1700 psi, 770 gpm.
20:30	21:00	0.50	16	PT			Ream, conection, Take survey @ 1176' inc 16.9 deg, azm 265 deg.
21:00	21:30	0.50	6B	PT	1249	1288	Dir. drill sliding from 1249' to 1288'. WOB 14 klbs, pres 1790 psi, 770 gpm.
21:30	22:00	0.50	6A	PT	1288	1314	Dir. drill rotating from 1288' to 1314'. WOB 15 klbs, 790 gpm, 50 rpm, TQ 1 kft-lb, pres 1800 psi.
22:00	23:00	1.00	6B	PT	1314	1344	Dir. drill sliding from 1314' to 1344'. WOB 15 klbs, pres 1800 psi, 770 gpm.
23:00	23:30	0.50	16	PT			Ream, conection, Take survey @ 1271' inc 19.5 deg, azm 259.6 deg.
23:30	00:00	0.50	6B	PT	1344	1358	Dir. drill sliding from 1344' to 1358'. WOB 15 klbs, pres 1800 psi, 770 gpm.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 13-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 12-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Del RQ 28987 aprobado por 6,000 gl. solo se recibió 4,300 gl diesel de embarcacion Sofia Christine, Nos deben 1,700 gls diesel.
 Llego a locacion el ing. Manuel Inga de perforación, realizó una charla de seguridad.
 Drillin in talara formation. Last geology sample@ 1570 ft: 90% clystone, 10% sandstone.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	6B	PT	1358	1389	Cont.Dir. drill sliding from 1358' to 1389'. WOB 15 klbs, pres 1800 psi, 770 gpm.
01:00	01:30	0.50	6A	PT	1389	1422	Dir. drill rotating from 1389' to 1422'. WOB 15 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1800 psi. MW: 9.4 ppg.
01:30	02:00	0.50	29	PT			Rig services. while circulate.
02:00	02:30	0.50	6A	PT	1422	1439	Dir. drill rotating from 1422' to 1439'. WOB 14 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1800 psi. MW: 9.4 ppg.
02:30	03:00	0.50	16	PT			Ream, conection,Take survey @ 1369' inc 23.2 deg, azm 257.1 deg. MW: 9.4 ppg.
03:00	03:30	0.50	6B	PT	1439	1477	Cont.Dir. drill sliding from 1439' to 1477'. WOB 14 klbs, pres 1800 psi, 770 gpm.
03:30	04:30	1.00	6A	PT	1477	1534	Dir. drill rotating from 1477' to 1534'. WOB 16 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1850 psi. MW: 9.4 ppg.
04:30	05:00	0.50	16	PT			Ream, conection,Take survey @ 1462' inc 25.2 deg, azm 257.6 deg. MW: 9.4 ppg.
05:00	05:30	0.50	6B	PT	1534	1574	Cont.Dir. drill sliding from 1534' to 1574'. WOB 16 klbs, pres 1850 psi, 770 gpm.
05:30	06:00	0.50	6A	PT	1574	1600	Dir. drill rotating from 1574' to 1600'. WOB 16 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1850 psi. MW: 9.4 ppg.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50	760	2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					HERNANDO LEON				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
18:00	1150	9.3	45	12	21	9	27	31	8.9	0.41	0.22	.57	300	100		0.2	5.8		18
24:00	1358	9.4	46	12	21	9	26	31	8.9	0.39	0.18	.65	300	100		0.2	5.8		18

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	1083	15.1	271.2	1074.92	71.02	21.4	-80.02	2.26
MWD SURVEY	1176	16.9	265	1164.32	95.86	20.48	-105.6	2.67

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 3			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" PDC	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	13-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	12-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" NMDC MDW	1	30.74	8	3.25	6 5/8" REG				
8" NMDC	1	30.27	8	3.25	6 5/8" REG				
3X8" DC	3	90.00	8	2.875	6 5/8" REG				
Jar	1	18.11	8	2.75	6 5/8" REG				
Cross Over	1	2.68	6.062	2.8	4 IF				
3x6.5" DC	3	90.65	6.5	2.875	4 IF				
Cross over	1	2.08	5	3	4 IF				
15x5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		765.23							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		2	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB	6	66
BARITE	100LB		1320	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG	10	146
CAUSTIC SODA FLAKE	25LKG	1	30	CLAYSEAL PLUS	55GAL		14
DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB	7	25
PAC-L	50LB		40	SAPP	25KG		40
SODIUM BICARBONATE	25KG	4	29	X-TEND II	2LB		11

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	12-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	11,267		1,294	150		9,823
TK PEPESA	0	1,294		1,294		0
Total (gl)	11,267	1,294	1,294	1,444		9,823

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

DAILY DRILLING REPORT

BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	13-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	12-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	42
PHOENIX	4	RISK CONTROL	
SAVIA	4	SIMEDIC	1
TCS	10	TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3		

Total People : 84

Last Modification : 13-DEC-12 06:19 AM

DAILY DRILLING REPORT

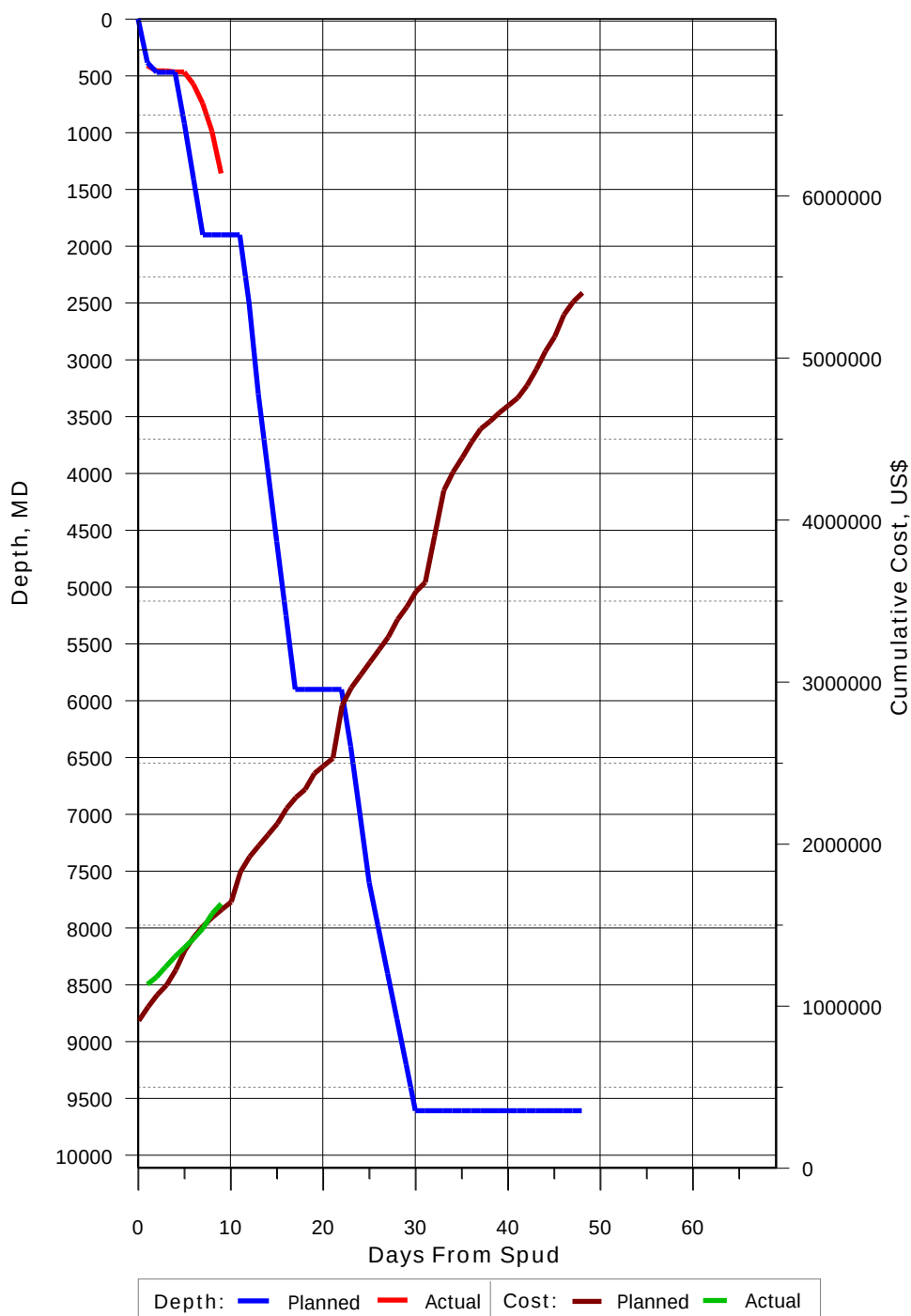
BLOCK - Z2B

Page 5/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	13-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	12-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 14-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 13-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	62,489	1,650,808	31

DRILLING DATA

MD at 24:00 hr:	1896.0 ft	Footage 24:00 hr:	538.00 ft	Drilling hours :	10.50	Days on Loc :	31	Drlg. days :	10
TVD at 24:00 hr:	1807.7 ft	Avg ROP :	51.24 ft/hr.	Cum. Drilling Hrs :	76.00	Days on Well :	31	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		10.50		13.00	0.50		
Cumulative	2.00	75.50		170.00	0.50		16.00

STATUS

Current Status :

POOH slick BHA at 1350 ft.

24 Hr. Summary :

Directional drill from 1358 ft to 1896 ft (538 ft total). drill in slide mode 233 ft (41%) with: pres 1980 psi, 770 gpm. WOB 18/22 klbs, avg ROP 45 ft/hr. Drill in rotate mode 315 ft (59 %) with WOB 15 klbs, 50 rpm, pres 1950 psi, TQ, 1 kft-lbs. 800 gpm. avg ROP 50 ft/hr. take MWD surveys. Circulate, pump vis pills, circulate bottoms up, shakers show caving, increasing mud weight from 9.4 to 9.8 ppg. Shakers clean, ok. Pooh dir. BHA w/ 17" PDC bit without problems.

24 Hr. Forecast :

L/D slick BHA, Run 13 3/8" Surface csg, cement csg, WOC, N/D 21 1/4" diverter, NU 13 5/8"x3M BOP.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	6B	PT	1358	1389	Cont.Dir. drill sliding from 1358' to 1389'. WOB 15 klbs, pres 1800 psi, 770 gpm.
01:00	01:30	0.50	6A	PT	1389	1422	Dir. drill rotating from 1389' to 1422'. WOB 15 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1800 psi. MW: 9.4 ppg.
01:30	02:00	0.50	29	PT			Rig services. while circulate.
02:00	02:30	0.50	6A	PT	1422	1439	Dir. drill rotating from 1422' to 1439'. WOB 14 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1800 psi. MW: 9.4 ppg.
02:30	03:00	0.50	16	PT			Ream, conection, Take survey @ 1369' inc 23.2 deg, azm 257.1 deg. MW: 9.4 ppg.
03:00	03:30	0.50	6B	PT	1439	1477	Cont.Dir. drill sliding from 1439' to 1477'. WOB 14 klbs, pres 1800 psi, 770 gpm.
03:30	04:30	1.00	6A	PT	1477	1534	Dir. drill rotating from 1477' to 1534'. WOB 16 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1850 psi. MW: 9.4 ppg.
04:30	05:00	0.50	16	PT			Ream, conection, Take survey @ 1462' inc 25.2 deg, azm 257.6 deg. MW: 9.4 ppg.
05:00	05:30	0.50	6B	PT	1534	1574	Cont.Dir. drill sliding from 1534' to 1574'. WOB 16 klbs, pres 1850 psi, 770 gpm.
05:30	07:00	1.50	6A	PT	1574	1630	Dir. drill rotating from 1574' to 1630'. WOB 16 klbs, 800 gpm, 50 rpm, TQ 1 kft-lb, pres 1850 psi. MW: 9.4 ppg. Take survey at 1557', incl 27.5 deg, azm 256.4 deg.
07:00	09:30	2.50	6B	PT	1630	1744	Accumulate dir. drill sliding f/1630 to 1744'. WOB 22 klbs, pres 1980 psi, dif 140 psi, 760 gpm. Survey @ 1652', incl 29.10 deg, azm 255.8 deg.
09:30	12:00	2.50	6A	PT	1744	1896	Accumulate dir. drill rotating f/1744 to 1896'. WOB 15 klbs, pres 1954 psi, 52 rpm, 780 gpm. MW: 9.4 ppg, shakers show caving. TD section @ 1896'.
12:00	12:30	0.50	25	PT			Accumulate connections and surveys. Last survey @ 1747', incl 31.10 deg, azm 255 deg. Geology sample @ 1896', FM Chacra, 90% claystone, 10%, limolita.
12:30	17:30	5.00	9	PT			Circulate, pump vis pills, circulate bottoms up, shakers show caving, increasing mud weight from 9.4 to 9.8 ppg. Shakers clean, ok.
17:30	00:00	6.50	11	PT			Pooh & L/D dir. BHA w/ 17" PDC bit to surface. without problems. condition rig floor to MU slick BHA.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Sertong personnel in location to run 13 3/8" csg.

Last geology sample at 1896 ft 90% clystone, 10% silstone.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:30	3.50	11	PT			MU & RIH slick BHA with 17" tricone bit, without problems. last stand wash down to bottom (1896 ft).

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	14-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	13-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

03:30	05:30	2.00	9	PT	Circulate bottom up, pump hi vis pill, continue circulate to shaker clean. calibrate hole with rice : 17.2".
05:30	06:00	0.50	11	PT	POOH slick BHA from 1896 ft to 1350 ft.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					HERNANDO LEON				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
18:00	1896	9.8	52	15	24	10	34	40	9.5	0.47	0.23	.58	300	100		0.25	6.8		20
24:00	1896	9.8	52	15	24	10	34	41	9.5	0.47	0.24	.58	300	100		0.25	6.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	1652	29.1	255.8	1559.82	285.94	-19.52	-291.8	1.71
MWD SURVEY	1747	31.1	255	1681.6	333.56	-31.4	-337.9	2.15
MWD SURVEY	1825	32.1	254	1748.04	374.43	-42.46	-377.3	1.45

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 3			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" PDC	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" NMDC MDW	1	30.74	8	3.25	6 5/8" REG				
8" NMDC	1	30.27	8	3.25	6 5/8" REG				
3X8" DC	3	90.00	8	2.875	6 5/8" REG				
Jar	1	18.11	8	2.75	6 5/8" REG				
Cross Over	1	2.68	6.062	2.8	4 IF				
3x6.5" DC	3	90.65	6.5	2.875	4 IF				
Cross over	1	2.08	5	3	4 IF				
15x5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		765.23							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		2	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB	8	58
BARITE	100LB	120	1200	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG	26	120
CAUSTIC SODA FLAKE	25LKG	4	26	CLAYSEAL PLUS	55GAL		14
DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	14-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	13-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB	4	21
PAC-L	50LB		40	SAPP	25KG	4	36
SODIUM BICARBONATE	25KG	2	27	X-TEND II	2LB	6	5

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	12-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	9,823			150		9,673
TK PEPESA	0			1,565		-1,565
Total (gl)	9,823			1,715		8,108

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	42
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	4
SIMEDIC	1	TCS	9
TESCO		TGT LAB	6
TRAMARSA	11	UNITED	3
Total People :		86	

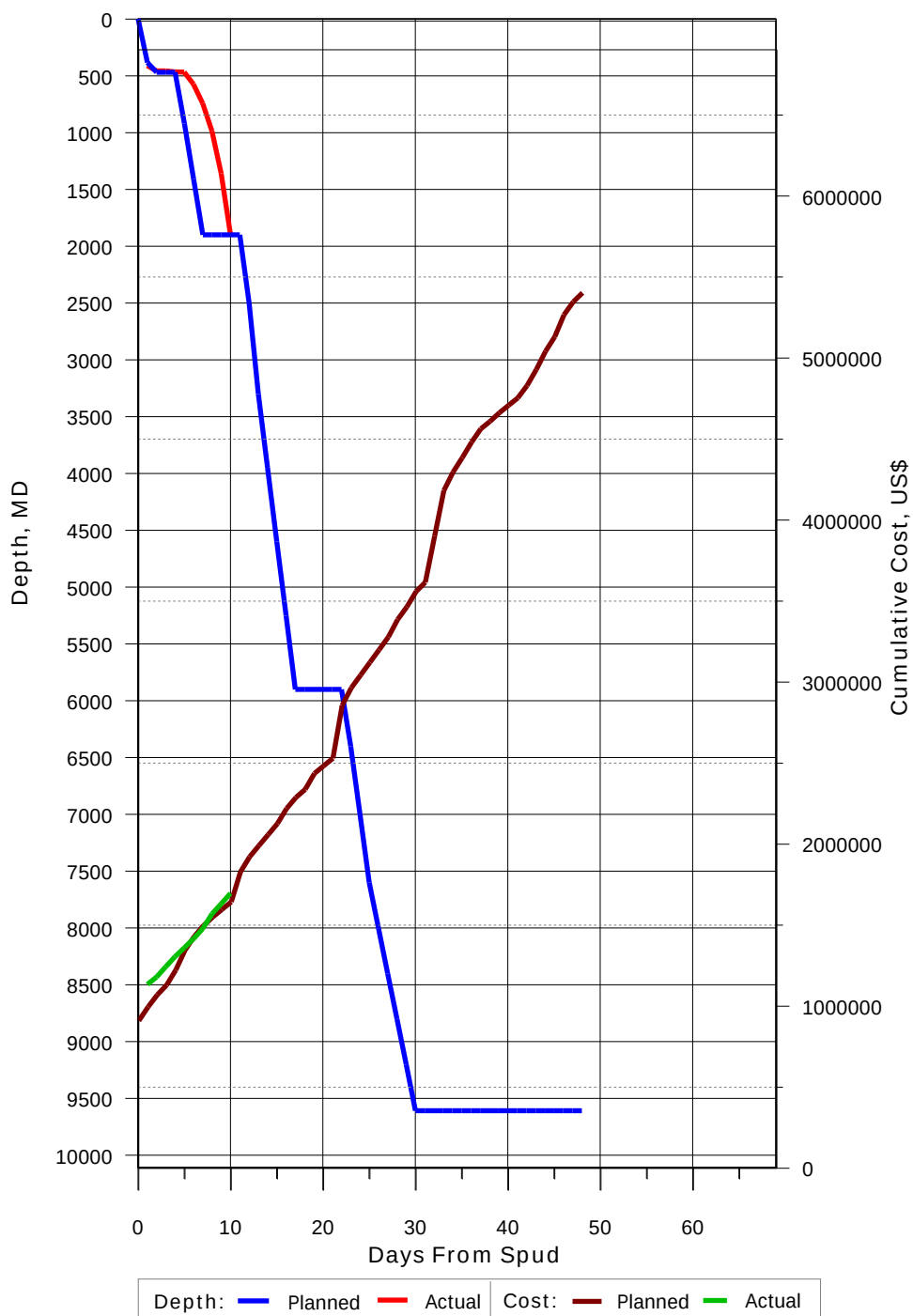
Last Modification : 14-DEC-12 06:16 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	14-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	13-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 15-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 14-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	164,605	1,815,413	34

DRILLING DATA

MD at 24:00 hr:	1896.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	32	Drlg. days :	11
TVD at 24:00 hr:	1807.7 ft	Avg ROP :	Cum. Drilling Hrs :	76.00	Days on Well :	32	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	75.50		194.00	0.50		16.00

STATUS

Current Status :

N/D 21 1/4" diverter.

24 Hr. Summary :

MU & RIH slick BHA with 17" tricone bit.circulate pump Hi vis pill.POOH slick BHA from 1896 ft to surface.R/U SERTONG equipment.Run 13 3/8" surface casing. from surface to 1896 ft. (total 51 jtsx 13 3/8" csg). (Made in Russia, 54.5 ppf, K-55, BTC.).circulate and start cement job (test cement lines,mix lead slurry of 12.8 ppg).

24 Hr. Forecast :

Install csg head.N/U 13 5/8"x5M BOP test. M/U 5" DP in stands. M/U dir. BHA.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:30	3.50	11	PT			MU & RIH slick BHA with 17" tricone bit, without problems. last stand wash down to bottom (1896 ft).
03:30	05:30	2.00	9	PT			Circulate bottom up, pump hi vis pill, continue circulate to shaker clean. calibrate hole with rice : 17.2".
05:30	09:00	3.50	11	PT			POOH slick BHA from 1896 ft to surface. Weld shoe and valve to 13 3/8" casing.
09:00	11:00	2.00	18	PT			R/U SERTONG equipment ,remove saver sub, install links on top drive, install hydraulic tongs.
11:00	12:00	1.00	18	PT			Perform safety meeting to run 13 3/8" casing with Sertong and Pepesa crew.
12:00	18:30	6.50	18	PT			Run 13 3/8" surface casing. from surface to 1825 ft (Made in Russia, 54.5 ppf, K-55, BTC.).
18:30	20:00	1.50	18	PT			Medomack vessel arrived to location, position next to Perla Barge. Continue TIH 13 3/8" casing, last 2 joint with circulation head to 1896' (Total : 51 jtsx 13 3/8" csg). Halliburton rig up cement li
20:00	21:30	1.50	18	PT			Circulate bottoms up with 250 gpm, 200 psi. Halliburton continue installing cement lines.
21:30	23:00	1.50	18	PT			Stop pump,L/D circulation head,Hulliburton R/U cement head, continue circulate
23:00	23:30	0.50	19	PT			Safety & operational meeting with all personnel : Hulliburton, PEPESA, TGT LAB and SAVIA. while circulate.
23:30	00:00	0.50	19	PT			Halliburton fill cmt lines with fresh water and test lines w/ 2000 psi. drop bottom plug. pump 15 bbls 8.4 ppg mud flush w/ 4.5 bpm . . Pump 25 bbls ,11.5 ppg tuned spacer w/ 4.5 bpm.
							Start mix lead slury Econocem 12.8 ppg.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Medomack cement barge arrived at location at 18:30 hrs. 14/12/2012. and leave location at 04:30 hrs. 15/12/2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	19	PT			Pump lead slurry Econocem : 12,8 ppg, 254 bbls, 4 bpm, 250 psi.Pump tail cement Halcem :59 bbls, 15.2 ppg, 4 bpm, 370 psi. Stop pumping and drop top plug.
							displacement with 289 bbls mud 9.8ppg (2 bbls over of theoric calculated) .7/2 bpm 650/430 psi. Return to surface 45 bbls spacer with cement 11.7 ppg and 15 bbls cement 12.2 ppg.
							Bump plug with 430 psi and overpressure to 980 psi. Perform back flow test 1 bbls, ok. used 982 sk of cement Pacasmayo.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 15-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 14-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

02:30 06:00 3.50 22 PT	Halliburton open cement head and discharge, R/D cement lines. Pepesa welder open window on 18" csg, cut and weld ring between 18" conductor and 13 3/8" csg ,in progress.Cut 13 3/8" csg,L/D bell nipple
	Halliburton L/D cement lines, Medomack cement barge leave location at 04:30 hrs.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50	800	2-2-CT-A-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers : HERNANDO LEON									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
06:00	1896	9.8	46	14	22	9	30	35	9.5	0.51	0.23	.56	300	100		0.15	6.8		20
21:00	1896	9.8	46	15	20	9	27	32	9.4	0.44	0.25	.58	300	100		0.15	6.8		20
24:00	1896	9.8	45	14	20	9	27	32	9.4	0.46	0.25	.58	300	100		0.15	6.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 3			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" PDC	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" NMDC MDW	1	30.74	8	3.25	6 5/8" REG				
8" NMDC	1	30.27	8	3.25	6 5/8" REG				
3X8" DC	3	90.00	8	2.875	6 5/8" REG				
Jar	1	18.11	8	2.75	6 5/8" REG				
Cross Over	1	2.68	6.062	2.8	4 IF				
3x6.5" DC	3	90.65	6.5	2.875	4 IF				
Cross over	1	2.08	5	3	4 IF				
15x5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		765.23							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		2	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB	1	57
BARITE	100LB	80	1120	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG		120
CAUSTIC SODA FLAKE	25LKG	4	22	CLAYSEAL PLUS	55GAL		14

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	15-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	14-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB	2	19
PAC-L	50LB		40	SAPP	25KG		36
SODIUM BICARBONATE	25KG	2	25	X-TEND II	2LB	5	

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	14-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	8,108		1,565	270		6,273
TK PEPESA		1,565		1,154		411
Total (gl)	8,108	1,565	1,565	1,424		6,684

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	40
PHOENIX		RISK CONTROL	
SAVIA	4	SERTONG	4
SIMEDIC	1	TCS	9
TECNOIL	1	TESCO	
TGT LAB	6	TRAMARSA	10
UNITED	3		

Total People : 80

Last Modification : 15-DEC-12 06:25 AM

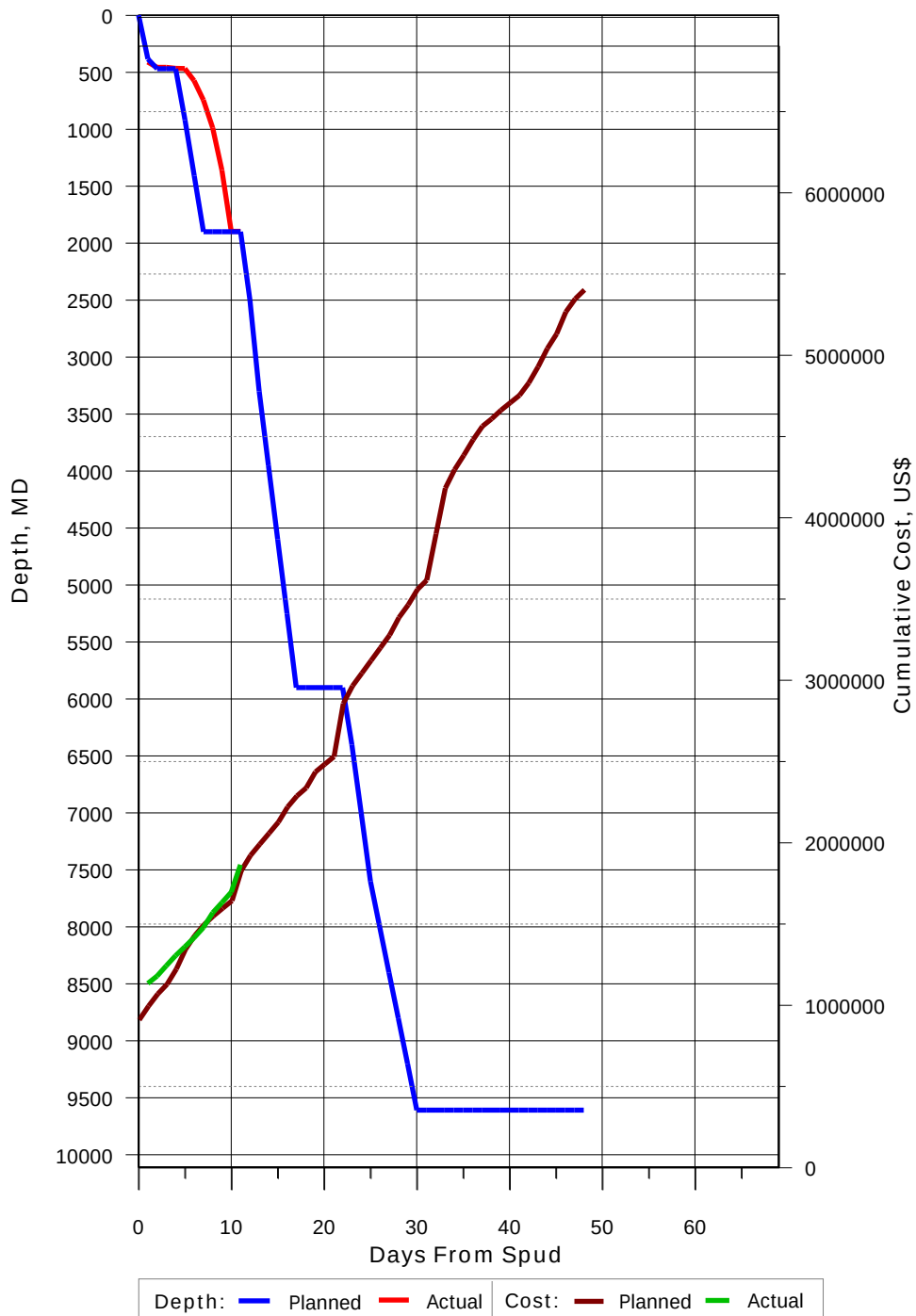
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	15-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	14-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 16-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 15-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	87,621	1,903,034	35

DRILLING DATA

MD at 24:00 hr:	1896.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	33	Drlg. days :	12
TVD at 24:00 hr:	1807.7 ft	Avg ROP :	Cum. Drilling Hrs :	76.00	Days on Well :	33	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	75.50		218.00	0.50		16.00

STATUS

Current Status :

MU 5" DP in stands

24 Hr. Summary :

Cement 13 3/8" Surface csg: Pump lead slurry 254 bbls, 12.8 ppg Pump tail cement Halcem :59 bbls, 15.2 ppg. drop top plug. displacement with 289 bbls mud 9.8ppg (2 bbls over of theoric calculated) . Return to surface 45 bbls spacer with cement 11.7 ppg and 15 bbls cement 12.2 ppg. Bump plug with 430 psi and overpressure to 980 psi. back flow 1 bbl, ok. open window on 18" csg, cut and weld ring between 18" conductor and 13 3/8" csg . Cut 13 3/8" csg, L/D bell nipple. N/D diverter. Weld and bevel on 13 3/8" csg, install & test casing head. N/U 13 5/8"x5M BOP stack. Attempt to install plug tester, no success, can not pass through the bell nipple. (The bell nipple diameter is less than the plug tester). L/D bell nipple.

24 Hr. Forecast :

M/U 5" DP in stands, M/U dir. BHA, tag and drill out cmt & form. Perform FIT test. drill 12 1/4" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	19	PT			Pump lead slurry Econocem : 12.8 ppg, 254 bbls, 4 bpm, 250 psi. Pump tail cement Halcem :59 bbls, 15.2 ppg, 4 bpm, 370 psi. Stop pumping and drop top plug.
							displacement with 289 bbls mud 9.8ppg (2 bbls over of theoric calculated) . 7/2 bpm 650/430 psi. Return to surface 45 bbls spacer with cement 11.7 ppg and 15 bbls cement 12.2 ppg.
							Bump plug with 430 psi and overpressure to 980 psi. Perform back flow test 1 bbls, ok. used 982 sk of cement Pacasmayo.
02:30	06:00	3.50	22	PT			Halliburton open cement head and discharge, R/D cement lines. Pepesa welder open window on 18" csg, cut and weld ring between 18" conductor and 13 3/8" csg . Cut 13 3/8" csg, L/D bell nipple. N/D divert
							Halliburton L/D cement lines, Medomack cement barge leave location at 04:30 hrs.
06:00	08:00	2.00	22	PT			Continue N/D diverter and 18" extension.
08:00	12:00	4.00	22	PT			Weld and bevel on 13 3/8" csg & condition to install 13 3/8" x 13 5/8" x 3M casing head type Slip lock.
12:00	12:30	0.50	22	PT			Perform slick lock test with 900 psi, 10 min, ok.
12:30	15:00	2.50	22	PT			Install 13 3/8" x 11" x 3M extension, install 13 3/8" x 5M drilling Spool, secure bolts.
15:00	18:00	3.00	22	PT			N/U 13 5/8" x 5M double ram BOP Hydrill, tighten bolts. N/U 13 5/8" x 5M annular preventer Hydrill.
18:00	21:00	3.00	22	PT			Install HCR and choke line. Weld and pads to center BOP
21:00	22:00	1.00	22	PT			Test operational BOP test, blind ramps 9 seg, pipe ramps 9 seg, HRC 2 seg, annular hydrill 25/30 seg, open/close, ok.
22:00	23:00	1.00	22	NPT			Attempt to Install bell nipple. No success . Need modify, very long.
23:00	00:00	1.00	22	NPT			Attempt to install plug tester, no success, can not pass through the bell nipple. (The bell nipple diameter (12.615") is less than the plug tester (13.5/8")). L/D bell nipple.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Medomack cement barge arrived at location at 18:30 hrs. 14/12/2012. and leave location at 04:30 hrs. 15/12/2012

Need chemicals to 12 1/4" phase.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 16-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 15-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	22	PT			M/U and install plug tester with 5" DP, prepare hydraulic pump to perform 13 5/8" BOP test.
01:00	03:30	2.50	22	PT			Perform BOP test: pipe rams w/ all valves of manifold with 300/3000 psi x 10 min each. Pressure test annular BOP with 300/1500 psi each ok.
							P/T mud hose to pump & kill valve 300/3000 psi, 10 min, ok. Pick up 5" DP from Perla barge to platform.
03:00	05:00	2.00	22	PT			Pick up & L/D 5"DP, Pressure tes Blind rams & HCR hydraulic valve with 300/3000 psi x 10 min. ok. Attempt test Manual valve.no success, can not be closed. need repair to perform pressure test. Pick u
05:00	06:00	1.00	25	PT			Continue Pick up 5" DP from Perla barge to platform, messure,take series and M/U 5" DP in stands in derrick.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					HERNANDO LEON				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
12:00	1896	9.8	46	14	20	9	25	30	9.4	0.48	0.24	.55	300	100		0.15	6.8		20
24:00	1896	9.8	46	14	20	9	25	31	9.4	0.48	0.24	.55	300	100		0.15	6.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1896	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 3			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" PDC	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" NMDC MDW	1	30.74	8	3.25	6 5/8" REG				
8" NMDC	1	30.27	8	3.25	6 5/8" REG				
3X8" DC	3	90.00	8	2.875	6 5/8" REG				
Jar	1	18.11	8	2.75	6 5/8" REG				
Cross Over	1	2.68	6.062	2.8	4 IF				
3x6.5" DC	3	90.65	6.5	2.875	4 IF				
Cross over	1	2.08	5	3	4 IF				
15x5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		765.23							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 16-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 15-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		2	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB		57
BARITE	100LB		1120	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG		
CAUSTIC SODA FLAKE	25LKG		22	CLAYSEAL PLUS	55GAL		14
DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB		19
PAC-L	50LB		40	SAPP	25KG		36
SODIUM BICARBONATE	25KG		25	X-TEND II	2LB		

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	14-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	6,273		93	200		5,980
TK PEPESA	411	93		504		0
Total (gl)	6,684	93	93	704		5,980

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	41
PHOENIX		RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL	1	TESCO	
TGT LAB	6	TRAMARSA	10
UNITED	3		

Total People : 77

Last Modification : 16-DEC-12 06:29 AM

DAILY DRILLING REPORT

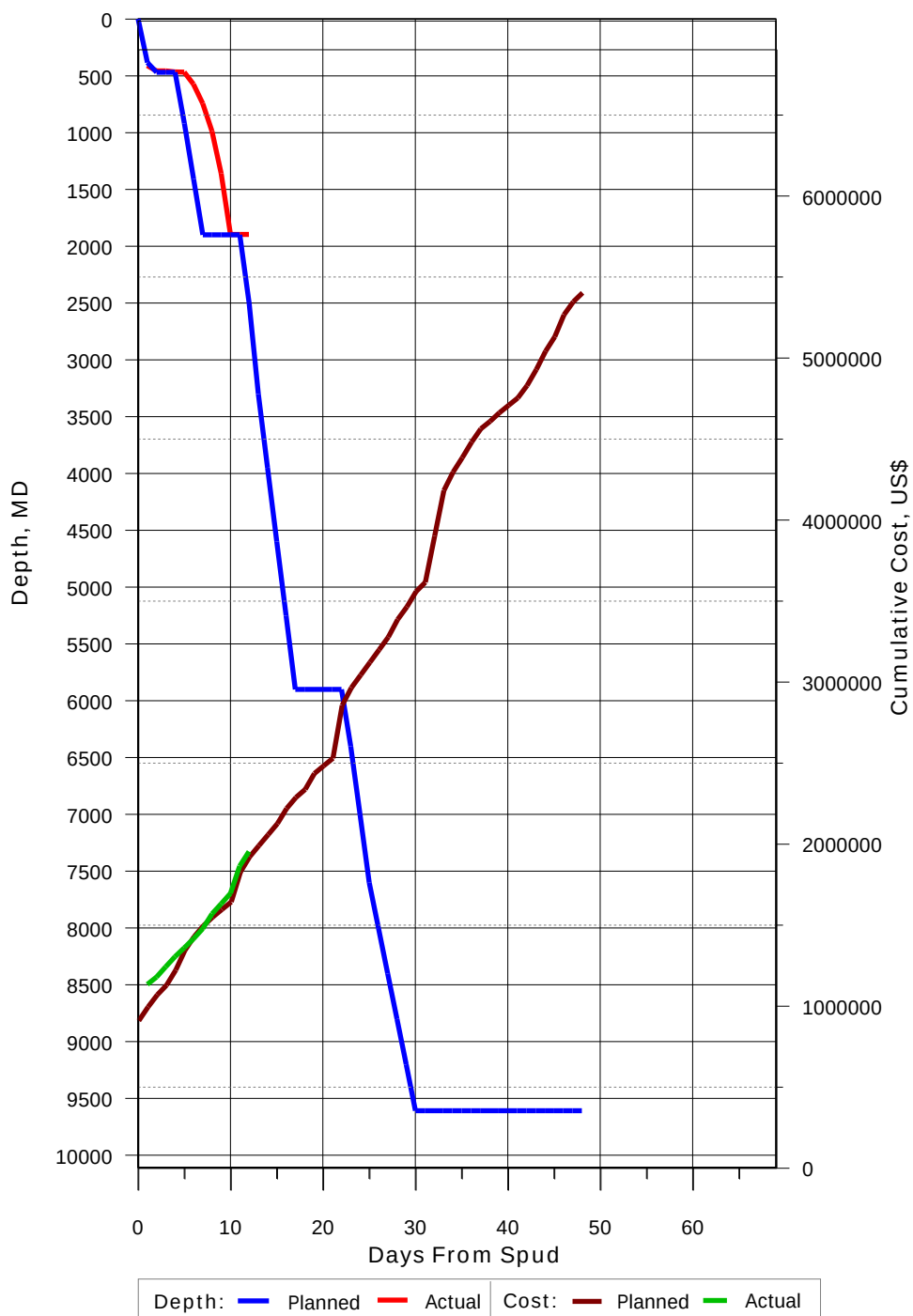
BLOCK - Z2B

Page 4/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	16-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	15-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	17-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	16-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	61,881	1,964,915	36

DRILLING DATA

MD at 24:00 hr:	1896.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	34	Drlg. days :	13
TVD at 24:00 hr:	1807.7 ft	Avg ROP :	Cum. Drilling Hrs :	76.00	Days on Well :	34	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	75.50		242.00	0.50		16.00

STATUS

Current Status :

Drilling 12 1/4" hole at 2060 ft.

24 Hr. Summary :

Perform BOP test: pipe rams w/ all valves of manifold with 3000 psi ok. P/T annular BOP with 1500 psi ok. P/T mud hose to pump & kill valve 3000 psi, ok. P/T Blind rams & HCR valves with 3000 psi ok. M/U 99x5" DP in stands in derrick. Install 16" bell nipple on hydrill annular. MU & RIH Directional BHA with 12 1/4" PDC bit and RIH with 5" DP to Tag top of cement at 1854 ft. Drill out cement f/1854' to 1874'. drill out top and bottom plug & float collar. with 420 gpm, 950 psi.

24 Hr. Forecast :

Drill ahead 12 1/4" directional hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	22	PT			M/U and install plug tester with 5" DP, prepare hydraulic pump to perform 13 5/8" BOP test.
01:00	03:30	2.50	22	PT			Perform BOP test: pipe rams w/ all valves of manifold with 300/3000 psi x 10 min each. Pressure test annular BOP with 300/1500 psi each ok.
							P/T mud hose to pump & kill valve 300/3000 psi, 10 min, ok. Pick up 5" DP from Perla barge to platform.
03:30	05:00	1.50	22	PT			Pick up & L/D 5" DP, Pressure tes Blind rams & HCR hydraulic valve with 300/3000 psi x 10 min. ok. Attempt test Manual valve. no success, can not be closed. need repair to perform pressure test. Pick u
05:00	13:00	8.00	25	PT			Continue Pick up 5" DP from Perla barge to platform, messure, take series and M/U 5" DP in stands in derrick. Repair HCR manual valve and pressure test with 300/3000 psi x 10 min ok. L/D plug tester,
13:00	14:30	1.50	22	NPT			Install 16" bell nipple on hydrill annular.
14:30	22:00	7.50	22	PT			Rig up 12" PDC bit (Reed hycalog RSR519S, (jets 1x18, 4x16), Mud motor BH 1.5, Pony monel, 12 1/8" stabilizer, UBHO, 8" MWD, 8" NMDC, cross over, 1x6 3/4" DC, cross over, 18x5" HWDP, Jar, 6x5" HWDP. t
22:00	22:30	0.50	23	PT			Last 2 stands wash down from 1700 ft and Tag top of cement at 1854 ft.
22:30	00:00	1.50	23	PT	1854	1874	Drill out cement f/1854' to 1874'. drill out top and bottom plug & float collar. with 420 gpm, 950 psi, 40 rpm, WOB 5 klbs, TQ 3-4 klb-ft.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Ocurrio una urgencia, se evacuo en la lancha Mancora a Talara a un personal de Catering por problemas en la parte baja del abdomen. 21:30 hrs.

Recibio Materiales (quimica y agua industrial:13Mgal) de embarcacion Sophia Crhistine. el 16/12/2012.

Recibe 6000 gal de diesel (RQ: #29901) y 40M gal agua industrial de embarcacion Lobitos Express el dia 17/12/2012.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	23	PT			Stop circulation and close anular BOP and perform casing integrity test w/ 900 psi, 10 min, ok.
00:30	01:30	1.00	23	PT	1874	1893	Continue drill out cement f/ 1874' to 1893'. with 450 gpm, 950 psi, 40 rpm, WOB 5 klbs, TQ 3-4 klb-ft.
01:30	02:00	0.50	23	PT			Hulliburton change mud system w/400gpm, 950 psi. Displace contaminate mud by 9.8 ppg mud system. clean tanks.
02:00	03:30	1.50	6A	PT	1893	1906	Drill cmt, shoe and 10 ft of formation fr 1893 ft to 1906 ft, circulate an geology confirm 100 % formation.
03:30	04:00	0.50	25	PT			Perform Formation Integrity Test (FIT) with MW 9.8 ppg. EMW 13.5 ppg. 348 psi, at 1807 ft TVD. No success, do not held pressure, drop press to 250 psi in 15

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 17-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 16-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

							min. (with 250 psi the EMW=12.5 ppg).
04:00	06:00	2.00	6A	PT	1906	2060	Directional drill rotate from 1906 ft to 2060 ft. with 600 gpm,1600 psi,50 rpm, 8/10 klb WOB, 4 kft-lb TQ.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	1896	9.8	44	15	18	6	16	20	10.5	0.9	0.4	.6	300	160		0.2	6.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 4			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.85			6 5/8" REG		E145473		
Mud motor 1.5	1	23.74	8		6 5/8" REG	105	24XH12702	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.33							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		9	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB		57
BARITE	100LB		1760	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB		60	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG		376	CAUSTIC SODA FLAKE	25LKG		62
CLAYSEAL PLUS	55GAL		24	DEFOAMERS SILICONE	5GAL		24

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	17-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	16-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

DEXTRID	50LB		54	EZ SPOT	55GAL		49
KWIK SEAL MEDIUM	40LB		59	LIGNOX PLUS	50LB		50
N-SEAL	30LB		48	PAC R	50LB		19
PAC-L	50LB		40	SAPP	25KG		36
SODIUM BICARBONATE	25KG		69	STEELSEAL 100	50LB		60
STEELSEAL50	50LB		42	THERMA-THIN	5GAL		48
WALLNUT SHELLS	50LB		48	X-TEND II	2LB		

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	16-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	5,980		626	250		5,104
TK PEPESA	0	626		626		0
Total (gl)	5,980	626	626	876		5,104

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	41
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	10
UNITED	3		

Total People : 80

Last Modification : 17-DEC-12 05:59 AM

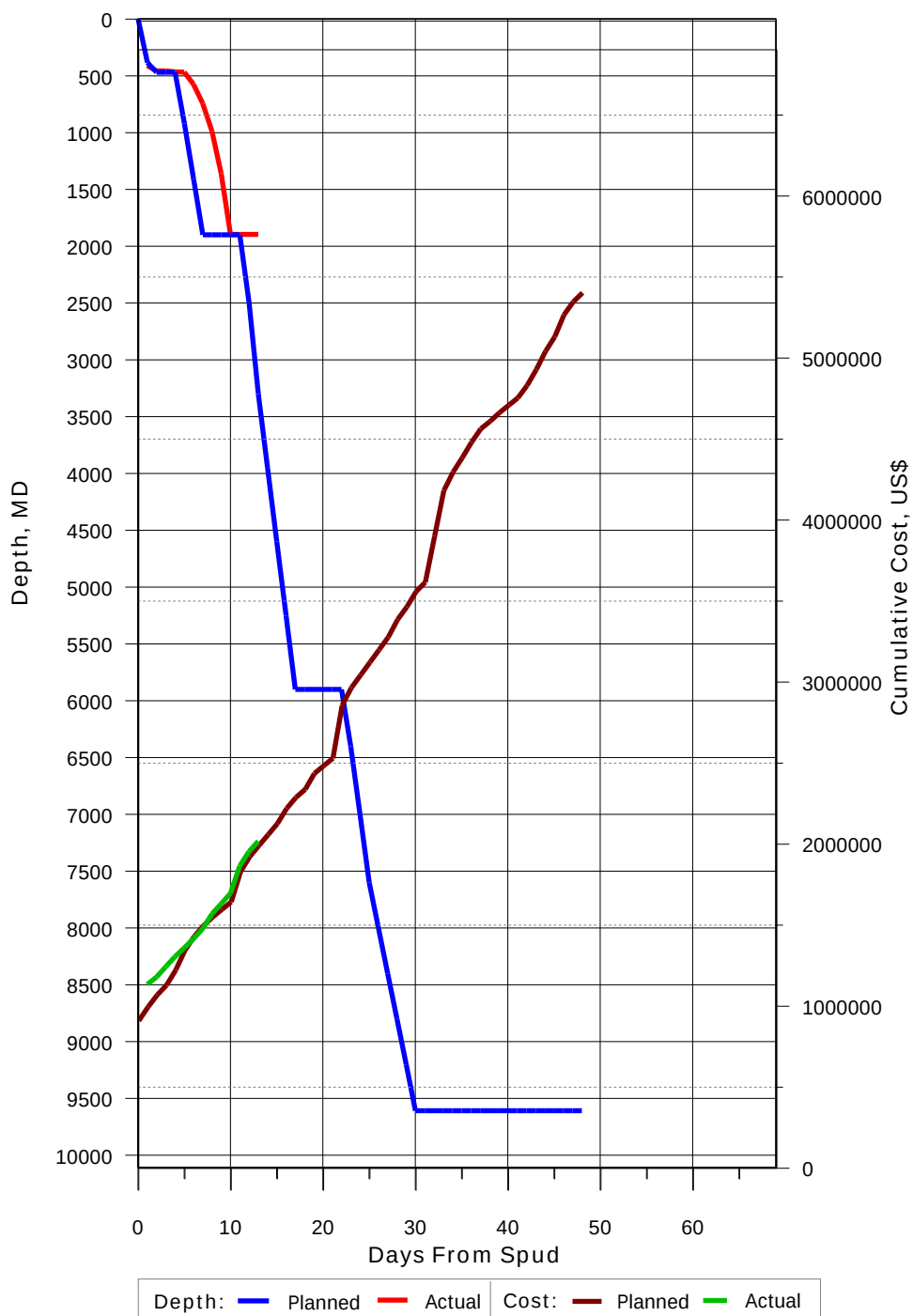
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	17-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	16-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 18-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 17-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	113,446	2,078,361	38

DRILLING DATA

MD at 24:00 hr:	2942.0 ft	Footage 24:00 hr:	1046.00 ft	Drilling hours :	17.50	Days on Loc :	35	Drlg. days :	14
TVD at 24:00 hr:	2692.0 ft	Avg ROP :	59.77 ft/hr.	Cum. Drilling Hrs :	93.00	Days on Well :	35	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		17.50		6.00	0.50		
Cumulative	2.00	93.00		248.00	1.00		16.00

STATUS

Current Status :

Drilling 12 1/4" hole at 3170

24 Hr. Summary :

perform casing integrity test w/ 900 psi, ok.Cont. drill out cement f/ 1874' to 1893'.change mud system w/400gpm, 950 psi. Displace contaminate mud by 9.8 ppg mud system.Drill cmt,shoe and 10 ft of formation to 1906 ft.Perform Formation Integrity Test (FIT) with MW 9.8 ppg. EMW 13.5 ppg. 348 psi,at 1807 ft TVD.No success, do not held pressure, drop press to 250 psi in 15 min. (with 250 psi the EMW=12.5 ppg).Directional drill from 1896 ft to 2942 ft (1046 ft total). drill in slide mode 94 ft (9%) with: pres 2450 psi, 770 gpm. WOB 18/20 klbs. Drill in rotate mode 952 ft (91 %) with WOB 15/20 klbs, 70 rpm, pres 2500 psi, TQ, 4.5 kft-lbs. 770 gpm. avg ROP 70 ft/hr. take MWD surveys. Last geology sample at 2940 ft :80 clystone, 20% silstone.

24 Hr. Forecast :

Drill ahead 12 1/4" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	23	PT			Stop circulation and close anular BOP and perform casing integrity test w/ 900 psi, 10 min, ok.
00:30	01:30	1.00	23	PT	1874	1893	Continue drill out cement f/ 1874' to 1893'. with 450 gpm, 950 psi, 40 rpm, WOB 5 klbs, TQ 3-4 klb-ft.
01:30	02:00	0.50	23	PT			Halliburton change mud system w/400gpm, 950 psi. Displace contaminate mud by 9.8 ppg mud system. clean tanks.
02:00	03:30	1.50	6A	PT	1893	1906	Drill out cmt,shoe and 10 ft of formation fr 1893 ft to 1906 ft, circulate an geology confirm 100 % formation.
03:30	04:00	0.50	25	PT			Perform Formation Integrity Test (FIT) with MW 9.8 ppg. EMW 13.5 ppg. 348 psi,at 1807 ft TVD.No success, do not held pressure, drop press to 250 psi in 15 min. (with 250 psi the EMW=12.5 ppg).
04:00	06:00	2.00	6A	PT	1906	2060	Directional drill rotate from 1906 ft to 2060 ft. with 600 gpm,1600 psi,50 rpm, 8/10 klb WOB, 4 kft-lb TQ.
06:00	07:30	1.50	6B	PT	2060	2097	Accumulate dir. drill sliding from 2060' to 2097'. WOB 13.5 klbs, pres 1950 psi, 680 gpm. MW: 9.8 ppg, FM Chacra, 100% claystone.
07:30	11:00	3.50	6A	PT	2097	2502	Accumulate dir. drill rotating from 2097' to 2502'. WOB 17 klbs, 60 rpm, pres 2400 psi, 780 gpm. Change Formation @ 2450', 70% sandstone, 20% claystone, 10% sand. Gas 70 units.
11:00	12:00	1.00	16	PT			Accumulate ream and surveys @ 2343', inc 33.8 deg, azm 252 deg.
12:00	13:00	1.00	6B	PT	2502	2513	Dir. drill sliding from 2502' to 2513'. WOB 17 klbs, 720 gpm, pres 2214 psi. Gas 220 units, drop to cero. Show over pull 40 klbs.
13:00	14:30	1.50	6A	PT	2513	2595	Dir. drill rotating from 2513' to 2595'. WOB 21 klbs, 70 rpm, 770 gpm, pres 2420 psi. Geology sample @ 2570', 50% sandstone, 40% claystone, 10% sand.
14:30	15:30	1.00	9	PT			Circulate, pump vis pill to clean annular. keep string moving up/down, while cleaning possum belly (embudo zaranda) full claystone.
15:30	16:30	1.00	6B	PT	2595	2611	Dir. drill sliding from 2595' to 2611'. WOB 17 klbs, 720 gpm, pres 2200 psi.
16:30	17:30	1.00	6A	PT	2611	2692	Dir. drill rotating from 2611' to 2692'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2500 psi.
17:30	18:00	0.50	16	PT			Ream and take survey.
18:00	18:30	0.50	6B	PT	2692	2708	Dir. drill sliding from 2692' to 2708'. WOB 18 klbs, 730gpm, pres 2300 psi.
18:30	19:30	1.00	6A	PT	2708	2786	Dir. drill rotating from 2708' to 2786'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2500 psi.
19:30	20:00	0.50	16	PT			Ream and take survey.
20:00	21:30	1.50	6A	PT	2786	2882	Dir. drill rotating from 2786' to 2882'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2620 psi.
21:00	21:30	0.50	16	PT			Ream and take survey.
21:30	22:00	0.50	29	PT			Rig services.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	18-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	17-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

22:00	23:00	1.00	6B	PT	2882	2894	Dir. drill sliding from 2882' to 2894'. WOB 18 klbs, 750gpm, pres 2420 psi.
23:30	00:00	0.50	6A	PT	2894	2942	Dir. drill rotating from 2894' to 2942'. WOB 15/20 klbs, 70 rpm, 770 gpm, pres 2620 psi.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.
Last geology sample at 3168 ft : 100% clystone, last survey at 3102 ft, inc 33.5 deg, azm 252.4 deg.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	6A	PT	2942	2977	Dir. drill rotating from 2942' to 2977'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2600 psi. 75 ft/hr ROP
00:30	01:00	0.50	16	PT			Ream and surveys
01:00	02:30	1.50	6A	PT	2977	3073	Dir. drill rotating from 2977' to 3073'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2600 psi. 75 FT/HR ROP. geology sample at 3168 ft : 100% clystone,
02:30	03:00	0.50	16	PT			Ream and surveys at 3008 ft, inc 33.7 deg, azm 253.1 deg.
03:00	04:00	1.00	6B	PT	3073	3088	Dir. drill sliding from 3073' to 3088'. WOB 15/20 klbs, 750 gpm, pres 2650 psi.
04:00	05:00	1.00	6A	PT	3088	3168	Dir. drill rotating from 3088' to 3168'. WOB 15/20 klbs, 70 rpm, 770 gpm, pres 2640 psi. 4.5 k ft-lb TQ.
05:00	06:00	1.00	16	PT			Circulate, pump hi vis pill to clean the hole. ream and take survey at 3102 ft, inc 33.5 deg, azm 252.4 deg.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	JM1361	1x18-4x16	1896							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					H. LEON/D CARRILLO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
14:00	2595	10	46	14	18	9	20	26	9.5	0.48	0.32	.54	300	120		0.15	7.8		15
24:00	2940	10.1	47	15	20	9	21	26	9.5	0.5	0.34	.55	300	120		0.15	7.8		15

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SUEVEY	2723	33.9	253.9	2504.25				1.62
MWD SUEVEY	2818	33.5	254.8	2583.28				.67
MWD SUEVEY	2913	33.6	253.8	2662.46				.59
MWD SUEVEY	3008	33.7	253.1	2741.54				.42

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 4				Name : 12 1/4" BHA					
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.85			6 5/8" REG		E145473		
Mud motor 1.5	1	23.74	8		6 5/8" REG	105	24XH12702	2.22	

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	18-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	17-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.33							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL	2	7	ALDACIDE G	2GAL	6	26
AQUAGEL	100lb			BARAZAN D PLUS	25LB	15	42
BARITE	100LB	400	1360	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB		60	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG	30	346	CAUSTIC SODA FLAKE	25LKG	6	56
CLAYSEAL PLUS	55GAL	10	14	DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB	32	22	EZ MUD DP	50LB	10	39
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB		50	N-SEAL	30LB		48
PAC R	50LB	4	15	PAC-L	50LB	6	34
SAPP	25KG		36	SODIUM BICARBONATE	25KG	6	63
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		48
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	17-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	5,104	6,000	1,654	270		9,180
TK PEPESA	0	1,654		1,654		0
Total (gl)	5,104	7,654	1,654	1,924		9,180

DAILY DRILLING REPORT

BLOCK - Z2B

Page 4/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 18-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 17-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	41
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	10
UNITED	3		

Total People : 80

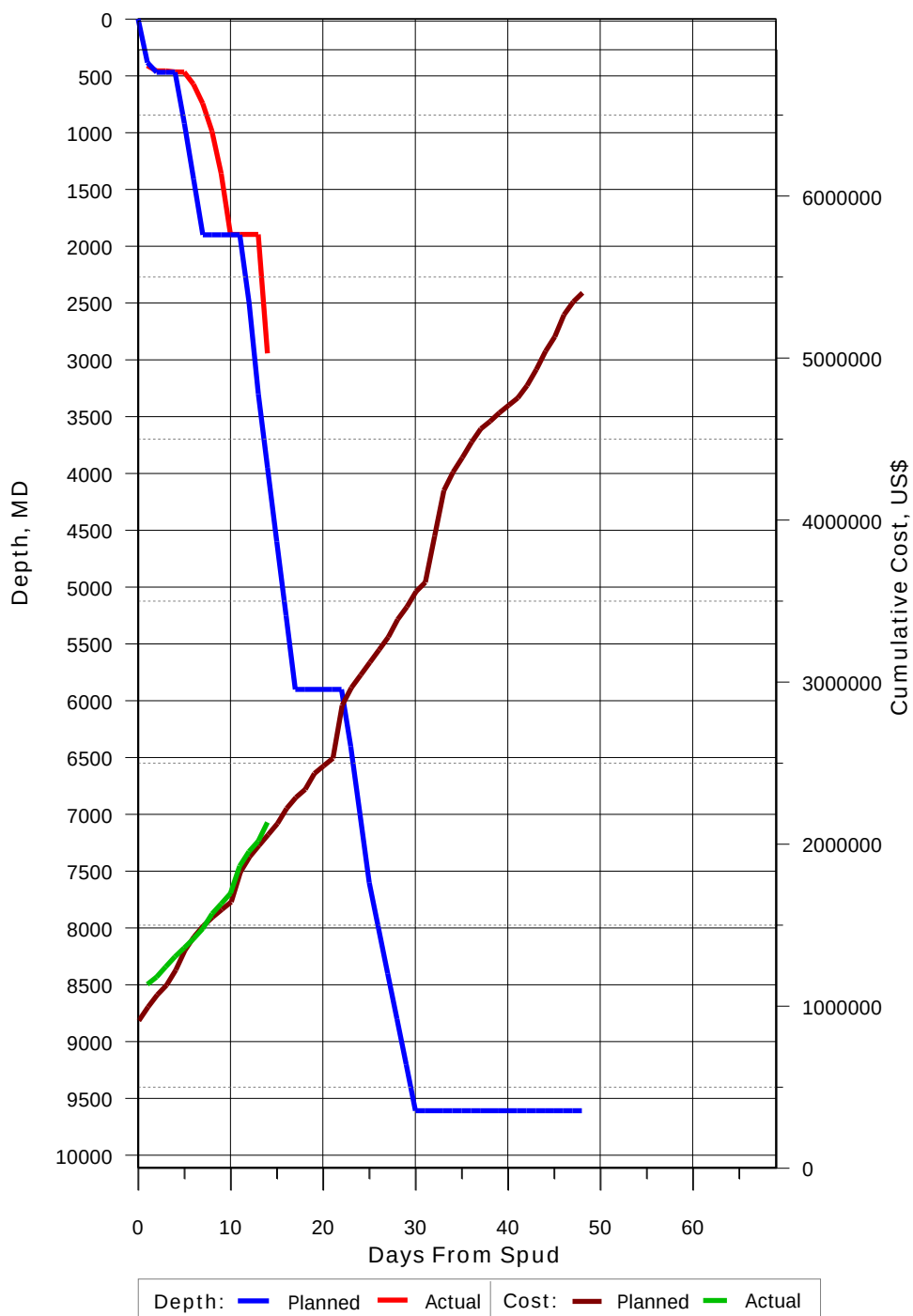
Last Modification : 18-DEC-12 06:23 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	18-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	17-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 19-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 18-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	75,764	2,154,125	40

DRILLING DATA

MD at 24:00 hr:	3736.0 ft	Footage 24:00 hr:	794.00 ft	Drilling hours :	17.00	Days on Loc :	36	Drlg. days :	15
TVD at 24:00 hr:	3350.0 ft	Avg ROP :	46.71 ft/hr.	Cum. Drilling Hrs :	110.00	Days on Well :	36	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		17.00		6.50	0.50		
Cumulative	2.00	110.00		254.50	1.50		16.00

STATUS

Current Status :

Drilling 12 1/4" hole at 3880

24 Hr. Summary :

Directional drill from 2942 ft to 3736 ft (794 ft total). drill in slide and rotate mode with: WOB 15/20 klbs, 70 rpm, 770 gpm ,pres 2900 psi, TQ, 7 kft-lbs. Circulate, pump hi vis pill. Wiper trip, from 3736 ft. to shoe (1894 ft). without problem. no show drag. Last geology sample at 3710 ft :80 clystone, 20% silstone.

24 Hr. Forecast :

Drill ahead 12 1/4" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	6A	PT	2942	2977	Dir. drill rotating from 2942' to 2977'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2600 psi. 75 ft/hr ROP
00:30	01:00	0.50	16	PT			Ream and surveys
01:00	02:30	1.50	6A	PT	2977	3073	Dir. drill rotating from 2977' to 3073'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2600 psi. 75 FT/HR ROP. geology sample at 3168 ft : 100% clystone,
02:30	03:00	0.50	16	PT			Ream and surveys at 3008 ft, inc 33.7 deg, azm 253.1 deg.
03:00	04:00	1.00	6B	PT	3073	3088	Dir. drill sliding from 3073' to 3088'. WOB 15/20 klbs, 750 gpm, pres 2650 psi.
04:00	05:00	1.00	6A	PT	3088	3168	Dir. drill rotating from 3088' to 3168'. WOB 15/20 klbs, 70 rpm, 770 gpm, pres 2640 psi. 7 k ft-lb TQ.
05:00	06:00	1.00	16	PT			Circulate, pump hi vis pill to clean the hole. ream and take survey at 3102 ft, inc 33.5 deg, azm 252.4 deg.
06:00	09:30	3.50	6A	PT	3168	3310	Dir. drill rotating from 3168' to 3310'. WOB 16/17 klbs, 65 rpm, pres 2360 psi, 650 gpm. Pepesa Pump #2 lainer 6" leak, working with pump #1 White Star and #3 PZ8. ROP 68 ft/hr.
09:30	11:00	1.50	6A	PT	3310	3357	Dir. drill rotating form 3310' to 3357'. WOB 17 klbs, 65 rpm, pres 2900 psi, 760 gpm. Working with pump #1 & #2 (White Star). ROP 85 ft/hr.
11:00	12:00	1.00	6A	PT	3357	3391	Dir. drill rotating from 3357' to 3391'. WOB 16 klbs, 65 rpm, pres 2300 psi, 650 gpm. Pepesa Pump #2 packing cover fail, working with pump #1 White Star and #3 PZ8. ROP 65 ft/hr.
12:00	12:30	0.50	6A	PT	3391	3418	Dir. drill rotating form 3391' to 3418'. WOB 17 klbs, 65 rpm, pres 2900 psi, 760 gpm. Working with pump #1 & #2 (White Star). ROP 90 ft/hr.
12:30	13:00	0.50	6A	PT	3418	3453	Dir. drill rotating from 3418' to 3453'. WOB 16 klbs, 68 rpm, pres 2357 psi, 680 gpm. Pepesa Pump #1 piston fail, working with pump #2 White Star and #3 PZ8. ROP 70 ft/hr.
13:00	14:00	1.00	6A	PT	3453	3515	Dir. drill rotating form 3453' to 3515'. WOB 17 klbs, 65 rpm, pres 2900 psi, 760 gpm. Working with pump #1 & #2 (White Star). ROP 105 ft/hr.
14:00	15:00	1.00	6A	PT	3515	3548	Dir. drill rotating from 3515' to 3548'. WOB 16 klbs, 65 rpm, pres 2350 psi, 680 gpm. Pepesa Pump #1 piston fail, working with pump #2 White Star and #3 PZ8. ROP 60 ft/hr.
15:00	19:00	4.00	6A	PT	3548	3736	Dir. drill rotating & sliding form 3548' to 3736'. WOB 15 klbs, 65 rpm, pres 2970 psi, 750 gpm, TQ 7 k lb-ft Working with pump #1 & #2 (White Star). ROP 60 ft/hr.
19:00	21:00	2.00	9	PT			Circulate, pump vis pill, condition hole, shakers clean, ok.
21:00	23:30	2.50	11	PT			Wiper trip, from 3736 ft. to shoe (1894 ft). without problem. no show drag.
23:30	00:00	0.50	29	PT			Rig services while clean possum belly and shaker tank.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Llego a locación 3 personas de empresa Hibernatica (Tecnec) a las 14:30 hrs para instalar mampara a compresor de producción, se retiraron a Talara las 18 hrs.

Last geology sample at 3830 ft :50% clystone,20 % silstone, 30% sand.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	19-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	18-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			RIH from Shoe(1894 ft) to 3520 ft . without problem. last 2 stand wash down to bottom (3736 ft)
02:00	02:30	0.50	9	PT			Circualte bottom up with 780 gpm.
02:30	03:30	1.00	6A	PT	3736	3790	Dir. drill rotating from 3736' to 3790'. WOB 17 klbs, 60 rpm, pres 2750 psi, 750 gpm. Pepesa Pump #1 packing cover fail, ROP 54 ft/hr.
03:30	04:30	1.00	6A	PT	3790	3831	Dir. drill rotating from 3790' to 3831'. WOB 16 klbs, 60 rpm, pres 2100 psi, 660 gpm. working with pump #2 White Star and #3 PZ8.
04:30	05:00	0.50	16	PT			Ream & survey.
05:00	06:00	1.00	6A	PT	3831	3880	Dir. drill rotating from 3831' to 3880'. WOB 17 klbs, 65 rpm, pres 2780 psi, ROP 51 ft/hr. Last geology sample at 3830ft :50%clystone,20 % silstone, 30% sand.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					H. LEON/D CARRILLO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
19:00	3730	10.2	54	14	20	9	36	42	9	0.46	0.25	.64	300	100		0.15	7.8		20
24:00	3736	10.3	52	16	20	9	36	41	9.4	0.56	0.28	.65	300	100		0.15	8.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	3482	33	251.5	3137.67				.36
MWD SURVEY	3577	33.3	251.9	3217.21				.39
MWD SURVEY	3672	33.5	252.8	3296.52				.56
MWD SURVEY	3767	33.9	252.7	3375.55				.43

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 4			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.85			6 5/8" REG		E145473		
Mud motor 1.5	1	23.74	8		6 5/8" REG	105	24XH12702	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.33							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 19-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 18-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		7	ALDACIDE G	2GAL	2	24
AQUAGEL	100lb			BARAZAN D PLUS	25LB	6	36
BARITE	100LB	320	1040	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB		60	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG		346	CAUSTIC SODA FLAKE	25LKG	6	50
CLAYSEAL PLUS	55GAL	4	10	DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB	15	7	EZ MUD DP	50LB	2	37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB		50	N-SEAL	30LB		48
PAC R	50LB	7	8	PAC-L	50LB	4	30
SAPP	25KG	7	29	SODIUM BICARBONATE	25KG	8	55
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB	6	42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	17-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	9,180		2,354	250		6,576
TK PEPESA	0	2,354		2,354		0
Total (gl)	9,180	2,354	2,354	2,604		6,576

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	41
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	10
UNITED	5		

Total People : 82

DAILY DRILLING REPORT
BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	19-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	18-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Last Modification : 19-DEC-12 06:29 AM

DAILY DRILLING REPORT

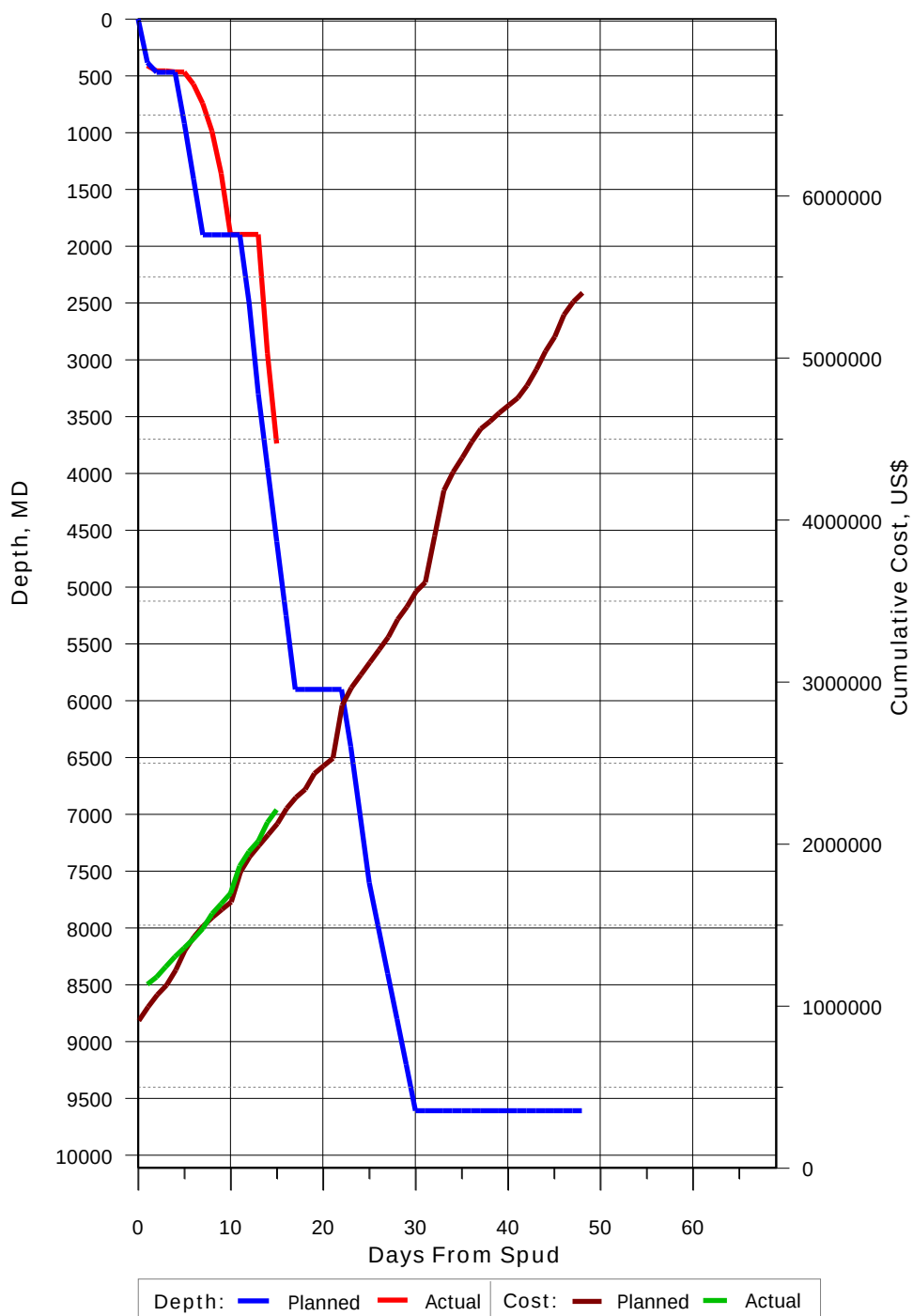
BLOCK - Z2B

Page 5/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	19-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	18-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	20-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	19-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	70,974	2,225,099	41

DRILLING DATA

MD at 24:00 hr:	4244.0 ft	Footage 24:00 hr:	508.00 ft	Drilling hours :	17.50	Days on Loc :	37	Drlg. days :	16
TVD at 24:00 hr:	3771.0 ft	Avg ROP :	29.03 ft/hr.	Cum. Drilling Hrs :	128.00	Days on Well :	37	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		17.50		4.00	2.50		
Cumulative	2.00	127.50		258.50	4.00		16.00

STATUS

Current Status :

Drilling 12 1/4" hole at 4377

24 Hr. Summary :

Directional drill from 3736 ft to 4244 ft (508 ft total). drill in slide(33 ft) and rotate (475ft) mode with: WOB 15/20 klbs, 65 rpm, 650/770 gpm ,pres 2300/2900 psi, TQ, 12 kft-lbs. Last geology sample at 4220 ft :10 clystone,60% sand, 20% sandstone,10% silstone

24 Hr. Forecast :

Drill ahead 12 1/4" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			RIH from Shoe(1894 ft) to 3520 ft . without problem. last 2 stand wash down to bottom (3736 ft)
02:00	02:30	0.50	9	PT			Circualte bottom up with 780 gpm.
02:30	03:30	1.00	6A	PT	3736	3790	Dir. drill rotating from 3736' to 3790'. WOB 17 klbs, 60 rpm, pres 2750 psi, 750 gpm. Pepesa Pump #1 packing cover fail, ROP 54 ft/hr.
03:30	04:30	1.00	6A	PT	3790	3831	Dir. drill rotating from 3790' to 3831'. WOB 16 klbs, 60 rpm, pres 2100 psi, 660 gpm. working with pump #2 White Star and #3 PZ8.
04:30	05:00	0.50	16	PT			Ream & survey.
05:00	09:00	4.00	6A	PT	3831	3975	Dir. drill rotating from 3831' to 3975'. WOB 17 klbs, 65 rpm, pres 2780 psi, ROP 51 ft/hr. Survey @ 3862' incl 33.9 deg, azm 252.6 deg.
09:00	10:00	1.00	28	NPT			Pepesa repair pumps #2 and #1.
10:00	12:00	2.00	6A	PT	3975	4032	Dir. drill rotating from 3975' to 4032'. WOB 14 klbs, 750 gpm, pres 2840 psi, TQ 12 klbs-ft.
12:00	12:30	0.50	9	PT			Accumulate reaming and circulating.
12:30	14:00	1.50	6B	PT	4032	4045	Cia. Phoenix work string up/down, position tool face. Dir. drill sliding from 4032' to 4045'. WOB 20 klbs, 670 gpm, pres 2200 psi. Pepesa pump #1 packing fail.
14:00	15:00	1.00	6A	PT	4045	4080	Dir. drill rotating from 4045' to 4080'. WOB 14 klbs, 750 gpm, pres 2840 psi, TQ 13 klbs-ft.
							Last survey @ 3957' inc 34.2 deg, azm 252.5 deg. Geology sample @ 4040', 40% silstone, 30% sanstone, 30% claystone.
15:00	15:30	0.50	29	PT			Pepesa Rig service.
15:30	16:30	1.00	6A	PT	4080	4125	Dir. drill rotating from 4080' to 4125'. WOB 12 klbs, 63 rpm, pres 2768', 680 gpm.
16:30	17:30	1.00	6B	PT	4125	4130	Dir. drill sliding from 4125' to 4130'. WOB 19 klbs, 750 gpm. Work string up/down, positioning tool face.
17:30	18:30	1.00	28	NPT			Accumulate pumps #1and #2 problem with packing cover.
18:30	21:00	2.50	6B	PT	4130	4145	Dir. drill sliding from 4130' to 4145. WOB 15/20 klbs, 750 gpm. Work string up/down, positioning tool face. drill slide turn string from righth to left side.
21:00	23:00	2.00	6A	PT	4145	4210	Dir. drill rotating from 4145' to 4210'. WOB 17 klbs, 63 rpm, pres 2250 psi, 670 gpm. 12 k ft-lb TQ. W orking with pump # 2 with star & 3 PZ 8.
23:00	23:30	0.50	16	PT			Ream & take survey.
23:30	00:00	0.50	6A	PT	4210	4244	Dir. drill rotating from 4210' to 4244'. WOB 17 klbs, 63 rpm, pres 2950 psi, 750 gpm. 12 k ft-lb TQ. Working with pump # 1 & 2 with

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Llegaron 6 personas de Cia. Hibernica (Tecnec) a las 14 hrs inst de mampara a compresor de prod, se retiraron a Talara las 20 hrs.

Empaques cambiados en bombas Pepesa: Bomba #1, modulo 1 (2 empaques), modulo #2 (2 empaques); bomba #2, modulo 1 (1 empaque), modulo 2 (1 empaque).

Last geology sample at 4340 ft: 60% sand, 20% silstone, 10% sandstone,10% clystone

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 20-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 19-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:30	1.50	6A	PT	4244	4287	Dir. drill rotating from 4244' to 4287'. WOB 17 klbs, 63 rpm, pres 2950 psi, 750 gpm. 12 k ft-lb TQ. Working with pump # 1 & 2 White star.
01:30	02:00	0.50	6A	PT	4287	4305	Dir. drill rotating from 4287' to 4305'. WOB 15 klbs, 63 rpm, pres 2350 psi, 680 gpm. 12 k ft-lb TQ. Working with pump # 2 white star & # 3 PZ 8. while repair: Pump #1 packing cover fail,change liner
02:00	02:30	0.50	16	PT			Ream & take survey.
02:30	03:00	0.50	6A	PT	4305	4314	Dir. drill rotating from 4305' to 4314'. WOB 15 klbs, 60 rpm, pres 2350 psi, 680 gpm. 12 k ft-lb TQ. Working with pump # 2 white star & # 3 PZ 8.
03:00	03:30	0.50	28	NPT			Circulate with Pump # 3. (Pepesa repair: Pump #2 piston fail and Pump #1:change: packing cover, piston, liner & valve)
03:30	04:30	1.00	6A	PT	4314	4344	Dir. drill rotating from 4314' to 4344'. WOB 15 klbs, 60 rpm, pres 3000 psi, 760 gpm. 12 k ft-lb TQ. Working with pump #1&2 white.
04:30	05:00	0.50	28	NPT			Pepesa repair pumps #1 and #3. circulate with pump # 2. 480 gpm.
05:00	06:00	1.00	6A	PT	4344	4377	Dir. drill rotating from 4344' to 4377'. WOB 15 klbs, 60 rpm, pres 2980 psi, 760 gpm. 12 k ft-lb TQ, 30 ft/hr ROP. Last geology sample at 4340 ft: 60% sand, 20% silstone, 10% sandstone,10% clystone.Wo

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
08:00	3800	10.4	46	18	22	12	35	41	9	0.38	0.16	.77	300	100		0.15	9.8		20
16:00	4000	10.4	44	12	18	11	35	32	9.3	0.41	0.22	.67	300	100		0.2	8.8		20
24:00	4240	10.5	49	14	19	10	32	38	9.3	0.42	0.25	.54	300	100		0.25	9.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	3767	33.9	252.7	3375.55	1433.14	-358.49	-1388	.43
MWD SURVEY	3862	33.9	252.6	3454.4	1486.11	-374.29	-1438	.06
MWD SURVEY	3957	34.2	252.5	3533.12	1539.28	-390.24	-1489	.32
MWD SURVEY	4052	34.2	252	3611.69	1592.66	-406.52	-1540	.3
MWD SURVEY	4147	33.5	251.4	3690.59	1645.53	-423.13	-1590	.82
MWD SURVEY	4241	33.1	251.5	3769.15	1697.09	-439.55	-1639	.43

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 4			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.85			6 5/8" REG		E145473		
Mud motor 1.5	1	23.74	8		6 5/8" REG	105	24XH12702	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	20-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	19-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.33							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		7	ALDACIDE G	2GAL		24
AQUAGEL	100lb			BARAZAN D PLUS	25LB	8	28
BARITE	100LB	120	920	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB		60	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG	80	266	CAUSTIC SODA FLAKE	25LKG		50
CLAYSEAL PLUS	55GAL	1	9	DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB	4	3	EZ MUD DP	50LB		37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB		50	N-SEAL	30LB	6	42
PAC R	50LB	3	5	PAC-L	50LB	7	23
SAPP	25KG	8	21	SODIUM BICARBONATE	25KG	9	46
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	19-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	6,576		2,474	200		3,902
TK PEPESA	0	2,474		2,474		0
Total (gl)	6,576	2,474	2,474	2,674		3,902

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

DAILY DRILLING REPORT

BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	20-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	19-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	40
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	10
UNITED	5		

Total People : 81

Last Modification : 20-DEC-12 06:18 AM

DAILY DRILLING REPORT

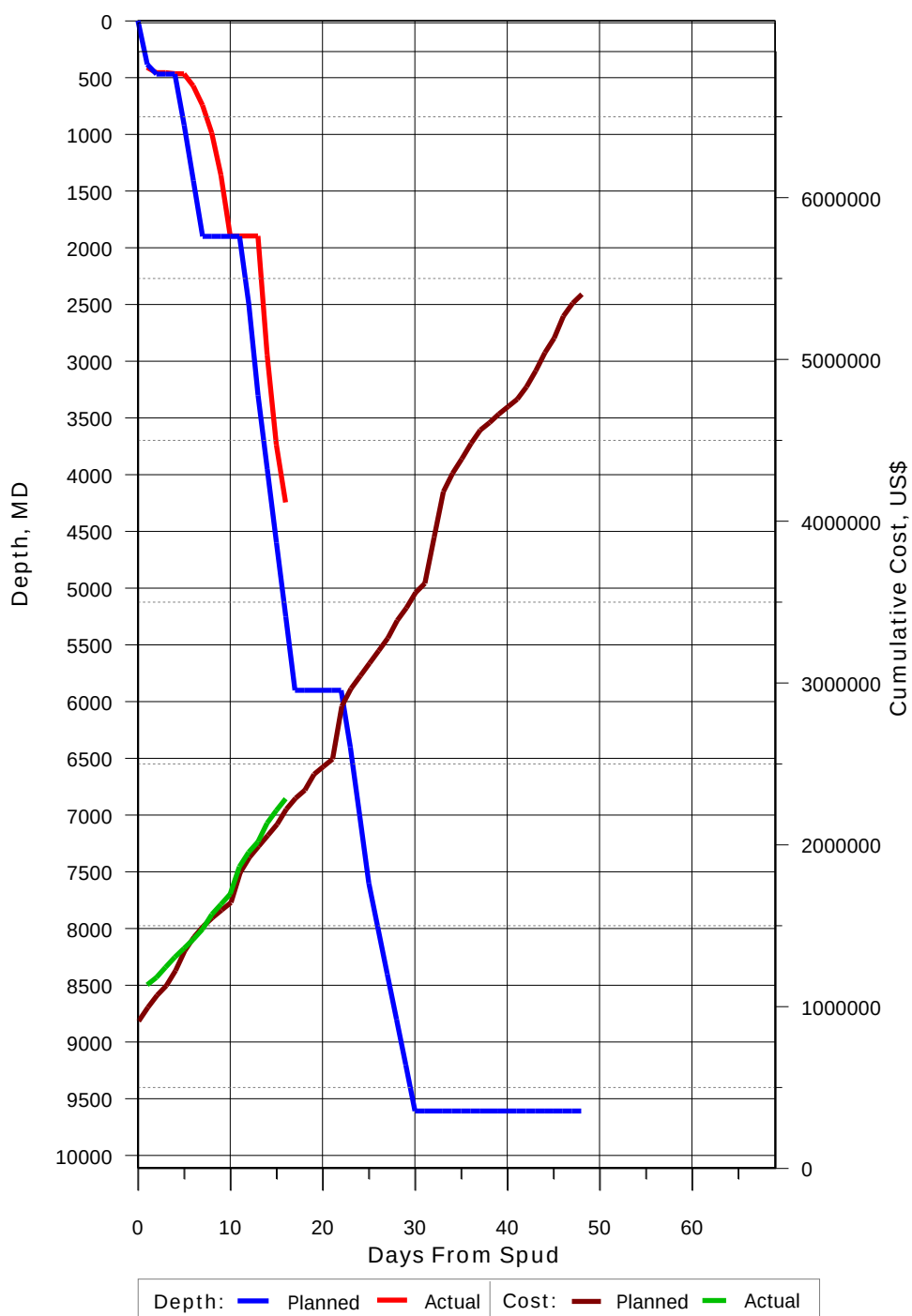
BLOCK - Z2B

Page 5/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	20-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	19-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	21-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	20-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	63,773	2,288,872	42

DRILLING DATA

MD at 24:00 hr:	4408.0 ft	Footage 24:00 hr:	164.00 ft	Drilling hours :	7.50	Days on Loc :	38	Drlg. days :	17
TVD at 24:00 hr:	3909.0 ft	Avg ROP :	21.87 ft/hr.	Cum. Drilling Hrs :	135.00	Days on Well :	38	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		7.50		15.00	1.50		
Cumulative	2.00	135.00		273.50	5.50		16.00

STATUS

Current Status :

Drill rotating 12 1/4" hole at 4545 ft.

24 Hr. Summary :

Directional drill from 4244 ft to 4408 ft (164 ft total). drill in slide(8 ft) and rotate (156ft) mode with: WOB 15/20 klbs, 65 rpm, 650/770 gpm ,pres 2350/2950 psi, TQ, 12 kft-lbs. Circulate bottom up, shaker clean, ok. Pooh dir. BHA w/ 12 1/4" PDC bit to change MWD battery and inspection bit. Continue Pooh to surface. M/U and TIH new 12 1/4" PDC bit , new mud motor and new battery for MWD. Continue TIH dir. BHA w/ 12 1/4" PDC bit from 500' to shoe (1894ft). and Circulate at shoe.Cont TIH dir BHA fr shoe to 3850 ft. found restriction cont. RIH with reaming to 4000 ft.

24 Hr. Forecast :

Drill ahead 12 1/4" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:30	1.50	6A	PT	4244	4287	Dir. drill rotating from 4244' to 4287'. WOB 17 klbs, 63 rpm, pres 2950 psi, 750 gpm. 12 k ft-lb TQ. Working with pump # 1 & 2 White star.
01:30	02:00	0.50	6A	PT	4287	4305	Dir. drill rotating from 4287' to 4305'. WOB 15 klbs, 63 rpm, pres 2350 psi, 680 gpm. 12 k ft-lb TQ. Working with pump # 2 white star & # 3 PZ 8. while repair: Pump #1 packing cover fail,change liner
02:00	02:30	0.50	16	PT			Ream & take survey.
02:30	03:00	0.50	6A	PT	4305	4314	Dir. drill rotating from 4305' to 4314'. WOB 15 klbs, 60 rpm, pres 2350 psi, 680 gpm. 12 k ft-lb TQ. Working with pump # 2 white star & # 3 PZ 8.
03:00	03:30	0.50	28	NPT			Circulate with Pump # 3. (Pepesa repair: Pump #2 piston fail and Pump #1:change: packing cover, piston, liner & valve)
03:30	04:30	1.00	6A	PT	4314	4344	Dir. drill rotating from 4314' to 4344'. WOB 15 klbs, 60 rpm, pres 3000 psi, 760 gpm. 12 k ft-lb TQ. Working with pump #1&2 white.
04:30	05:00	0.50	28	NPT			Pepesa repair pumps #1 and #3. circulate with pump # 2. 480 gpm.
05:00	07:30	2.50	6A	PT	4344	4400	Dir. drill rotating from 4344' to 4400'. WOB 15 klbs, 60 rpm, pres 2980 psi, 760 gpm. 12 k ft-lb TQ, 30 ft/hr ROP. Last geology sample at 4340 ft: 60% sand, 20% silstone, 10% sandstone,10% clystone.Wo
07:30	09:00	1.50	6B	PT	4400	4408	Dir. drill sliding from 4400' to 4408'. WOB 22 klbs, 745 gpm, pres 2900 psi. Work string up/down to position tool face.
09:00	10:00	1.00	9	PT			Circulate bottom up, shaker clean, ok.
10:00	16:00	6.00	11	PT			Pooh dir. BHA w/ 12 1/4" PDC bit to change MWD battery and inspection bit. Continue Pooh to 300 ft.
16:00	17:00	1.00	11	PT			L/D mud motor, and 12 1/4" PDC bit.
17:00	19:00	2.00	11	PT			M/U and TIH new 12 1/4" PDC bit MRE519M, jest 1x18 ; 4x16, new mud motor and new battery for MWD, and perform shallow test at 500 ft, MWD cynchronize, ok.
19:00	21:00	2.00	11	PT			Continue TIH dir. BHA w/ 12 1/4" PDC bit from 500' to shoe (1894ft). and Circulate at shoe
21:00	21:30	0.50	9	PT			Circulate at shoe.
21:30	22:00	0.50	28	PT			Rig services (lubricating)
22:00	00:00	2.00	11	PT			Continue TIH dir BHA with 5" DP from shoe (1894ft) to 3850 ft. found restriction, cont. RIH with circulation and rotation to 4000 ft. tight hole.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

6 personas de Cia. Hibernica (Tecnec) continuan con la instalacion de la mampara en 2 nivel de plat.

Embarcacion Abra joy a las 20 hrs, 20/12/2012. llega a locacion y entrega 2,260 gls diesel, no pudo entregar mas por mal tiempo.

Embarcacion Sophia cristine a las 03:45 am. 21/12/2012, llega a locacion entrega 3740 gals de diesel y continua descargando materiales.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 21-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 20-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:30	1.50	11	PT			Continue TIH dir BHA with 5" DP, reaming from 4000 ft to bottom (4408 ft).
01:30	02:00	0.50	9	PT			Circulate bottom up with 770 gpm, 2950 psi.
02:00	03:30	1.50	6B	PT	4408	4423	Directional drill rotate from 4408 ft to 4413 ft. Directional drill slide from 4413 ft to 4423 ft with 720 gpm, 2570 psi, 10 klb WOB.
03:30	05:00	1.50	6A	PT	4423	4495	Directional drill rotate from 4423 ft to 4460 ft. with 750 gpm, 2960 psi, 65 rpm, 15 klb WOB. 10 K ft-lb TQ. 50 ft/hr ROP.
05:00	05:30	0.50	16	PT			Ream & take survey.
06:00	06:00	0.00	6A	PT	4495	4545	Directional drill rotate from 4495 ft to 4545 ft. with 750 gpm, 2960 psi, 65 rpm, 15 klb WOB. 10 K ft-lb TQ. 50 ft/hr ROP. Last geology sample at 4490 ft 20% sand, 20% sandstone, 40% silstone, 20% clyston

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65	750	1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/D CARRILLO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
10:00	4408	10.5	50	16	20	11	36	43	9.4	0.44	0.25	.55	300	100		0.25	10.8		20
18:00	4408	10.5	50	16	18	10	31	32	9.3	0.44	0.23	.65	300	100		0.2	9.8		18
24:00	4408	10.5	48	15	18	10	33	39	9.3	0.44	0.23	.62	300	100		0.2	9.8		18

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	4336	32.9	251.3	3848.83	1748.8	-455.54	-1688	.61
MWD SURVEY	4431	34	251.3	3928.09	1801.12	-471.81	-1738	1.35

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 4			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.85			6 5/8" REG		220935		
Mud motor 1.5	1	23.74	8		6 5/8" REG	105	24XH12702	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.33							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 21-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 20-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		7	ALDACIDE G	2GAL	2	22
AQUAGEL	100lb			BARAZAN D PLUS	25LB	1	27
BARITE	100LB	360	560	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG	60	206	CAUSTIC SODA FLAKE	25LKG	2	48
CLAYSEAL PLUS	55GAL		9	DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB		3	EZ MUD DP	50LB		37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB	10	40	N-SEAL	30LB	42	
PAC R	50LB	2	3	PAC-L	50LB		23
SAPP	25KG	2	19	SODIUM BICARBONATE	25KG		46
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	19-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	3,902	2,250	2,186	200		3,766
TK PEPESA	0	2,186		2,186		0
Total (gl)	3,902	4,436	2,186	2,386		3,766

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	40
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	13
UNITED	3		

Total People : 82

DAILY DRILLING REPORT
BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	21-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	20-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Last Modification : 21-DEC-12 06:21 AM

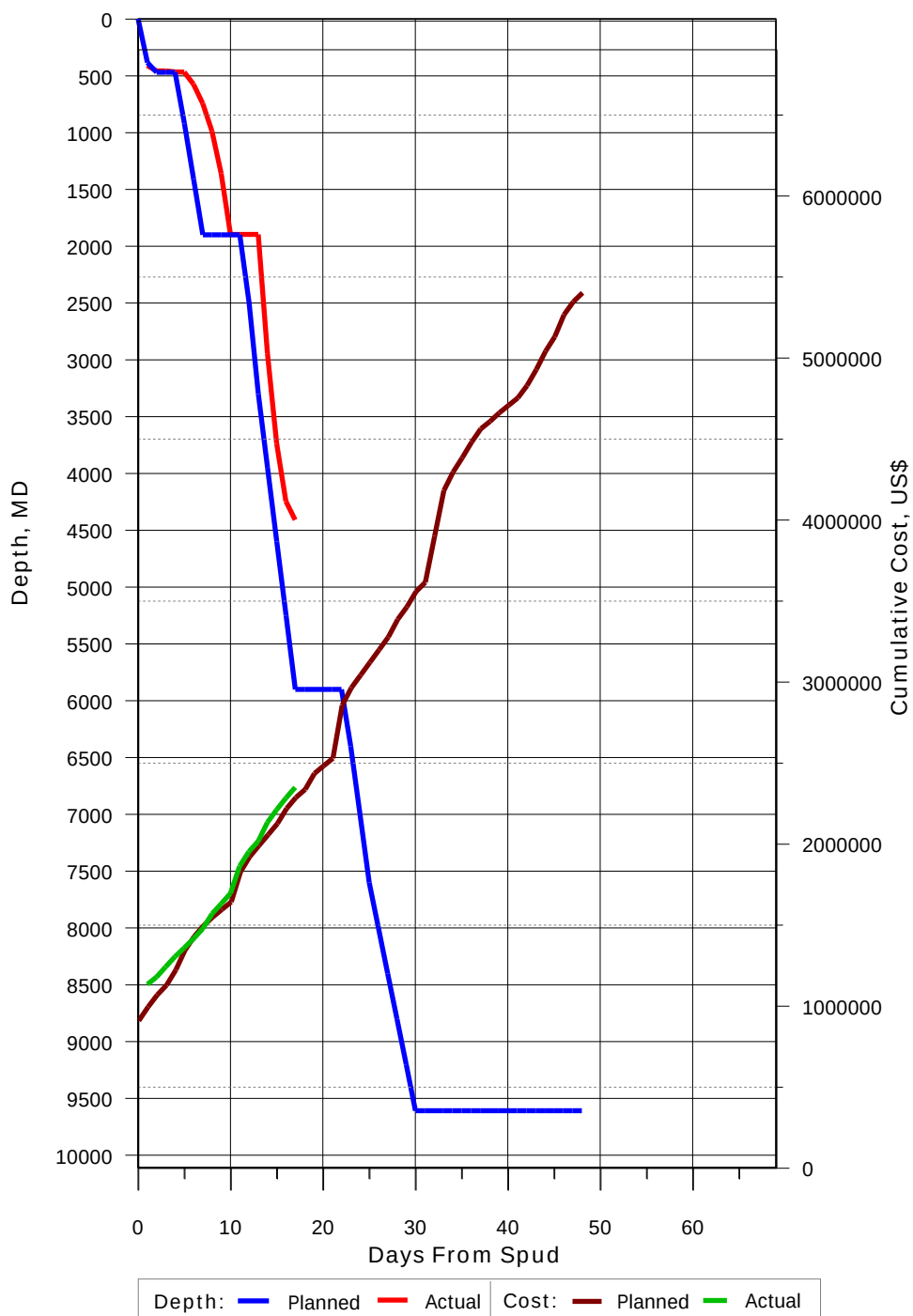
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	21-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	20-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



DAILY DRILLING REPORT BLOCK - Z2B

Location: LOBITOS	Rig : PEPESA-40	Report Date: 22-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 21-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	104,477	2,393,349	44

DRILLING DATA

MD at 24:00 hr:	4994.0 ft	Footage 24:00 hr:	586.00 ft	Drilling hours :	19.00	Days on Loc :	39	Drlg. days :	18
TVD at 24:00 hr:	4398.0 ft	Avg ROP :	30.84 ft/hr.	Cum. Drilling Hrs :	154.00	Days on Well :	39	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		19.00		4.50	0.50		
Cumulative	2.00	154.00		278.00	6.00		16.00

STATUS

Current Status :

Drill rotating 12 1/4" hole at 5250 ft.

24 Hr. Summary :

Directional drill from 4408 ft to 4994 ft (586 ft total). drill in slide(40 ft) and rotate (546ft) with parameters: WOB 12/15 klbs, 65 rpm, 760 gpm ,pres 2950 psi, TQ, 12 kft-lbs. Took MWD surveys each stand.Last geology sample at 4970 ft 10% sand, 20% sandstone,20%silstone,50% clystone.

24 Hr. Forecast :

Drill ahead 12 1/4" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:30	1.50	11	PT			Continue TIH dir BHA with 5" DP, reaming from 4000 ft to bottom (4408 ft).
01:30	02:00	0.50	9	PT			Circulate bottom up with 770 gpm, 2950 psi.
02:00	03:30	1.50	6B	PT	4408	4423	Directional drill rotate from 4408 ft to 4413 ft. Directional drill slide from 4413 ft to 4423 ft with 720 gpm, 2570 psi, 10 klb WOB.
03:30	05:00	1.50	6A	PT	4423	4495	Directional drill rotate from 4423 ft to 4495 ft. with 750 gpm, 2960 psi, 65 rpm, 15 klb WOB. 10 K ft-lb TQ. 50 ft/hr ROP.
05:00	05:30	0.50	16	PT			Ream & take survey.
05:30	06:00	0.50	6A	PT	4495	4545	Directional drill rotate from 4495 ft to 4545 ft. with 750 gpm, 2960 psi, 65 rpm, 15 klb WOB. 10 K ft-lb TQ. 50 ft/hr ROP.Last geology sample at 4490 ft 20% sand, 20% sandstone,40%silstone,20% clyston
06:00	11:00	5.00	6A	PT	4545	4698	Directional drill rotate from 4545 ft to 4698 ft. with 760 gpm, 2978 psi, 63 rpm, 12 klb WOB. 12 K ft-lb TQ.
11:00	11:30	0.50	9	PT			Accumulate ream and surveys.
11:30	12:00	0.50	29	PT			Pepesa perform rig service and pumps inspection.
12:00	13:00	1.00	6B	PT	4698	4709	Dir. drill sliding from 4698' to 4709'. WOB 20 klbs, pres 2641 psi, 730 gpm.
13:00	15:00	2.00	6A	PT	4709	4782	Dir. drill rotating from 4709' to 4782' WOB 12/14 klbs, 760 gpm, pres 2959 psi, 68 rpm.Last survey @ 4620', inc 34.4 deg, azm 251.2 deg. Last geology sample @ 4760', 80% claystone, 10% siltstone, 10%
15:00	15:30	0.50	16	PT			Ream & take survey.
15:30	18:00	2.50	6A	PT	4782	4882	Dir. drill rotating from 4782' to 4882' WOB 12/14 klbs, 750 gpm, pres 2950 psi, 68 rpm.
18:00	18:30	0.50	16	PT			Ream & take survey.
18:30	20:30	2.00	6B	PT	4882	4896	Dir. drill sliding from 4882' to 4896'. WOB 20 klbs, pres 2700 psi, 725 gpm.
20:30	23:00	2.50	6A	PT	4896	4972	Dir. drill rotating from 4896' to 4972' WOB 12/14 klbs, 750 gpm, pres 2980 psi, 65rpm.
23:00	23:30	0.50	16	PT			Ream & take survey.
23:30	00:00	0.50	6A	PT	4972	4994	Dir. drill rotating from 4972' to 4994' WOB 12/14 klbs, 750 gpm, pres 2980 psi, 65rpm.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

6 personas de Cia. Hibernica (Tecnec) continuan con la instalacion de la mampara en 2 nivel de plat.

Llegó personal de Equipetrol a inspeccionar primer 1 y 3 nivel de plataforma para instalar separadores para pruebas de produccion.

Formation top: CHACRA Fm. @ 1700'MD, RIO BRAVO Fm. @ 3740' MD. Last geology sample at 5190 ft: 50% sand, 20% sandstone,10%silstone,20% clystone.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	22-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	21-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:30	1.50	6A	PT	4994	5067	Dir. drill rotating from 4994' to 5067' WOB 12/14 klbs, 750 gpm, pres 3000 psi, 65 rpm.12 k ft-lb TQ
01:30	02:00	0.50	16	PT			Ream & take survey 5000 ft, 31.7 deg inc,251.4 deg azm.
02:00	04:00	2.00	6A	PT	5067	5163	Dir. drill rotating from 5067' to 5163' WOB 12/14 klbs, 750 gpm, pres 3020 psi, 65 rpm.12 k ft-lb TQ.
04:00	04:30	0.50	16	PT			Ream & take survey at 5095 ft, 31.7 deg inc,251.4 deg azm.
04:30	06:00	1.50	6A	PT	5163	5250	Dir. drill rotating from 5163' to 5250' WOB 12/14 klbs, 750 gpm, pres 3100 psi, 65 rpm. 12 k ft-lb TQ. Last geology sample at 5190 ft: 50% sand, 20% sandstone,10%silstone,20% clystone.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/D CARRILLO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
10:00	4600	10.5	48	15	19	10	34	40	9.2	0.39	0.22	.53	300	100		0.15	9.8		18
18:00	4800	10.6	47	16	18	10	35	40	9.3	0.41	0.25	.65	300	100		0.15	9.8		19
24:00	4995	10.6	46	17	20	10	32	38	9.4	0.42	0.26	.66	300	100		0.15	10.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	4810	33.6	251.2	4242.29	2012.8	-539.89	-1939	.32
MWD SURVEY	4905	31.8	251.3	4322.23	2064.07	-556.39	-1987	1.9
MWD SURVEY	5000	31.7	251.4	4403.01	2114	-572.37	-2035	.12
MWD SURVEY	5095	31.7	251.4	4483.84	2163.87	-588.29	-2082	0
MWD SURVEY	5190	31.8	251.5	4560				

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 5			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.86			6 5/8" REG		220935		
Mud motor 1.5	1	24.10	8		6 5/8" REG	105	24XH19705	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	22-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	21-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
	Total (ft)	891.7							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL	2	5	ALDACIDE G	2GAL		22
AQUAGEL	100lb			BARAZAN D PLUS	25LB	4	23
BARITE	100LB	120	1440	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB	6	54	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG	110	96	CAUSTIC SODA FLAKE	25LKG		48
CLAYSEAL PLUS	55GAL	4	5	DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB			EZ MUD DP	50LB		37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB	5	35	N-SEAL	30LB		42
PAC R	50LB	1	2	PAC-L	50LB	10	13
SAPP	25KG		19	SODIUM BICARBONATE	25KG		46
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	21-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	3,766	13,740	3,388	250		13,868
TK PEPESA	0	3,388		3,388		0
Total (gl)	3,766	17,128	3,388	3,638		13,868

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

DAILY DRILLING REPORT

BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	22-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	21-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	40
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	13
UNITED	3		

Total People : 82

Last Modification : 22-DEC-12 06:20 AM

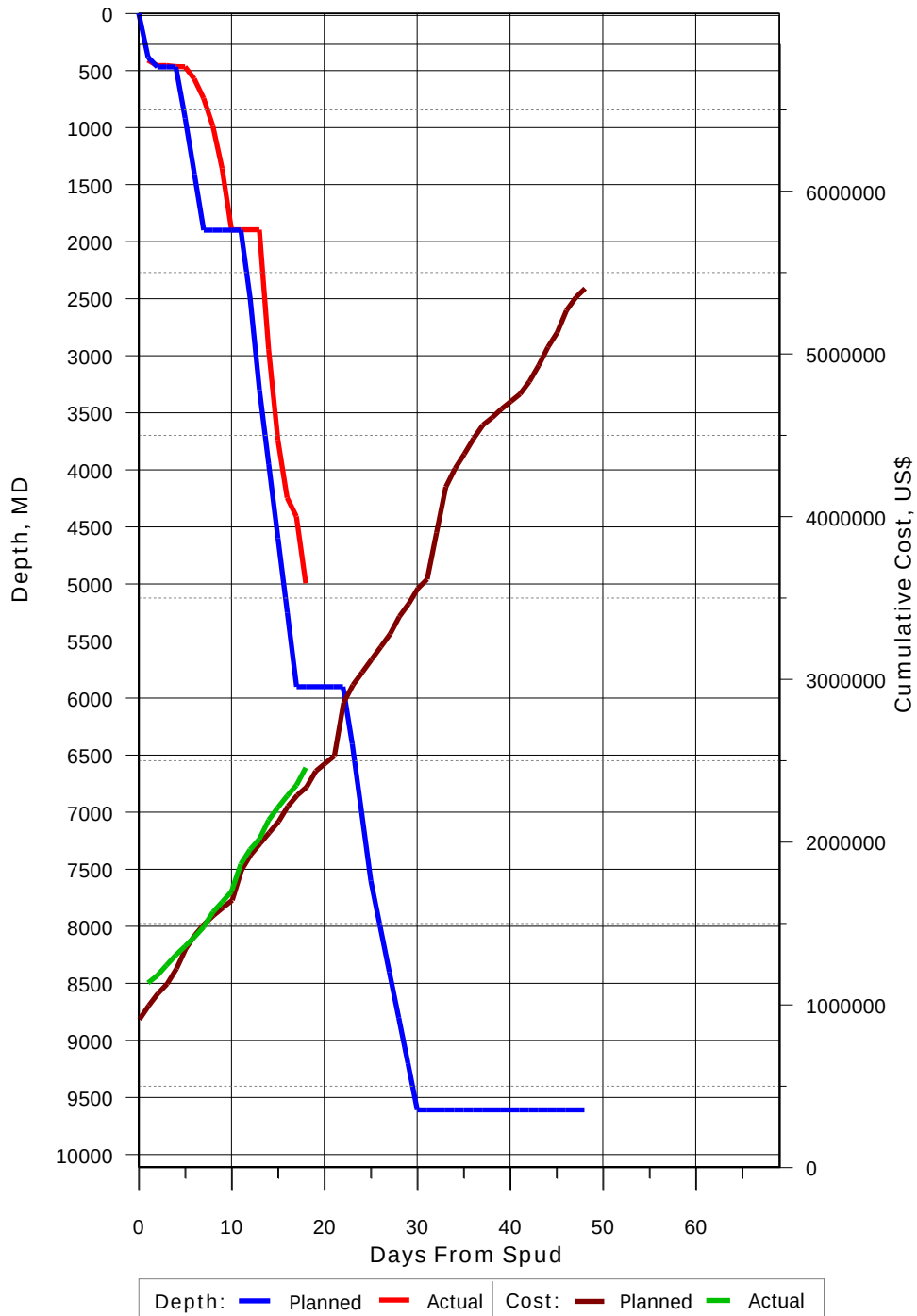
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	22-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	21-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	23-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	22-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	75,223	2,468,572	46

DRILLING DATA

MD at 24:00 hr:	5898.0 ft	Footage 24:00 hr:	904.00 ft	Drilling hours :	19.00	Days on Loc :	40	Drlg. days :	19
TVD at 24:00 hr:	5174.0 ft	Avg ROP :	47.58 ft/hr.	Cum. Drilling Hrs :	173.00	Days on Well :	40	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		19.00		5.00			
Cumulative	2.00	173.00		283.00	6.00		16.00

STATUS

Current Status :

L/D 12 1/4" PDC bit.

24 Hr. Summary :

Directional drill from 4994 ft to 4898 ft (904 ft total). drill in slide(24 ft) and rotate (880ft) with parameters: WOB 15/19 klbs, 65 rpm, 740 gpm ,pres 3000 psi, TQ, 12 kft-lbs. Took MWD surveys each stand.Last geology sample at 5898 ft 60% sand,10%silstone,30% clystone.

24 Hr. Forecast :

MU & RIH Slick BKA with Tricone bit, circulate, POOH slick BHA. Run 9 5/8" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:30	1.50	6A	PT	4994	5067	Dir. drill rotating from 4994' to 5067 ' WOB 12/14 klbs, 750 gpm, pres 3000 psi, 65 rpm.12 k ft-lb TQ
01:30	02:00	0.50	16	PT			Ream & take survey 5000 ft, 31.7 deg inc,251.4 deg azm.
02:00	04:00	2.00	6A	PT	5067	5163	Dir. drill rotating from 5067' to 5163 ' WOB 12/14 klbs, 750 gpm, pres 3020 psi, 65 rpm.12 k ft-lb TQ.
04:00	04:30	0.50	16	PT			Ream & take survey at 5095 ft, 31.7 deg inc,251.4 deg azm.
04:30	06:00	1.50	6A	PT	5163	5261	Dir. drill rotating from 5163' to 5261' WOB 12/14 klbs, 750 gpm, pres 3100 psi, 65 rpm. 12 k ft-lb TQ. Last geology sample at 5190 ft: 50% sand, 20% sandstone,10%silstone,20% clystone.
06:00	08:00	2.00	6B	PT	5261	5285	Dir. drill sliding from 5261' to 5285'. WOB 25 klbs, pres 2795 psi, 730 gpm.
08:00	14:30	6.50	6A	PT	5285	5615	Dir. drill rotating from 5285' to 5615'. WOB 17 klbs, pres 3000 psi, 740 gpm, 60 rpm.
14:30	15:00	0.50	9	PT			Accumulate ream and survey. Last survey @ 5475', inc 30.4 deg, azm 253.9 deg. Last geology Sample @ 5490'. FM Rio Bravo, 80% claystone, 10% silstone, 10% sand.
15:00	20:30	5.50	6A	PT	5615	5898	Dir. drill rotating from 5615' to 5898'. WOB 19 klbs, pres 2980 psi, 730 gpm, 65 rpm.
20:30	22:30	2.00	9	PT			Circulate, Pump hi vis pill and continue circulate to shaker clean.
22:30	00:00	1.50	11	PT			POOH 12 1/4" PDC bit with dir. BHA from bottom (5898 ft) to 4795 ft. with normal drag. flow check ok.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

6 personas de Cia. Hibernica (Tecnec) continuan con la instalacion de la mampara en 2 nivel de plat.

Se necesita cambiar El Cable de pluma (7/8") de grúa en Barcaza perla . antes de empezar los trabajos de csg 9 5/8". presenta Rotura

Embarcacion Sophia cristine llega a locacion con materiales de CIA ITS y otros materiales.

Formation top: CHACRA Fm. @ 1700'MD, RIO BRAVO Fm. @ 3740' MD.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	06:00	6.00	11	PT			Cont. POOH 12 1/4" PDC bit with dir. BHA from 4795 ft to Shoe, with normal drag. continue POOH & L/D dir BHA at surface.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 23-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 22-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/D CARRILLO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
06:00	5250	10.7	47	17	19	10	29	33	9.4	0.45	0.32	.6	300	120		0.12	10.8		19
20:30	5898	10.7	48	18	18	9	32	36	9.6	0.48	0.32	.55	300	100		0.12	11.8		20
24:00	5898	10.7	45	16	18	9	30	36	9.6	0.48	0.35	.54	300	100		0.12	11.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD SURVEY	5475	30.4	253.9	4809.68	2359.27	-646.68	2359.2	.16
MWD SURVEY	5569	30.5	254.1	4890.71	2406.91	-659.81	-2314	.15
MWD SURVEY	5664	30.5	253.8	4972.57	2455.13	-673.14	-2361	.16
MWD SURVEY	5759	30.9	254.2	5054.26	2503.63	-686.51	-2407	.47
MWD SURVEY	5830	30.5	254	5115.3	2539.88	-696.44	-2442	.58
PROJ TO BIT	5898	30.3	254	5174.82	2574.79	-706.07	-2476	.29

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	189	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 5			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.86			6 5/8" REG		220935		
Mud motor 1.5	1	24.10	8		6 5/8" REG	105	24XH19705	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.7							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL	2	4	ALDACIDE G	2GAL	2	20
AQUAGEL	100lb			BARAZAN D PLUS	25LB	7	16
BARITE	100LB	200	1240	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB	4	50	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG	32	64	CAUSTIC SODA FLAKE	25LKG	5	43
CLAYSEAL PLUS	55GAL	5		DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB			EZ MUD DP	50LB		37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB	5	30	N-SEAL	30LB		42

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	23-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	22-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

PAC R	50LB	1	1	PAC-L	50LB	4	9
SAPP	25KG	2	17	SODIUM BICARBONATE	25KG		46
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	22-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	13,868		2,523	150		11,195
TK PEPESA	0	2,523		2,523		0
Total (gl)	13,868	2,523	2,523	2,673		11,195

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
NORTH SERVICES		PEPESA	40
PHOENIX	4	RISK CONTROL	
SAVIA	4	SERTONG	
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	13
UNITED	3		

Total People : 82

Last Modification : 23-DEC-12 06:14 AM

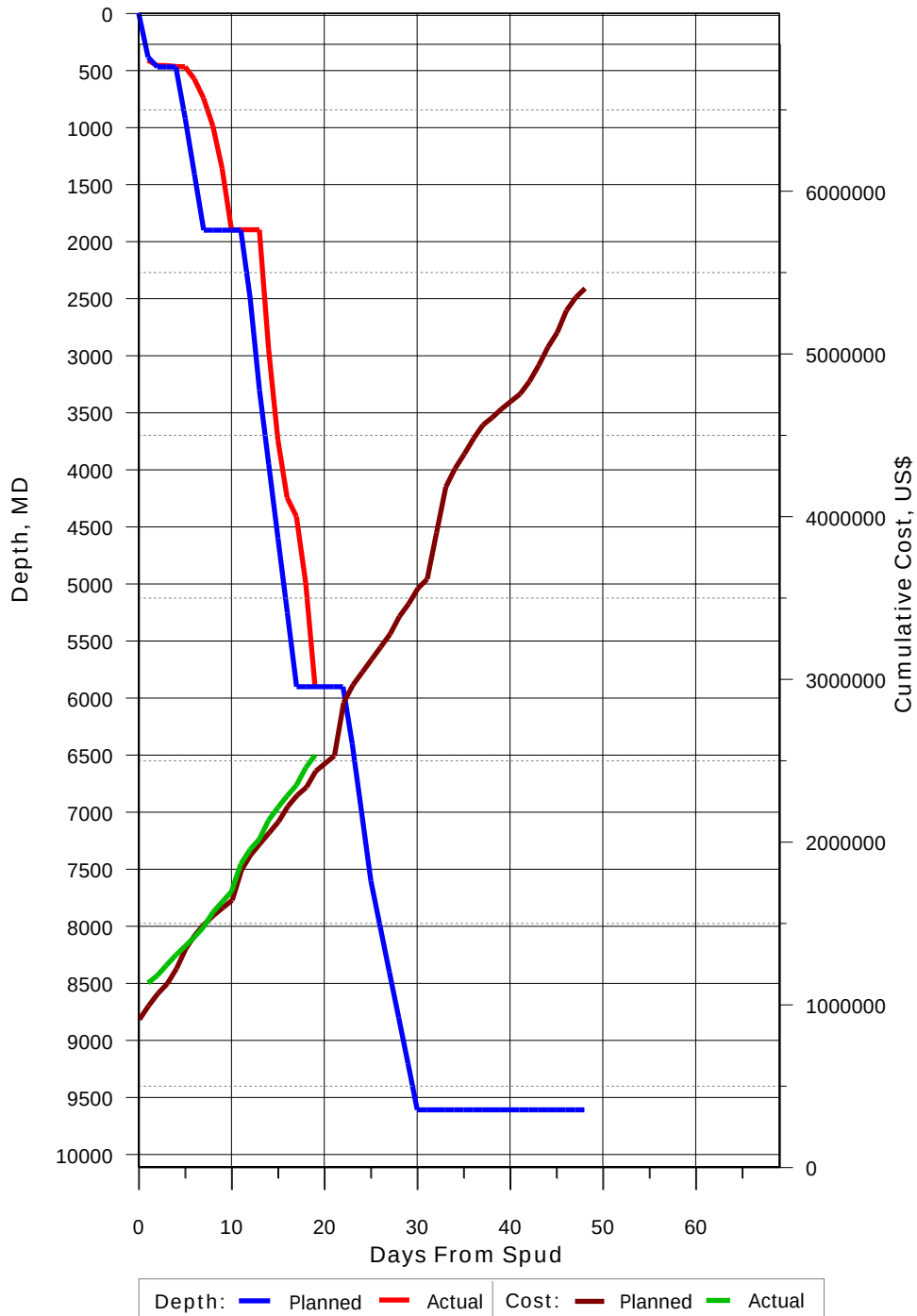
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	23-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	22-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 24-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 23-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	60,936	2,529,508	47

DRILLING DATA

MD at 24:00 hr:	5898.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	41	Drlg. days :	20
TVD at 24:00 hr:	5174.0 ft	Avg ROP :	Cum. Drilling Hrs :	173.00	Days on Well :	41	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	173.00		307.00	6.00		16.00

STATUS

Current Status :

POOH slick BHA at 4200 ft.

24 Hr. Summary :

Cont. POOH 12 1/4" PDC bit with dir. BHA fr 4795 ft to surface. M/U and TIH Slick BHA w/ 12 1/4" tricone bit tag at 4240 ft'. Work string up/down with 50 prm, 600 gpm. Cont. TIH Slick BHA reaming to bottom. Circ, pump hi vis pill, cont. circulate to shaker clean. TOOH fr bottom (5898 ft) to 5500 ft with circulation & rotation. (tight hole) continue POH from 5500 ft to 3600 ft with normal drag.

24 Hr. Forecast :

POOH slick BHA to surface. Run 9 5/8" csg to bottom, cement 9 5/8", WOC.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	06:00	6.00	11	PT			Cont. POOH 12 1/4" PDC bit with dir. BHA from 4795 ft to Shoe, with normal drag. continue POOH & L/D dir BHA at surface.
06:00	12:30	6.50	11	PT			M/U and TIH Slick BHA w/ 12 1/4" tricone bit to calibrate hole, to 4200'.
12:30	14:00	1.50	11	PT			Continue TIH from 4200' to 4290', restriction at 4240'. Work string up/down, clean and ream with 50 prm, 600 gpm.
14:00	18:30	4.50	11	PT			Continue TIH Slick BHA w/ 12 1/4" tricone bit from 4290' to bottom (5898 ft) reaming with 620 gpm, 50 rpm
18:30	20:30	2.00	9	PT			Circulate, pump hi vis pill to clean the hole, continue circulate to shaker clean.
20:30	00:00	3.50	11	PT			TOOH from bottom (5898 ft) to 5500 ft with circulation & rotation. (tight hole) continue POH from 5500 ft to 3600 ft with normal drag.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

6 personas de Cia. Hibernica (Tecnec) continuan con la instalacion de la mampara en 2 nivel de plat.

Se necesita cambiar El Cable de pluma (7/8") de grúa en Barcaza perla. antes de empezar los trabajos de csg 9 5/8". presenta Rotura

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	11	PT			Circulate at 3600 ft a bottom up.
00:30	02:30	2.00	11	PT			TIH from 3600 ft, tag at 5180 ft wash down to 5237 ft. continue TIH from 5237 ft to bottom without problems.
02:30	04:30	2.00	9	PT			Circulate, pump hi vis pill to clean the hole, continue circulate to shaker clean. increased MW from 10.7 to 10.8 ppg.
04:30	06:00	1.50	11	PT			TOOH from bottom (5898 ft) to 4200 ft. with normal drag.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65	770	1-2-CT-S-I-NO-TD

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 24-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 23-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

MUD PROPERTIES

Company : HALLIBURTON						Type : EZ MUD/CLAYS				Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
16:00	5898	10.8	53	17	22	11	38	46	9	0.36	0.22	.65	300	100		0.12	12.8		20
20:00	5898	10.8	48	16	19	11	35	42	9.6	0.58	0.36	.58	300	100		0.12	11.8		20
24:00	5898	10.8	48	15	18	11	36	42	9.6	0.56	0.41	.67	300	100		0.12	11.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 5			Name : 12 1/4" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.86			6 5/8" REG		220935		
Mud motor 1.5	1	24.10	8		6 5/8" REG	105	24XH19705	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.7							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		4	ALDACIDE G	2GAL		20
AQUAGEL	100lb			BARAZAN D PLUS	25LB	6	10
BARITE	100LB	160	1080	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB		50	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG		64	CAUSTIC SODA FLAKE	25LKG	8	35
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB			EZ MUD DP	50LB		37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB	8	22	N-SEAL	30LB		42
PAC R	50LB		1	PAC-L	50LB		9
SAPP	25KG		17	SODIUM BICARBONATE	25KG		46
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	24-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	23-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

3	PZ-8	750	8	6	2717						

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	22-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	11,195		1,517	200		9,478
TK PEPESA	0	1,517		1,517		0
Total (gl)	11,195	1,517	1,517	1,717		9,478

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	4	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	4
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	13	UNITED	3

Total People : 81

Last Modification : 24-DEC-12 06:10 AM

DAILY DRILLING REPORT

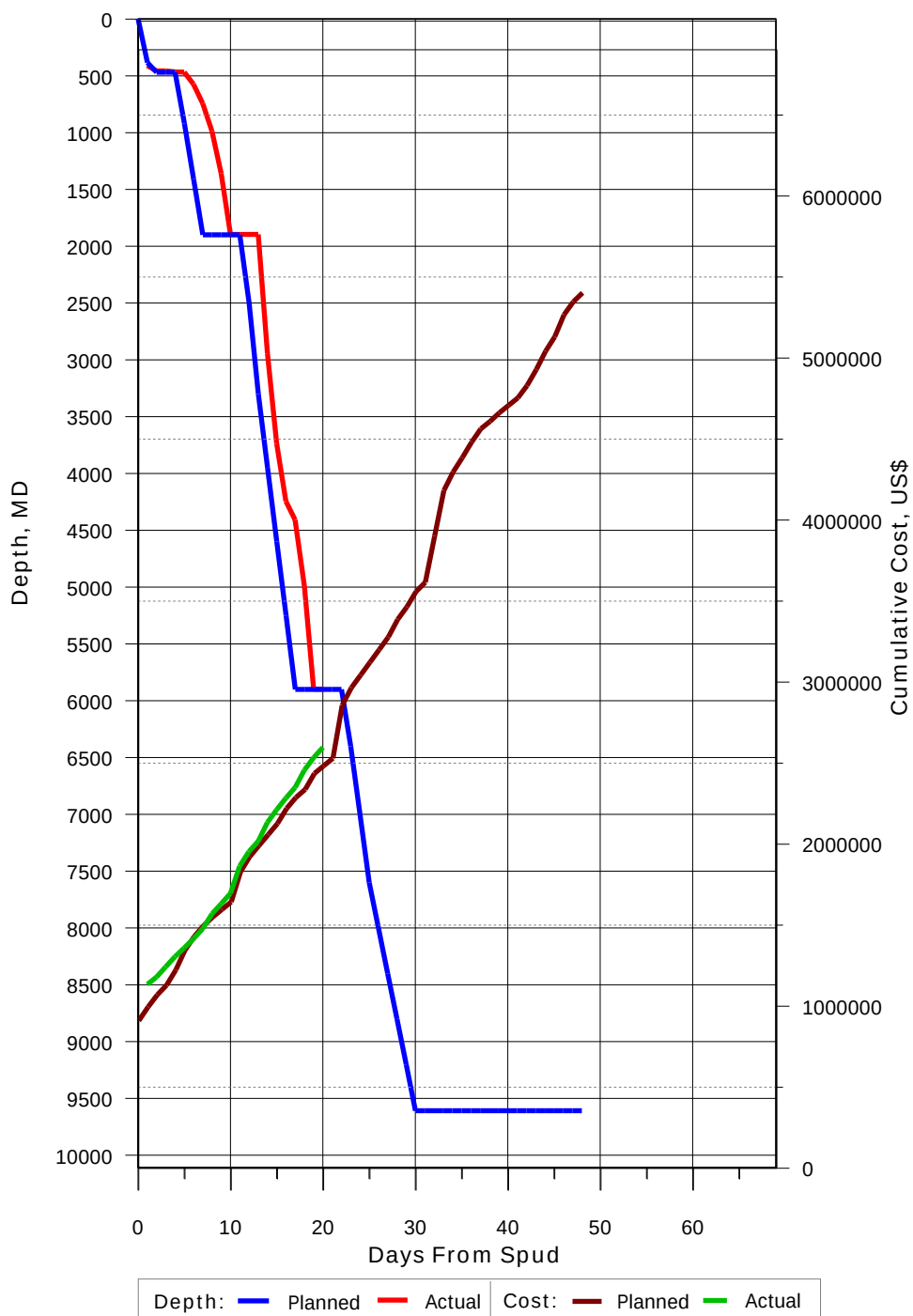
BLOCK - Z2B

Page 4/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	24-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	23-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 25-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 24-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	47,322	2,576,830	48

DRILLING DATA

MD at 24:00 hr:	5898.0 ft	Footage 24:00 hr:		Drilling hours :	.00	Days on Loc :	42	Drlg. days :	21
TVD at 24:00 hr:	5174.0 ft	Avg ROP :		Cum. Drilling Hrs :	173.00	Days on Well :	42	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily			6.50	17.50			
Cumulative	2.00	173.00	6.50	324.50	6.00		16.00

STATUS

Current Status :

Run 9 5/8" csg at 192 ft. (5 jts)

24 Hr. Summary :

TIH from 3600 ft, tag at 5180 ft wash down to 5237 ft.cont.TIH from 5237 ft to bottom without problems.circ pum HVP,TOOH from bottom (5898 ft) to shoe. with normal drag(wait in shoe). Wait on mechanical and 7/8"x650 ft crane cable. (Monitowoc 020).TIH w/ 12 1/4" tricone bit from shoe to 5898'. free with out restriction. Savia mechanical arrived to location & change 7/8" crane cable.Pull out slick BHA w/ 12 1/4" tric bit fr 5898' to 600 ft. ITS Personnal rig up hydraulic tongs and fill up tool from barge to platform. Organize material on platform.

24 Hr. Forecast :

Finish to run 9 5/8" csg to TD,Perform cementing job, L/D 13 5/8" BOP

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	11	PT			Circulate at 3600 ft a bottom up.
00:30	02:30	2.00	11	PT			TIH from 3600 ft, tag at 5180 ft wash down to 5237 ft.continue TIH from 5237 ft to bottom without problems.
02:30	04:30	2.00	9	PT			Circulate, pump hi vis pill to clean the hole, continue circulate to shaker clean. increased MW from 10.7 to 10.8 ppg.
04:30	06:00	1.50	11	PT			TOOH from bottom (5898 ft) to 4200 ft. with normal drag.
06:00	08:00	2.00	11	PT			Continue pull out 12 1/4" tricone bit from 4200' to 1788' inside 13 3/8" shoe.
08:00	08:30	0.50	9	NPT			Wait on mechanical and 7/8"x650 ft crane cable. Circulate bottom up, perform flow check, ok. Prepare drilling table, Pepesa inspection DP hydraulic tong.
08:30	15:00	6.50	33	NPT			Wait on mechanical and 7/8"x650 ft crane cable. (Monitowoc 020).
15:00	17:30	2.50	11	NPT			TIH w/ 12 1/4" tricone bit from 1788' to 5898'. free with out restriction. Savia mechanical arrived to location at 13:30 hrs. with 7/8"x900 ft crane cable.
17:30	18:30	1.00	9	NPT			Circulate bottom up, shaker clean ok. Savia mechanical continue changing 7/8" crane cable.
18:30	22:30	4.00	11	NPT			Pull out slick BHA w/ 12 1/4" tricone bit from 5898' to 5500 with circulation. cont TOOH from 5500 to shoe (1900 ft) with normal drag. ITS Personnal rig up hydraulic tongs and fill up tool from barge
22:30	00:00	1.50	11	PT			Continue pooh from 1900' to 600 ft.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700'MD, RIO BRAVO Fm. @ 3740' MD.PALEGREDA Fm. @ 5500' MD,MOGOLLON Fm. @ 5810' MD

Mecanicos de Savia llegan a las 15:30 hrs, con cable 7/8"x900ft y cambian el cable de la pluma de la grua Monitowoc 020. Nota: Mecanico Savia Juan Rivera, indica que el cable es usado.

Necesitamos 100 gals agua de consumo & 100 M gals agua industrial.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	29	PT			Rig services
00:30	02:00	1.50	11	PT			Continue L/D JAR, 6 3/4" DC ,8" drill collar,STB &12 1/4" bit. Rig up 3 casing joints, (csg 9 5/8", BTC, 43.5 lb/ft), install shoe and float valve according to casing tally.
02:00	03:30	1.50	25	PT			Retrieve wear bushing, L/D hawk jaw, TD links and organize rig floor.
03:30	04:30	1.00	18	PT			R/U ITS running tools (Install spider, side door elevator, 20 ft links, hydraulic tong, single joint, fill up tool) on rig floor.
04:30	05:00	0.50	18	PT			Perform safety & operational meeting with PEPESA, ITS, Tranmarsa & Savia

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 25-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 24-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

					personnel to run 9 5/8" csg.
05:00	06:00	1.00	18	PT	R/U & M/U 9 5/8" drillable float shoe, 2 jt 9 5/8" csg 43.5 ppf, N-80, LTC. Install 2 centralizer and install 9 5/8" drillable float collar. Run at 192 ft.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
18:00	5898	10.8	48	17	19	11	36	42	9.3	0.43	0.34	.55	300	100		0.12	11.8		20
20:30	5898	10.8	45	16	18	10	35	41	9.6	0.56	0.42	.78	300	100		0.12	11.8		20
24:00	5898	10.8	46	16	18	10	34	40	9.6	0.59	0.44	.76	300	100		0.12	11.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894

DESCRIPTION BHA

Number : 5					Name : 12 1/4" BHA				
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
12 1/4" PDC bit	1	.86			6 5/8" REG		220935		
Mud motor 1.5	1	24.10	8		6 5/8" REG	105	24XH19705	2.22	
Pony Monel	1	15.11	8	2.812	6 5/8" REG	159	P203006		
12 1/8" STB	1	5.58	8	3	6 5/8" REG	143	PTS11306	1.73	
UBHO	1	3.25	8	3.75	6 5/8" REG	48.53	Q203006		
8" MWD	1	30.74	8	3.25	6 5/8" REG	143	FL203005		
8" NMDC	1	30.27	8	3.25	6 5/8" REG	153	RFL203003		
Cross Over	1	2.68	6.062	2.08	6 5/8" REG	98	Rig		
6 3/4" DC	1	30.10	6.5	2.75	4 IF	101	Rig		
Cross Over	1	2.08	8	2.75	4 1/2" IF	50	Rig		
5" HWDP	18	546.25	5	3	4 1/2" IF	50	Rig		
Jar	1	19.70	6.5	2.75	4 1/2" IF	68	JAG1654745	2.46	
5" HWDP	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		891.7							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		4	ALDACIDE G	2GAL		20
AQUAGEL	100lb			BARAZAN D PLUS	25LB		10
BARITE	100LB	160	920	BARO-LUBE GOLD SEAL	55GAL		15
BAROFIBRE COARSE	40LB		50	BAROLIFT	15LB		5

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	25-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	24-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

CALCIUM CARBONATE M250	40KG		64	CAUSTIC SODA FLAKE	25LKG	4	31
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB			EZ MUD DP	50LB		37
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
LIGNOX PLUS	50LB		22	N-SEAL	30LB		42
PAC R	50LB		1	PAC-L	50LB		9
SAPP	25KG		17	SODIUM BICARBONATE	25KG	6	40
STEELSEAL 100	50LB		60	STEELSEAL50	50LB		42
THERMA-THIN	5GAL		48	WALLNUT SHELLS	50LB		42
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	24-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	9,478		978	200		8,300
TK PEPESA	0	978		978		0
Total (gl)	9,478	978	978	1,178		8,300

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	4	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	4
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	13	UNITED	3

Total People : 81

Last Modification : 25-DEC-12 06:23 AM

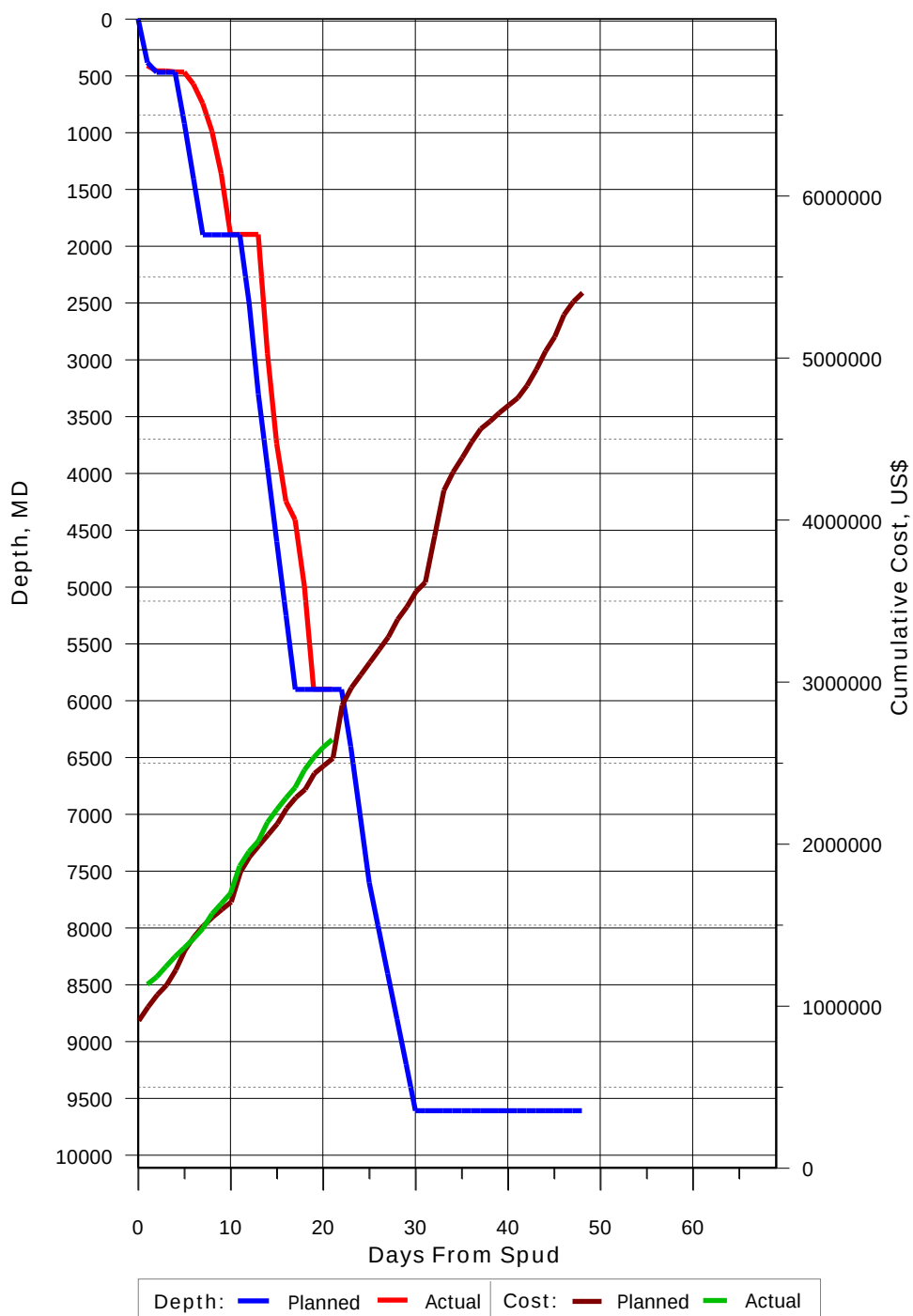
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	25-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	24-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 26-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 25-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	262,894	2,839,724	53

DRILLING DATA

MD at 24:00 hr:	5898.0 ft	Footage 24:00 hr:		Drilling hours :	.00	Days on Loc :	43	Drlg. days :	22
TVD at 24:00 hr:	5174.0 ft	Avg ROP :		Cum. Drilling Hrs :	173.00	Days on Well :	43	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				23.50	0.50		
Cumulative	2.00	173.00	6.50	348.00	6.50		16.00

STATUS

Current Status :

Cut and bevel 9 5/8" casing.

24 Hr. Summary :

Continue POOH slick BHA.R/U ITS running tools, R/U & M/U 9 5/8" drillable float shoe, 2 jt 9 5/8" csg 43.5 ppf, BTC. Install 2 centralizer and install 9 5/8" drillable float collar. Continue TIH 9 5/8" casing, 43.5 ppf, BTC. to 5898 ft, 158 joints. fill casing every 10 joints. and circulate at 2500 ft & 5100 ft. Cia ITS change side door, and install conventional elevator. Circulate w/ 225 gpm, 300 psi. Continue circulation with 335 gpm (8 bpm), pres 440psi. Cia Halliburton rig up cement lines from Medomack vessel to platform. Install Halliburton cement head. start cement job.

24 Hr. Forecast :

Install csg head.N/U 13 5/8"x5M BOP test. M/U 5" DP in stands. M/U dir. BHA.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	29	PT			Rig services
00:30	02:00	1.50	11	PT			Continue L/D JAR, 6 3/4" DC ,8" drill collar,STB &12 1/4" bit. Rig up 3 casing joints, (csg 9 5/8", BTC, 43.5 lb/ft), install shoe and float valve according to casing tally.
02:00	03:30	1.50	25	PT			Retrieve wear bushing, L/D hawk jaw, TD links and organize rig floor.
03:30	04:30	1.00	18	PT			R/U ITS running tools (Install spider, side door elevator, 20 ft links, hydraulic tong, single joint, fill up tool) on rig floor.
04:30	05:00	0.50	18	PT			Perform safety & operational meeting with PEPESA, ITS, Tranmarsa & Savia personnel to run 9 5/8" csg.
05:00	06:00	1.00	18	PT			R/U & M/U 9 5/8" drillable float shoe, 2 jt 9 5/8" csg 43.5 ppf, BTC. Install 2 centralizer and install 9 5/8" drillable float collar. Run at 192 ft.
06:00	18:00	12.00	18	PT			Continue TIH 9 5/8" casing, 43.5 ppf, BTC. to 5898 ft, 158 joints. fill casing every 10 joints. and circulate at 2500 ft & 5100 ft.
18:00	20:30	2.50	18	PT			Sofia vessel arrived to location, provide consume water and Diesel. Cia ITS change side door, and install conventional elevator. Circulate w/ 225 gpm, 300 psi.
							Medomack cement vessel arrived to location, prepare spacer fluid while Sofia vessel finish to provide water and diesel.
20:30	23:00	2.50	19	PT			Continue circulation with 335 gpm (8 bpm), pres 440psi. Cia Halliburton rig up cement lines from Medomack vessel to platform. Install Halliburton cement head.
23:00	23:30	0.50	19	PT			Perform safety meeting with Halliburton and Pepesa crew.
23:30	00:00	0.50	19	PT			Halliburton fill cmt lines with fresh water and test lines w/ 3000 psi. drop bottom plug. pump 20 bbls 8.4 ppg mud flush w/ 5 bpm.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD

Se recibio de embarcacion Sofia: 4440 gls de diesel del RQ 31287, quedan pendientes 1560 gls. No se pudo recibir todo el diesel, por operaciones de cementacion.

Se requiere embarcacion con agua y para enviar material a Talara (Equipos de ITS, unidades de Phoenix, 5 tubos casing 9 5/8", contenedores, etc).

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:30	3.50	19	PT			Pump 50 bbls ,11.5 ppg tuned spacer w/ 5 bpm. Start mix lead slurry Extendacem V 13.5 ppg. Pump lead slurry ExtendaCem V : 13.5 ppg, 203 bbls, 5 bpm, 480 psi.
							Pump tail cement Halcem V :195 bbls, 15.2 ppg, 5 bpm, 650-730 psi. Stop

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	26-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	25-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

					pumping and drop top plug.
					displacement with 435 bbls mud 10.8 ppg (1.5 bbls over of theoric calculated) .7/2 bpm 470/1100 psi. Return to surface 40 bbls contaminated cement & 15 bbls cement of 13 ppg.
					Bump plug with 1100 psi and overpressure to 1600 psi. Perform back flow test 2bbls, ok. used 1570 sk of cement Pacasmayo.
03:30	04:30	1.00	21	PT	WOC,Halliburton open cement head and discharge.R/D cementing lines and Pepesa crew L/D flowline, kill line, HCR and clean BOP, clean tanks and shakers.
04:30	06:00	1.50	21	PT	Lift 13 5/8" BOP w/raiser, center 9 5/8" csg, set slips 175 klbs. Cut and L/D belt nipple to remove 9 5/8" csg landing joint.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 26-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 25-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	16-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	16-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	8,300	4,440	450			12,290
TK PEPESA	0	450		450		0
Total (gl)	8,300	4,890	450	450		12,290

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	4	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	4
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	13	UNITED	3

Total People : 81

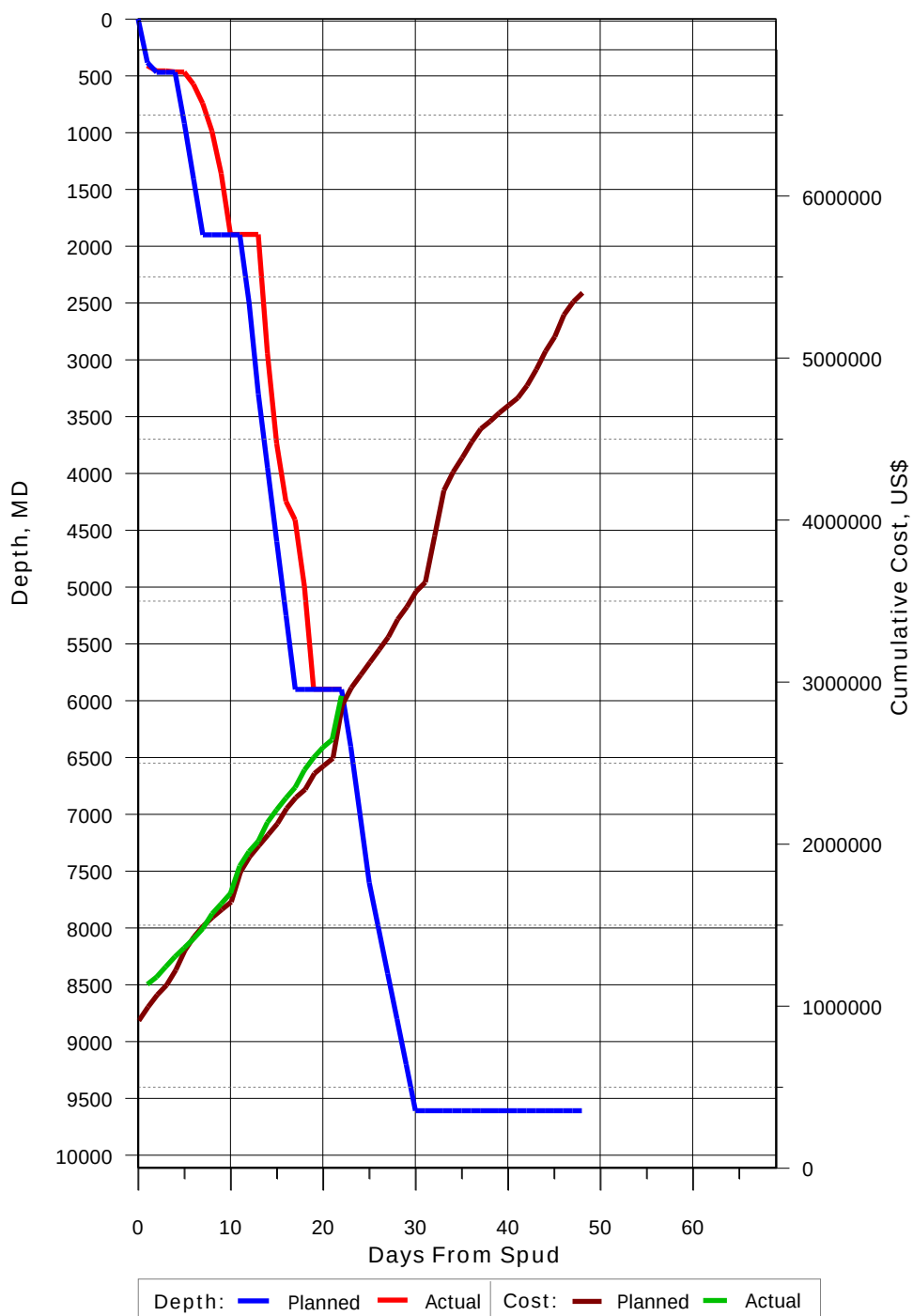
Last Modification : 26-DEC-12 06:08 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	26-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	25-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 27-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 26-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company:	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	98,819	2,938,543	54

DRILLING DATA

MD at 24:00 hr:	5898.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	44	Drlg. days :	23
TVD at 24:00 hr:	5174.0 ft	Avg ROP :	Cum. Drilling Hrs :	173.00	Days on Well :	44	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	173.00	6.50	372.00	6.50		16.00

STATUS

Current Status :

M/U dir. BHA w/ 8 1/2" PDC bit. (MSI616BPX).

24 Hr. Summary :

Cement job. Pump tuned spacer, mix lead slurry V 13.5 ppg. Pump lead slurry 203 bbls, 5 bpm, 480 psi. Pump tail cement 195 bbls, 15.2 ppg, 5 bpm, 650-730 psi. drop top plug. displacement with 435 bbls mud 10.8 ppg (1.5 bbls over of theoric calculated) Return 40 bbls contaminated cement & 15 bbls cement 13 ppg. Bump plug w/ 1100 psi and overpressure to 1600 psi. back flow 2 bbls, ok. WOC, Halliburton R/D cementing lines and Pepesa crew L/D flowline, kill line, HCR and clean BOP, clean tanks and shakers. Lift 13 5/8" BOP w/raiser, set slips 175 klbs. L/D belt nipple. Cut and bevel 9 5/8" csg, Install casing spool 13 5/8 x 3M - 11x3M, test w/1900psi, 10 min, ok. Install extension and drilling spool, BOP stack, chock line and kill line. Perform BOP tests.

24 Hr. Forecast :

P7U & M/U 5" DP 7 stands. RIH with 8 1/2" PDC bit with directional BHA to drilling ahead.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:30	3.50	19	PT			Pump 50 bbls ,11.5 ppg tuned spacer w/ 5 bpm. Start mix lead slurry Extendacem V 13,5 ppg. Pump lead slurry ExtendaCem V : 13,5 ppg, 203 bbls, 5 bpm, 480 psi.
							Pump tail cement Halcem V :195 bbls, 15.2 ppg, 5 bpm, 650-730 psi. Stop pumping and drop top plug.
							displacement with 435 bbls mud 10.8 ppg (1.5 bbls over of theoric calculated) .7/2 bpm 470/1100 psi. Return to surface 40 bbls contaminated cement & 15 bbls cement of 13 ppg.
							Bump plug with 1100 psi and overpressure to 1600 psi. Perform back flow test 2bbls, ok. used 1570 sk of cement Pacasmayo.
03:30	04:30	1.00	21	PT			WOC,Halliburton open cement head and discharge.R/D cementing lines and Pepesa crew L/D flowline, kill line, HCR and clean BOP, clean tanks and shakers.
04:30	06:00	1.50	21	PT			Lift 13 5/8" BOP w/raiser, center 9 5/8" csg, set slips 175 klbs. L/D belt nipple to remove 9 5/8" csg landing joint.
06:00	09:30	3.50	22	PT			Cut and bevel 9 5/8" csg on first level. Install casing spool 13 5/8 x 3M - 11 x 3M, tight bolts and perform test w/1900psi by 10 min, ok. Install double flange drill extension 13 5/8 x 5M- 11x5M/ 11x
09:30	14:00	4.50	22	PT			Install 13 5/8" x 5M drilling spool, BOP stack and tighten bolts. Connect chok line and kill lines from drilling spool to manifold.
14:00	15:00	1.00	22	PT			Run 5" DP joint to center 13 5/8" BOP and weld pads to BOP on second level.
15:00	18:00	3.00	22	PT			Install bell nipple and flow line, move material from platform to barge.
18:00	23:00	5.00	22	PT			Install 9 5/8" plug tester. Perform BOP test. Pipe rams, 500 & 3000 psi, by 10 min, ok. Annular w/ 300 & 1500 psi, by 10 min, ok. Pepesa P/U 5"DP from barge to platform.
							Remove 5" DP and continue BOP test: Blind ram w/ 300 & 3000 psi, by 10 min, ok. Blind ram w/ external, medium, internal of manifold w/ 300 & 3000 psi, by 10 min, ok. Test TDS, ok.
23:00	00:00	1.00	22	PT			P/U stand and retrieve plug tester. M/U & install wear bushing secure stops, ok.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700'MD, RIO BRAVO Fm. @ 3740' MD.PALEGREDA Fm. @ 5500' MD,MOGOLLON Fm. @ 5810' MD

Se recibio de embarcacion Sofia: 4440 gls de diesel del RQ 31287, quedan pendientes 1560 gls.

Se requiere embarcacion con agua y para enviar material a Talara (Equipos de ITS, unidades de Phoenix, 5 tubos casing 9 5/8", contenedores, etc).

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 27-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 26-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company:	Spud Date : 04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	15	PT			Cut off and Slip drilling line 120 ft. Rig up from barge to platform 5" DP, measure and take serial number.
01:00	02:30	1.50	25	PT			Prepare drilling table. Phoenix Rig up directional tools, calibrate MWD tool.
02:30	06:00	3.50	11	PT			M/U dir. BHA with 8 1/2" PDC bit (MSI 616 BPX, jet 4x13; 2X14, Mud motor 6 3/4" BH 1.5, Stabilizer, UBHO, MWD monel.) Intall MWD tool, and continue TIH to 300 ft.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg/100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	27-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	26-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:		Spud Date :	04-DEC-2012

STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	12,290			353		11,937
TK PEPESA	0					0
Total (gl)	12,290			353		11,937

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	4
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	13	UNITED	3

Total People : 77

Last Modification : 27-DEC-12 06:13 AM

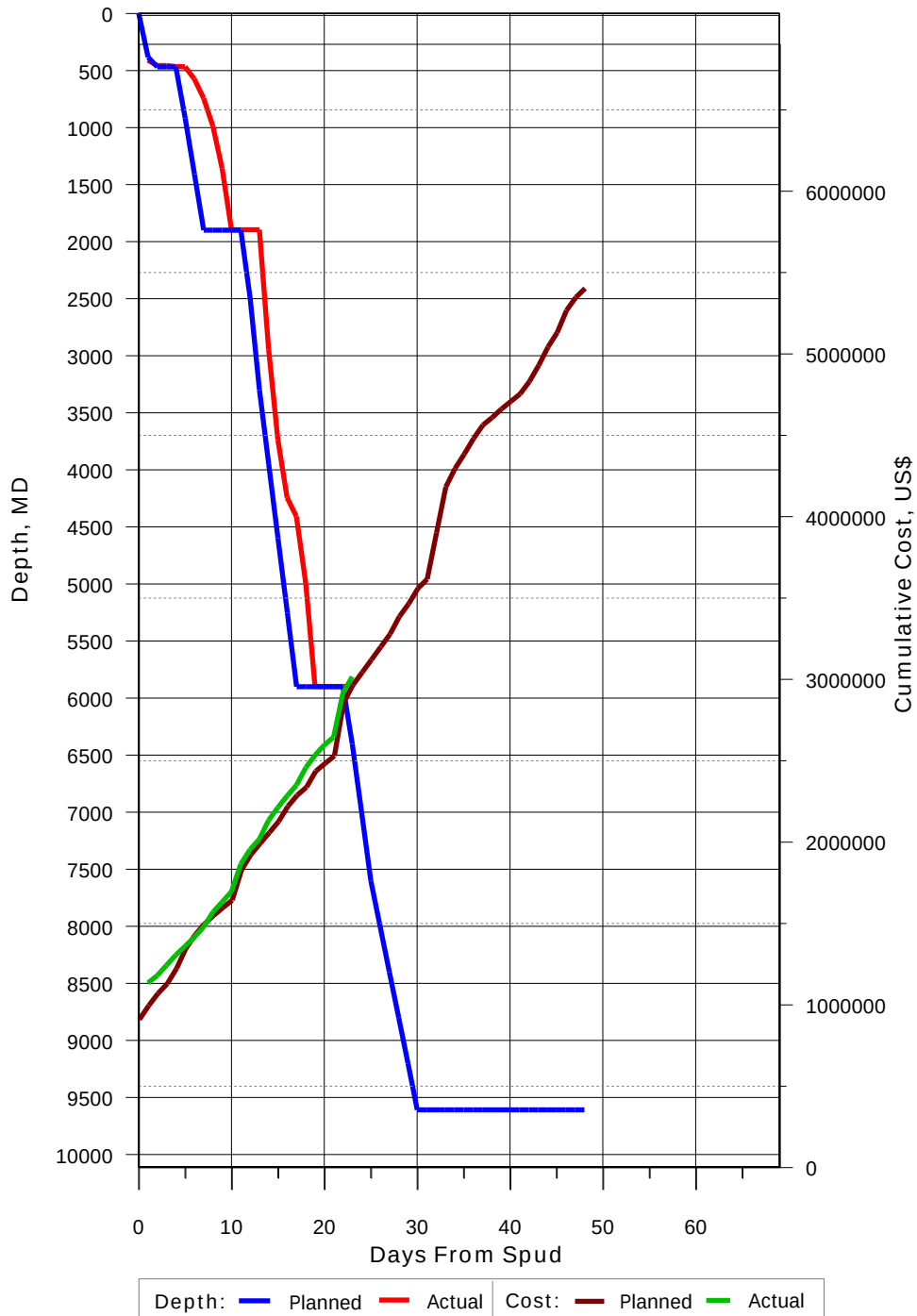
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	27-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	26-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 28-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 27-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li / Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	100,642	3,039,185	56

DRILLING DATA

MD at 24:00 hr:	5898.0 ft	Footage 24:00 hr:	Drilling hours :	.50	Days on Loc :	45	Drlg. days :	24
TVD at 24:00 hr:	5174.0 ft	Avg ROP :	Cum. Drilling Hrs :	174.00	Days on Well :	45	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		0.50		23.50			
Cumulative	2.00	173.50	6.50	395.50	6.50		16.00

STATUS

Current Status :

Rotary drilling at 5983 ft.

24 Hr. Summary :

Cut off & slip drilling line. P/U from barge to platform 5" DP. M/U dir. BHA 8 1/2" PDC bit (MSI 616 BPX, Mud motor 6 3/4" BH 1.5, STB 8 1/4", UBHO, MWD monel). Install MWD tool & continue RIH to 300 ft. Shallow test w/ 430 gpm & 650 psi, ok. Continue RIH from 300' to 5802' (TOC). Drillout from 5802' to 5870' (float equipment & float collar at 5805'). Circulate at 5870'. Perform CIT w/1500 psi by 10 min, ok. Drillout cement from 5870' to 5885' (9 5/8" csg shoes). Circulate w/400 gpm & 1400 psi to change mud system Ezmud - Clayseal 10.8 ppg by Baradri-N 10.7 ppg. Continue rotary drilling new formation from 5885' to 5895'.

24 Hr. Forecast :

Directional drilling ahead

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	15	PT			Cut off and slip drilling line 120 ft. Rig up from barge to platform 5" DP, measure and take serial number.
01:00	02:30	1.50	25	PT			Prepare drilling table. Phoenix Rig up directional tools, calibrate MWD tool.
02:30	06:00	3.50	11	PT			M/U dir. BHA 8 1/2" PDC bit (MSI 616 BPX, jet 4x13; 2x14, Mud motor 6 3/4" BH 1.5, STB 8 1/4", UBHO, MWD monel). Install MWD tool & continue RIH to 300 ft. Shallow test w/ 430 gpm & 650 psi, ok.
06:00	12:30	6.50	11	PT			Continue RIH dir BHA w/ 8 1/2" PDC bit from 300' to 2680'. in single joint 5" DP.
12:30	13:00	0.50	25	PT			Pepesa change crew, perform safety meeting.
13:00	18:30	5.50	11	PT			Continue RIH directional BHA w/ 8 1/2" PDC bit from 2680' to 5802' (TOC), wash down last three stands with 400 gpm, 1400 psi. Fill pipe each 1000 ft.
18:30	20:00	1.50	23	PT			Drillout from 5802' to 5870' w/400 gpm, 1400 psi, wob 5/8 klbs, 40 rpm, 9/11 klb-ft tq. Drillout top, bottom plug and float collar at 5805'.
20:00	20:30	0.50	9	PT			Circulate at 5870' w/ 400 gpm, 1400 psi, observed by shakers top & bottom plug rubbers.
20:30	21:30	1.00	25	PT			Perform CIT w/1500 psi by 10 min, ok.
21:30	22:30	1.00	23	PT			Drillout cement from 5870' to 5885' (9 5/8" csg shoes) w/ 400 gpm, 1400 psi, 5-8 klb wob, 9/11 klb-ft tq, 40 rpm.
22:30	23:30	1.00	9	PT			Circulate w/400 gpm & 1400 psi to change mud system Ezmud - Clayseal 10.8 ppg by Baradri-N 10.7 ppg. Clean shaker, possum belly and sun tank on platform.
23:30	00:00	0.50	6A	PT			Continue rotary drilling new formation from 5885' to 5895' (9 5/8" csg shoe at 5885') with 400 gpm, 1400 psi, 6-10 klb wob, 40 rpm, 9/11 klb-ft tq. Geologist take sample and confirm 50% of formation.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD

Miss Rachelle delivery 2000 gls of diesel del RQ 31287, Ticket number 052334.

Se requiere embarcacion con agua y para enviar material a Talara (Equipos de ITS, unidades de Phoenix, 5 tubos casing 9 5/8", contenedores, etc).

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	9	PT			Continue circulate with 400 gpm, 1400 psi and Geologist take bottom sample and confirm 90% formation.
00:30	01:00	0.50	25	PT			Perform FIT w/ MW 10.7 ppg, 1020 psi, EMW 14.43 ppg and TVD 5180 ft, ok. Start drilling ahead.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	28-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	27-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li / Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

01:00	05:00	4.00	6A	PT	5895	5983	Drill rotating from 5895 ft to 5983 ft, 450 gpm, press 1580 psi, 10/15 klbs wob, 55 rpm, tq 9/11 kft-lb, ROPavg 21.4 ft/hr.
05:00	06:00	1.00	16	PT			Accumulate circulating, surveys & connections. Last survey at 5901 ft, inc 30.5°, azm 254.5°.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/D CARRILLO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	5895	10.7	48	16	18	6	23	28	9.3	0.38	0.26	.45	300	100		0.1	10		10

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7					Name : 8 1/2" BHA				
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 28-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 27-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li / Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	11,937	2,000		699		13,238
TK PEPESA	0					0
Total (gl)	11,937	2,000		699		13,238

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	4
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	13	UNITED	3

Total People : 77

Last Modification : 28-DEC-12 06:40 AM

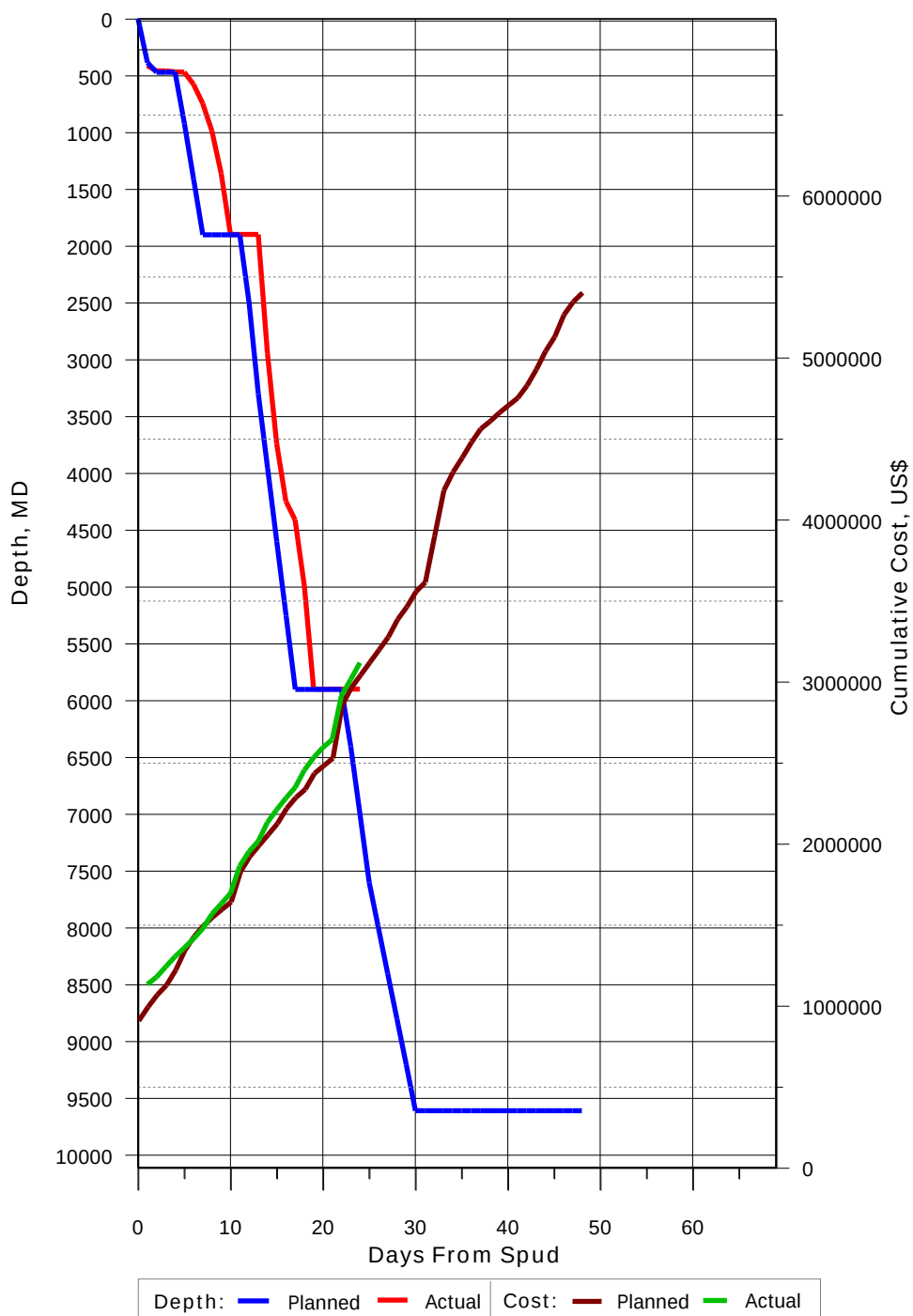
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	28-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	27-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li / Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	29-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	28-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	97,065	3,136,250	58

DRILLING DATA

MD at 24:00 hr:	6737.0 ft	Footage 24:00 hr:	839.00 ft	Drilling hours :	17.50	Days on Loc :	46	Drlg. days :	25
TVD at 24:00 hr:	5933.0 ft	Avg ROP :	47.94 ft/hr.	Cum. Drilling Hrs :	191.00	Days on Well :	46	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		17.50		6.50			
Cumulative	2.00	191.00	6.50	402.00	6.50		16.00

STATUS

Current Status :

Drilling sliding at 6926 ft.

24 Hr. Summary :

Continue circulate and Geologist take bottom sample and confirm 90% formation. Perform FIT w/ MW 10.7 ppg, 1020 psi, EMW 14,43 ppg and TVD 5180 ft, ok. Drill rotating from 5895 ft to 6715 ft, 450/550 gpm, press 1580/2900 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROPavg 51.25 ft/hr. Drilling sliding from 6715 ft to 6737 ft, 500 gpm, press 2600 psi, 20/25 klbs wob, ROPavg 14.6 ft/hr. Last geology sample at 6730 ft 70% clayst, 10% Sltst, 10% Sd and 10% Sst.

24 Hr. Forecast :

Continue drilling ahead.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	9	PT			Continue circulate with 400 gpm, 1400 psi and Geologist take bottom sample and confirm 90% formation.
00:30	01:00	0.50	25	PT			Perform FIT w/ MW 10.7 ppg, 1020 psi, EMW 14,43 ppg and TVD 5180 ft, ok. Start drilling ahead.
01:00	12:00	11.00	6A	PT	5895	6337	Drill rotating from 5895 ft to 6337 ft, 450/550 gpm, press 1580/2850 psi, 10/18 klbs wob, 55/65 rpm, tq 9/12 kft-lb, ROPavg 41 ft/hr.
12:00	15:00	3.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 6280 ft, inc 25.8°, azm 251.60°. Pump 30 bbl HVP at 6242 ft.
15:00	20:00	5.00	6A	PT	6337	6715	Accum drill rotating from 6337 ft to 6715 ft, 550 gpm, press 2900 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROPavg 75.6 ft/hr.
20:00	21:30	1.50	6B	PT	6715	6737	Drilling sliding from 6715 ft to 6737 ft, 500 gpm, press 2600 psi, 20/25 klbs wob, ROPavg 14.6 ft/hr.
21:30	00:00	2.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 6660 ft, inc 19.7°, azm 246.8°. Pump 30 bbl HVP at 6620 ft.
							Last geology sample at 6730 ft 70% clayst, 10% Sltst, 10% Sd and 10% Sst.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD

TGT-LAB cromatograf don't operative before wait spare part to repair.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	6A	PT	6737	6903	Accum drill rotating from 6737 ft to 6903 ft, 550 gpm, press 2980 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROPavg 69.36 ft/hr.
02:30	05:00	2.50	6B	PT	6903	6926	Accum drill sliding from 6903 ft to 6926 ft, 500 gpm, press 2600 psi, 20/25 klbs wob, ROPavg 9.6 ft/hr.
05:00	06:00	1.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 6850 ft, inc 17.6°, azm 247.9°. Last geology sample at 6920 ft 90% clayst, 10% Sltst and 10% Sst.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 29-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 28-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/D CARRILLO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
10:00	5900	10.7	45	15	17	6	20	24	9.2	0.44	0.32	.88	300	100		0.12	10.8		13
18:00	6200	10.8	48	16	19	8	25	30	9.3	0.46	0.35	.76	300	100		0.15	11.8		15
24:00	6737	10.9	49	18	22	8	24	30	9.3	0.46	0.37	.78	300	100		0.15	12.8		18

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD	5995	29.4	254.6	5258.27	2622	-718.74	-2521	.68
MWD	6090	28.6	253.8	5341.36	2668.3	-731.28	-2566	.94
MWD	6185	27.3	252	5425.28	2712.82	-744.35	-2608	1.63
MWD	6280	25.8	251.6	5510.26	2755.25	-757.61	-2649	1.59
MWD	6375	24.2	251.5	5596.35	2795.36	-770.32	-2687	1.68
MWD	6470	22.3	249.8	5683.63	2832.79	-782.72	-2722	2.12
MWD	6565	20.6	248.3	5772.05	2867.4	-795.12	-2754	1.88
MWD	6660	19.7	246.8	5861.24	2899.91	-807.61	-2785	1.09

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	29-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	28-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	13,238			2,600		10,638
TK PEPESA	0					0
Total (gl)	13,238			2,600		10,638

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	1
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	13	UNITED	3

Total People : 78

Last Modification : 29-DEC-12 06:34 AM

DAILY DRILLING REPORT

BLOCK - Z2B

Page 4/4

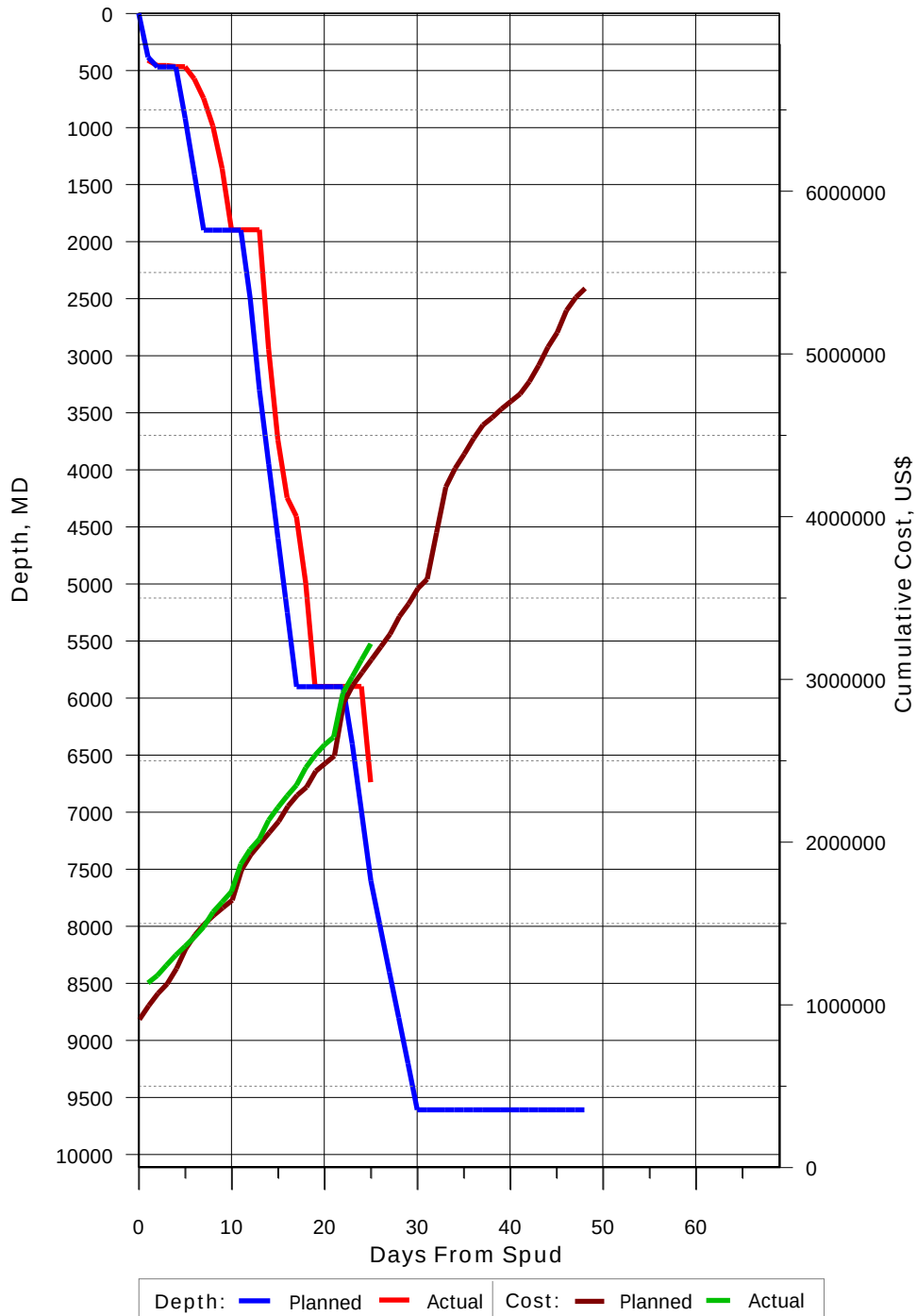
Location: LOBITOS
Well : LO6-26XD
AFE No: 1112835
Day Company: Juan Eulogio

Rig : PEPESA-40
Tender : Perla
Water Depth : 335 ft
Night Company:

Report Date: 29-DEC-2012
Operation Date: 28-DEC-2012
Start Date : 13-NOV-2012
Spud Date : 04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	30-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	29-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	89,969	3,226,219	60

DRILLING DATA

MD at 24:00 hr:	7569.0 ft	Footage 24:00 hr:	832.00 ft	Drilling hours :	19.00	Days on Loc :	47	Drlg. days :	26
TVD at 24:00 hr:	6742.6 ft	Avg ROP :	43.79 ft/hr.	Cum. Drilling Hrs :	210.00	Days on Well :	47	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		19.00		5.00			
Cumulative	2.00	210.00	6.50	407.00	6.50		16.00

STATUS

Current Status :

Drilling sliding at 6680 ft.

24 Hr. Summary :

Directional drill from 6737 ft to 7569 ft. Drill rotary 706 ft, 540 gpm, press 3150 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROPavg 55.12 ft/hr. Drill slide 126 ft, 525 gpm, press 2950 psi, 25/30 klbs wob, ROPavg 22 ft/hr. Pump 30 bbl HVP each 4 stads drilled. Last geology sample at 7560 ft 100% clayst.

24 Hr. Forecast :

Continue drilling ahead up to UBS formation top, perform short trip to hole calibrate.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	6A	PT	6737	6903	Accum drill rotating from 6737 ft to 6903 ft, 550 gpm, press 2980 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROPavg 69.36 ft/hr.
02:30	05:00	2.50	6B	PT	6903	6926	Accum drill sliding from 6903 ft to 6926 ft, 500 gpm, press 2600 psi, 20/25 klbs wob, ROPavg 9.6 ft/hr.
05:00	06:00	1.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 6850 ft, inc 17.6°, azm 247.9°. Last geology sample at 6920 ft 90% clayst, 10% Sltst and 10% Sst.
06:00	10:30	4.50	6A	PT	6926	7207	Accum drill rotating from 6926 ft to 7207 ft, 540 gpm, press 2980 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROPavg 61.3 ft/hr.
10:30	12:30	2.00	6B	PT	7207	7277	Accum drill sliding from 7207 ft to 7277 ft, 500 gpm, press 2650 psi, 20/25 klbs wob, ROPavg 37.2 ft/hr.
12:30	15:00	2.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7229 ft, inc 12.0°, azm 251.5°. At 7094 ft pump 30 bbl HVP and circulate a bottom up to clean hole.
15:00	21:00	6.00	6A	PT	7277	7536	Accum drill rotating from 7277 ft to 7536 ft, 540 gpm, press 3100 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROPavg 44.53 ft/hr.
21:00	22:30	1.50	6B	PT	7536	7569	Accum drill sliding from 7536 ft to 7569 ft, 540 gpm, press 2950 psi, 25/30 klbs wob, ROPavg 24.75 ft/hr.
22:30	00:00	1.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7513 ft, inc 9.0°, azm 245.9°. At 7094 ft pump 30 bbl HVP and circulate a bottom up to clean hole. Last geology sample at 7560 ft

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD.

Sophia Christine barge delivery 1560 glns of diesel, ticket number 006076.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:00	3.00	6A	PT	7569	7676	Accum drill rotating from 7569 ft to 7676 ft, 525 gpm, press 3150 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROPavg 39.6 ft/hr.
03:00	05:30	2.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7609 ft, inc 8.6°, azm 241.2°. At 7601 ft pump 30 bbl HVP to clean hole.
05:30	06:00	0.50	6B	PT	7676	7680	Drill sliding from 7676 ft to 7680 ft, 520 gpm, press 2950 psi, 25/30 klbs wob, ROPavg 15 ft/hr. Last geology sample at 7670 ft 100% clayst.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	30-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	29-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
8:00	7000	10.9	47	18	20	9	36	42	9.3	0.46	0.24	.58	300	100		0.1	11.8		15
19:00	7380	11.1	52	18	19	9	36	42	9.3	0.47	0.25	.65	300	100		0.1	12.8		18
24:00	7568	11.7	54	20	19	9	39	45	9.3	0.48	0.24	.7	300	100		0.1	15.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD	6755	18.4	249.9	5951.03	2930.76	-819.07	-2814	1.73
MWD	6850	17.6	247.9	6041.39	2959.99	-829.63	-2841	1.06
MWD	6945	16.2	249.1	6132.28	2987.48	-839.76	-2867	1.52
MWD	7039	14.8	250.7	6222.86	3012.53	-848.41	-2890	1.56
MWD	7134	13.4	254.4	6315	3035.66	-855.38	-2912	1.75
MWD	7229	12	251.5	6407.67	3056.53	-861.47	-2932	1.62
MWD	7324	11.3	252.8	6500.71	3075.7	-867.36	-2950	.79
MWD	7419	10.7	248.6	6593.97	3039.79	-873.33	-2968	1.05
MWD	7513	9	245.9	6686.58	3109.76	-879.51	-2982	1.82

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 30-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 29-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,638	1,560		3,080		9,118
TK PEPESA	0					0
Total (gl)	10,638	1,560		3,080		9,118

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	3
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 79

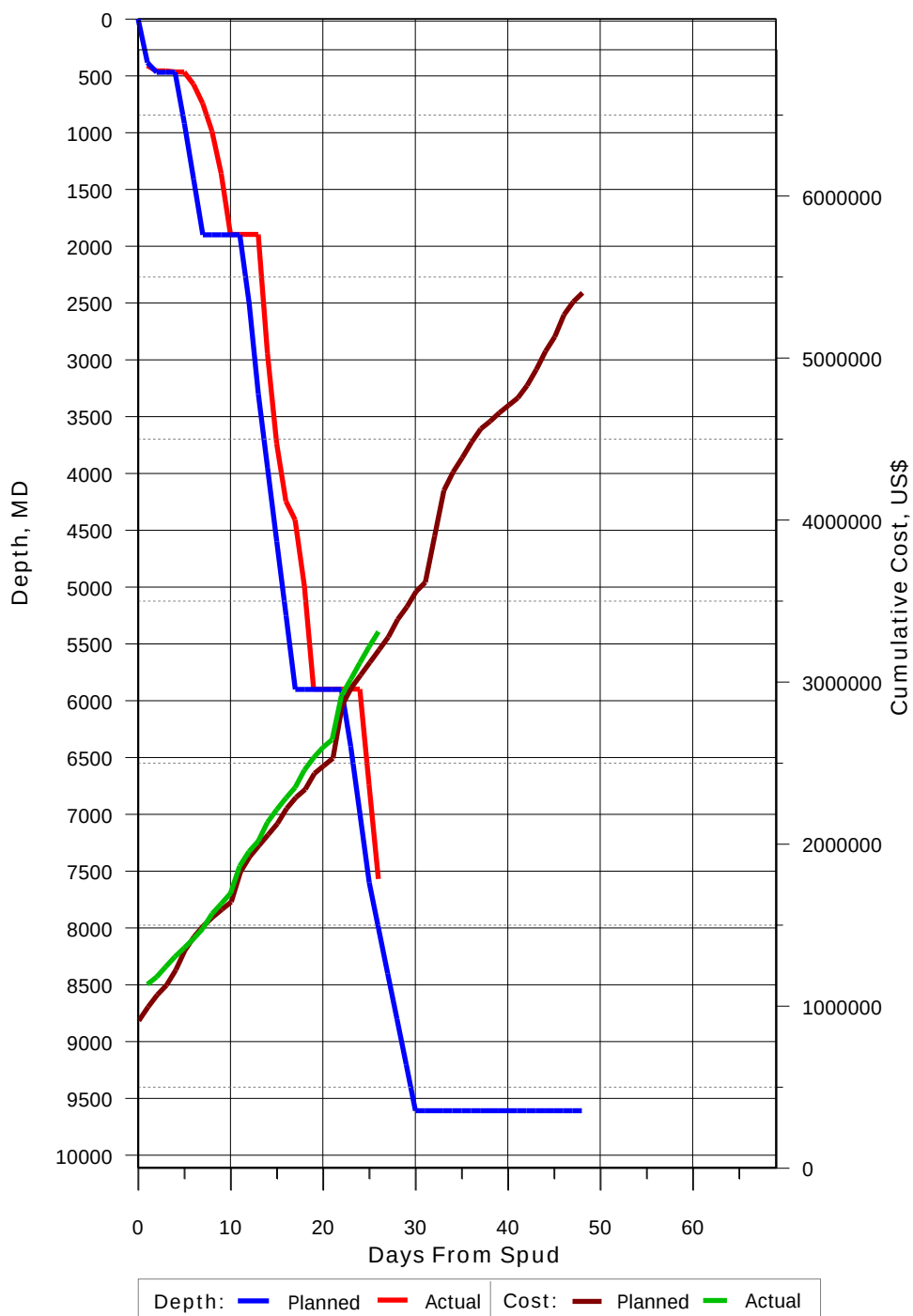
Last Modification : 30-DEC-12 06:46 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	30-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	29-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	31-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	30-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	76,540	3,302,759	61

DRILLING DATA

MD at 24:00 hr:	7854.0 ft	Footage 24:00 hr:	285.00 ft	Drilling hours :	12.00	Days on Loc :	48	Drlg. days :	27
TVD at 24:00 hr:	7028.0 ft	Avg ROP :	23.75 ft/hr.	Cum. Drilling Hrs :	222.00	Days on Well :	48	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		12.00		11.50	0.50		
Cumulative	2.00	222.00	6.50	418.50	7.00		16.00

STATUS

Current Status :

Drilling sliding at 7977 ft.

24 Hr. Summary :

Directional drill from 7569 ft to 7792 ft. Drill rotary 152 ft, 540 gpm, press 3150 psi, 15/22 klbs wob, 65 rpm, tq 11/14 kft-lb, ROPavg 30.2 ft/hr. Drill slide 71 ft, 520 gpm, press 3100 psi, 25/30 klbs wob, ROPavg 20 ft/hr. Pump 30 bbl HVP and condition hole to perform short trip from 7792 to 5840 ft. RIH from 5840 to 7792 ft without problems. Drill sliding from 7792 ft to 7828 ft and Drill rotating from 7828 ft to 7854 ft. Last geology sample at 7850 ft 100% clayst.

24 Hr. Forecast :

Continue drilling ahead.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:00	3.00	6A	PT	7569	7676	Accum drill rotating from 7569 ft to 7676 ft, 525 gpm, press 3150 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROPavg 39.6 ft/hr.
03:00	05:30	2.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7609 ft, inc 8.6°, azm 241.2°. At 7601 ft pump 30 bbl HVP to clean hole.
05:30	08:30	3.00	6B	PT	7676	7727	Drill sliding from 7676 ft to 7727 ft, 530 gpm, press 3000 psi, 25/30 klbs wob, ROPavg 18.2 ft/hr.
08:30	09:30	1.00	6A	PT	7727	7772	Accum drill rotating from 7727 ft to 7772 ft, 540 gpm, press 3100 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROPavg 30.3 ft/hr.
09:30	11:00	1.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7703 ft, inc 7.9°, azm 243.5°.
11:00	12:30	1.50	6B	PT	7772	7792	Drill sliding from 7772 ft to 7792 ft, 520 gpm, press 3050 psi, 25/30 klbs wob, ROPavg 17.4 ft/hr. Last geology sample at 7580 ft 100% clayst and tz dark clayst (possible next Upper Basal Salinas Top)
12:30	13:00	0.50	16	PT			Continue circulate and perform check shoot at 7733 ft, inc 7.6°, azm 243.2°.
13:00	15:00	2.00	9	PT			Condition hole to short trip. Circulate with 550 gpm, 3100 psi a bottom up & pump 30 bbl viscosity pill 11.8 ppg, 150 sec/qt and continue circulate with 580 gpm, 3250 psi up to clean shaker.
15:00	17:30	2.50	11	PT			Perform short trip. POOH 8 1/2" directional BHA from 7792 ft to 5840 ft. POOH from 7792 ft to 7039 ft with back reaming (D/U 190 klb) and continue POOH free with D/U 230 klb.
17:30	18:00	0.50	29	PT			Rig Services
18:00	20:00	2.00	11	PT			RIH from 5840 to 7792 ft without problems. Wash down last two stands with 450 gpm and 2800 psi.
20:00	20:30	0.50	9	PT			Circulate a bottom up with 540 gpm, 3000 psi to continue drilling.
20:30	22:30	2.00	6B	PT	7792	7828	Drill sliding from 7792 ft to 7828 ft, 540 gpm, press 3200 psi, 25/30 klbs wob, ROPavg 18.7 ft/hr.
22:30	00:00	1.50	6A	PT	7828	7854	Drill rotating from 7828 ft to 7854 ft, 540 gpm, press 3150 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROPavg 25.3 ft/hr. Last geology sample at 7850 ft 100% clayst.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 31-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 30-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:30	3.50	6B	PT	7854	7904	Accumulate drill sliding from 7854 ft to 7904 ft, 520 gpm, press 3150 psi, 25/30 klbs wob, ROPavg 15.3 ft/hr.
03:30	05:30	2.00	6A	PT	7904	7977	Accumulate drill rotating from 7904 ft to 7977 ft, 540 gpm, press 3200 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROPavg 38 ft/hr.
05:30	06:00	0.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7893 ft, inc 4.7°, azm 230.5°. Last geology sample at 7970 ft 100% clayst.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/P. OVIEDO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
23:50	7854	11.8	54	21	20	9	35	40	9.3	0.45	0.34	.89	300	100		0.1	16		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 31-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 30-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	9,118			2,840		6,278
TK PEPESA	0					0
Total (gl)	9,118			2,840		6,278

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	3
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 79

DAILY DRILLING REPORT
BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	31-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	30-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Last Modification : 31-DEC-12 07:28 AM

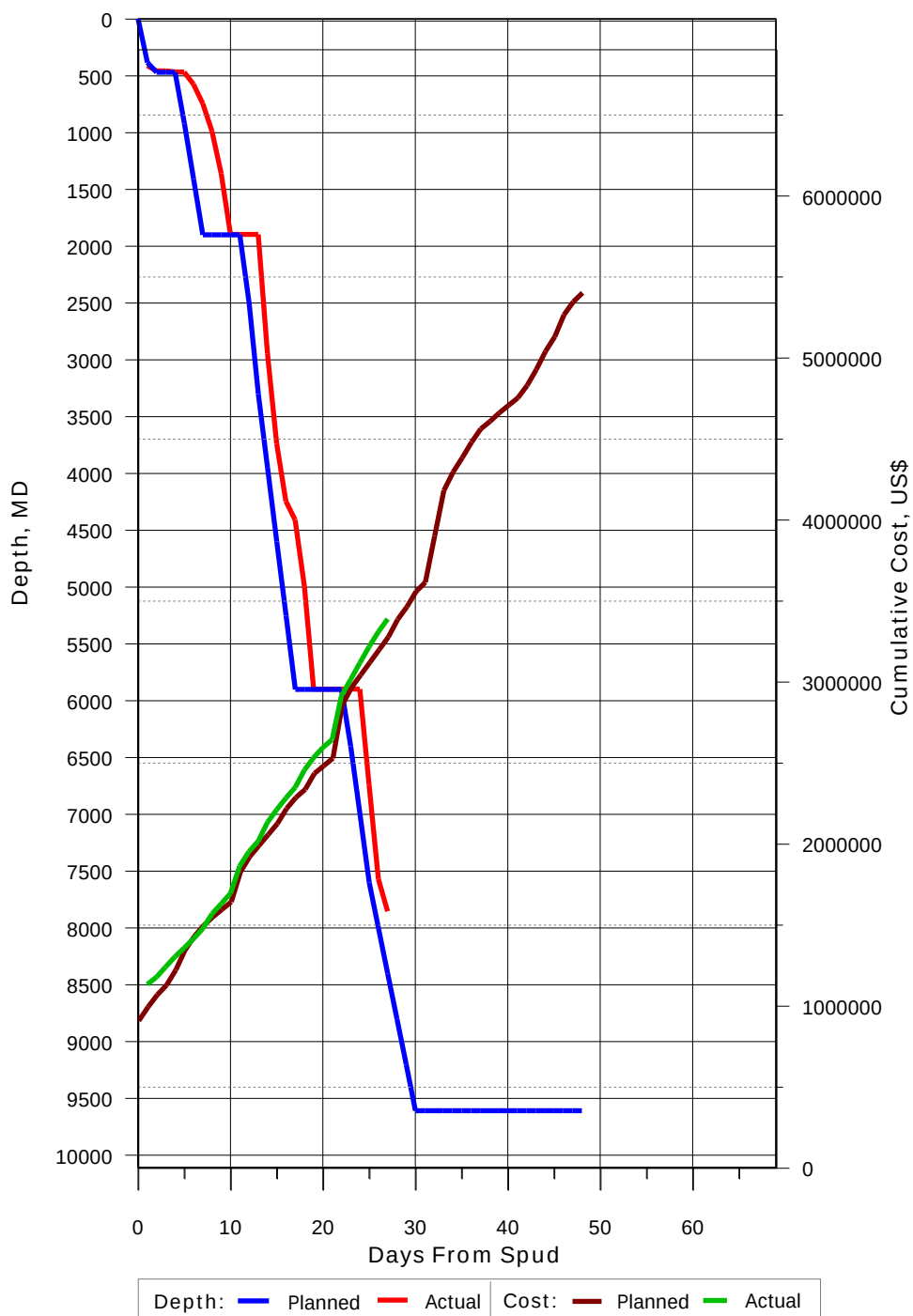
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	31-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	30-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	01-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	31-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	78,302	3,381,061	63

DRILLING DATA

MD at 24:00 hr:	8423.0 ft	Footage 24:00 hr:	569.00 ft	Drilling hours :	19.50	Days on Loc :		Drlg. days :	28
TVD at 24:00 hr:	7592.4 ft	Avg ROP :	29.18 ft/hr.	Cum. Drilling Hrs :	242.00	Days on Well :	49	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		19.50		4.50			
Cumulative	2.00	241.50	6.50	423.00	7.00		16.00

STATUS

Current Status :

Drilling rotary at 8613 ft.

24 Hr. Summary :

Directional drill from 7854 ft to 8423 ft. Drill rotary 390 ft, 540 gpm, press 3150 psi, 14/20 klbs wob, 65 rpm, tq 11/15 kft-lb, ROPavg 35.6 ft/hr. Drill slide 179 ft, 520 gpm, press 3100 psi, 25/30 klbs wob, ROPavg 21.2 ft/hr. Last geology sample at 8420 ft 100% clayst.

24 Hr. Forecast :

Continue drilling ahead.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	03:30	3.50	6B	PT	7854	7904	Accumulate drill sliding from 7854 ft to 7904 ft, 520 gpm, press 3150 psi, 25/30 klbs wob, ROPavg 15.3 ft/hr.
03:30	05:30	2.00	6A	PT	7904	7977	Accumulate drill rotating from 7904 ft to 7977 ft, 540 gpm, press 3200 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROPavg 38 ft/hr.
05:30	06:00	0.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 7893 ft, inc 4.7°, azm 230.5°. Last geology sample at 7970 ft 100% clayst.
06:00	10:00	4.00	6A	PT	7977	8101	Accumulate drill rotating from 7977 ft to 8101 ft, 540 gpm, press 3150 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROPavg 38.2 ft/hr.
10:00	13:30	3.50	6B	PT	8101	8195	Accumulate drill sliding from 8101 ft to 8195 ft, 520 gpm, press 3200 psi, 25/30 klbs wob, ROPavg 23.5 ft/hr.
13:30	15:00	1.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 8083 ft, inc 3.3°, azm 239.3°. Last geology sample at 8190 ft 90% clayst, 10% Sst.
15:00	16:30	1.50	6B	PT	8195	8230	Drill sliding from 8195 ft to 8230 ft, 530 gpm, press 3150 psi, 25/30 klbs wob, ROPavg 23.4 ft/hr.
16:30	21:30	5.00	6A	PT	8230	8423	Accumulate drill rotating from 8230 ft to 8423 ft, 540 gpm, press 3150 psi, 14/16 klbs wob, 65 rpm, tq 13/16 kft-lb, ROPavg 38.5 ft/hr.
21:30	00:00	2.50	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 8368 ft, inc 3.4°, azm 241.6°. Last geology sample at 8420 ft 100% clayst.
							Happy New Years 2013

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	05:00	5.00	6A	PT	8423	8513	Accumulate drill rotating from 8423 ft to 8513 ft, 520 gpm, press 3150 psi, 14/16 klbs wob, 65 rpm, tq 13/16 kft-lb, ROPavg 36.6 ft/hr.
05:00	06:00	1.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 8557 ft, inc 4.7°, azm 230.0°. Last geology sample at 8510 ft, 100% clayst.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 01-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 31-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/P. OVIEDO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
10:00	7950	11.8	55	20	21	9	32	37	9.3	0.44	0.35	.88	300	100		0.1	16.2		18
24:00	8300	11.8	52	21	20	9	30	35	9.3	0.44	0.36	.79	300	100		0.1	16		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD	7988	3.7	234.8	7158.17	3162.48	-907.97	-3029	1.11
MWD	8083	3.3	239.3	7252.99	3168.01	-911.14	-3034	.51
MWD	8178	3.8	236.7	7347.81	3173.67	-914.26	-3039	.55
MWD	8273	2	251.2	7442.68	3178.33	-916.52	-3039	2.03
MWD	8368	3.4	241.6	7537.58	3182.73	-918.4	-3047	1.54
MWD	8463	4.5	234.7	7632.35	3189	-921.89	-3053	1.26

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 01-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 31-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	6,278			2,730		3,548
TK PEPESA	0					0
Total (gl)	6,278			2,730		3,548

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	3
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 79

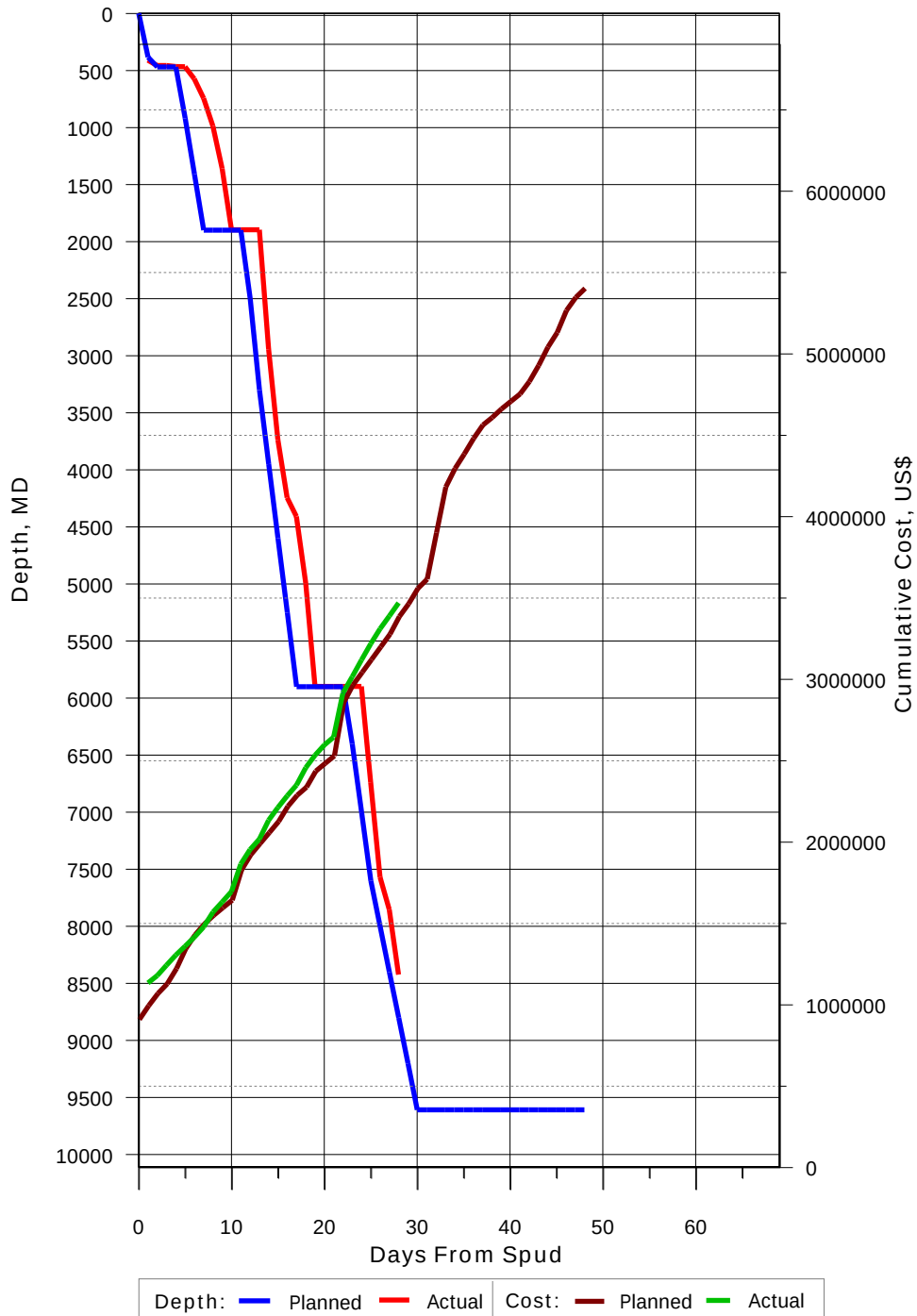
Last Modification : 01-JAN-13 06:50 AM

DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	01-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	31-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	04-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	03-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	1,059,742	1,059,742	20

DRILLING DATA

MD at 24:00 hr:	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	21	Drlg. days :
TVD at 24:00 hr:	Avg ROP :	Cum. Drilling Hrs :	.00	Days on Well :	21	PBTD

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative				24.00			

STATUS

Current Status :

Weld pads on 18" conductor

24 Hr. Summary :

Continue repairing mud line and test with 4500 psi x 10 min ok. received 18" conductor.Rig up 3 joints 18" conductor, measure and weld 18" shoe guide.Pepesa M/U, weld and TIH 18" conductor (N-80, 70.58 lb/ft) 3 joints to 120 ft.Weld and centralizes 18" conductor on first level.Divers, drive ROV to second platform elevation, confirm position of 18" conductor inside square jacket.Weld and run #4, #5 conductor. Divers drive ROV, inspection elevations and sea level.cont Welding and run #6, #7 ,#8 and #9 conductor to 370 ft.

24 Hr. Forecast :

MU & RIH 17" bit with 8" DC & HWDP, Take gyro survey,drill 17" hole to 470 FT.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	07:00	7.00	5	PT			Continue repairing mud line and test with 4500 psi x 10 min ok. While M/U 18 joints 5" cementing pipe in stands (6). And received 18" conductor from Sophia Crhistine vessel.
07:00	09:30	2.50	5	PT			Rig up 3 joints 18" conductor, measure and weld 18" shoe guide.
09:30	13:30	4.00	5	PT			Pepesa M/U, weld and TIH 18" conductor (N-80, 70.58 lb/ft) 3 joints to 120 ft.
13:30	14:30	1.00	5	PT			Weld and centralizes 18" conductor on first level. Diver vessel arrived to location at 13:00 hrs. Position next to platform (North-west side).
14:30	15:00	0.50	5	PT			Divers, drive ROV to second platform elevation, confirm position of 18" conductor inside square jacket.
15:00	18:00	3.00	5	PT			Weld and run #4, #5 conductor. Divers drive ROV, inspection elevations and sea level.
18:00	00:00	6.00	5	PT			Weld and run #6, #7 ,#8 and #9 conductor to 370 ft.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

ROV divers vessel arrived at 13:00 hrs. / return to Talara at 17:30 hrs.

Daily cost: 75,774 se puso todo el monto total al Daily para que el acumulado pueda jalar el monto total, mañana todo sera normal.

Need: 5000 gal of diesel, mud logging and geology savia cabin,and chemicals.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	5	PT			Continue welding ,wait to cool and run conductor #9. Tag sea floor at 386 ft, sitting with it own weight at 392 ft. 297 ft.
01:00	06:00	5.00	5	PT			Pepesa personnel weld 1" flat iron and pads in 18 conductor on first level of platform
							Move 8" DC, 6 1/2" DC & HWDP from barge to platform. take messure and series.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	04-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	03-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	

MUD PROPERTIES

Company :					Type :					Mud Engineers :									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			

INSPECTIONS / DRILLS

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	4,764		564	300		3,900
TK PEPESA	0	564		564		0
Total (gl)	4,764	564	564	864		3,900

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	04-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	03-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	

PERSONNEL

Company	No People	Company	No People
DIRECTSURVEY	2	PEPESA	35
PHONIX	2	SAVIA	1
SIMEDIC	1	TCS	9
TRAMARSA	12		
Total People :		62	

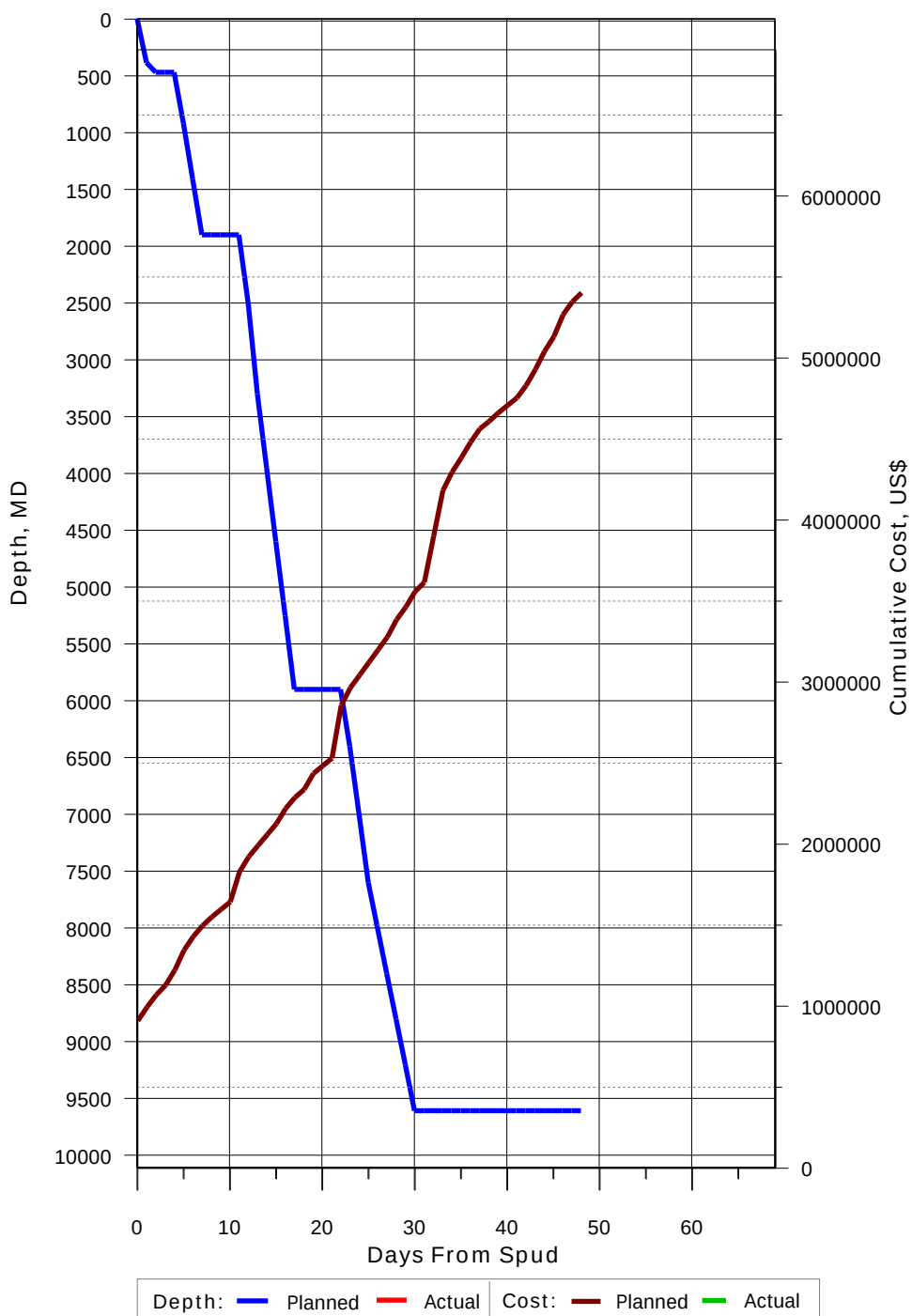
Last Modification : 04-DEC-12 06:23 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	04-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	03-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	43,025	1,102,767	20

DRILLING DATA

MD at 24:00 hr:	410.0 ft	Footage 24:00 hr:	410.00 ft	Drilling hours :	.00	Days on Loc :	22	Drlg. days :	1
TVD at 24:00 hr:	410.0 ft	Avg ROP :		Cum. Drilling Hrs :	.00	Days on Well :	22	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily	1.50			22.50			
Cumulative	1.50			46.50			

STATUS

Current Status :

Drill with 17" tri bit & run 18" conductor at 432 ft.

24 Hr. Summary :

Cont. welding and run conductor #9. Tag sea floor at 386 ft, sitting with it own weight at 392 ft.weld 1" flat iron and pads in 18 conductor on first level.M/U & TIH to 392 ft 17" BHA.Run gyro tool, pooh and read data at 378 ft, inc 1.08 degrees, azm 218.21 degrees.Fenix , analize Gyro data with Savia drilling department.Drill Wash and run 18" conductor from 392 to 403 ft. Spud date 04-12-12. Cont Drill with 17" tricone bit 7ft to 410 ft. wash up/down, 18" conductor slide 7 ft, from 403 ft to 410 ft.Pull out 17" tricone bit to surface.Weld conductor #10 on first level and cut 18" conductor below the rotary table to MU 17" BHA.

24 Hr. Forecast :

Drill & run 18" conductor to 470 ft.circulate pump pill, install 21 1/4" diverter, cement 18" conductor.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	5	PT			Continue welding ,wait to cool and run conductor #9. Tag sea floor at 386 ft, sitting with it own weight at 392 ft.
01:00	06:00	5.00	5	PT			Pepesa personnel weld 1" flat iron and pads in 18 conductor on first level of platform
							Move 8" DC, 6 1/2" DC & HWDP from barge to platform. take measure and serial number.
06:00	08:00	2.00	5	PT			Pepesa measure M/U 5" HWDP in stands.
08:00	10:30	2.50	5	PT			M/U 17" BHA, with 17" tricone bit, 8" DC, 6 3/4" DC.
10:30	12:00	1.50	1	PT			Sofia vessel arrived to location, bring Savia and TGT lab shacks. received and organize shacks on platform.
12:00	12:30	0.50	5	PT			Continue TIH BHA, connect 12 ft pipe joint to 392 ft.
12:30	13:00	0.50	16	PT			M/U Pepesa wire line, and prepare to take Gyro survey.
13:00	13:30	0.50	16	PT			Run gyro tool to 378 ft. no posible to read azimuth, vibration on tool.
13:30	14:30	1.00	16	PT			Prepare to perform second run. Run gyro tool, pooh and read data at 378 ft, inc 1.08 degrees, azm 218.21 degrees.
14:30	15:00	0.50	16	PT			Fenix directional personnel, analize Gyro data with Savia drilling department. Pepesa personal rig down wire line unit.
15:00	16:30	1.50	5	PT			Weld pads to conduc on second level. L/D pup joint, connect stand.
16:30	18:30	2.00	5	PT	392	403	Wash and run 18" conductor from 392 to 403 ft. Spud date 04-12-12
18:30	19:30	1.00	5	PT	403	410	Drill with 17" tricone bit 7ft to 410 ft. wash up/down, 18" conductor slide 3 ft, from 403 ft to 406 ft.
19:30	20:00	0.50	5	PT			Continue washing up/down. 18" conductor slide from 406 ft to 410 ft.
20:00	21:00	1.00	5	PT			Pull out 17" tricone bit to surface.
21:00	00:00	3.00	5	PT			Weld conductor #10 on first level and cut 18" conductor below the rotary table to MU 17" BHA.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Spud date: 04-12-12 at 16:30 hrs.

Need: 5000 gal of diesel.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	5	PT			Weld pads to conductor on second level. and cut pads on first level.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

00:30	01:30	1.00	5	PT			RIH 17" BHA, with 17" tricone bit, 8" DC, 6 3/4" DC & HWDP.
01:30	03:30	2.00	5	PT	410	424	Drill with 17" tricone bit from 410 to 424 ft. wash up/down each 5 ft to slide 18" conductor.
03:30	04:30	1.00	5	PT			M/U Pepesa wire line, Run gyro tool, pooh and read data at 410 ft, inc 0.96 degrees, azm 339.28 degrees.
04:30	05:00	0.50	5	PT			Fenix directional personnel, analyze Gyro data with Savia drilling department. Pepesa personal rig down wire line unit.
05:00	06:00	1.00	5	PT	424	432	Drill with 17" tricone bit from 424 to 432 ft. wash up/down each 5 ft to slide 18" conductor. with 450 gpm, 260 psi.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	2X18-1X16	392							

MUD PROPERTIES

Company :					Type :					Mud Engineers :									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
GYRO SURVEY	378	1.08	218.21					
GYRO SURVEY	410	.96	339.28					

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							

DESCRIPTION BHA

Number : 1			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
BIT	1	1.60	17						
BIT SUB/JETS	1	2.44							
DC 8"	3	90.00	8	2.875					
X/O	1	2.68							
DC 6 1/2"	6	181.32	6.5	2.875					
X/O	1	2.08							
HWDP	6	180.00	5	3					
Total (ft)		460.12							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AQUAGEL	100lb	40	145	BARAZAN D PLUS	25LB		80
CAUSTIC SODA FLAKE	25LKG	1	39	KWIK SEAL MEDIUM	40LB		59
PAC R	50LB		40	SODIUM BICARBONATE	25KG		40
X-TEND II	2LB		20				

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	3,900		276	100		3,524
TK PEPESA	0	276		276		0
Total (gl)	3,900	276	276	376		3,524

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				Bring Material to LO6.

PERSONNEL

Company	No People	Company	No People
DIRECTSURVEY	2	HULLIBURTON	1
PEPESA	39	PHONIX	2
SAVIA	2	SIMEDIC	1
TCS	11	TESCO	1
TRAMARSA	12		

Total People : 71

Last Modification : 05-DEC-12 06:35 AM

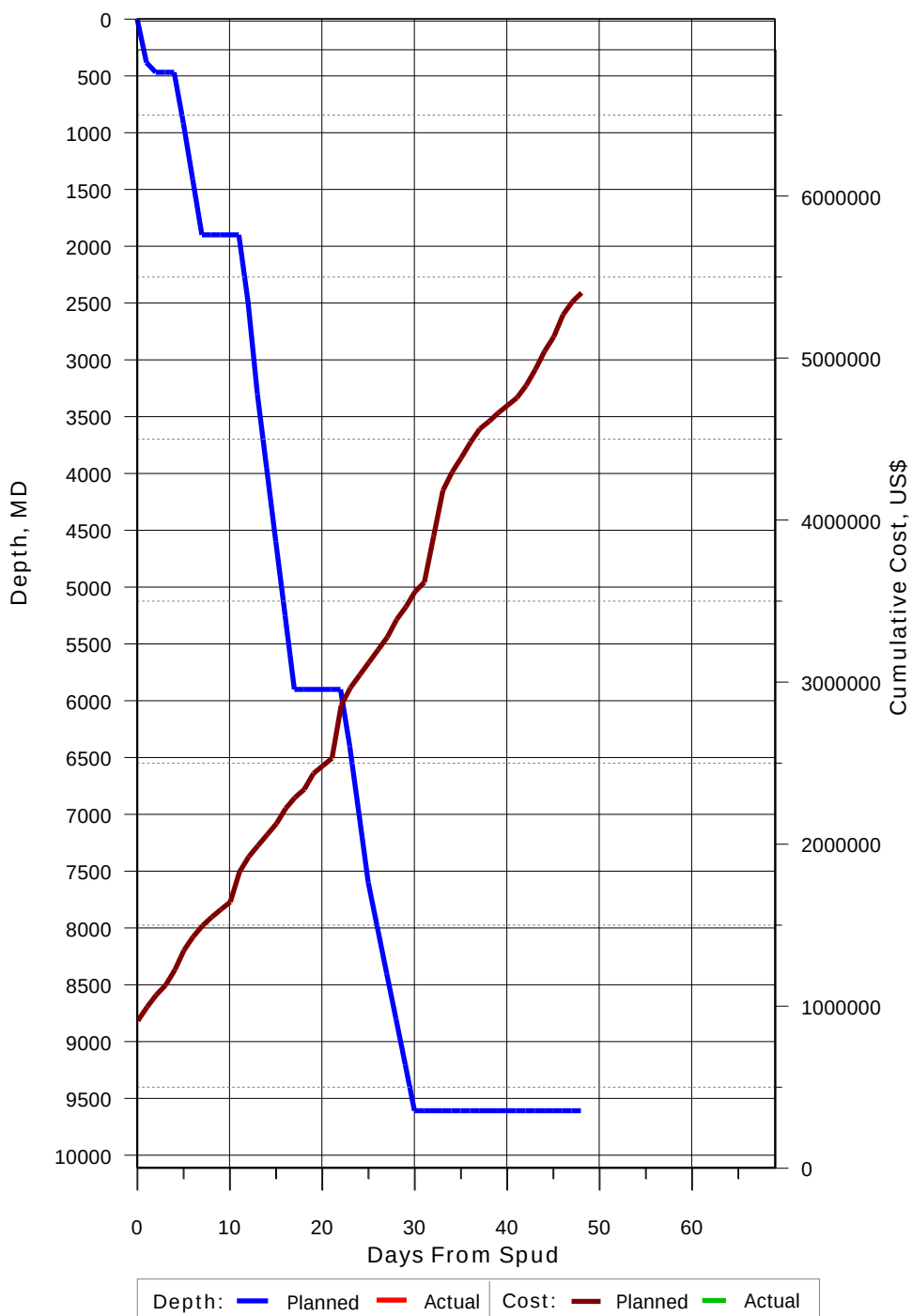
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	06-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	05-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	44,464	1,147,231	21

DRILLING DATA

MD at 24:00 hr:	456.0 ft	Footage 24:00 hr:	46.00 ft	Drilling hours :	.00	Days on Loc :	23	Drlg. days :	2
TVD at 24:00 hr:	456.0 ft	Avg ROP :		Cum. Drilling Hrs :	.00	Days on Well :	23	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	1.50			70.50			

STATUS

Current Status :

N/U 21 1/4" diverter

24 Hr. Summary :

RIH 17" BHA,Drill with 17" tricone bit from 410 to 424 ft. wash up/down each 5 ft to slide 18" conductor. Run gyro tool, a at 410 ft. Drill with 17" tricone bit from 424 to 439 ft. wash up/down each 5 ft to slide 18" conductor. slide to 432 ft, put top drive weight and slide to 438 ft.Drill and wash from 439' to 444', wash up/down, conductor no slide. put top drive weight, slide from 438' to 441'. Conductor sit pads on first level.Pooh 17" BHA.M/U and weld conductor #11.Drill and wash from 444' to 456'. wash up/down, conductor no slide. Apply top drive weight , slide to 448 ft. Take survey @ 443 ft.Circulate, pump vis pill, ok.Pooh BHA w/ 17" tricone bit from 456 ft to surface.welders secure conductor on first level with 4 pads.cut 18" conductor and bevel on 1st level.

24 Hr. Forecast :

Finish N/U 21 1/4" diverter,Cement 18" conductor WOC. M/U 17" tricone bit, drill tag TOC and drill cement.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	5	PT			Weld pads to conductor on second level. and cut pads on first level.
00:30	01:30	1.00	5	PT			RIH 17" BHA, with 17" tricone bit, 8" DC, 6 3/4" DC & HWDP.
01:30	03:30	2.00	5	PT	410	424	Drill with 17" tricone bit from 410 to 424 ft. wash up/down each 5 ft to slide 18" conductor.
03:30	04:30	1.00	5	PT			M/U Pepesa wire line, Run gyro tool, pooh and read data at 410 ft, inc 0.96 degrees, azm 339.28 degrees.
04:30	05:00	0.50	5	PT			Fenix directional personnel, analyze Gyro data with Savia drilling department. Pepesa personal rig down wire line unit.
05:00	06:00	1.00	5	PT	424	432	Drill with 17" tricone bit from 424 to 432 ft. wash up/down each 5 ft to slide 18" conductor. with 450 gpm, 260 psi.
06:00	09:00	3.00	5	PT	432	439	Continue washing up/down, 18" conductor slide to 432 ft. drill and wash from 432' to 439'. conductor no slide.
09:00	10:00	1.00	5	PT			Organize maneuver to put top drive weight on 18" conductor. Put weight and conductor slide to 438 ft.
10:00	10:30	0.50	5	PT	439	444	Drill formation and wash from 439' to 444', wash up/down, conductor no slide.
10:30	11:30	1.00	5	PT			Perform maneuver to put top drive weight on 18" conductor. Put weight and conductor slide from 438' to 441'. Conductor sit pads on first level.
11:30	12:30	1.00	5	PT			Pooh BHA with 17" tricone bit.
12:30	13:30	1.00	5	PT			Cut and bevel 18" conductor #10 on first level.
13:30	15:30	2.00	5	PT			M/U and weld conductor #11 on first level.
15:30	17:00	1.50	5	PT	444	449	Drill formation and wash from 444' to 449'. wash up/down, conductor no slide.
17:00	18:30	1.50	5	PT			Perform maneuver to put top drive weight on 18" conductor. Put weight and conductor slide from 441' to 448'.
18:30	19:30	1.00	5	PT	449	456	Drill formation ana wash from 449' to 456'. Wash up/down, conductor no slide.
19:30	20:30	1.00	5	PT			Perform maneuver to put top drive weight on 18" conductor. Put weight and conductor no slide. Total conductor depth 448 ft.
20:30	21:00	0.50	5	PT			M/U wire line unit. RIH Gyro tool. Take survey @ 443 ft, inc 1.05 deg, azm 294.68 deg
21:00	21:30	0.50	5	PT			Circulate, pump vis pill, ok.
21:30	22:30	1.00	11	PT			Pooh BHA w/ 17" tricone bit from 456 ft to surface.
22:30	00:00	1.50	25	PT			Pepesa welders secure conductor on first level with 4 pads.cut 18" conductor and bevel on 1st level.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	06-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	05-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Del RQ 28605 aprobado por 5,000 gl. solo se recibió 4,000 gl diesel de embarcacion Abrajay, Nos deben 1,000 gls diesel.
 Se evacuo en la embarcacion Rosslyn al Sr. Briseño Luna Luis, mecanico de Pepesa, dolor y emorragia en la segunda molar derecha superior.
 Need cementing barge to cement 18" conductor.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	25	PT			Continue cut 18" conductor and bevel on 1st level.
02:00	06:00	4.00	25	PT			Weld adapter to 18" conductor, raiser and install 2 1/4" diverter.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	2X18-1X16	392							

MUD PROPERTIES

Company :				Type :						Mud Engineers :									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
GYRO SURVEY	443	1.05	294.68					

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							

DESCRIPTION BHA

Number : 1				Name : 17" BHA					
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
BIT	1	1.60	17						
BIT SUB/JETS	1	2.44							
DC 8"	3	90.00	8	2.875					
X/O	1	2.68							
DC 6 1/2"	6	181.32	6.5	2.875					
X/O	1	2.08							
HWDP	6	180.00	5	3					
Total (ft)		460.12							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AQUAGEL	100lb		145	BARAZAN D PLUS	25LB		180
CAUSTIC SODA FLAKE	25LKG		39	KWIK SEAL MEDIUM	40LB		59
PAC R	50LB		40	SODIUM BICARBONATE	25KG		40
X-TEND II	2LB		20				

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 06-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 05-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	3,524	4,000	854	100		6,570
TK PEPESA	0	854		854		0
Total (gl)	3,524	4,854	854	954		6,570

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
DIRECTSURVEY	2	HULLIBURTON	1
PEPESA	39	PHONIX	2
SAVIA	2	SIMEDIC	1
TCS	11	TESCO	1
TRAMARSA	12		

Total People : 71

Last Modification : 06-DEC-12 06:27 AM

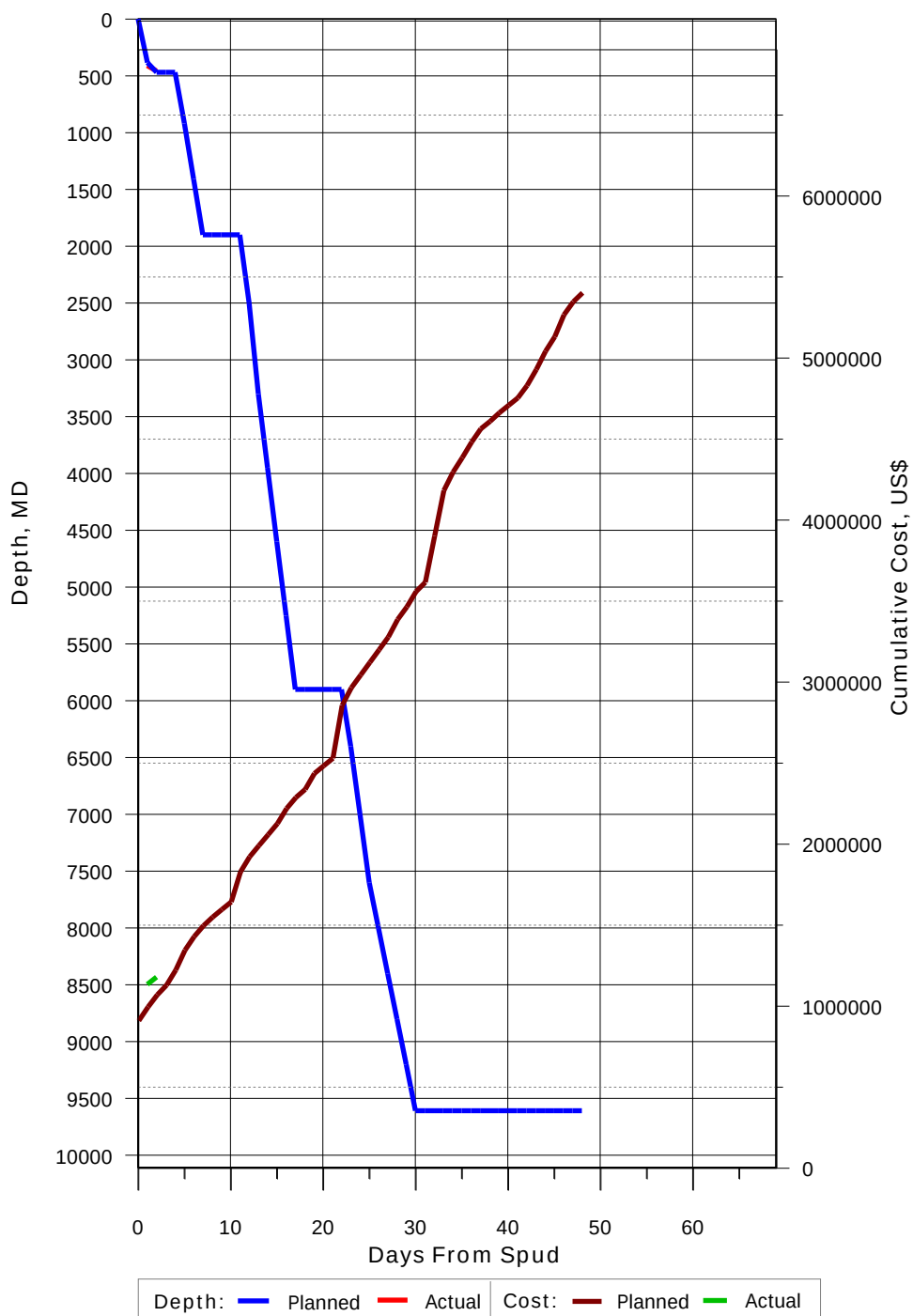
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	06-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	05-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	07-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	06-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	61,825	1,209,056	22

DRILLING DATA

MD at 24:00 hr:	456.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	24	Drlg. days :	3
TVD at 24:00 hr:	456.0 ft	Avg ROP :	Cum. Drilling Hrs :	.00	Days on Well :	24	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	1.50			94.50			

STATUS

Current Status :

MU 5" DP in stands in derrick.

24 Hr. Summary :

cut 18" conductor and bevel on 1st level.Weld adapter to 18" conductor, raiser and install 21 1/4" diverter. tight bolts, weld 8" lateral line, and weld support to diverter.TIH 5" cement DP to 448 ft. M/U cement lines from Medomack to Platform.L/D joint 5" DP and connect 5" pipe joint to cement.Test lines w/ 1000 psi.ok. Cement 18" conductor : W/ close diverter pump 20 bbls water, 41 bbls cement 15.6 ppg. Open diverter continue pumping 9 bbls.Pooh 5" cement DP to 100 ft. Circ to clean pipe. Close diverter, displace w/ 7 bbls water. close well with 10 psi.WOC. Rig down Halliburton lines. continue working with flow line. Lay down 5" cement DP & sent to barge.

24 Hr. Forecast :

M/U & RIH dirc BHA W/ 17" tricone bit, tag cement, drill out cement, displace sea water by 8.9 ppg mud.Drill 17" hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	5	PT			Continue cut 18" conductor and bevel on 1st level.
02:00	06:00	4.00	22	PT			Weld adapter to 18" conductor, raiser and install 21 1/4" diverter.
06:00	12:00	6.00	22	PT			Continue isntalling 21 1/4" diverter, tight bolts, weld 8" lateral line, and weld support to diverter. Medomack cement vessel arrived to location at 11:30am. Medomack position next to Perla Barge. Pepesa TIH 5" cement DP to 448 ft.
12:00	12:30	0.50	22	PT			Pepesa crew arrived to location. Perform safety meeting.
12:30	13:30	1.00	19	PT			Halliburton rig up and M/U cement lines from Medomack to Platform.
13:30	14:30	1.00	19	NPT			Pepesa no finish w/ 8" lateral line. continue welding 8" lateral line, L/D joint 5" DP and connect 5" pipe joint to cement.
14:30	15:00	0.50	19	PT			Perform cement safety meeting with Halliburton and Pepesa crew.
15:00	16:00	1.00	19	PT			Test lines w/ 1000 psi, 10 min, ok. W/ close diverter pump 20 bbls water, 41 bbls cement 15.6 ppg. Open diverter continue pumping 9 bbls.
16:00	17:00	1.00	19	PT			Pooh 5" cement DP to 100 ft. Circulate to clean pipe. Close diverter, displace w/ 7 bbls water. close well with 10 psi.
17:00	18:30	1.50	21	PT			WOC. Rig down Halliburton lines. Pepesa continue working with flow line. Lay down 5" cement DP & sent to barge.
18:30	00:00	5.50	21	PT			Continue WOC and working with flow line. Move directional tools from Perla barge to platform.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Del RQ 28605 aprobado por 5,000 gl. solo se recibió 4,000 gl diesel de embarcacion Abrajoy, Nos deben 1,000 gls diesel.

Medomack recibio para el trabajo de cementación 3,000 galones de diesel.

Sophia cristine arrived with Chemicals(100 sx barite, calcium carbonate),and unload to barge.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	21	PT			WOC. Finished to weld flow lines.Prepare 500 bbls 8.9 ppg mud. Open well.
00:01	06:00	5.98	11	PT			Move DP from barge to platform measure ant take series.MU 52x5" DP in stands (14") in derrick. Sophia cristine arrived with Chemicals and unload to barge.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	07-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	06-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	2X18-1X16	392							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL				Mud Engineers :					HERNANDO LEON					
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	448	8.4							9										

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 1			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
BIT	1	1.60	17						
BIT SUB/JETS	1	2.44							
DC 8"	3	90.00	8	2.875					
X/O	1	2.68							
DC 6 1/2"	6	181.32	6.5	2.875					
X/O	1	2.08							
HWDP	6	180.00	5	3					
Total (ft)		460.12							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AQUAGEL	100lb		145	BARAZAN D PLUS	25LB		80
BARITE	100LB		1000	CAUSTIC SODA FLAKE	25LKG		39
KWIK SEAL MEDIUM	40LB		59	PAC R	50LB		40
SODIUM BICARBONATE	25KG		40	X-TEND II	2LB		20

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 07-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 06-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	6,570	5,000	286	100		11,184
TK PEPESA	0	286		286		0
Total (gl)	6,570	5,286	286	386		11,184

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
HULLIBURTON	1	NORTH SERVICES	2
PEPESA	38	PHONIX	3
RISK CONTROL	2	SAVIA	4
SIMEDIC	1	TCS	9
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 81

Last Modification : 07-DEC-12 06:13 AM

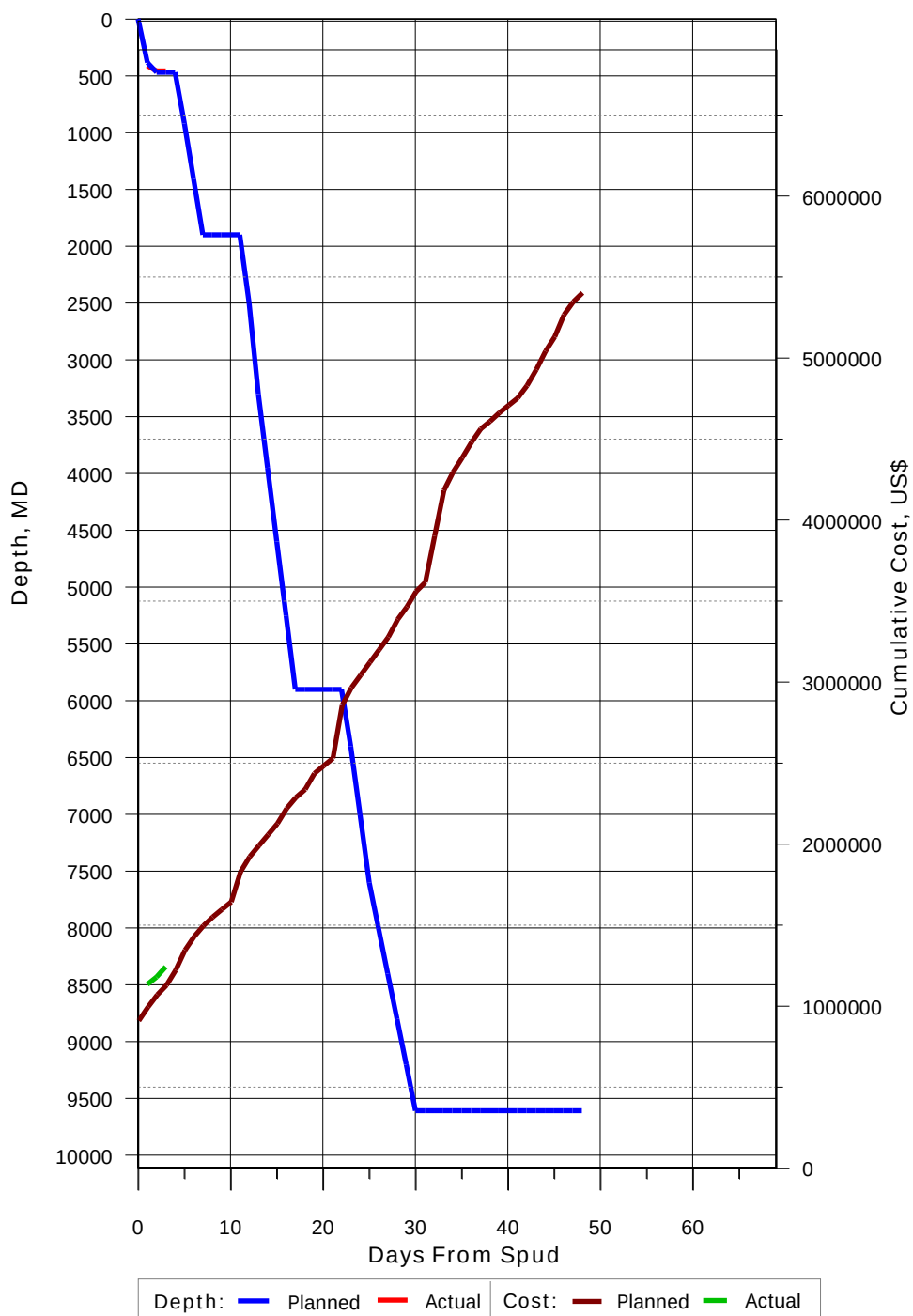
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	07-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	06-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 08-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 07-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	60,289	1,269,345	23

DRILLING DATA

MD at 24:00 hr:	465.0 ft	Footage 24:00 hr:	9.00 ft	Drilling hours :	1.50	Days on Loc :	25	Drlg. days :	4
TVD at 24:00 hr:	465.0 ft	Avg ROP :	6.00 ft/hr.	Cum. Drilling Hrs :	2.00	Days on Well :	25	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily	0.50	1.50		19.00			3.00
Cumulative	2.00	1.50		113.50			3.00

STATUS

Current Status :

MU & RIH 11 3/4" magnet

24 Hr. Summary :

WOC. Finished to weld flow line. Open well. MU 66 jtx5" DP in stands (22) in derrick.M/U 17" tricone bit, with Directional BHA & TIH dir. BHA w/ 17" tricone bit and tag TOC at 435'.Drill out cement fr 435' to 456'.Dir. drill rotate fr 456' to 460'. Circulate, Geology confirm 50% formation. ok.Circ and displace sea water by 8.9 ppg mud fluid.run and take Gyro survey.Dir. drill rotate fr 460' to 465'. High torque, posible debris at bottom.Pooh 17" tricone bit to surface.MU & RIH11 3/4" magnet. work on bottom and POOH to surface. Recover 4 kg of debris.MU 13 3/8" canguro

24 Hr. Forecast :

Drill 17" hole with directional BHA.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	21	PT			WOC. Finished to weld flow lines.Prepare 500 bbls 8.9 ppg mud. Open well.
01:00	08:00	7.00	11	PT			Move 5"DP from barge to platform messure ant take series.MU 66 jtx5" DP in stands (22) in derrick. Sophia cristine arrived with Chemicals and unload to barge.
08:00	08:30	0.50	25	PT			Perform safety meeting with Phoenix and Pepesa crew.
08:30	09:30	1.00	23	PT			Connect 9 5/8" mud motor BH 1.5, cross over and 15" stabilizer on surface.
09:30	12:30	3.00	23	PT			M/U 17" tricone bit, with mud motor, cross over, stabilizer, UBHO. Phoenix position directional tool. Prepare 700 bbls mud 8.9 ppg.
12:30	14:00	1.50	23	PT			Connect 3 x 8" DC, 8" Jar, 3 x 6 3/4" DC, 5" HWDP.
14:00	14:30	0.50	1	PT			TIH dir. BHA w/ 17" tricone bit and tag TOC at 435'.
14:30	15:30	1.00	23	PT			Drill out cement from 435' to 456'. 400 gpm, pres 460 psi, 35 rpm.
15:30	16:00	0.50	6A	PT	456	460	Dir. drill rotating w/ BHA and 17" tricone bit from 456' to 460'. Circulate, Geology confirm 50% formation. ok.
16:00	16:30	0.50	9	PT			Circulate and displace sea water for 8.9 ppg mud fluid.
16:30	17:00	0.50	16	PT			R/U Pepesa wire line unit, run and take Gyro survey. Inc. 0.76 deg, azm 6.57 deg., 205.9 tool face.
17:00	18:00	1.00	16	PT			Turn drilling table, positon tool face. Run Gyro survey to confirm tool face position. Inc. 0.8 degrees, azm 333.97 degrees, 277.68 degrees.
18:00	19:00	1.00	6A	PT	460	465	Dir. drill rotating from 460' to 465'. WOB 8/10 klbs, 700 gpm, pres 1030 psi, 35 rpm. High torque, posible debris at bottom.
19:00	21:00	2.00	11	PT			Pooh 17" tricone bit to surface.
21:00	23:30	2.50	14	PT			MU & RIH 11 3/4" magnet with 5" DP to 465 ft (1st run). work on bottom and POOH to surface. Recovered 4 kg of debris.
23:30	00:00	0.50	14	PT			MU 13 3/8" canguro

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Del RQ 28605 aprobado por 5,000 gl. solo se recibió 4,000 gl diesel de embarcacion Abrajoy, Nos deben 1,000 gls diesel.

Need cutting barge.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	14	PT			RIH 13 3/8" canguro with 5" DP, work on bottom all sides, POOH to surface. Recovered 1/4 kg of debris.
02:00	04:30	2.50	14	PT			MU & RIH 17" bit with conventional BHA to 465 ft. work on bottom to remove debris (drill 1 ft without problems).POOH 17" bit to surface.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 08-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 07-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

04:30 06:00 1.50 14 PT	MU & RIH11 3/4" magnet with 5" DP to 465 ft (2nd run). work on bottom and POOH to surface.Recovered smalls debris.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers :					HERNANDO LEON				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
17:00	460	8.9	46	8	18	8	24	30	9										8
24:00	465	8.9	46	8	18	8	24	30	9										8

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 2			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" tricone bit	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" DC	3	90.00	8	2.875	6 5/8" Reg				
8" Jar	1	18.11	8	2.75	6 5/8" Reg			2.05	
Cross Over	1	2.68	8	2.08	4 1/2" IF				
6.5" DC	3	90.65	6.5	2.875	4 1/2" IF				
5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		702.14							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AQUAGEL	100lb	145		BARAZAN D PLUS	25LB		80
BARITE	100LB	280	720	CALCIUM CARBONATE M250	40KG		240
CAUSTIC SODA FLAKE	25LKG	3	36	KWIK SEAL MEDIUM	40LB		59
PAC R	50LB	3	37	SODIUM BICARBONATE	25KG	3	37
X-TEND II	2LB	1	19				

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 08-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 07-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

INSPECTIONS / DRILLS

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	11,184		425	170		10,589
TK PEPESA	0	425		425		0
Total (gl)	11,184	425	425	595		10,589

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
HULLIBURTON	1	NORTH SERVICES	2
PEPESA	38	PHONIX	3
RISK CONTROL	2	SAVIA	4
SIMEDIC	1	TCS	9
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 81

Last Modification : 08-DEC-12 06:10 AM

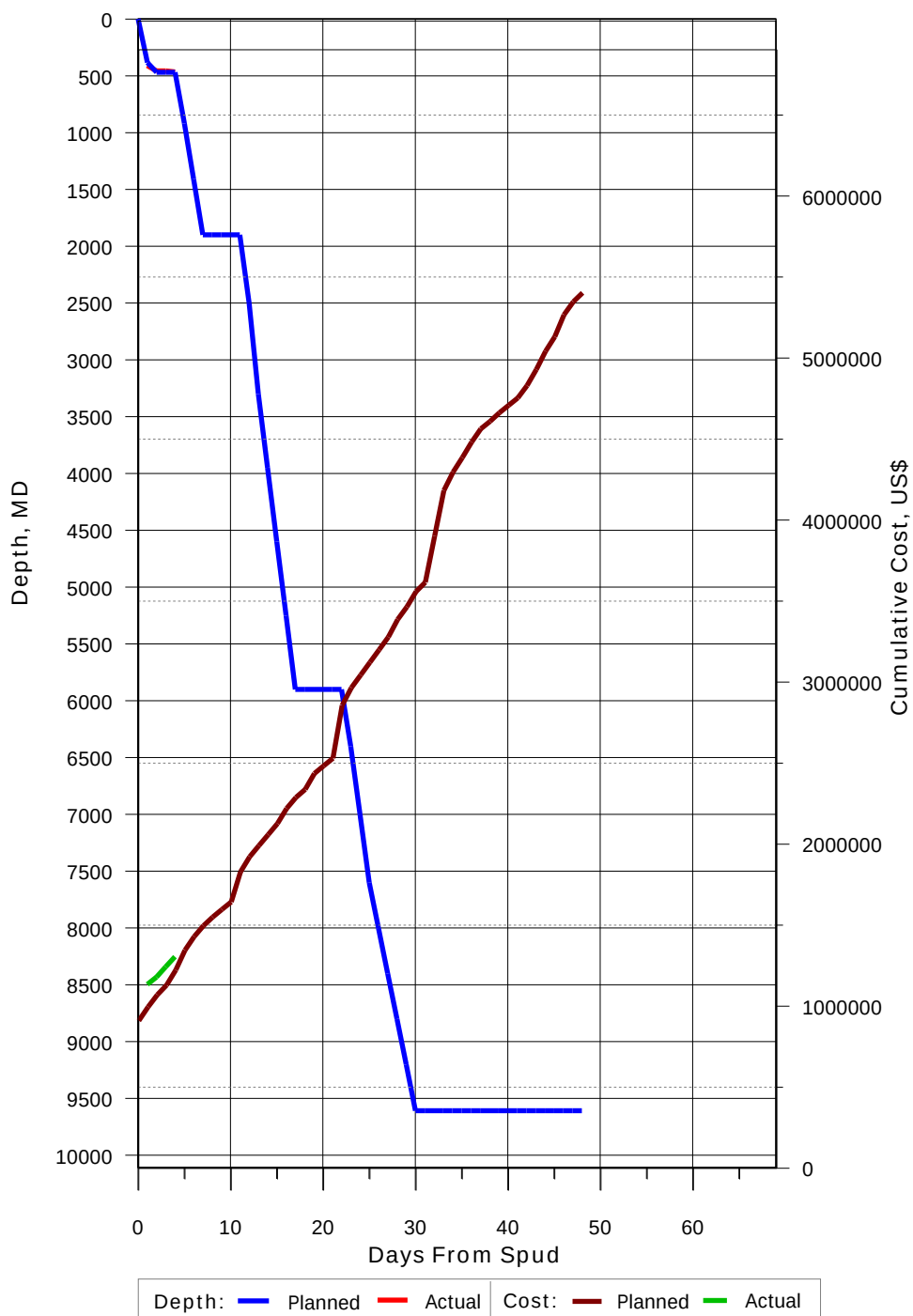
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	08-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	07-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 09-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 08-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	53,612	1,322,957	24

DRILLING DATA

MD at 24:00 hr:	467.0 ft	Footage 24:00 hr:	2.00 ft	Drilling hours :	.00	Days on Loc :	26	Drlg. days :	5
TVD at 24:00 hr:	467.0 ft	Avg ROP :		Cum. Drilling Hrs :	2.00	Days on Well :	26	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				17.00			7.00
Cumulative	2.00	1.50		130.50			10.00

STATUS

Current Status :

Prepare to perform 2nd run to take survey

24 Hr. Summary :

RIH 13 3/8" canguro, Recovered 1/4 kg of debris.MU & RIH 17" bit with conventional BHA to 465 ft to remove debris (drill 1 ft without problems).MU & RIH 11 3/4" magnet.Recovered smalls debris.TIH 17" tricone bit, with Directional BHA to 467 ft. Perform take gyro survey. take 5 times without success data. Pooh dir BHA,Perform UBHO visual inspection, ok. Continue POOH BHA. Rig up, measure and M/U 5" DP in stands.CIA Gyro data arrived al location move Gyro tools from barge to platform and check tools.

24 Hr. Forecast :

Drill 17" directional hole

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	14	PT			RIH 13 3/8" canguro with 5" DP, work on bottom all sides, POOH to surface. Recovered 1/4 kg of debris.
02:00	04:30	2.50	14	PT			MU & RIH 17" bit with conventional BHA to 465 ft. work on bottom to remove debris (drill 1 ft without problems).POOH 17" bit to surface.
04:30	07:00	2.50	14	PT			MU & RIH11 3/4" magnet with 5" DP to 465 ft (2nd run). work on bottom and POOH to surface.Recovered smalls debris.
07:00	07:30	0.50	11	PT			L/D 11 3/4" magnet. Zuluf (diver vessel) arrived to location. Rig up 18" clamps from Zuluf to platform.
07:30	09:30	2.00	11	PT			TIH 17" tricone bit, with mud motor, cross over, 15" stabilizer, UBHO, 3 DC 8", Jar, Cross over, 3 DC 6 1/2".
09:30	10:00	0.50	25	PT			Perform fire drill on platform and barge. Participated all services companies.
10:00	10:30	0.50	11	PT			Continue TIH dir BHA to 467 ft. Divers perform inspection on jacket elevation.
10:30	11:30	1.00	16	NPT			Prepare wire line, run Gyro tool, pooh tool. @ 404', incl 1.15 deg, azm 349 deg, tool face 349 deg.
11:30	12:30	1.00	16	NPT			Directsurvey perform 2nd run. take survey, pooh tool. @ 404', inc 1.15 deg, azm 349 deg, tool face 5 deg. Make correction to data 348 deg. Prepare run to confirm tool face data.
12:30	13:00	0.50	16	NPT			Directsurvey perform 3rd run to confirm information. Take survey, pooh tool. @ 405' incl 1.16 deg, azm 176 deg, tool face 177.51 deg. Directsurvey tool not sit on UBHO.
13:00	13:30	0.50	16	NPT			Directsurvey perform 4th run. Take survey, pooh tool. @ 401', incl 0.9 deg, azm 353.44 deg, tool face 12.01 deg. Directsurvey tool not sit on UBHO.
13:30	14:30	1.00	16	NPT			Circulate to clean UBHO. Directsurvey prepare to run tool without centralizer. Divers installing clamp on 5th jacket elevation. no possible to install clamps.
14:30	15:00	0.50	16	NPT			Directsurvey perform 5th run. Take survey, pooh tool. @ 403', incl 1.11', azm 295.79 deg, tool face 355.48 deg.
15:00	16:00	1.00	16	NPT			Divers return to Talara with 2 clamp for modification. Direct survey perform 6th run, to confirm prior data. @ 403', incl 1.13 deg, azm 241.36 deg, tool face 296 deg. Tool not sit on UBHO.
16:00	17:30	1.50	11	NPT			Pooh dir BHA w/ 17" tricone bit to perform inspection to UBHO.
17:30	18:30	1.00	11	NPT			Perform UBHO visual inspection, ok. Continue POOH BHA. Wait on Cia. GYRO DATA, to replace Cia. DirectSurvey.
18:30	23:00	4.50	25	PT			L/D Directsurvey tools, move tools to barge. Rig up, measure and M/U 5" DP in stands.
23:00	00:00	1.00	25	PT			MU 5" DP. CIA Gyro data arrived al location move Gyro tools from barge to platform and check tools.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 09-DEC-2012
Well : LO6-26XD	Tender : Perla	Operation Date: 08-DEC-2012
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: David Li	Night Company: Raul Rosales	Spud Date : 04-DEC-2012

Del RQ 28605 aprobado por 5,000 gl. solo se recibió 4,000 gl diesel de embarcacion Abrajoy, Nos deben 1,000 gls diesel.
 Se realizo un simulacro de blow out, participaron todas las empresas de servicio en locacion.
 Embarcacion Zuluf buzos llega a locacion a las 7:30 am, inspeccionan elevaciones, intentan instalar grampa, no posible. Llevan grampas a Talara para modificar suples y extensiones.
 Chata Bravo llega a locacion a las 13:30 hrs.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	25	PT			CIA GYRO DATA M/U & calibrate gyro survey tool.
01:00	04:00	3.00	11	PT			TIH 17" tricone bit, with mud motor, cross over, 15" stabilizer, UBHO, 3 DC 8", Jar, Cross over, 3 DC 6 1/2". PHOENIX & GYRO DATA perform operative test with stinger into the mule shoe seat.
04:00	05:00	1.00	16	PT			R/U wire line, CIA Gyro data run Gyro tool, pooh tool to surface, no confidential data.
05:00	06:00	1.00	17	PT			CIA Gyro data configurate tool, Run gyro tool at 413 ft, inc 0.73 deg, azm 348.13 deg, tool face 268.57 deg.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392							

MUD PROPERTIES

Company : HALLIBURTON					Type : AQUAGEL					Mud Engineers : HERNANDO LEON									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
16:00	467	8.9	46	8	18	8	24	30	8.9										8
24:00	467	8.9	46	8	18	8	25	31	8.9										8

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertival Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 2		Name : 17" BHA							
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" tricone bit	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" DC	3	90.00	8	2.875	6 5/8" Reg				
8" Jar	1	18.11	8	2.75	6 5/8" Reg			2.05	
Cross Over	1	2.68	8	2.08	4 1/2" IF				
6.5" DC	3	90.65	6.5	2.875	4 1/2" IF				
5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		702.14							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	09-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	08-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		4	AQUAGEL	100lb		
BARAZAN D PLUS	25LB		80	BARITE	100LB		720
BAROFIBRE COARSE	40LB		60	BAROLIFT	15LB		5
CALCIUM CARBONATE M250	40KG		240	CAUSTIC SODA FLAKE	25LKG		36
CLAYSEAL PLUS	55GAL		15	DEFOAMERS SILICONE	5GAL		24
DEXTRID	50LB		54	EZ SPOT	55GAL		4
KWIK SEAL MEDIUM	40LB		59	N-SEAL	30LB		48
PAC R	50LB		37	PAC-L	50LB		40
SAPP	25KG		40	SODIUM BICARBONATE	25KG		37
X-TEND II	2LB		19				

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	08-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,589		400	150		10,039
TK PEPESA	0	400		400		0
Total (gl)	10,589	400	400	550		10,039

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	2	HULLIBURTON	2
NORTH SERVICES	2	PEPESA	38
PHOENIX	5	RISK CONTROL	2
SAVIA	4	SIMEDIC	1
TCS	9	TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3		

Total People : 86

Last Modification : 09-DEC-12 06:35 AM

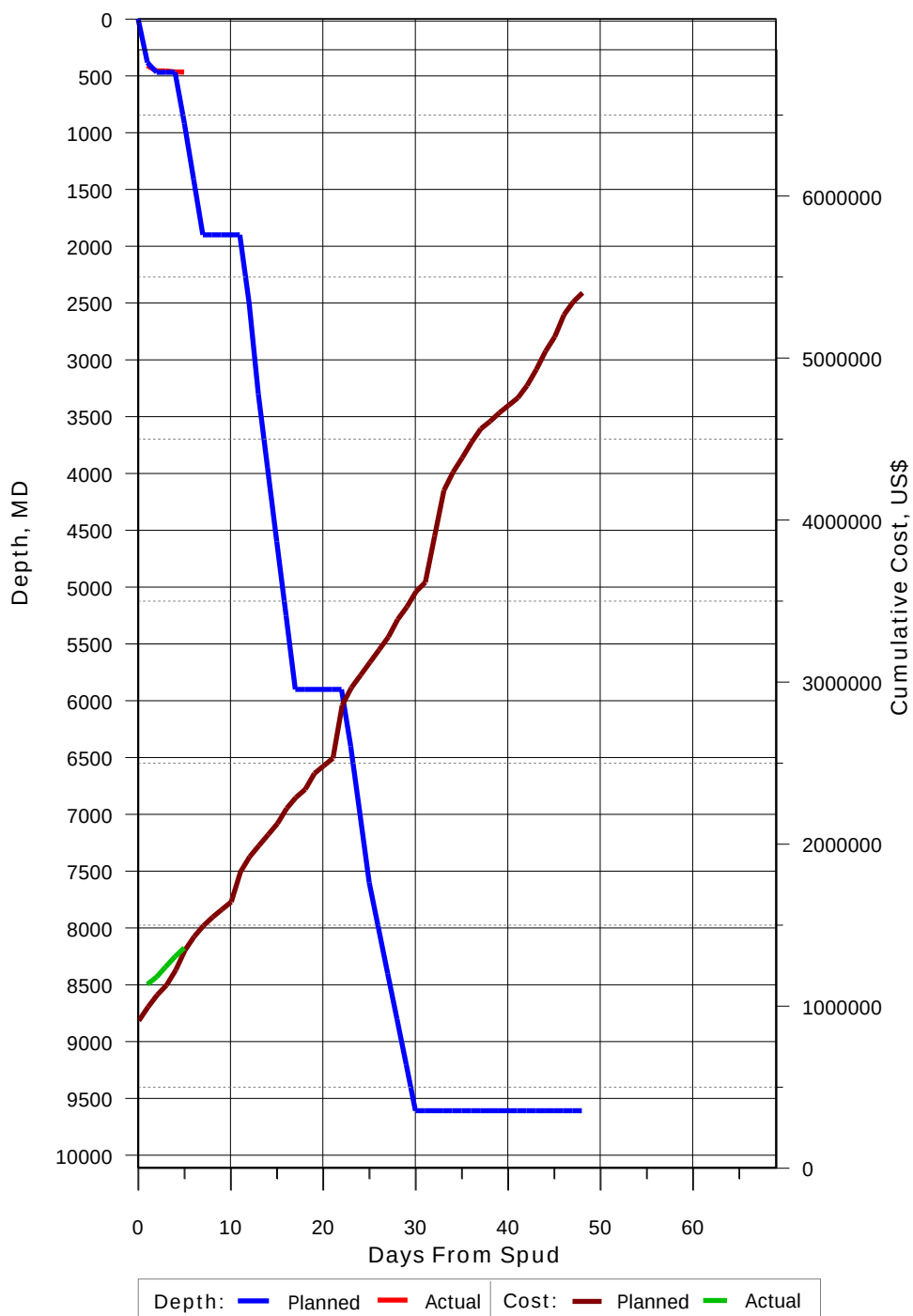
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	09-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	08-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	10-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	09-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	54,445	1,377,402	25

DRILLING DATA

MD at 24:00 hr:	573.0 ft	Footage 24:00 hr:	106.00 ft	Drilling hours :	15.50	Days on Loc :	27	Drlg. days :	6
TVD at 24:00 hr:	573.0 ft	Avg ROP :	6.84 ft/hr.	Cum. Drilling Hrs :	17.00	Days on Well :	27	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		15.50		8.50			
Cumulative	2.00	17.00		139.00			10.00

STATUS

Current Status :

Take gyro survey.

24 Hr. Summary :

CIA GYRO DATA M/U & calibrate gyro survey tool. TIH 17" tricone bit, with directional BHA. PHOENIX perform operative test with stinger into the mule shoe seat ok. Take gyro survey at 413' and orientate tool face ok. Directional drill slide from 467 ft to 573 ft with WOB 10 klbs, pres 590 psi, diff 70 psi, 514 gpm. avg ROP 7 ft/hr.

24 Hr. Forecast :

Drill ahead 17" directional hole.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	25	PT			CIA GYRO DATA M/U & calibrate gyro survey tool.
01:00	04:00	3.00	11	PT			TIH 17" tricone bit, with mud motor, cross over, 15" stabilizer, UBHO, 3 DC 8", Jar, Cross over, 3 DC 6 1/2". PHOENIX & GYRO DATA perform operative test with stinger into the mule shoe seat.
04:00	05:00	1.00	16	NPT			R/U wire line, CIA Gyro data run Gyro tool, pooh tool to surface, no confidential data.
05:00	06:00	1.00	16	PT			CIA Gyro data configurate tool, Run gyro tool at 413 ft, inc 0.73 deg, azm 348.13 deg, tool face 268.57 deg.
06:00	07:30	1.50	16	PT			Phoenix directional turn BHA and positon tool face. Cia Gyro data run gyro tool at 413', inc 0.73 deg, azm 323.25 deg, tool face 309.72 deg.
07:30	12:00	4.50	6B	PT	467	498	Dir. drill sliding from 467' to 498'. WOB 10 klbs, pres 690 psi, diff 143 psi, 506 gpm. Shakers show 30% cement, drop to 0%, 100% formation.
12:00	13:30	1.50	6B	PT	498	502	Dir. drill sliding from 498' to 502', WOB 10 klbs, pres 623 psi, diff 75 psi, 508 gpm. Shakers show 50% cement drop to 0%, 100% formation.
13:30	16:00	2.50	6B	PT	502	520	Dir. drill sliding from 502' to 520', WOB 10 klbs, pres 590 psi, diff 70 psi, 514 gpm. Shakers show 100% formation.
16:00	17:00	1.00	16	PT			Run Gyro data tool, take survey @ 466'. inc 1.34 deg, azm 302.65 deg.
17:00	00:00	7.00	6B	PT	520	573	Dir. drill sliding from 520' to 573'.WOB 10 klbs, pres 650 psi, diff 70 psi, 514 gpm, ROP 8 ft/hr. Shakers show 100% formation. trz of cement.

REMARK :

1 accidente El Sr. Pool Severino tropezo con la parrilla del piso, cayendo en el mismo y doblandose el pie derecho.se le evacua a talara. Held safety meeting with all crew.

Del RQ 28605 aprobado por 5,000 gl. solo se recibió 4,000 gl diesel de embarcacion Abrajoy, Nos deben 1,000 gls diesel.

Embarcacion Zuluf buzos llega a locacion a las 7:30 am, instalan y presentan grampas de la 5 y 3 elevacion; falta ajustar las grampas; retorna a Talara a las 4:00pm. Winche queda en locacion agarrado con la grampa de la 3 elevacion.

Sophia cristine llega a las 21:30 hrs y deja 4300 gal diesel,30M gal ag

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	05:00	5.00	6B	PT	573	612	Dir. drill sliding from 573' to 612'.WOB 10 klbs, pres 650 psi, diff 70 psi, 514 gpm, ROP 7 ft/hr. Shakers show 100% formation.Trz cement. last geology sample 60% claystone,30 % sanstone, 10 % sand
05:00	06:00	1.00	16	PT			Ream, Run Gyro data tool, take survey

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	10-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	09-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456							

MUD PROPERTIES

Company :				HALLIBURTON				Type :				AQUAGEL				Mud Engineers :				HERNANDO LEON			
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)				
18:00	520	8.9	46	8	20	9	24	30	8.9	0.43	0.20	.39							10				
24:00	574	9	46	8	20	9	24	30	8.9	0.43	0.20	.39							10				

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448

DESCRIPTION BHA

Number : 2			Name : 17" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
17" tricone bit	1	1.60			Reg				
Mud motor 9 5/8	1	27.47	9.625		6 5/8" Reg		24xh24404	1.99	
Cross Over	1	5.01	8	2.812	7 5/8" Reg				
15" Stabilizer	1	5.69	8	2.812	6 5/8" Reg			1.74	
UBHO	1	5.05	8	3.75	6 5/8" Reg				
8" DC	3	90.00	8	2.875	6 5/8" Reg				
8" Jar	1	18.11	8	2.75	6 5/8" Reg			2.05	
Cross Over	1	2.68	8	2.08	4 1/2" IF				
6.5" DC	3	90.65	6.5	2.875	4 1/2" IF				
5" HWDP	15	455.88	5	3	4 1/2" IF				
Total (ft)		702.14							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL		4	ALDACIDE G	2GAL		32
AQUAGEL	100lb			BARAZAN D PLUS	25LB		80
BARITE	100LB		1320	BAROFIBRE COARSE	40LB		60
BAROLIFT	15LB		5	CALCIUM CARBONATE M250	40KG		190
CAUSTIC SODA FLAKE	25LKG	3	33	CLAYSEAL PLUS	55GAL		15
DEFOAMERS SILICONE	5GAL		24	DEXTRID	50LB		54
EZ SPOT	55GAL		4	KWIK SEAL MEDIUM	40LB		59
N-SEAL	30LB		48	PAC R	50LB		37
PAC-L	50LB		40	SAPP	25KG		40
SODIUM BICARBONATE	25KG		35	X-TEND II	2LB		11

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	3793							
2	White Star	1300	12	6	3793							
3	PZ-8	750	8	6	2717							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	10-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	09-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	08-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,039		546	120		9,373
TK PEPESA	0	546		546		0
Total (gl)	10,039	546	546	666		9,373

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	1	HULLIBURTON	2
NORTH SERVICES		PEPESA	35
PHOENIX	5	RISK CONTROL	2
SAVIA	4	SIMEDIC	1
TCS	10	TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3		
Total People :		81	

Last Modification : 10-DEC-12 06:11 AM

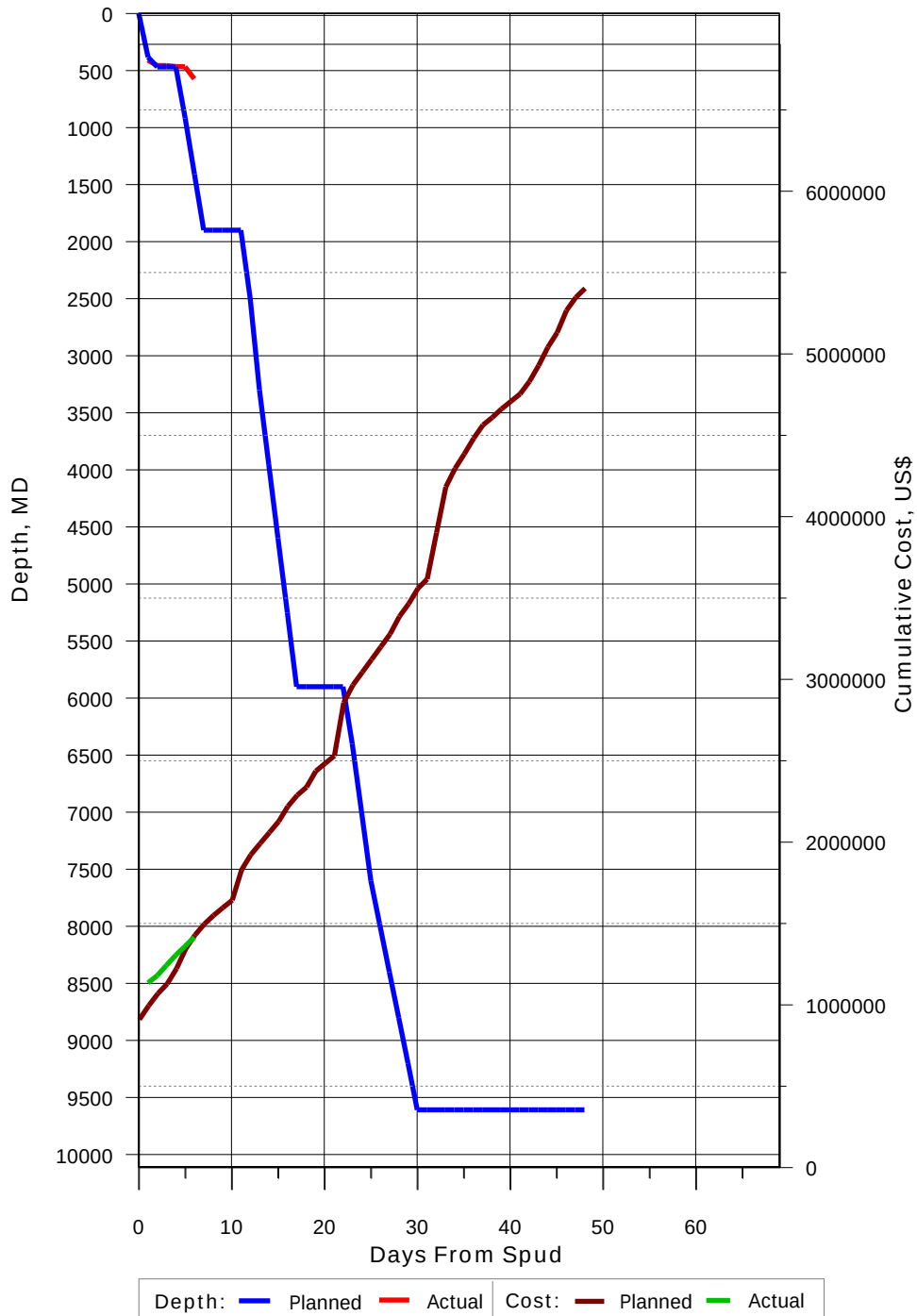
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	10-DEC-2012
Well :	LO6-26XD	Tender :	Perla	Operation Date:	09-DEC-2012
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	David Li	Night Company:	Raul Rosales	Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	250,435	4,217,264	78

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:		Drilling hours :	.00	Days on Loc :	59	Drlg. days :	38
TVD at 24:00 hr:	8961.6 ft	Avg ROP :		Cum. Drilling Hrs :	289.00	Days on Well :	59	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	289.00	6.50	614.50	8.00		16.00

STATUS

Current Status :

POOH 5" DP to 8850 ft.

24 Hr. Summary :

Pepesa & WTF crew organize rig floor, condition 2 clamps type "T". WTF & Pepesa recover wireline from 9760 ft to 6300 ft. Pepesa welder change bolts and nuts of T Clamps. Pepesa perform crew change. Continue WTF & Pepesa recover wireline from 6300 ft to 5600 ft. Change maneuver to recover 175 ft of wireline by each run of TD. Continue WTF & Pepesa recover wireline from 5600 ft to surface, Pepesa organize log wireline on platform. L/D logging tools, lubricator, pulleys and equipments. Pepesa connect TD on drillpipe string and circulate to break gels.

24 Hr. Forecast :

POOH 5" DP to surface and run 5.5" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	17	NPT			Pepesa & WTF crew organize rig floor, condition 2 clamps type "T" (bolts and nuts test). Install T clamps and perform tension test, ok.
							WTF engineer takes measure of wireline by each run of TD (87 ft by TD run) and calibrate depth.
02:30	09:30	7.00	17	NPT			WTF & Pepesa recover wireline from 9760 ft to 6300 ft, WTF trip speed to pick up wireline in open hole 25 ft/min, WTF engineer perform tension control locate on the head logging tools.
							(weak point set at 6 klb) and monitoring the Martin Decker parameters. Pepesa organize log wireline on platform.
09:30	10:30	1.00	17	NPT			"T" Clamps present cross threads of bolts and nuts, Pepesa welder change bolts and nuts of T Clamps.
10:30	11:00	0.50	17	NPT			Pepesa perform crew change, perform safety and operation metting to continue recover wireline.
11:00	14:30	3.50	17	NPT			Continue WTF & Pepesa recover wireline from 6300 ft to 5600 ft, WTF engineer continue monitoring tension control on head logging tools and Martin Decker parameters.
							Pepesa continue organize log wireline on platform.
14:30	15:30	1.00	17	NPT			Change maneuver (install dead line and pulleys on rig floor) to recover 175 ft of wireline by each run of TD, perform test, ok.
15:30	21:30	6.00	17	NPT			Continue WTF & Pepesa recover wireline from 5600 ft to surface, WTF engineer continue monitoring tension control on head logging tools and Martin Decker parameters. Pepesa continue organize log wireli
21:30	22:30	1.00	17	NPT			WTF crew recover all wireline and L/D logging tools (CMI, MDL, GPD & MDN), lubricator, pulleys and equipments.
22:30	00:00	1.50	9	PT			Pepesa connect TD on drillpipe string and circulate to break gels and continue circulate with 300/500 gpm, 1100/1650 psi. Continue circulation to displace bottom gas units (1500 U).

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700'MD, RIO BRAVO Fm. @ 3740' MD.PALEGREDA Fm. @ 5500' MD,MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910'MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst. Sophia Christine delivery 1650 gln of diesel, ticket number 1220071.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			Wash down from 8460 ft to 9800 ft with 400 gpm, 1100 psi and 70 rpm.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

02:00	05:30	3.50	9	PT	Mud Engineer perform treatment and conditioning with caustic soda, dispersant, hydrates and adjust MW: 11.8 ppg of the mud system. Circulate with 500 gpm, 2100 psi and 75 rpm.
					Pump 40 bbl sweep pill, 140 sec/qt, displace and circulate up to clean shakers.
05:30	06:00	0.50	11	PT	POOH 5" DP from 9800 ft to 8850 ft with normal drag.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	9800	11.8	56	20	20	9	38	43	9.2	0.38	0.24	.88	300	100		0.12	18.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,663			467		10,196
TK PEPESA	0					0
Total (gl)	10,663			467		10,196

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

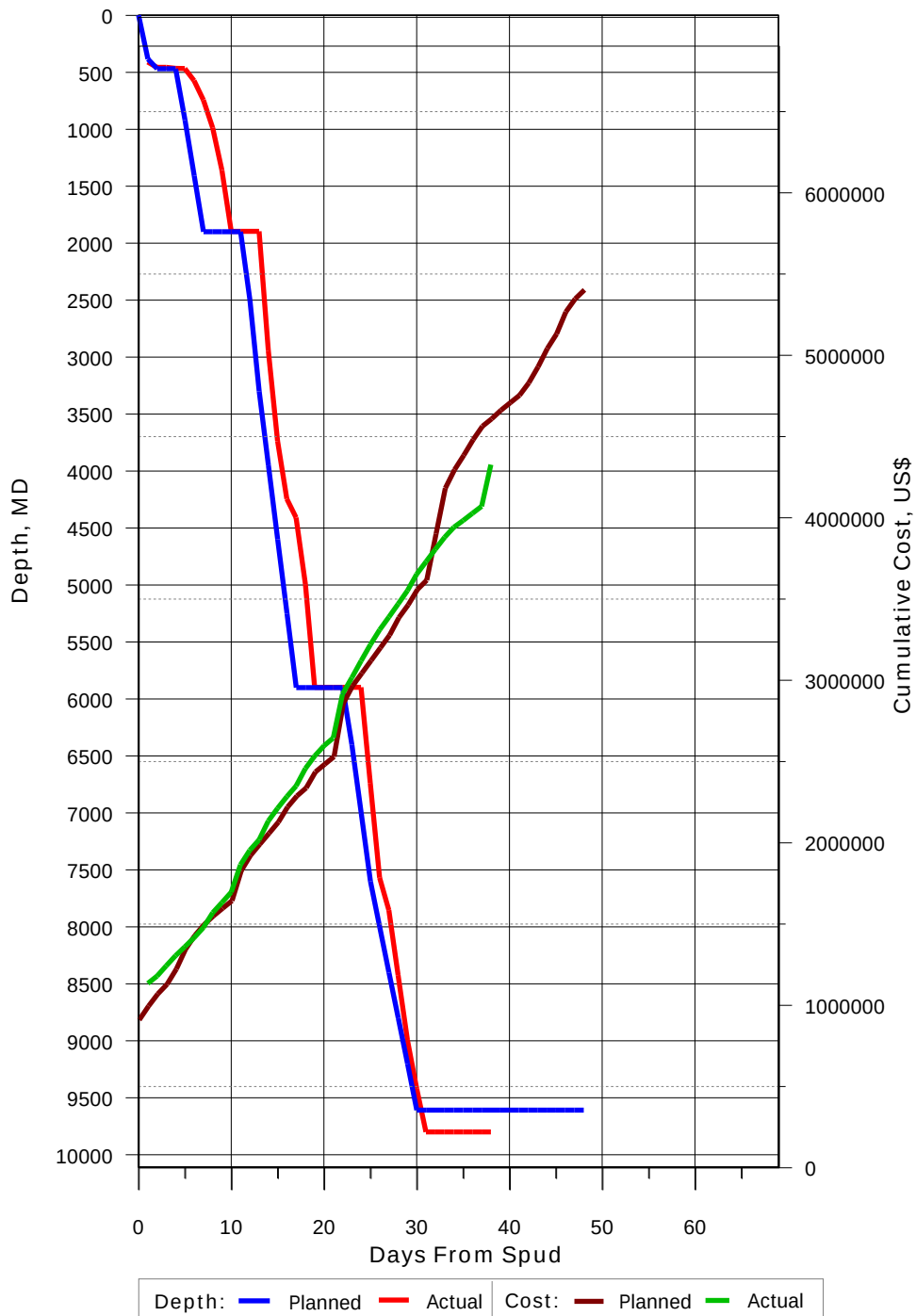
Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	5	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	2
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	4	TRAMARSA	12
UNITED	3	WTF	6
Total People :		83	

Last Modification : 11-JAN-13 06:40 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	11-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	10-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 12-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 11-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	187,058	4,404,322	82

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	60	Drlg. days :	39
TVD at 24:00 hr:	8961.6 ft	Avg ROP :	Cum. Drilling Hrs :	289.00	Days on Well :	60	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				23.00	1.00		
Cumulative	2.00	289.00	6.50	637.50	9.00		16.00

STATUS

Current Status :

Run 235 jts 5.5" csg, 17 ppf, N-80, BTC at 8900 ft.

24 Hr. Summary :

Wash down from 8460 ft to 9800 ft, Mud Engineer perform treatment and conditioning mud system, circulate and pump 40 bbl sweep pill, circulate up to clean shakers. POOH 5" DP from 9800 ft to 1000 ft, Pepesa crew cut and slip 120 ft 1 1/4" drilling lines. Continue POOH 5" DP from 1000 ft to surface, L/D mule shoes, recover ware bushing. R/U ITS 5 1/2" csg running tools on rig floor. P/U & M/U 5.5" drillable csg float equipment, Run 155 jts 5.5" csg, 17 ppf, N-80, BTC at 5855 ft. Fill pipe each 500 ft. Install 32 bowl spring & 16 semi rigid centralizers.

24 Hr. Forecast :

Cement job 5 1/2" csg, WOC, install section "C" of well head, RIH 2 7/8 tbg to change by wo fluid.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			Wash down from 8460 ft to 9800 ft with 400 gpm, 1100 psi and 70 rpm.
02:00	05:30	3.50	9	PT			Mud Engineer perform treatment and conditioning with caustic soda, dispersant, hydrates and adjust MW: 11.8 ppg of the mud system. Circulate with 500 gpm, 2100 psi and 75 rpm.
							Pump 40 bbl sweep pill, 140 sec/qt, displace and circulate up to clean shakers.
05:30	11:30	6.00	11	PT			POOH 5" DP from 9800 ft to 1000 ft with normal drag. Perform flow check at 5800 ft and 1000 ft by 10 min, ok.
11:30	12:30	1.00	29	PT			Pepesa crew cut and slip 120 ft 1 1/4" drilling lines.
12:30	13:30	1.00	11	PT			Continue POOH 5" DP from 1000 ft to surface, L/D mule shoes.
13:30	14:00	0.50	18	PT			M/U 5" DP and running tool to recover wear bushing, L/D running tool and 5" DP.
14:00	15:00	1.00	18	PT			Pepesa L/D hawk jaw and condition rig floor, change 5" hyd elevator by 5.5" elevator and change 5 ft links by 15 ft links.
							R/U ITS 5 1/2" csg running tools (Install hydraulic power tong, side door elevator and spider) on rig floor.
15:00	15:30	0.50	18	PT			Perform safety & operational meeting with Pepesa, ITS, Tranmarsa, TGT & Savia personnel to run 5.5" csg.
15:30	16:00	0.50	18	PT			P/U & M/U 5.5" drillable float shoe, 2 jt 5.5" csg 17 ppf, N-80, BTC. Install 2 SR centralizer & install 5.5" drillable float collar 17 ppf, N-80, BTC. Perform float collar test, ok.
16:00	00:00	8.00	18	PT			Run 155 jts 5.5" csg, 17 ppf, N-80, BTC at 5855 ft. Fill pipe each 500 ft. Install 32 bowl spring & 16 semi rigid centralizers.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	00:30	0.50	18	PT			At 5855 ft, circulate to broke gels and circulate with 300 gpm and 400 psi.
00:30	01:00	0.50	18	PT			ITS and Pepesa crew change side door elevator by spider, install fill up tool. While continue circulate with 300 gpm and 400 psi.
01:00	05:00	4.00	18	PT			Run 224 jts 5.5" csg, 17 ppf, N-80, BTC at 8480 ft. Install 39 bowl spring & 17 semi rigid centralizers.
05:00	05:30	0.50	18	PT			At 8480 ft, circulate to broke gels and circulate with 270 gpm and 400 psi.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 12-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 11-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

05:30 06:00 0.50 18 PT	Run 235 jts 5.5" csg, 17 ppf, N-80, BTC at 8900 ft. Install 39 bowl spring & 17 semi rigid centralizers.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : E Sirlupu/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	9800	11.8	53	21	20	9	38	45	9.1	0.36	0.25	.36	300	100		0.12	18.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	12-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	11-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,196			1,008		9,188
TK PEPESA	0					0
Total (gl)	10,196			1,008		9,188

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	5	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	2
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	4	TRAMARSA	12
UNITED	3	WTF	6

Total People : 83

Last Modification : 12-JAN-13 07:02 AM

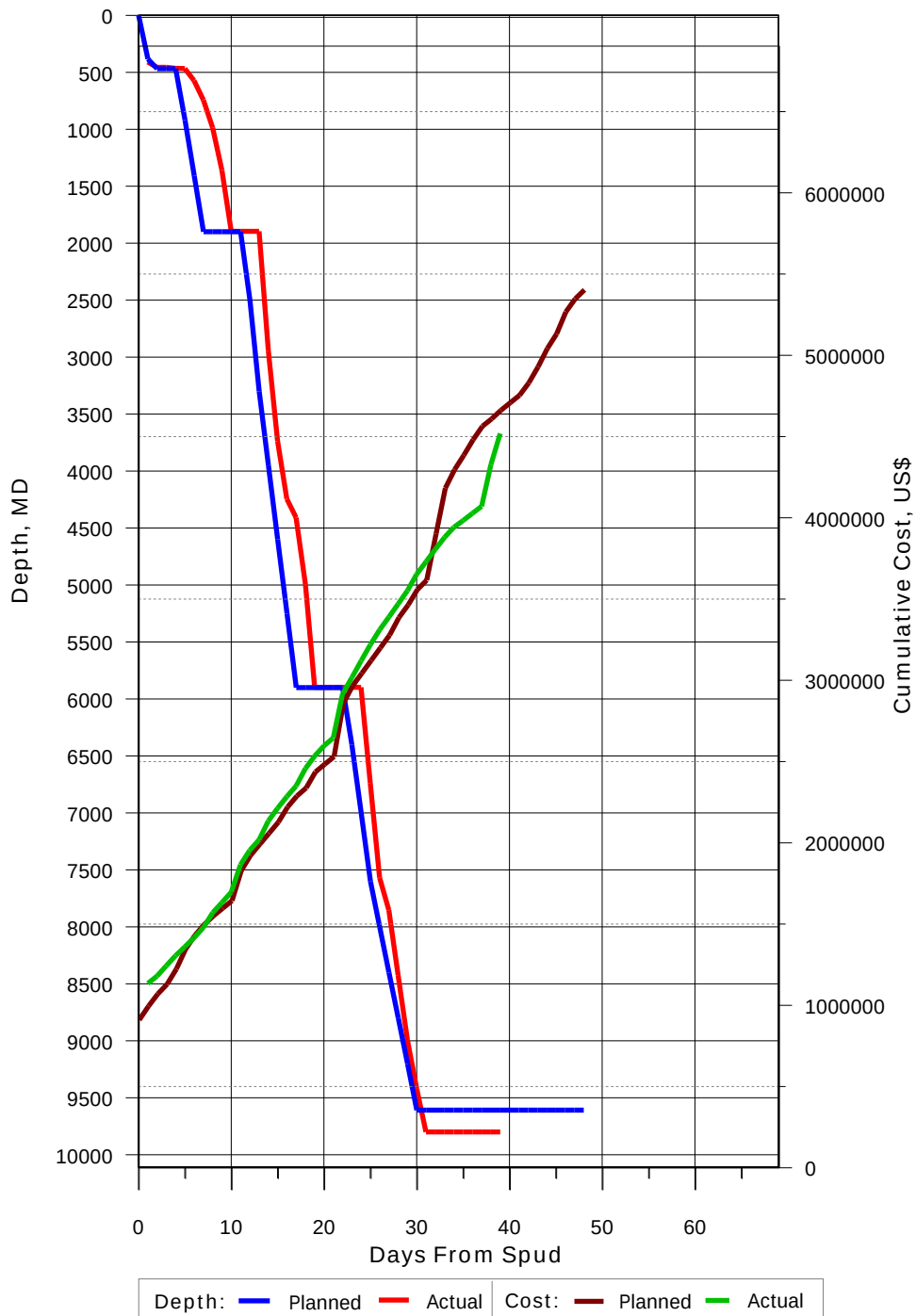
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	12-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	11-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 02-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 01-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	79,803	3,460,864	64

DRILLING DATA

MD at 24:00 hr:	8994.0 ft	Footage 24:00 hr:	571.00 ft	Drilling hours :	15.50	Days on Loc :	50	Drlg. days :	29
TVD at 24:00 hr:	8161.2 ft	Avg ROP :	36.84 ft/hr.	Cum. Drilling Hrs :	257.00	Days on Well :	50	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		15.50		8.50			
Cumulative	2.00	257.00	6.50	431.50	7.00		16.00

STATUS

Current Status :

Drilling rotary at 9070 ft.

24 Hr. Summary :

Drill rotating from 8413 ft to 8994 ft, 520 gpm, press 3200 psi, 15 klbs wob, 65 rpm, tq 13/16 kft-lb, ROPavg 37.1 ft/hr. Mud loss was observed 50 bbl, Mud Engineers condition mud system with bridge materials. Perform short trip. POOH 8 1/2" directional BHA from 8993 ft to 8034 ft, with back reaming (D/U 230 klb). Last geology sample at 8990 ft, 50% clayst, 30% Sd. 20 %Sst.

24 Hr. Forecast :

Continue drilling ahead.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	05:00	5.00	6A	PT	8423	8513	Accumulate drill rotating from 8423 ft to 8513 ft, 520 gpm, press 3150 psi, 14/16 klbs wob, 65 rpm, tq 13/16 kft-lb, ROPavg 36.6 ft/hr.
05:00	06:00	1.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 8557 ft, inc 4.7°, azm 230.0°. Last geology sample at 8510 ft, 100% clayst.
06:00	16:30	10.50	6A	PT	8513	8994	Accumulate drill rotating from 8513 ft to 8994 ft, 520 gpm, press 3200 psi, 15 klbs wob, 65 rpm, tq 13/16 kft-lb, ROPavg 37.1 ft/hr.
16:30	19:00	2.50	16	PT			Accumulate circulating, reaming, surveys & connections. Pump 30 bbl HVP to clean hole. Last survey at 8937 ft, inc 6.6°, azm 219.3°. Last geology sample at 8990 ft, 50% clayst, 30% Sd. 20 %Sst.
19:00	21:00	2.00	9	PT			Mud loss was observed 50 bbl, continue circulate with pump rate of 400 gpm, 2050 psi and Mud Engineers condition mud system with bridge materials (Calcium Carbonate 150 & 250 mesh, 8 ppb). Observed th
21:00	22:00	1.00	9	PT			Continue circulate with 500 gpm, 2950 psi. Pump 40 bbl HVP, 120 sec/qt and displace to clean hole and circulate up to clean shakers. Spot 35 bbl LCM pill (bridge materials) & balance pump on bottom ho
22:00	00:00	2.00	11	PT			Perform short trip. POOH 8 1/2" directional BHA from 8993 ft to 8034 ft, with back reaming (D/U 230 klb).

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft. Last geology sample at 8990 ft, 50% clayst, 30% Sd. 20 %Sst.

R/M Sophia Christine delivery 10000 glns of diesel (8000 gln ticket number 006094 & 2000 gln tickets 006096).

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			Continue perform short trip. POOH 8 1/2" directional BHA from 8034 ft to 7700 ft, with back reaming (D/U 220 klb). RIH from 7700 ft to 8993 ft last two stand wash down with 250 gpm and 1600 psi.
02:00	03:00	1.00	9	PT			Circulate a bottom up with 400 gpm, 2150 psi and 60 rpm, don't have mud loss.
03:00	06:00	3.00	6A	PT			Drill rotating from 8994 ft to 9070 ft, 450 gpm, press 2600 psi, 15 klbs wob, 65 rpm, tq 13/16 kft-lb, ROPavg 27 ft/hr.
							Last geology sample at 9030 ft: 40% clayst, 30% Siltst, 20% Sd and 10 Sst.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 02-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 01-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	8994	11.8	50	20	20	9	25	31	9.4	0.44	0.35	.79	300	100		0.1	16.3		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD	8747	5.5	224.2	7915.31	3210.87	-937.93	-3071	.58
MWD	8842	6.2	222.6	8009.81	3219.2	-944.97	-3077	.76
MWD	8937	6.6	219.3	8104.22	3228.07	-952.97	-3084	.57

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 02-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 01-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	3,548	10,000		2,730		10,818
TK PEPESA	0					0
Total (gl)	3,548	10,000		2,730		10,818

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	3
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 79

Last Modification : 02-JAN-13 07:02 AM

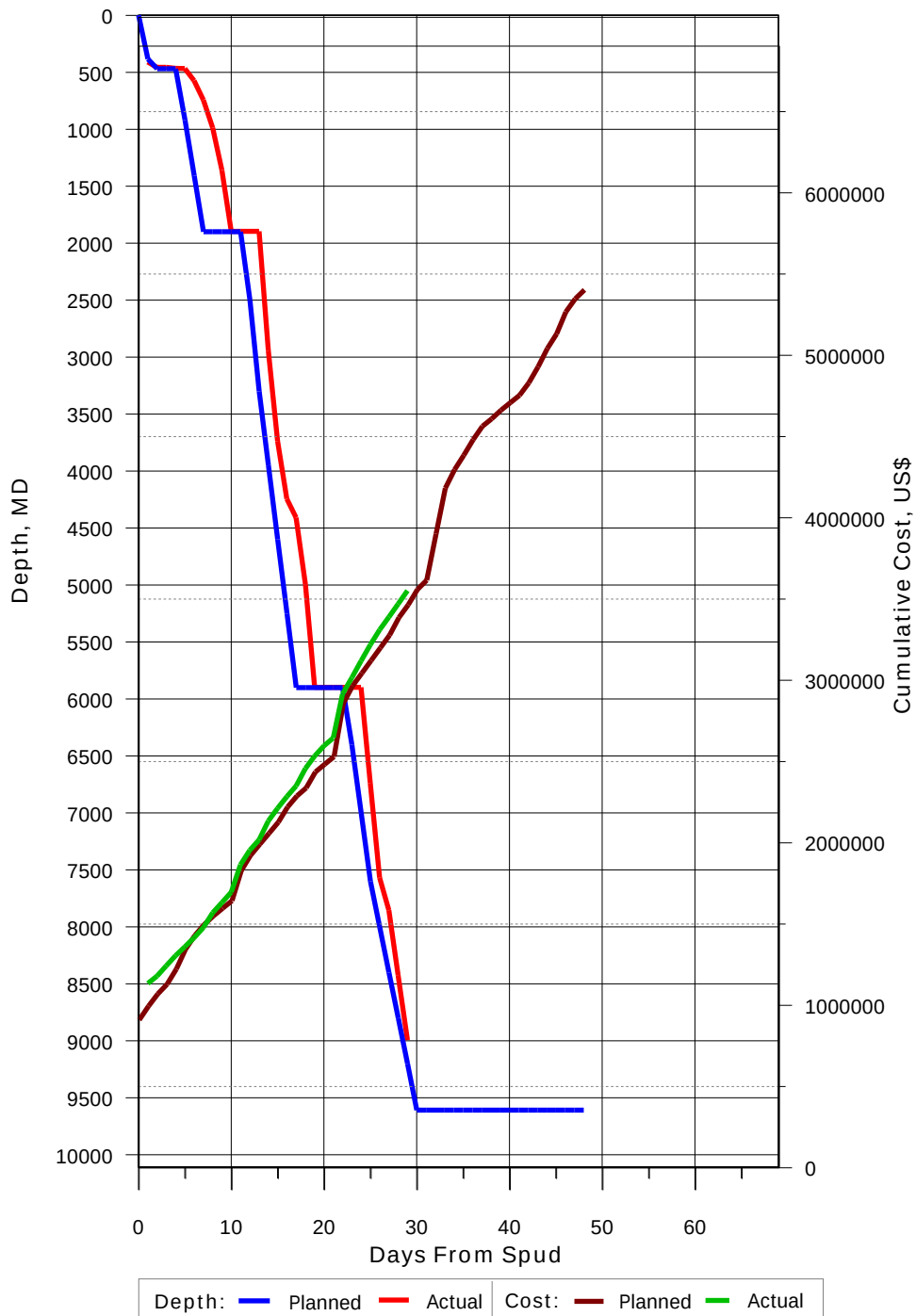
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	02-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	01-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	03-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	02-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	98,785	3,559,649	66

DRILLING DATA

MD at 24:00 hr:	9420.0 ft	Footage 24:00 hr:	426.00 ft	Drilling hours :	17.00	Days on Loc :	51	Drlg. days :	30
TVD at 24:00 hr:	8584.4 ft	Avg ROP :	25.06 ft/hr.	Cum. Drilling Hrs :	274.00	Days on Well :	51	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		17.00		7.00			
Cumulative	2.00	274.00	6.50	438.50	7.00		16.00

STATUS

Current Status :

Drilling rotary at 9561 ft.

24 Hr. Summary :

Continue perform short trip. POOH 8 1/2" directional BHA from 8034 ft to 7700 ft, and RIH from 7700 ft to 8993 ft last two stand wash down and circualte a bottom up. Accumulate drill rotating from 8994 ft to 9420 ft, 450/500 gpm, press 2600/3200 psi, 15/23 klbs wob, 65/60 rpm, tq 15/18 kft-lb, ROPavg 26.1 ft/hr. Accumulate circulating, reaming, surveys & connections. At 9300 ft pump 30 bbl HVP to clean hole. Last survey at 9316 ft, inc 6.4°, azm 209.8°. Last geology sample at 9380 ft, 60% clayst, 30% Sst and 10 % Slist.

24 Hr. Forecast :

Continue drilling ahead to 9800 ft.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			Continue perform short trip. POOH 8 1/2" directional BHA from 8034 ft to 7700 ft, with back reaming (D/U 220 klb). RIH from 7700 ft to 8993 ft last two stand wash down with 250 gpm and 1600 psi.
02:00	03:00	1.00	9	PT			Circulate a bottom up with 400 gpm, 2150 psi and 60 rpm, don't have mud loss.
03:00	20:00	17.00	6A	PT			Accumulate drill rotating from 8994 ft to 9420 ft, 450/500 gpm, press 2600/3200 psi, 15/23 klbs wob, 65/60 rpm, tq 15/18 kft-lb, ROPavg 26.1 ft/hr.
20:00	00:00	4.00	16	PT			Accumulate circulating, reaming, surveys & connections. At 9300 ft pump 30 bbl HVP to clean hole. Last survey at 9316 ft, inc 6.4°, azm 209.8°. Last geology sample at 9380 ft, 60% clayst, 30% Sst and

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD.PALEGREDA Fm. @ 5500' MD.MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft. Last geology sample at 9380 ft, 60% clayst, 30% Sst and 10% Slist.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	04:00	4.00	6A	PT	9420	9561	Accumulate drill rotating from 9420 ft to 9561 ft, 480 gpm, press 2950 psi, 18/23 klbs wob, 60 rpm, tq 15/17 kft-lb, ROPavg 34.5 ft/hr.
04:00	06:00	2.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 9506 ft, inc 6.4°, azm 199.0°. Last geology sample at 9560 ft, 90% clayst and 10% Sst.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 03-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 02-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

MUD PROPERTIES

Company : HALLIBURTON						Type : EZ MUD/CLAYS				Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
9:00	9000	11.8	54	20	21	8	27	32	9	0.44	0.35	.78	300	100		0.1	18.8		20
24:00	9420	11.8	53	18	19	9	32	38	9.2	0.43	0.34	.77	300	100		0.1	17.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)
MWD	9032	6.2	216.5	8189.63	3235.63	-961.32	-3091	.53
MWD	9126	5.9	214.9	8292.11	3244.4	-969.36	-3097	.37
MWD	9221	6.2	211.8	8386.58	3251.99	-977.73	-3102	.47
MWD	9316	6.4	209.8	8481	3259.59	-986.68	-3108	.31
MWD	9411	6.6	208.1	8575.39	3267.18	-996.09	-3113	.29

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	03-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	02-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,818			2,250		8,568
TK PEPESA	0					0
Total (gl)	10,818			2,250		8,568

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	3
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 79

Last Modification : 03-JAN-13 06:50 AM

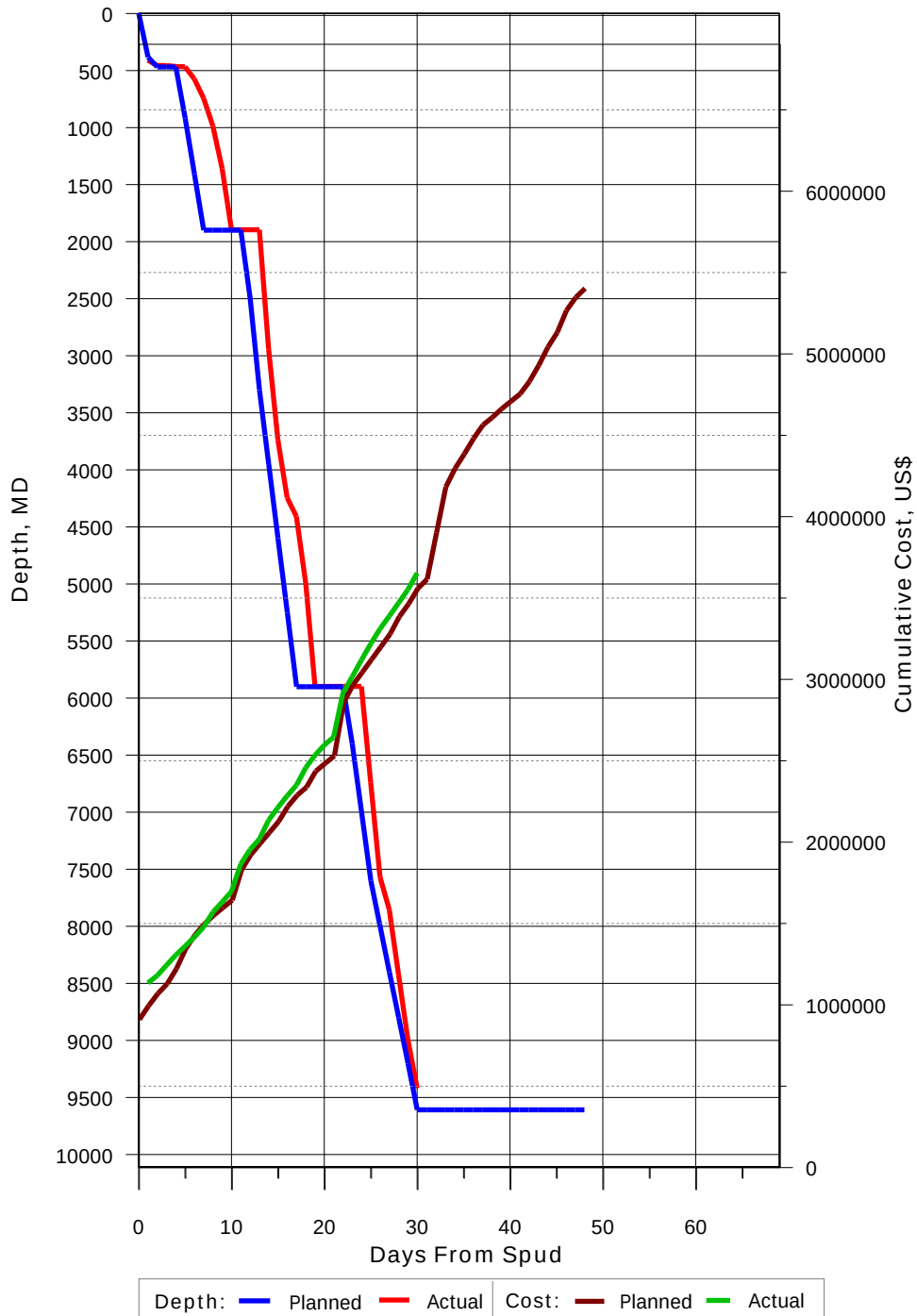
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	03-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	02-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	04-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	03-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	74,656	3,634,305	67

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:	380.00 ft	Drilling hours :	15.00	Days on Loc :	52	Drlg. days :	31
TVD at 24:00 hr:	8961.6 ft	Avg ROP :	25.33 ft/hr.	Cum. Drilling Hrs :	289.00	Days on Well :	52	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily		15.00		9.00			
Cumulative	2.00	289.00	6.50	447.50	7.00		16.00

STATUS

Current Status :

POOH 8 1/2" directional BHA to 6600 ft.

24 Hr. Summary :

Drill rotating from 9420 ft to 9800 ft, 480/500 gpm, press 2950/3100 psi, 18/23 klbs wob, 65 rpm, tq 15/19 kft-lb, ROPavg 30.2 ft/hr. Condition on bottom hole to maneuver 5" DP due high torque and drag. Continue circulate with 500 gpm and 3100 psi. Pump 40 bbl HVP, 140 sec/qt and displace to clean hole and circulate up to clean shakers.

24 Hr. Forecast :

Finish POOH and L/D directional BHA and RIH 8 1/2" slick BHA.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	04:00	4.00	6A	PT	9420	9561	Accumulate drill rotating from 9420 ft to 9561 ft, 480 gpm, press 2950 psi, 18/23 klbs wob, 60 rpm, tq 15/17 kft-lb, ROPavg 34.5 ft/hr.
04:00	06:00	2.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 9506 ft, inc 6.4°, azm 199.0°. Last geology sample at 9560 ft, 90% clayst and 10% Sst.
06:00	17:00	11.00	6A	PT	9561	9800	Accumulate drill rotating from 9561 ft to 9800 ft (TD), 480/500 gpm, press 2950/3100 psi, 18/23 klbs wob, 65 rpm, tq 15/19 kft-lb, ROPavg 23.5 ft/hr.
17:00	20:00	3.00	16	PT			Accumulate circulating, reaming, surveys & connections. Last survey at 9745 ft, inc 7.3°, azm 189.5°. Last geology sample at 9800 ft, 100% clayst.
20:00	22:00	2.00	9	PT			Condition on bottom hole to maneuver 5" DP due high torque and drag (reaming and back reaming). Several times during back reaming stuck drilling string, continue menuever to circulate and reciprocate.
22:00	00:00	2.00	9	PT			Continue circulate with 500 gpm and 3100 psi. Pump 40 bbl HVP, 140 sec/qt and displace to clean hole and circulate up to clean shakers.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	06:00	6.00	11	PT			POOH 8 1/2" directional BHA from 9800 ft to 6600 ft with back reaming (D/U 230 klb) and circulate with 400 gpm, 2600 psi.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5898							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 04-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 03-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

MUD PROPERTIES

Company : HALLIBURTON						Type : EZ MUD/CLAYS				Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
23:00	9800	11.8	52	20	20	9	39	45	9.5	0.49	0.38	.92	300	100		0.1	18.3		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 04-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 03-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	8,568			2,418		6,150
TK PEPESA	0					0
Total (gl)	8,568			2,418		6,150

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	4
RISK CONTROL		SAVIA	3
SERTONG		SIMEDIC	1
TCS	9	TECNOIL	
TESCO		TGT LAB	6
TRAMARSA	12	UNITED	3

Total People : 79

Last Modification : 04-JAN-13 07:37 AM

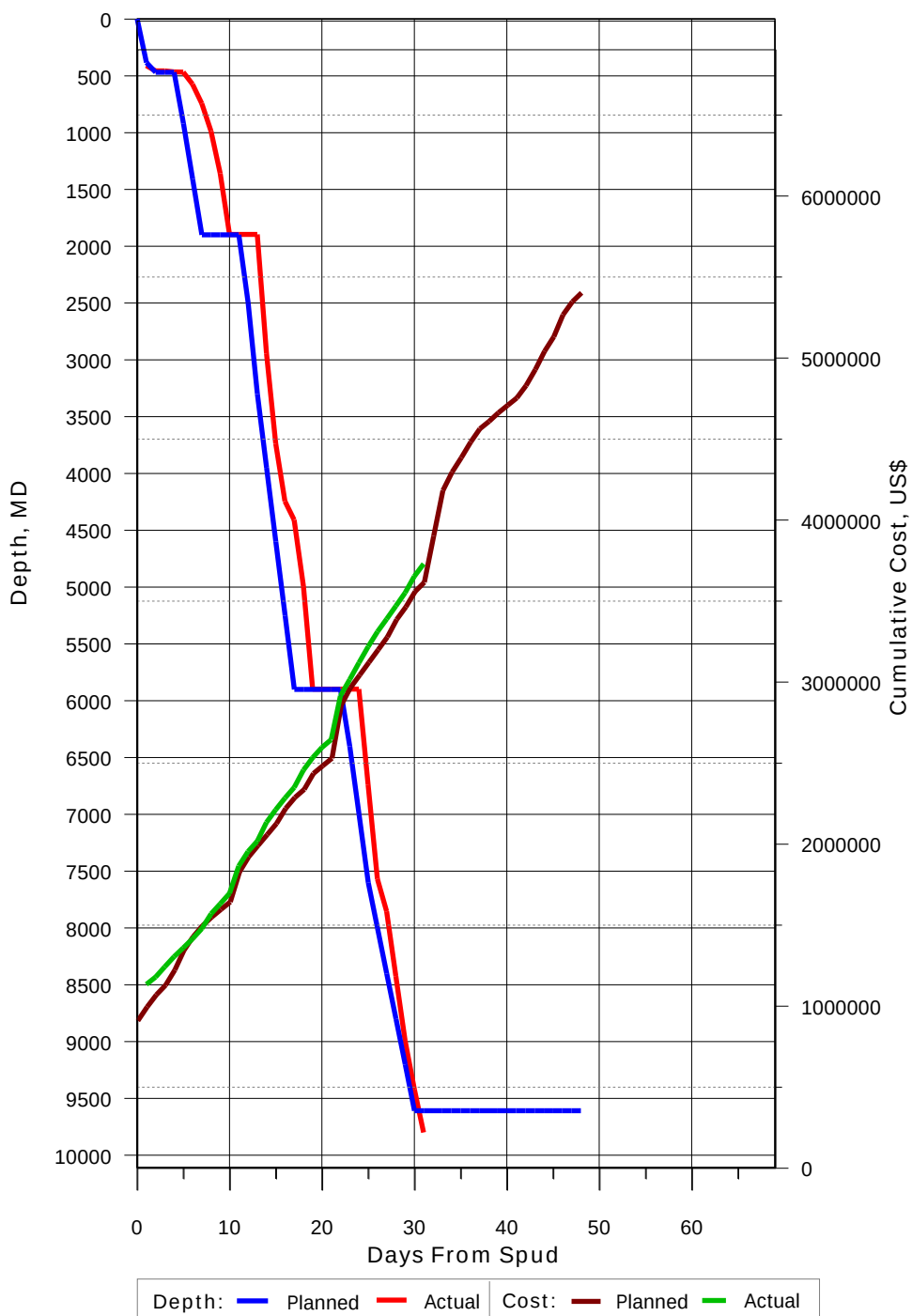
DAILY DRILLING REPORT

BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	04-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	03-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	74,631	3,708,936	69

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:		Drilling hours :	.00	Days on Loc :	53	Drlg. days :	32
TVD at 24:00 hr:	8961.6 ft	Avg ROP :		Cum. Drilling Hrs :	289.00	Days on Well :	53	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				23.00	1.00		
Cumulative	2.00	289.00	6.50	470.50	8.00		16.00

STATUS

Current Status :

POOH 8 1/2" Slick BHA to 8000 ft.

24 Hr. Summary :

POOH 8 1/2" directional BHA from 9800 ft to 6600 ft with back reaming. Flow check at 6600 ft, ok. Pump 20 bbl sluge pipe. Continue POOH 8 1/2" BHA with drag normal from 6600 ft to surface. L/D BHA directional. M/U & RIH 8 1/2" slick BHA w/ 8 1/2" rr-tricone bit Smith, x/o, 6 3/4" Bit Sub, 6 3/4" STB, x/o, 2 jt x 6 1/2" DC, x/o, 18 jt 5" HWDP, 6 3/4" Hyd Jar, 6 jt 5" HWDP, BHA: 821.45 ft. Continue RIH with 5" DP from 821.45 to 5804 ft. Perform rig services. Continue RIH 8 1/2" slick BHA from 5804 ft to 8963 ft, where find restriction, continue wash down from 8963 ft to 9574 ft.

24 Hr. Forecast :

Finish L/D 8 1/2" slick BHA, Run WTF logging tools, run 5.5" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	06:00	6.00	11	PT			POOH 8 1/2" directional BHA from 9800 ft to 6600 ft with back reaming (D/U 230 klb) and circulate with 400 gpm, 2600 psi.
06:00	07:00	1.00	11	PT			Perform flow check at 6600 ft by 10 min, ok. Pump 20 bbl sluge pipe.
07:00	12:30	5.50	11	PT			Continue POOH 8 1/2" BHA with drag normal from 6600 ft to surface. L/D BHA (MWD monel, UBHO, 8 1/4" STB, 6 3/4" Mud motor, PDC Bit).
12:30	13:30	1.00	11	PT			Pepesa crew condition rig floor and platform.
13:30	18:30	5.00	11	PT			M/U & RIH 8 1/2" slick BHA with 8 1/2" rr-tricone bit Smith, x/o, 6 3/4" Bit Sub, 6 3/4" STB, x/o, 2 jt x 6 1/2" DC, x/o, 18 jt 5" HWDP, 6 3/4" Hydraulic Jar, 6 jt 5" HWDP, BHA: 821.45 ft.
							Continue RIH with 5" DP from 821.45 to 5804 ft, fill pipe with 1000 ft.
18:30	19:30	1.00	11	PT			Circulate a bottom up at 5804 ft with 350 gpm, 1200 psi. Pepesa condition area to rig services.
19:30	20:30	1.00	29	PT			Cut off and slip 1 1/4" drilling line 150 ft. Change gravel jaws and TD rig services.
20:30	23:00	2.50	11	PT			Continue RIH 8 1/2" slick BHA from 5804 ft to 8963 ft, where find restriction.
23:00	00:00	1.00	11	PT			Continue wash down 350 gpm, 1300 psi, from 8963 ft to 9574 ft.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD. PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst. Sophia Christine delivery 8350 gln of diesel with ticket number No 006111.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:00	2.00	11	PT			Continue wash down 350 gpm, 1300 psi, from 9574 ft to 9780 ft.
02:00	03:30	1.50	9	PT			Condition hole, circulate a bottom up & 40 bbl pump HVP of 11.8 ppg, 150 seg/qt. Displace with 550 gpm, 3000 psi up to clean shakers.
03:30	06:00	2.50	11	PT			POOH 8 1/2" slick BHA from 9780 ft to 8000 ft with back reaming 350 gpm, 1300 psi.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 05-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 04-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70	580	1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers :					H. LEON/P. OVIEDO				
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
16:00	9800	11.8	52	19	18	8	26	31	9.5	0.47	0.36	.83	300	100		0.1	17.8	0	20
24:00	9800	11.8	52	19	18	8	26	31	9.4	0.47	0.36	.79	300	100		0.1	17.8	0	20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	6,150	8,350		1,416		13,084
TK PEPESA	0					0
Total (gl)	6,150	8,350		1,416		13,084

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	3
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3	WTF	6
Total People :		81	

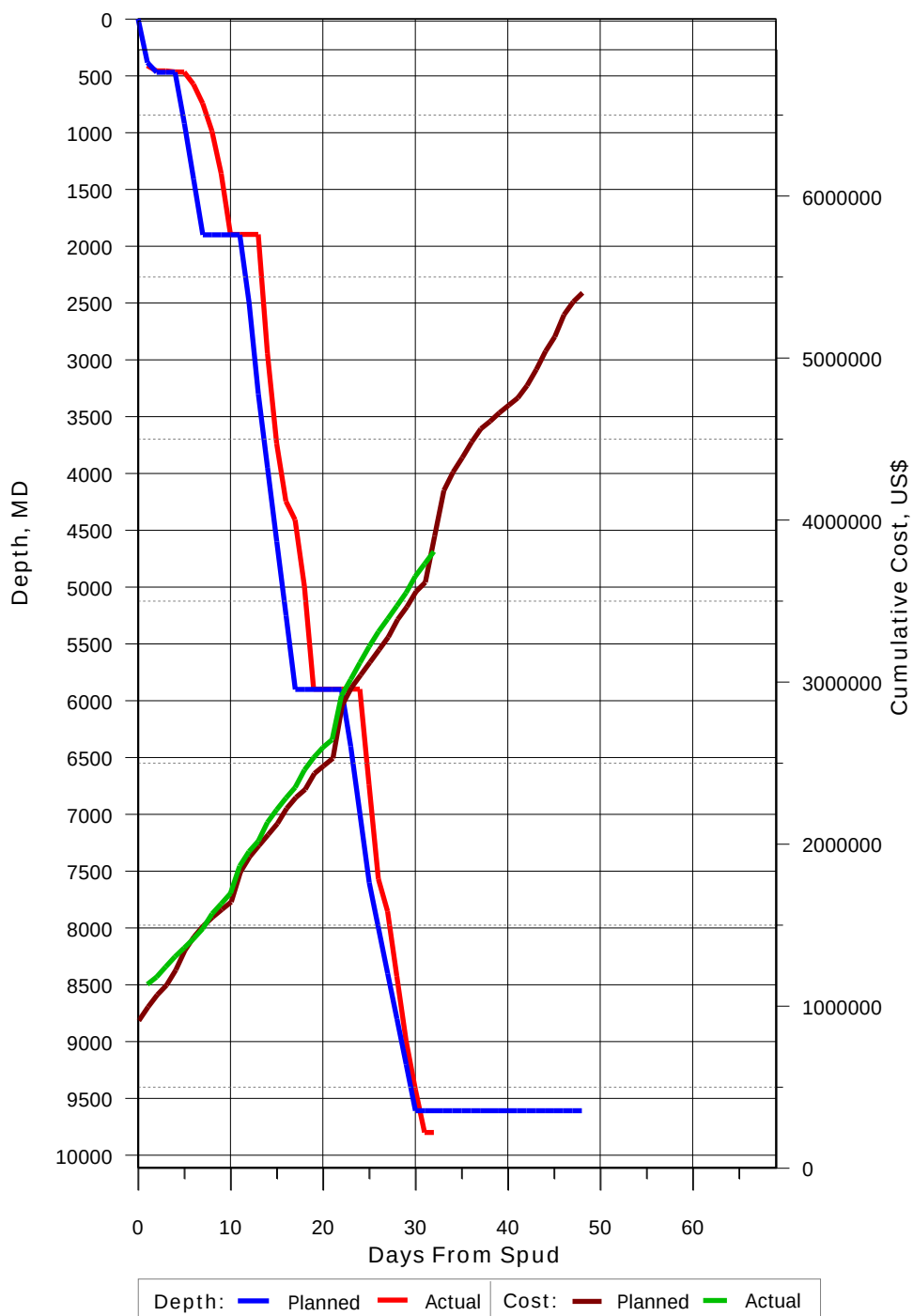
Last Modification : 05-JAN-13 06:39 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	05-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	04-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	17	PT			L/D WTF logging tools & lubricator.
01:00	03:00	2.00	17	PT			R/D 13 5/8" flange with 7 1/16" WTF. Pepesa crew R/U belt nipple & sleeve flowline.
03:00	06:00	3.00	11	PT			M/U & RIH 8 1/2" slick BHA with 8 1/2" rr-tricone bit Smith, x/o, 6 3/4" Bit Sub, 6 3/4" STB, x/o, 2 jt x 6 1/2" DC, x/o, 18 jt 5" HWDP, 6 3/4" Hydraulic Jar, 6 jt 5" HWDP, BHA: 821.45 ft.
							Continue RIH to 4000 ft.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 06-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 05-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7			Name : 8 1/2" BHA						
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	06-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	05-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	13,084			1,155		11,929
TK PEPESA	0					0
Total (gl)	13,084			1,155		11,929

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	0	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	3
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3	WTF	6
Total People :		81	

Last Modification : 06-JAN-13 07:10 AM

DAILY DRILLING REPORT

BLOCK - Z2B

Page 4/4

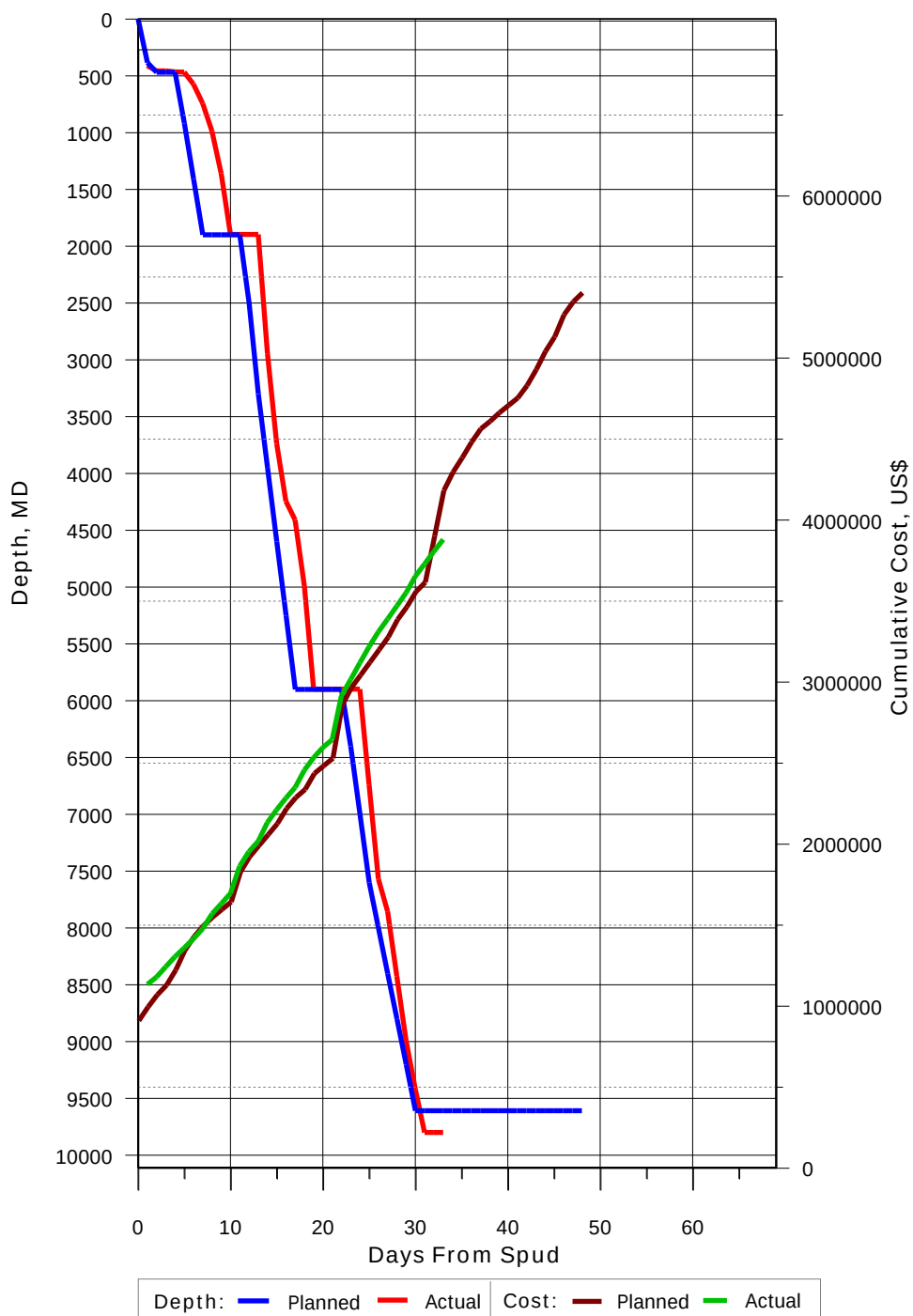
Location: LOBITOS
Well : LO6-26XD
AFE No: 1112835
Day Company: Juan Eulogio

Rig : PEPESA-40
Tender : Perla
Water Depth : 335 ft
Night Company:

Report Date: 06-JAN-2013
Operation Date: 05-JAN-2013
Start Date : 13-NOV-2012
Spud Date : 04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	07-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	06-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	60,405	3,841,791	71

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:		Drilling hours :	.00	Days on Loc :	55	Drlg. days :	34
TVD at 24:00 hr:	8961.6 ft	Avg ROP :		Cum. Drilling Hrs :	289.00	Days on Well :	55	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	289.00	6.50	518.50	8.00		16.00

STATUS

Current Status :

Continue POOH 8 1/2" slick BHA to 7580 ft.

24 Hr. Summary :

L/D WTF logging tools & lubricator. R/D 13 5/8" flange w/ 7 1/16" WTF. Pepesa crew R/U belt nipple & sleeve flowline. M/U & RIH 8 1/2" slick BHA: 821.45 ft. Continue RIH to 5840 ft. Continue RIH from 5840 ft to 8890 ft, wash down with 550 gpm, 2150 psi and 70 rpm, work drilling string in several point with rotation & circulation. Circulate to displace 6500 units gas. Continue wash down from 8890 ft to 8940 ft, drilling strig tag at 8940 ft, At 9700 ft TGT Chromatograph record 8800 gas units, circulate to displace. Wash down from 9700 ft to 9800 ft. Circulate with 600 gpm, 2200 psi and 75 rpm. Pump 40 bbl heavy viscosity pill, observed, pump pressure decrease gradually up to 1600 psi. POOH 8 1/2" slick BHA from 9800 ft to 9100 ft.

24 Hr. Forecast :

Finish POOH & L/D 8 1/2" slick BHA, Run WTF logging tools, run 5.5" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	17	PT			L/D WTF logging tools & lubricator.
01:00	03:00	2.00	17	PT			R/D 13 5/8" flange with 7 1/16" WTF. Pepesa crew R/U belt nipple & sleeve flowline.
03:00	07:30	4.50	11	PT			M/U & RIH 8 1/2" slick BHA with 8 1/2" rr-tricone bit Smith, x/o, 6 3/4" Bit Sub, 6 3/4" STB, x/o, 2 jt x 6 1/2" DC, x/o, 18 jt 5" HWDP, 6 3/4" Hydraulic Jar, 6 jt 5" HWDP, BHA: 821.45 ft. Continue RI
07:30	08:00	0.50	9	PT			Broke gels and circulate with 510 gpm, 1500 psi to continue RIH.
08:00	09:00	1.00	11	PT			Continue RIH from 5840 ft to 7155 ft without problems.
09:00	16:30	7.50	11	PT			Continue RIH from 7155 ft to 8890 ft, wash down with 550 gpm, 2150 psi and 70 rpm, work drilling string in several point with rotation & circulation due high torq and drag.
							TGT Chromatograph record 6500 gas unit.
16:30	17:00	0.50	9	PT			Circulate to displace 6500 units gas with 350 gpm and 1250 psi.
17:00	18:30	1.50	11	PT			Continue wash down from 8890 ft to 8940 ft, drilling strig tag at 8940 ft, work string and pass with rotation & circulation. Continue wash down from 8940 ft to 9700 ft with 500 gpm, 1650 psi.
18:30	19:00	0.50	11	PT			At 9700 ft TGT Chromatograph record 8800 gas units, circulate to displace 8800 units gas with 330 gpm and 1000 psi.
19:00	20:00	1.00	11	PT			Wash down from 9700 ft to 9800 ft with 550 gpm, 2200/2100 psi and 70 rpm. Meanwhile Pepesa crew perform well control training to blowout on rig site.
20:00	23:00	3.00	9	PT			Circulate with 600 gpm, 2200 psi and 75 rpm. Pump 40 bbl heavy viscosity pill, 13.5 ppg, 140 sec/qt, displace and circulate up to clean shakers.
							Observed, pump pressure decrease gradually up to 1600 psi with 600 gpm, perform check mud pump and lines without problems, is possible that drilling string have a washout.
23:00	00:00	1.00	11	PT			POOH 8 1/2" slick BHA from 9800 ft to 9100 ft with circulation 500 gpm, 1000 psi.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700'MD, RIO BRAVO Fm. @ 3740' MD.PALEGREDA Fm. @ 5500' MD,MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 07-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 06-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	11	PT			Continue POOH slick BHA from 9100 ft to 8600 ft with drag normal (D/U 270 klbs). On 5" DP # 40 of DP tally find a DP with washout (1/4" x 1.5").
01:00	01:30	0.50	11	PT			RIH slick BHA from 8600 ft to 9800 ft, last two stand wash down with 500 gpm and 2350 psi (normal stand pipe pressure).
01:30	03:30	2.00	9	PT			Circulate with 590 gpm, 2980 psi and 75 rpm. Pump 40 bbl viscosity pill, 120 sec/qt, displace and circulate up to clean shakers.
03:30	04:00	0.50	11	PT			POOH 8 1/2" slick BHA from 9800 ft to 9300 ft with circulation 370 gpm, 1250 psi.
04:00	06:00	2.00	11	PT			Continue POOH 8 1/2" slick BHA from 9300 ft to 7580 ft with drag normal (D/U 275).

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	9800	11.8	57	24	22	9	35	42	9.3	0.44	0.32	.82	300	100		0.1	17.9		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

Number : 7				Name : 8 1/2" BHA					
Component Type	Number of Joints	Length (ft)	OD (in)	ID (in)	Connection	Weight (ppf)	Serial No	Fish Neck	
								Length (ft)	OD (in)
Bit 8 1/2" PDC	1	.80	8.5		4 1/2" Reg	100	JF2935		
Mud Motor BH1.5	1	30.01	6.5		4 1/2" IF	76	24XH65114		
Stabilizer 8 1/4"	1	4.50	6.75	2.812	4 1/2" IF	98	PTS113050	1.5	
UBHO	1	2.75	6.75	2.812	4 1/2" IF	100	Q171004		
Monel MWD	1	30.15	6.75	2.812	4 1/2" IF	98	FL171002	5	
Monel 6 3/4"	1	29.61	6.75	2.812	4 1/2" IF	101	FL171004	5	
Cross over	1	2.90	6.75	2.75	4" IF	50	RIG		
DC	1	30.10	6.5	2.875	4" IF	50	RIG		
Cros over	1	2.08	6.5	2.75	4 1/2" IF	68	RIG		
HWDP 5"	18	546.25	5	3	4 1/2" IF	50	RIG		
JAR	1	19.64	6.5	2.812	4 1/2" IF	68	RIG	2.46	
HWDP 5"	6	180.98	5	3	4 1/2" IF	50	RIG		
Total (ft)		879.77							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/5

Location: LOBITOS	Rig : PEPESA-40	Report Date: 07-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 06-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	11,929			1,502		10,427
TK PEPESA	0					0
Total (gl)	11,929			1,502		10,427

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	5	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	3
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3	WTF	6

Total People : 86

DAILY DRILLING REPORT
BLOCK - Z2B

Page 4/5

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	07-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	06-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Last Modification : 07-JAN-13 06:33 AM

DAILY DRILLING REPORT

BLOCK - Z2B

Page 5/5

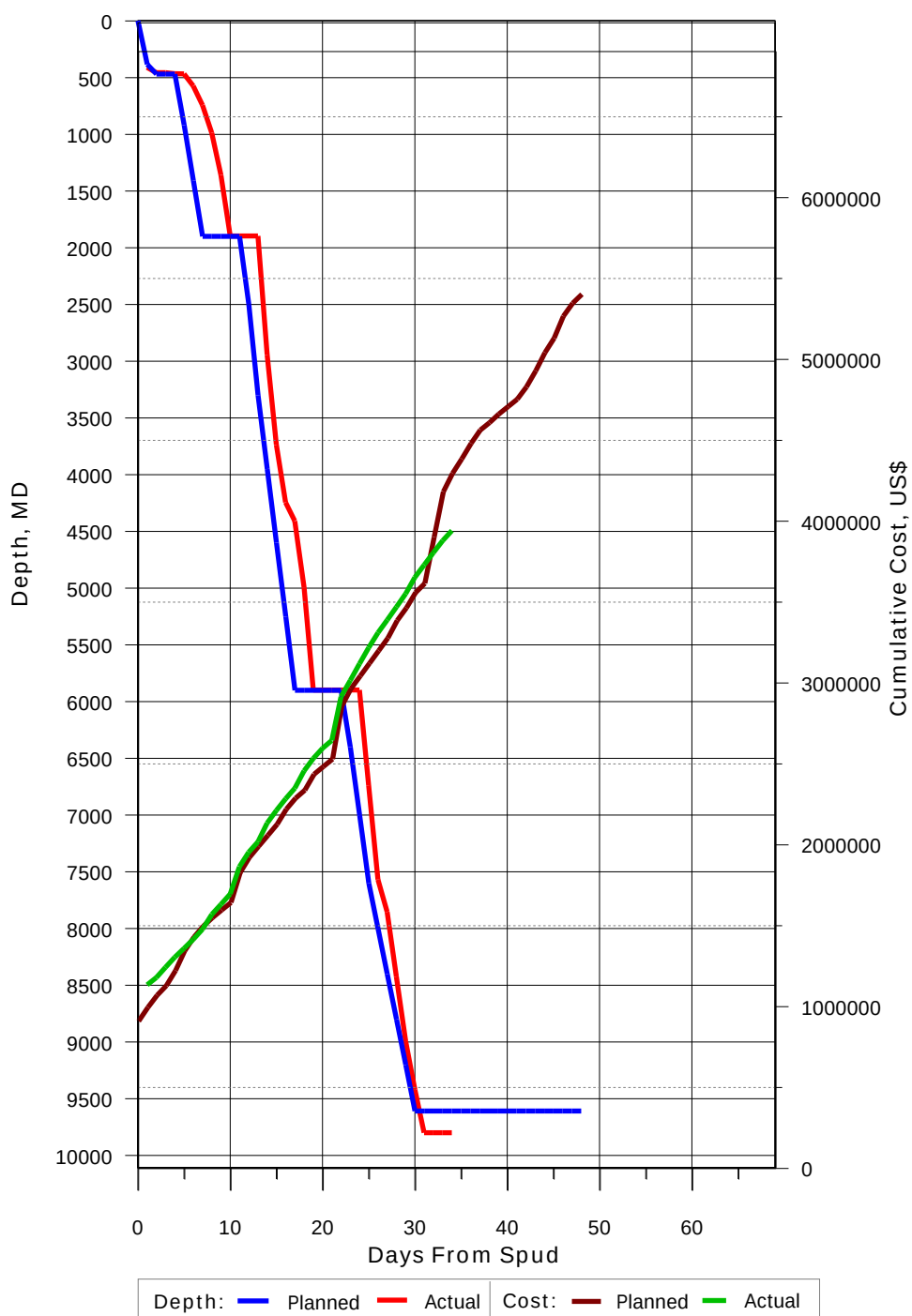
Location: LOBITOS
Well : LO6-26XD
AFE No: 1112835
Day Company: Juan Eulogio

Rig : PEPESA-40
Tender : Perla
Water Depth : 335 ft
Night Company:

Report Date: 07-JAN-2013
Operation Date: 06-JAN-2013
Start Date : 13-NOV-2012
Spud Date : 04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 08-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 07-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	40,332	3,882,123	72

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	56	Drlg. days :	35
TVD at 24:00 hr:	8961.6 ft	Avg ROP :	Cum. Drilling Hrs :	289.00	Days on Well :	56	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	289.00	6.50	542.50	8.00		16.00

STATUS

Current Status :

RIH mule shoe and 5" DP to 2700 ft.

24 Hr. Summary :

Continue POOH slick BHA from 9100 ft to 8600 ft, on 5" DP # 40 of DP tally find a DP with washout, L/D DP. RIH slick BHA from 8600 ft to 9800 ft, Circulate to condition hole, POOH 8 1/2" slick BHA from 9800 ft to 9300 ft, Continue POOH 8 1/2" slick BHA from 9300 ft to surface. L/D belt nipple & flowline sleeve. R/U 13 5/8" flange with 7 1/16" WTF adapter, install lubricato. M/U WTF logging tools on rig floor and run up to 7715 ft. At 7715 ft tag, attempted several times to pass without success. WTF begin log f/ 7715 ft to 7100 ft & continue POOH logging tool to surface. WTF crew change logging tools configuration and run logging tools up to 7723 ft where tag, attempted several times and pass from 7715 ft to 7890 ft.

24 Hr. Forecast :

RIH 5" DP to bottom and POOH at 7890 ft to run WTF logging tools. Run 5.5" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	01:00	1.00	11	NPT			Continue POOH slick BHA from 9100 ft to 8600 ft with drag normal (D/U 270 klbs). On 5" DP # 40 of DP tally find a DP with washout (1/4" x 1.5").
01:00	01:30	0.50	11	NPT			RIH slick BHA from 8600 ft to 9800 ft, last two stand wash down with 500 gpm and 2350 psi (normal stand pipe pressure), NPT for PEPESA.
01:30	03:30	2.00	9	NPT			Circulate with 590 gpm, 2980 psi and 75 rpm. Pump 40 bbl viscosity pill, 120 sec/qt, displace and circulate up to clean shakers, NPT for PEPESA.
03:30	04:00	0.50	11	NPT			POOH 8 1/2" slick BHA from 9800 ft to 9300 ft with circulation 370 gpm, 1250 psi, NPT for PEPESA.
04:00	06:00	2.00	11	NPT			Continue POOH 8 1/2" slick BHA from 9300 ft to 7580 ft with drag normal (D/U 275), NPT for PEPESA.
06:00	11:30	5.50	11	NPT			Continue POOH 8 1/2" slick BHA from 7580 ft to surface with drag normal (D/U 220), Perform flow check at 7580 ft, 5850 ft (9 5/8" csg shoe) & 855 ft by 10 min, ok.
11:30	13:00	1.50	17	NPT			Pepesa crew L/D belt nipple & flowline sleeve. R/U 13 5/8" flange with 7 1/16" WTF adapter, install lubricator extension. WTF R/U pulleys and equipment on rig floor.
13:00	13:30	0.50	17	NPT			Perform safety and operating meeting with WTF, Pepesa and Savia crew to run logging tools.
13:30	14:00	0.50	17	NPT			M/U WTF logging tools (CMI:caliper, MDL:Resistivity, MSS:Sonic, GPD: Density, MDN: Neutron) on rig floor.
14:00	18:00	4.00	17	PT			WTF run logging tools from surface to 7715 ft. At 7715 ft tag, Attempted several times to pass without success.
18:00	20:30	2.50	17	PT			WTF begin log from 7715 ft to 7100 ft & continue POOH logging tool to surface. L/D Logging tools.
20:30	21:00	0.50	17	NPT			WTF crew change logging tools configuration, remove MSS:sonic log, and remove finder tools.
21:00	00:00	3.00	17	PT			WTF run logging tools (CMI:caliper, MDL:Resistivity, GPD: Density, MDN: Neutron) from surface to 7723 ft. At 7723 ft tag and observe restriction to pass. Attempted several times and pass from 7715 ft t
							WTF operator perform maneuver to pass without success.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	08-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	07-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	17	PT			WTF begin log from 7890 ft to 7715 ft & continue POOH logging tool to surface. L/D Logging tools, lubricator, pulleys and equipments.
02:30	04:00	1.50	17	PT			R/D 13 5/8" flange with 7 1/16" WTF. Pepesa crew P/U belt nipple & sleeve flowline.
04:00	06:00	2.00	17	PT			M/U & RIH 5" Mule Shoe, 5" DP to 2700 ft, previously run rabbit (2.6"), assistant to run logging tools on the hole section with problems.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	9800	11.8	58	24	22	9	36	42	9.2	0.41	0.32	.88	300	100		0.1	18.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	08-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	07-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,427			243		10,184
TK PEPESA	0					0
Total (gl)	10,427			243		10,184

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	5	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	3
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3	WTF	6

Total People : 86

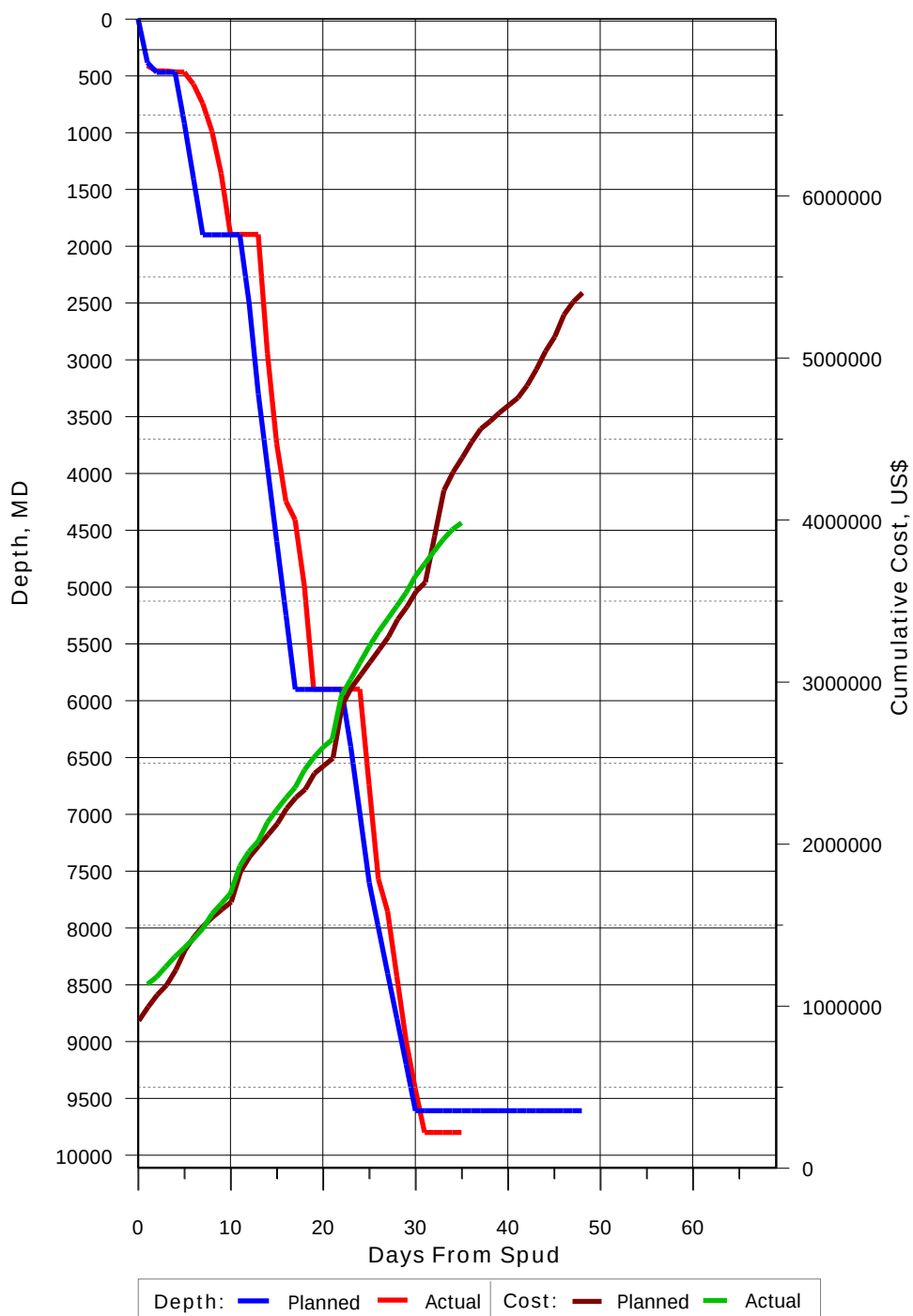
Last Modification : 08-JAN-13 06:35 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	08-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	07-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



Location: LOBITOS	Rig : PEPESA-40	Report Date: 09-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 08-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	42,778	3,924,901	73

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:	Drilling hours :	.00	Days on Loc :	57	Drlg. days :	36
TVD at 24:00 hr:	8961.6 ft	Avg ROP :	Cum. Drilling Hrs :	289.00	Days on Well :	57	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	289.00	6.50	566.50	8.00		16.00

STATUS

Current Status :

Waiting WTF "T" to recover the wireline.

24 Hr. Summary :

WTF begin log from 7899 ft to 7715 ft & continue POOH logging tool to surface. Decided to run TDL. M/U & RIH 5" Mule Shoe, 5" DP to 9800 ft to run TDL, previously all 5" DP was run rabbit (2.6"). Circulate and pump 40 bbl HVP displace & circulate up to clean shakers. POOH 5" DP from 9800 ft to 8475 ft (mule shoe). Connect 4 1/2" IF x 7 1/16" adapter to install lubricator. WTF R/U pulleys & logging equipment on rig floor. RIH WTF logging tools to 9785 ft & begin logging f/ 9785 ft to 9500 ft. Wireline drum stop due to problems w/ WTF Hydraulic generator logging cabin, attempts to repair the hydraulic generator of logging cabin, without success.

24 Hr. Forecast :

Recover wireline of hole and wait other logging cabin and run logging tools. Run 5.5" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	02:30	2.50	17	NPT			WTF begin log from 7899 ft to 7715 ft & continue POOH logging tool to surface. L/D Logging tools, lubricator, pulleys and equipments.
							Decided to run TDL (Thru Drill Pipe Logging) to reach bottom hole and logging.
02:30	04:00	1.50	17	NPT			Pepesa crew R/D 13 5/8" flange with 7 1/16" WTF adapter. P/U belt nipple & sleeve flowline.
04:00	14:00	10.00	17	NPT			M/U & RIH 5" Mule Shoe, 5" DP to 9800 ft to run TDL, previously all 5" DP was run rabbit (2.6"). Fill pipe each 1000 ft, and tag DP at 7720 ft and 8040 ft.
							the last 10 stands was wash down to bottom hole as a caution with 400 gpm, 1500 psi.
14:00	16:00	2.00	17	NPT			Circulate with 500 gpm, 2180 psi and 60 rpm. Pump 40 bbl viscosity pill, 120 sec/qt, displace and continue circulate up to clean shakers with 550 gpm, 2550 psi.
16:00	16:30	0.50	11	NPT			POOH 5" DP from 9800 ft to 8475 ft (mule shoe).
16:30	18:30	2.00	17	NPT			Connect 4 1/2" IF x 7 1/16" adapter to install lubricator. WTF R/U pulleys and logging equipment on rig floor.
18:30	20:00	1.50	17	PT			M/U WTF logging tools (CMI:caliper, MDL:Resistivity, GPD: Density, MDN: Neutron). RIH logging tools thru 5" DP (TDL) to 8470 ft, correlate depth, calibrate and check tools
20:00	21:30	1.50	17	PT			RIH WTF logging tools to 9785 ft and begin logging from 9785 ft to 9500 ft. Wireline drum stop due present problems with WTF Hydraulic generator logging cabin.
21:30	00:00	2.50	17	NPT			WTF, Pepesa and ITS mechanics, attempts to repair the hydraulic generator of logging cabin, without success (NPT for WTF)

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	06:00	6.00	17	NPT			WTF, Pepesa and ITS mechanics, continue attempt to repair the hydraulic generator of logging cabin, without success. (NPT for WTF)
							Meanwhile Pepesa driller move TD upwards and downwards, while we wait second "T" to remove wireline of hole.

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 09-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 08-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)
24:00	9800	11.8	58	23	21	9	38	43	9.2	0.39	0.25	.86	300	100		0.1	17.8		20

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 09-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 08-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	10,184			651		9,533
TK PEPESA	0					0
Total (gl)	10,184			651		9,533

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	5	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	3
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3	WTF	6

Total People : 86

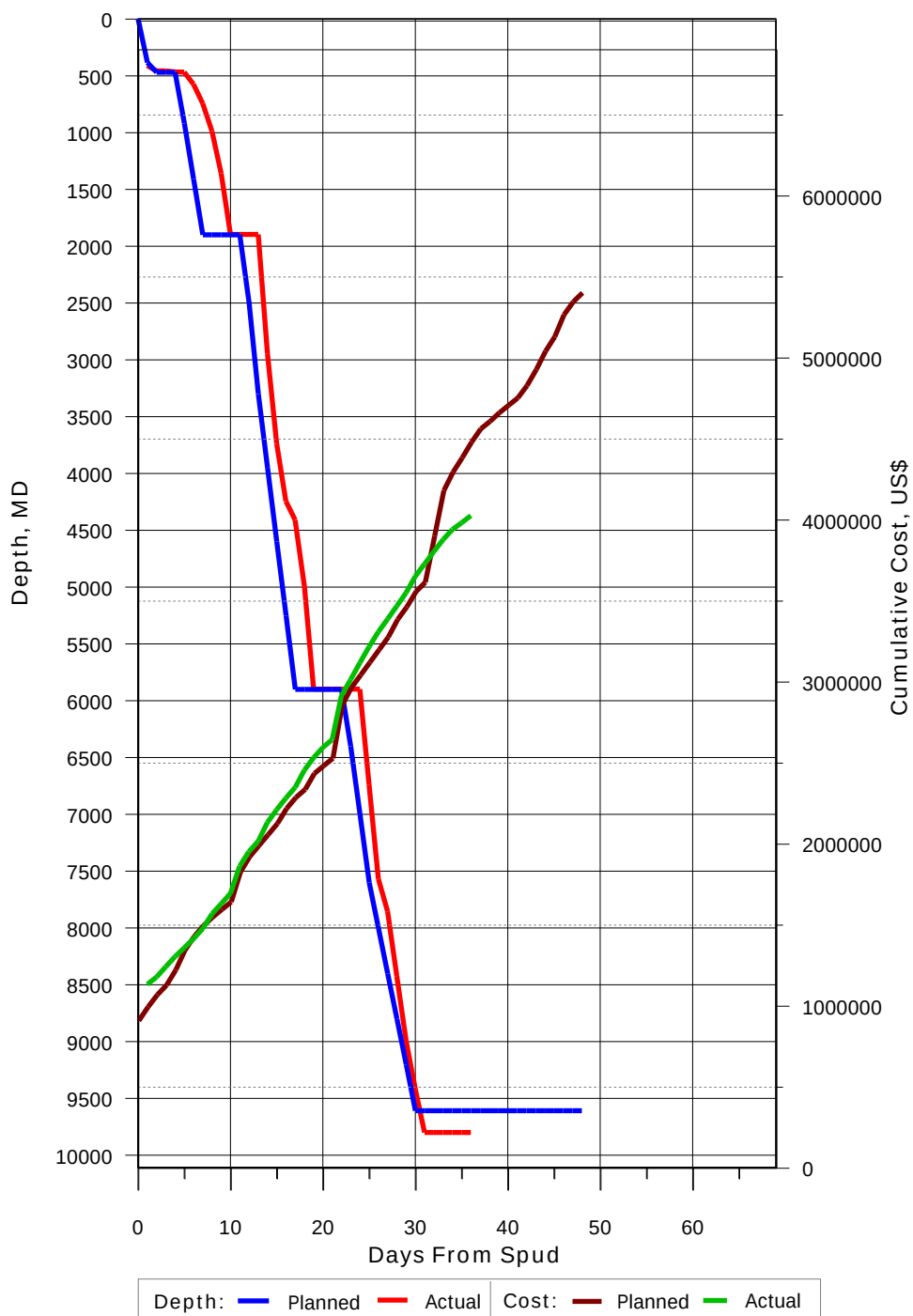
Last Modification : 09-JAN-13 06:17 AM

DAILY DRILLING REPORT BLOCK - Z2B

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	09-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	08-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD





DAILY DRILLING REPORT BLOCK - Z2B

Page 1/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	10-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	09-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

Target Depth (ft)	Estimated Direction	AFE Cost(\$)	Daily Cost (\$)	Cum. Cost(\$)	AFE Expenditure (%)
9,607	S 74° W	5,402,740	41,928	3,966,829	73

DRILLING DATA

MD at 24:00 hr:	9800.0 ft	Footage 24:00 hr:		Drilling hours :	.00	Days on Loc :	58	Drlg. days :	37
TVD at 24:00 hr:	8961.6 ft	Avg ROP :		Cum. Drilling Hrs :	289.00	Days on Well :	58	PBTD	

TIME BREAKDOWN

	Mov.Rig Up/Down	Drilling	Down Time	Ass. Drlg. Oper.	Rep. & Maint.	Comp. & W.O.	Fishing
Daily				24.00			
Cumulative	2.00	289.00	6.50	590.50	8.00		16.00

STATUS

Current Status :

WTF & Pepesa recover logging wireline to 8900 ft.

24 Hr. Summary :

WTF, Pepesa and ITS mechanics, continue attempt to repair the hydraulic generator of logging cabin, without success. Arrive to location Ferreyros technician, review WTF generator and find a burned sensor and fuel pump inoperative. Perform safety and operating meeting with WTF, Pepesa and Savia crew to recover wireline and logging tools with TD. WTF & Pepesa organizes rig floor and install "T" to support logging wireline and WTF operator take tension and weight.

24 Hr. Forecast :

Finish Recover wireline and logging tools, condition hole and run 5.5" csg.

OPERATION SUMMARY

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	17:00	17.00	17	NPT			WTF, Pepesa and ITS mechanics, continue attempt to repair the hydraulic generator of logging cabin, without success. (NPT for WTF)
							Meanwhile Pepesa driller move TD upwards and downwards, Waiting WTF mechanics and hydraulic generator spare part.
17:00	20:00	3.00	17	NPT			Arrive to location Ferreyros technician, review WTF generator and find a burned sensor and fuel pump inoperative.
20:00	22:30	2.50	17	NPT			Condition platform to locate the logging wireline.
22:30	23:00	0.50	17	NPT			Perform safety and operating meeting with WTF, Pepesa and Savia crew to recover wireline and logging tools with TD.
23:00	00:00	1.00	17	NPT			WTF & Pepesa organizes rig floor and install "T" to support logging wireline and WTF operator take tension and weight.

REMARK :

No accidents & no incidents the last 24 hours. Held safety meeting with all crew.

Formation top: CHACRA Fm. @ 1700' MD, RIO BRAVO Fm. @ 3740' MD, PALEGREDA Fm. @ 5500' MD, MOGOLLON Fm. @ 5810' MD, SAN CRISTOBAL Fm @ 6910' MD. UPPER BASAL SALINAS TOP @ 8870 ft, BALCONES TOP @ 9685ft. Last geology sample at 9800 ft, 100% clayst. Sophia Christine delivery 1650 gln of diesel, ticket number 1220071.

00:00 to 06:00

From	To	Dur. (hr)	Code	PT/ NPT	Depth Start (ft)	Depth End (ft)	Activity
00:00	06:00	6.00	17	NPT			WTF & Pepesa recover logging wireline from 9760 ft to 8900 ft, Pepesa organize logging wireline on platform.

BIT DATA

No	Size	Make	Model	Serial No	Jets (32nd")	Depth In (ft)	Depth Out (ft)	Hours (hr)	ROP (ft/hr)	WOB(max) 1000 lb	RPM (max)	Q(max) (gpm)	I-O-D-L-B-G-O-R
1	17	NOV	T11	D144987	3X18-1X16	392	456						
2	17	SMITH	XR+CPS	PW4161	3x16-1x15	456	986			18	50		2-3-CT-A-1-I-NO-BHA
3	17	SMITH	S519MHPX	JF1485	12x10	986	1896			20	50		2-2-CT-A-X-I-NO-TD
4	12.25	NOV	RSR519S	EL45470	1x18-4x16	1896	4408			18	65		1-3-CT-T-X-2/16-NR-BHA
5	12.25	NOV	MSRE519M	220935	1x18-4x16	4408	5898			20	65		1-2-CT-S-I-NO-TD
6	8.5	SMITH	MIS616BPX	JF2935	4x13-2x14	5885	9800			25	70		1-3-CT-S-X-I-NO-TD

DAILY DRILLING REPORT

BLOCK - Z2B

Page 2/4

Location: LOBITOS	Rig : PEPESA-40	Report Date: 10-JAN-2013
Well : LO6-26XD	Tender : Perla	Operation Date: 09-JAN-2013
AFE No: 1112835	Water Depth : 335 ft	Start Date : 13-NOV-2012
Day Company: Juan Eulogio	Night Company:	Spud Date : 04-DEC-2012

MUD PROPERTIES

Company : HALLIBURTON					Type : EZ MUD/CLAYS					Mud Engineers : H. LEON/P. OVIEDO									
Hour	Depth (ft)	Dens (ppg)	Vis (s/gt)	Plas Vis (cp)	YP (cp)	Gel(10s) (cp)	Gel(10m) (cp)	Gel(30m) (cp)	pH	Pm (mL/mL)	Pf (mL/mL)	Mf (mL/mL)	Chlor (mg/L)	ca (mg/L)	K (mg/L)	Sand (%)	Solids (%)	Oil (%)	MBT (lb/bbl)

SURVEYS

Comments	MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg100ft)

CASING DATA

Diameter (in)		Number of Joints	Length (ft)	Weight (ppf)	Grade	Thread	Top (ft)	Bottom (ft)
OD	ID							
18.00	17.25	11	448	70.6	ASTM A53-B	WELD	38	448
13.38	12.62	51	1898	54.5	K-55	BTC		1894
9.62	8.76	158	5898	43.5	N-80	BTC		

DESCRIPTION BHA

MUD PRODUCTS

Product	Unit	Used	Final Invent	Product	Unit	Used	Final Invent
AKTAFLO-S	55GAL			ALDACIDE G	2GAL		
AQUAGEL	100lb			BARAZAN D PLUS	25LB		
BARITE	100LB			BARO-LUBE GOLD SEAL	55GAL		
BAROFIBRE COARSE	40LB			BAROLIFT	15LB		
CALCIUM CARBONATE M250	40KG			CAUSTIC SODA FLAKE	25LKG		
CLAYSEAL PLUS	55GAL			DEFOAMERS SILICONE	5GAL		
DEXTRID	50LB			EZ MUD DP	50LB		
EZ SPOT	55GAL			KWIK SEAL MEDIUM	40LB		
LIGNOX PLUS	50LB			N-SEAL	30LB		
PAC R	50LB			PAC-L	50LB		
SAPP	25KG			SODIUM BICARBONATE	25KG		
STEELSEAL 100	50LB			STEELSEAL50	50LB		
THERMA-THIN	5GAL			WALLNUT SHELLS	50LB		
X-TEND II	2LB						

PUMPS

No	Make	Model	Stroke (in)	Liner Size (in)	Pressure Max (psi)	GPM	SPM	Ann. Vel.		Jet Vel. (ft/min)	HSI	Hrs.Since Last Repair
								DP	DC			
1	White Star	1300	12	6	4514							
2	White Star	1300	12	6	4514							
3	PZ-8	750	8	6	3223							

INSPECTIONS / DRILLS

Last BOP Drill:	08-DEC-12	Last Fire Drill:		Last Trip Drill:	
Last Safety Inspection:		Last Evacuation Drill :		Last H2S Drill :	
Last Safety Meeting :	25-DEC-2012	Last Pit Drill :		Last Weekly Rig Check:	

DAILY DRILLING REPORT

BLOCK - Z2B

Page 3/4

Location:	LOBITOS	Rig :	PEPESA-40	Report Date:	10-JAN-2013
Well :	LO6-26XD	Tender :	Perla	Operation Date:	09-JAN-2013
AFE No:	1112835	Water Depth :	335 ft	Start Date :	13-NOV-2012
Day Company:	Juan Eulogio	Night Company:		Spud Date :	04-DEC-2012

BOP PRESSURE TESTS

Last BOP Pressure Test :	26-DEC-20:	Annular Press:	1500	Choke Line:	3000	Standpipe Manifold :	3000
Last Csg Pressure Test :	26-DEC-20:	Upper Rams :	3000	Kill Line :	3000	Choke Manifold :	3000
		Lower Rams :	3000	Kelly/TD Hose:	3000		

DIESEL STOCK

Location tank	Previous (gl)	Received (gl)	Pumped (gl)	Motor used (gl)	Others used (gl)	Stock (gl)
TK BARCAZA	9,533	1,650		520		10,663
TK PEPESA	0					0
Total (gl)	9,533	1,650		520		10,663

MARINE VESSELS

Name	Move		Dur. (hr)	Moved Material and Personnel
	From	To		
Sofia Christine				

PERSONNEL

Company	No People	Company	No People
GYRO DATA	0	HULLIBURTON	2
ITS	5	NORTH SERVICES	
PEPESA	39	PHOENIX	
RISK CONTROL		SAVIA	3
SIMEDIC	1	TCS	9
TECNOIL		TESCO	
TGT LAB	6	TRAMARSA	12
UNITED	3	WTF	6

Total People : 86

Last Modification : 10-JAN-13 07:01 AM

DAILY DRILLING REPORT

BLOCK - Z2B

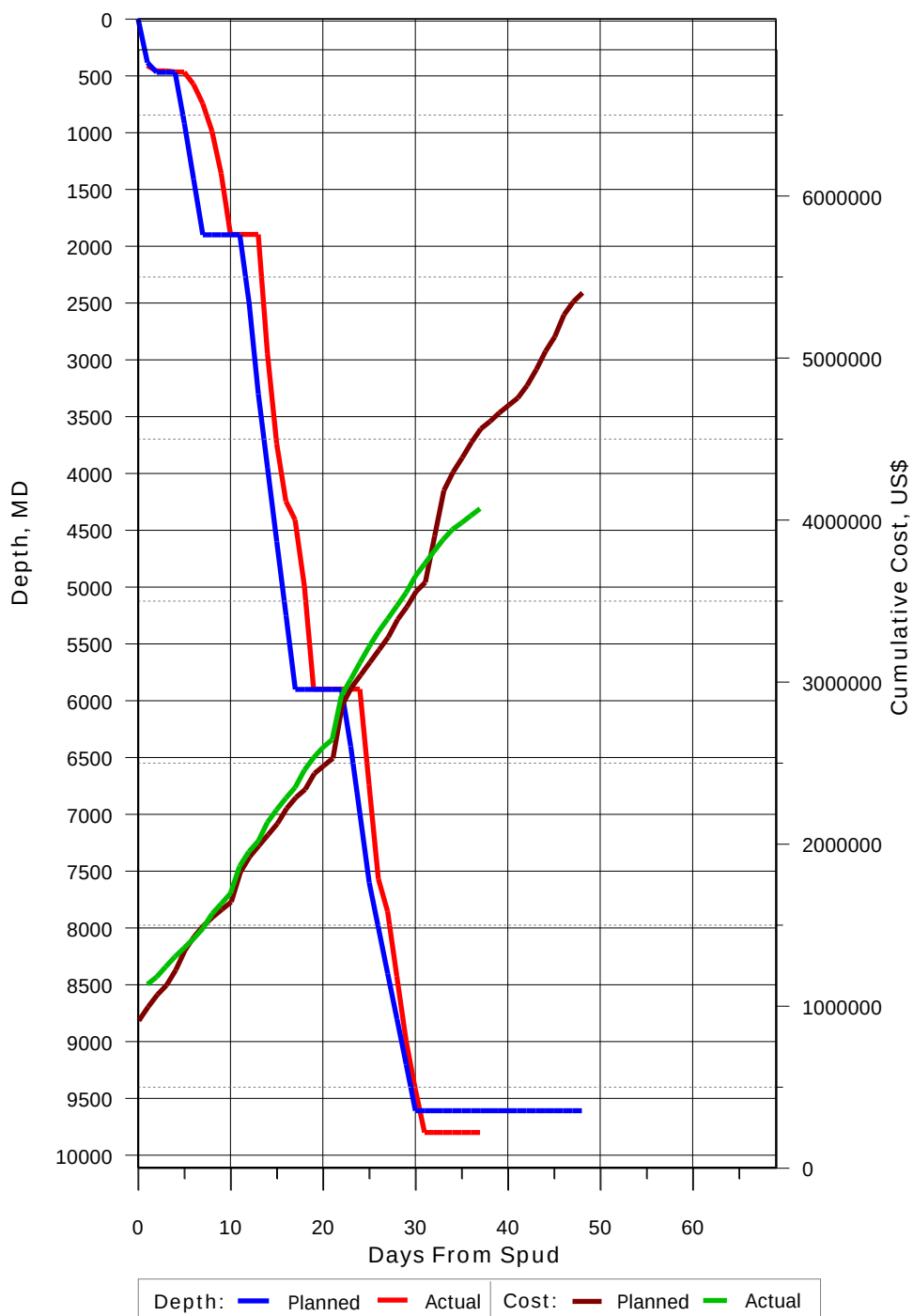
Location: LOBITOS
Well : LO6-26XD
AFE No: 1112835
Day Company: Juan Eulogio

Rig : PEPESA-40
Tender : Perla
Water Depth : 335 ft
Night Company:

Report Date: 10-JAN-2013
Operation Date: 09-JAN-2013
Start Date : 13-NOV-2012
Spud Date : 04-DEC-2012

Performance Drilling Depth & Cost vs Days

LO6-26XD



REPORTE DE OPERACIONES

DAILY OPERATIONS REPORTS

WELL: LO6-26XD

December 07th, 2012

00:00 – 01:00	WOC. Finished to weld flow lines. Prepare 500 bbls 8.9 ppg mud. Open well.
01:00 – 08:00	Move 5"DP from barge to platform messure and take series. M/U 66 jtx5" DP in Stands (22) in derrick. Sophia cristine arrived with Chemicals and unload to Barge.
08:00 – 08:30	Perform safety meeting with Phoenix and Pepesa crew.
08:30 – 09:30	Connect 9 5/8" mud motor BH 1.5, cross over and 15" stabilizer on surface.
09:30 – 12:30	M/U 17" tricone bit, with mud motor, cross over, stabilizer, UBHO. Phoenix Position directional tool. Prepare 700 bbls mud 8.9 ppg.
12:30 – 14:00	Connect 3 x 8" DC, 8" Jar, 3 x 6 3/4" DC, 5" HWDP.
14:00 – 14:30	TIH dir. BHA w/ 17" tricone bit and tag TOC at 435'.
14:30 – 15:30	Drill out cement from 435' to 456'. 400 gpm, pres 460 psi, 35 rpm.
15:30 – 16:00	Dir. Drill rotating w/ BHA and 17" tricone bit from 456' to 460'. Circulate, Geology confirm 50% formation. ok.
16:00 – 16:30	Circulate and displace sea water for 8.9 ppg mud fluid.
16:30 – 17:00	R/U Pepesa wire line unit, run and take Gyro survey. Inc. 0.76 deg, azm 6.57 deg., 205.9 tool face.
17:00 – 18:00	Turn drilling table, positon tool face. Run Gyro survey to confirm tool face Position. Inc. 0.8 degrees, azm 333.97 degrees, 277.68 degrees.
18:00 – 19:00	Dir. drill rotating from 460' to 465'. WOB 8/10 klbs, 700 gpm, pres 1030 psi, 35 Rpm. High torque, posible debris at bottom.
19:00 – 21:00	POOH 17" tricone bit to surface.
21:00 – 23:30	MU & RIH 11 3/4" magnet with 5" DP to 465 ft (1st run). Work on bottom and POOH to surface. Recovered 4 kg of debris.
23:30 – 00:00	MU 13 3/8" canguro

December 08th, 2012

00:00 – 02:00	RIH 13 3/8" canguro with 5" DP, work on bottom all sides, POOH to surface. Recovered 1/4 kg of debris.
02:00 – 04:30	Recovered 1/4 kg of debris. MU & RIH 17" bit with conventional BHA to 465 ft. Work on bottom to remove debris (drill 1 ft without problems).POOH 17" bit to surface.
04:30 – 07:00	MU & RIH11 3/4" magnet with 5" DP to 465 ft (2nd run). Work on bottom and POOH to surface. Recovered smalls debris.
07:00 – 07:30	L/D 11 3/4" magnet. Zuluf (diver vessel) arrived to location. Rig up 18" clamps from Zuluf to platform.
07:30 – 09:30	TIH 17" tricone bit, with mud motor, cross over, 15" stabilizer, UBHO, 3 DC 8", Jar, Cross over, 3 DC 6 1/2".
09:30 – 10:00	Perform fire drill on platform and barge. Participated all services companies.
10:00 – 10:30	Continue TIH dir BHA to 467 ft. Divers perform inspection on jacket elevation.
10:30 – 11:30	Prepare wire line, run Gyro tool, POOH tool. @ 404', incl 1.15 deg, azm 349 deg. tool face 349 deg.
11:30 – 12:30	Directsurvey perform 2nd run. Take survey, POOH tool. @ 404', inc 1.15 deg, azm349 deg, tool face 5 deg. Make correction to data 348 deg. Prepare run to confirm tool face data.

12:30 – 13:00	Directsurvey perform 3rd run to confirm information. Take survey, POOH tool. @ 405' incl 1.16 deg, azm 176 deg, tool face 177.51 deg. Directsurvey tool not sit on UBHO.
13:00 – 13:30	Directsurvey perform 4th run. Take survey, POOH tool. @ 401', incl 0.9 deg, azm 353.44 deg, tool face 12.01 deg. Directsurvey tool not sit on UBHO.
13:30 – 14:30	Circulate to clean UBHO. Directsurvey prepare to run tool without centralizer. Divers installing clamp on 5th jacket elevation. no possible to install clamps.
14:30 – 15:00	Directsurvey perform 5th run. Take survey, POOH tool. @ 403', incl 1.11', azm 295.79 deg, tool face 355.48 deg.
15:00 – 16:00	Divers return to Talara with 2 clamp for modification. Directsurvey perform 6th run, to confirm prior data. @ 403', incl 1.13 deg, azm 241.36 deg, tool face 296 deg. Tool not sit on UBHO.
16:00 – 17:30	POOH dir BHA w/ 17" tricone bit to perform inspection to UBHO.
17:30 – 18:30	Perform UBHO visual inspection, ok. Continue POOH BHA. Wait on Cia. GYRODATA, to replace Cia. Directsurvey.
18:30 – 23:00	L/D Directsurvey tools, move tools to barge. Rig up, measure and M/U 5" DP in Stands.
23:00 – 00:00	MU 5" DP. CIA Gyro data arrived al location move Gyro tools from barge to platform and check tools.

December 09^h, 2012

00:00 – 01:00	CIA GYRODATA M/U & calibrate Gyro survey tool.
01:00 – 04:00	TIH 17" tricone bit, with mud motor, cross over, 15" stabilizer, UBHO, 3 DC 8", Jar, Cross over, 3 DC 6 1/2". PHOENIX & GYRO DATA perform operative test with stinger into the mule shoe seat.
04:00 – 05:00	R/U wire line, CIA Gyro data run Gyro tool, POOH tool to surface, no confidential data.
05:00 – 06:00	CIA Gyro data configurate tool, Run Gyro tool at 413 ft, inc 0.73 deg, azm 348.13 deg, tool face 268.57 deg.
06:00 – 07:30	Phoenix directional turn BHA and positon tool face. Cia Gyro data run Gyro tool at 413', inc 0.73 deg, azm 323.25 deg, tool face 309.72 deg.
07:30 – 12:00	Dir. drill sliding from 467' to 498'. WOB 10 klbs, pres 690 psi, diff 143 psi, 506 gpm. Shakers show 30% cement, drop to 0%, 100% formation.
12:00 – 13:30	Dir. drill sliding from 498' to 502', WOB 10 klbs, pres 623 psi, diff 75 psi, 508 gpm. Shakers show 50% cement drop to 0%, 100% formation.
13:30 – 16:00	Dir. drill sliding from 502' to 520', WOB 10 klbs, pres 590 psi, diff 70 psi, 514 gpm. Shakers show 100% formation.
16:00 – 17:00	Run Gyro data tool, take survey @ 466'. inc 1.34 deg, azm 302.65 deg.
17:00 – 00:00	Dir. drill sliding from 520' to 573'. WOB 10 klbs, pres 650 psi, diff 70 psi, 514 gpm, ROP 8 ft/hr. Shakers show 100% formation. traces of cement.

December 10th, 2012

00:00 – 05:00	Dir. drill sliding from 573' to 612'. WOB 10 klbs, pres 650 psi, diff 70 psi, 514 gpm, ROP 7 ft/hr. Shakers show 100% formation. Traces cement. last geology sample 60% claystone, 30 % sandstone, 10 % Sand.
05:00 – 06:00	Run Gyro data tool, take survey @ 494'. inc 1.22 deg, azm 261.44 deg.
06:00 – 15:00	Dir. drill sliding from 612' to 660'. WOB 10/15 klbs, pres 680 psi, diff 50psi, 515 gpm, ROP 7 ft/hr. Shakers show 95% formation. 5% cement. last geology sample @ 650 ft, 10% claystone, 40 % sandstone, 50 % Sand.
15:00 – 19:00	dir. drill sliding from 660' to 702'. WOB 18 klbs pres 670 psi, diff 45 psi, 510 gpm.

19:00 – 19:30 Run Gyro data tool, take survey @ 647', inc 4.12 deg, azm 292.48 deg.
19:30 – 20:00 Cia Phoenix turn string and position tool face. Gyro data prepare to run tool and perform confirmation tool face position.
20:00 – 20:30 Run Gyro data tool, take survey @ 647', inc 3.64 deg, azm 297.44 deg.
20:30 – 21:30 dir. drill sliding from 702' to 722'. WOB 15/18 klbs, pres 720 psi, diff 50 psi, 519 gpm.
21:30 – 22:30 Dir. drill rotate from 722 ft to 739 ft. 516 gpm, 718 psi, 12 klb WOB, 50 RPM. 1.5 k ft-lb TQ.
22:30 – 23:30 Run Gyro data tool, take survey @ 680 ft. inc 4.68 deg, azm 308.91 deg.
23:30 – 00:00 dir. drill sliding from 739' to 743'. WOB 14 klbs, pres 710 psi, diff 40 psi, 519 gpm.

December 11th, 2012

00:00 – 04:00 Dir. drill sliding from 743' to 780'. WOB 12/14 klbs pres 710 psi, diff 40 psi, 519 gpm.
04:00 – 05:30 Dir. drill rotate from 780 ft to 798 ft. 516 gpm, 710 psi, 12 klb WOB, 50 RPM. 1.5 K ft-lb, TQ. geology sample at 770 ft: 40% Sand, 30% clystone, 30% sandstone.
05:30 – 06:30 Run Gyro data tool, take survey @ 743', inc 6.7 deg, azm 305.62 deg.
06:30 – 11:00 Dir. drill sliding from 789' to 840'. WOB 15 klbs pres 1100 psi, diff 35 psi, 650 gpm. String vibrate, possible debris at bottom.
11:00 – 13:30 Dir. drill rotate from 840' to 892'. WOB 18 klbs, 50 rpm, pres 1650 psi, 805 gpm. MW: 8.9 ppg.
13:30 – 14:00 Run Gyro data tool, take survey @ 833', inc 9.83 deg, azm 291.88 deg.
14:00 – 14:30 Dir. Phoenix turn string on surface to position tool face. Cia. Gyro data, run and take survey to confirm tool face position.
14:30 – 20:00 Dir. drill sliding from 892' to 952'. WOB 18 klbs pres 1085 psi, diff 62 psi, 635 gpm. String vibrate, possible debris at bottom.
20:00 – 21:30 Dir. drill rotate from 951' to 986'. WOB 16 klbs, 50 rpm, pres 1540 psi, TQ, 1.5 kft-lbs. 800 gpm. String vibrate, possible debris at bottom.
21:30 – 22:00 Run Gyro data tool, take survey @ 931', inc 13.03 deg, azm 282.94 deg.
22:00 – 23:00 Circulate bottom up. pump vis pill. shakers clean, ok. work pipe on bottom before POOH to run magnet.
23:00 – 00:00 POOH dir BHA w/ 17" tricone bit from 986 ft to 650 ft with circulation. 30 klbs over pull.

December 12th, 2012

00:00 – 02:30 Cont. POOH dir BHA w/ 17" tricone bit from 650 ft to shoe (448 ft) with circulation. cont POOH to surface without problems.
02:30 – 05:30 MU & RIH 11 3/4" magnet. work at bottom. POOH magnet. recover 1/4 kg of debris.
05:30 – 08:00 2nd Run 11 3/4" magnet to 986'. Work at bottom, POOH magnet, recover smalls flat iron junk.
08:00 – 08:30 L/D 11 3/4" magnet. Prepare to run 17" PDC bit.
08:30 – 12:30 TIH 17" PDC bit S519 MHPX, Mud motor, cross over, ponny monel, 15" stabilizer, UBHO, MWD, Monel, 3x8"DC.
12:30 – 13:00 Savia Personnal arrived to location (Manuel Inga), perform safety meeting with all services companies.
13:00 – 14:00 Continue TIH dir BHA w/ 17" PDC bit to 987', last stand with pump.
14:00 – 14:30 Dir. drill rotating from 986' to 990'. WOB 8 klbs, 750 gpm, 40 rpm, TQ 1 kft-lb, pres 1500 psi. Take survey @ 915' inc 12.0 deg, azm 284 deg. MW: 9.2 ppg.
14:30 – 15:00 Dir. drill sliding from 990' to 1000'. WOB 10 klbs, pres 1480 psi, 770 gpm.

15:00 – 16:00	Dir. drill rotating from 1010' to 1060'. WOB 10 klbs, 770 gpm, 50 rpm, TQ 1 kftlb, pres 1600 psi.
16:00 – 16:30	Ream, conection, Take survey @ 988' inc 13.9 deg, azm 278.3 deg.
16:30 – 17:30	Dir. drill sliding from 1060' to 1111'. WOB 12 klbs, pres 1690 psi, 770 gpm.
17:30 – 18:00	Dir. drill rotating from 1111' to 1155'. WOB 14 klbs, 770 gpm, 50 rpm, TQ 1 kftlb, pres 1700 psi.
18:00 – 18:30	Ream, conection, Take survey @ 1083' inc 15.1 deg, azm 271.2 deg.
18:30 – 19:00	Dir. drill sliding from 1155' to 1185'. WOB 14 klbs, pres 1700 psi, 770 gpm.
19:00 – 19:30	Dir. drill rotating from 1185' to 1220'. WOB 14 klbs, 770 gpm, 50 rpm, TQ 1 kftlb, pres 1710 psi.
19:30 – 20:30	Dir. drill sliding from 1220' to 1245'. WOB 14 klbs, pres 1700 psi, 770 gpm.
20:30 – 21:00	Ream, conection, Take survey @ 1176' inc 16.9 deg, azm 265 deg.
21:00 – 21:30	Dir. drill sliding from 1249' to 1288'. WOB 14 klbs, pres 1790 psi, 770 gpm.
21:30 – 22:00	Dir. drill rotating from 1288' to 1314'. WOB 15 klbs, 790 gpm, 50 rpm, TQ 1 kftlb, pres 1800 psi.
22:00 – 23:00	Dir. drill sliding from 1314' to 1344'. WOB 15 klbs, pres 1800 psi, 770 gpm.
23:00 – 23:30	Ream, conection, Take survey @ 1271' inc 19.5 deg, azm 259.6 deg.
23:30 – 00:00	Dir. drill sliding from 1344' to 1358'. WOB 15 klbs, pres 1800 psi, 770 gpm.

December 13th, 2012

00:00 – 01:00	Cont. Dir. drill sliding from 1358' to 1389'. WOB 15 klbs, pres 1800 psi, 770 gpm.
01:00 – 01:30	Dir. drill rotating from 1389' to 1422'. WOB 15 klbs, 800 gpm, 50 rpm, TQ 1 kftlb, pres 1800 psi. MW: 9.4 ppg.
01:30 – 02:00	Rig services. while circulate.
02:00 – 02:30	Dir. drill rotating from 1422' to 1439'. WOB 14 klbs, 800 gpm, 50 rpm, TQ 1 kftlb, pres 1800 psi. MW: 9.4 ppg.
02:30 – 03:00	Ream, conection, Take survey @ 1369' inc 23.2 deg, azm 257.1 deg. MW: 9.4 ppg.
03:00 – 03:30	Cont. Dir. drill sliding from 1439' to 1477'. WOB 14 klbs, pres 1800 psi, 770 gpm.
03:30 – 04:30	Dir. drill rotating from 1477' to 1534'. WOB 16 klbs, 800 gpm, 50 rpm, TQ 1 kftlb, pres 1850 psi. MW: 9.4 ppg.
04:30 – 05:00	Ream, conection, Take survey @ 1462' inc 25.2 deg, azm 257.6 deg. MW: 9.4 ppg.
05:00 – 05:30	Cont. Dir. drill sliding from 1534' to 1574'. WOB 16 klbs, pres 1850 psi, 770 gpm.
05:30 – 07:00	Dir. drill rotating from 1574' to 1630'. WOB 16 klbs, 800 gpm, 50 rpm, TQ 1 kftlb, pres 1850 psi. MW: 9.4 ppg. Take survey at 1557', incl 27.5 deg, azm 256.4 deg.
07:00 – 09:30	Accumulate dir. drill sliding f/1630 to 1744'. WOB 22 klbs, pres 1980 psi, dif 140 psi, 760 gpm. Survey @ 1652', incl 29.10 deg, azm 255.8 deg.
09:30 – 12:00	Accumulate dir. drill rotating f/1744 to 1896'. WOB 15 klbs, pres 1954 psi, 52 rpm, 780 gpm. MW: 9.4 ppg, shakers show caving. TD section @ 1896'.
12:00 – 12:30	Accumulate conections and surveys. Last survey @ 1747', incl 31.10 deg, azm 255 deg. Geology sample @ 1896', FM Chacra, 90% claystone, 10%, limolita.
12:30 – 17:30	Circulate, pump vis pills, circulate bottom up, shakers show caving, increasing mud weight from 9.4 to 9.8 ppg. Shakers clean, ok.
17:30 – 00:00	POOH & L/D dir. BHA w/ 17" PDC bit to surface. without problems. condition rig floor to MU slick BHA.

December 14th, 2012

00:00 – 03:30	MU & RIH slick BHA with 17" tricone bit, without problems. last stand wash down to bottom (1896 ft).

03:30 – 05:30	Circulate bottom up, pump hi vis pill, continue circulate to shaker clean. calibrate hole with rice : 17.2".
05:30 – 09:00	POOH slick BHA from 1896 ft to surface. Weld shoe and valve to 13 3/8" casing.
09:00 – 11:00	R/U SERTONG equipment remove saver sub, install links on top drive, install hydraulic tongs.
11:00 – 12:00	Perform safety meeting to run 13 3/8" casing with Sertong and Pepesa crew.
12:00 – 18:30	Run 13 3/8" surface casing. from surface to 1825 ft (Made in Russia, 54.5 ppf, K-55, BTC.).
18:30 – 20:00	Medomack vessel arrived to location, position next to Perla Barge. Continue TIH 13 3/8" casing, last 2 joint with circulation head to 1896' (Total : 51 jtsx 13 3/8" csg). Halliburton rig up cement lines.
20:00 – 21:30	Circulate bottom up with 250 gpm, 200 psi. Halliburton continue installing cement lines.
21:30 – 23:00	Stop pump. L/D circulation head, Halliburton R/U cement head, continue circulate.
23:00 – 23:30	Safety & operational meeting with all personnel: Halliburton, PEPESA, TGT LAB and SAVIA. while circulate.
23:30 – 00:00	Halliburton fill cmt lines with fresh water and test lines w/ 2000 psi. drop bottom plug. pump 15 bbls 8.4 ppg mud flush w/ 4.5 bpm. Pump 25 bbls ,11.5 ppg tuned spacer w/ 4.5 bpm. Start mix lead slurry Econocem 12.8 ppg.

December 15th, 2012

00:00 – 02:30	Pump lead slurry Econocem: 12,8 ppg, 254 bbls, 4 bpm, 250 psi. Pump tail cement Halcem :59 bbls, 15.2 ppg, 4 bpm, 370 psi. Stop pumping and drop top plug. displacement with 289 bbls mud 9.8ppg (2 bbls over of theoric calculated) .7/2 bpm 650/430 psi. Return to surface 45 bbls spacer with cement 11.7 ppg and 15 bbls cement 12.2 ppg. Pump plug with 430 psi and over pressure to 980 psi. Perform back flow test 1 bbls, ok. Used 982 sk of cement Pacasmayo.
02:30 – 06:00	Halliburton open cement head and discharge, R/D cement lines. Pepesa welder open window on 18" csg, cut and weld ring between 18" conductor and 13 3/8" csg .Cut 13 3/8" csg, L/D bell nipple. N/D diverter. Halliburton L/D cement lines, Medomack cement barge leave location at 04:30 hrs.
06:00 – 08:00	Continue N/D diverter and 18" extension.
08:00 – 12:00	Weld and bevel on 13 3/8" csg & condition to install 13 3/8" x 13 5/8" x 3M casing head type Slip lock.
12:00 – 12:30	Perform slick lock test with 900 psi, 10 min, ok.
12:30 – 15:00	Install 13 3/8" x 11" x 3M extension, install 13 3/8" x 5M drilling Spool, secure bolts.
15:00 – 18:00	N/U 13 5/8" x 5M double ram BOP Hydrill, tight bolts. N/U 13 5/8" x 5M annular preventer Hydrill.
18:00 – 21:00	Install HCR and choke line. Weld and pads to center BOP.
21:00 – 22:00	Test operational BOP test, blind ramps 9 seg, pipe rams 9 seg, HRC 2 seg, annular Hydrill 25/30 seg, open/close, ok.
22:00 – 23:00	Attempt to Install bell nipple. No success . Need modify, very long.
23:00 – 00:00	Attempt to install plug tester, no success, can not pass through the bell nipple.(The bell nipple diameter (12.615") is less than the plug tester (13.5/8")). L/D bell nipple.

December 16th, 2012

00:00 – 01:00	M/U and install plug tester with 5" DP, prepare hydraulic pump to perform 13 5/8" BOP test.
01:00 – 03:30	Perform BOP test: pipe rams w/ all valves of manifold with 300/3000 psi x 10 Min. each. Pressure test annular BOP with 300/1500 psi each ok. P/T mud hose to pump & kill valve 300/3000 psi, 10 min, ok. Pick up 5" DP from Perla barge to platform.
03:30 – 05:00	Pick up & L/D 5"DP, Pressure test Blind rams & HCR hydraulic valve with 300/3000 psi x 10 min. ok. Attempt test Manual valve. No success, can not be closed need repair to perform pressure test.
05:00 – 13:00	Continue Pick up 5" DP from Perla barge to platform, messure, take series and M/U 5" DP in stands in derrick. Repair HCR manual valve and pressure test with 300/3000 psi x 10 min ok. L/D plug tester.
13:00 – 14:30	Install 16" bell nipple on Hydrill annular.
14:30 – 22:00	Rig up 12" PDC bit (Reed hycalog RSR519S, (jets 1x18, 4x16), Mud motor BH 1.5, Pony monel, 12 1/8" stabilizer, UBHO, 8" MWD, 8" NMDC, cross over, 1x6 3/4" DC, cross over, 18x5" HWDP, Jar, 6x5" HWDP.
22:00 – 22:30	Last 2 stands wash down from 1700 ft and Tag top of cement at 1854 ft.
22:30 – 00:00	Drill out cement f/1854' to 1874'. drill out top and bottom plug & float collar. with 420 gpm, 950 psi, 40 rpm, WOB 5 klbs, TQ 3-4 klb-ft.

December 17th, 2012

00:00 – 00:30	Stop circulation and close anular BOP and perform casing integrity test w/ 900 psi, 10 min, ok.
00:30 – 01:30	Continue drill out cement f/ 1874' to 1893'. with 450 gpm, 950 psi, 40 rpm, WOB 5 klbs, TQ 3-4 klb-ft.
01:30 – 02:00	Halliburton change mud system w/400gpm, 950 psi. Displace contaminate mud by 9.8 ppg mud system. clean tanks.
02:00 – 03:30	Drill out cmt, shoe and 10 ft of formation from 1893 ft to 1906 ft, circulate and geology confirm 100 % formation.
03:30 – 04:00	Perform Formation Integrity Test (FIT) with MW 9.8 ppg. EMW 13.5 ppg. 348 psi, at 1807 ft TVD. No success, do not held pressure, drop press to 250 psi in 15 min. (with 250 psi the EMW=12.5 ppg).
04:00 – 06:00	Directional drill rotate from 1906 ft to 2060 ft. with 600 gpm, 1600 psi, 50 rpm, 8/10 klb WOB, 4 kft-lb TQ.
06:00 – 07:30	Accumulate dir. drill sliding from 2060' to 2097'. WOB 13.5 klbs, pres 1950 psi, 680 gpm. MW: 9.8 ppg, FM Chacra, 100% claystone.
07:30 – 11:00	Accumulate dir. drill rotating from 2097' to 2502'. WOB 17 klbs, 60 rpm, pres 2400 psi, 780 gpm. Change Formation @ 2450', 70% sandstone, 20% claystone, 10% Sand. Gas 70 units.
11:00 – 12:00	Accumulate ream and surveys @ 2343', inc 33.8 deg, azm 252 deg.
12:00 – 13:00	Dir. drill sliding from 2502' to 2513'. WOB 17 klbs, 720 gpm, pres 2214 psi. Gas 220 units, drop to cero. Show over pull 40 klbs.
13:00 – 14:30	Dir. drill rotating from 2513' to 2595'. WOB 21 klbs, 70 rpm, 770 gpm, pres 2420 psi. Geology sample @ 2570', 50% sandstone, 40% claystone, 10% Sand.
14:30 – 15:30	Circulate, pump vis pill to clean annular. keep string moving up/down, while cleanning possum belly (embudo zaranda) full claystone.
15:30 – 16:30	Dir. drill sliding from 2595' to 2611'. WOB 17 klbs, 720 gpm, pres 2200 psi.
16:30 – 17:30	Dir. drill rotating from 2611' to 2692'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2500 psi.

17:30 – 18:00	Ream and take survey.
18:00 – 18:30	Dir. drill sliding from 2692' to 2708'. WOB 18 klbs, 730gpm, pres 2300 psi.
18:30 – 19:30	Dir. drill rotating from 2708' to 2786'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2500 psi.
19:30 – 20:00	Ream and take survey.
20:00 – 21:00	Dir. drill rotating from 2786' to 2882'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2620 psi.
21:00 – 21:30	Ream and take survey.
21:30 – 22:00	Rig services.
22:00 – 23:00	Dir. drill sliding from 2882' to 2894'. WOB 18 klbs, 750gpm, pres 2420 psi.
23:00 – 00:00	Dir. drill rotating from 2894' to 2942'. WOB 15/20 klbs, 70 rpm, 770 gpm, pres 2620 psi.

December 18th, 2012

00:00 – 00:30	Dir. drill rotating from 2942' to 2977'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2600 psi. 75 ft/hr ROP.
00:30 – 01:00	Ream and surveys.
01:00 – 02:30	Dir. drill rotating from 2977' to 3073'. WOB 20 klbs, 60 rpm, 770 gpm, pres 2600 psi. 75 FT/HR ROP. Geology sample at 3168 ft : 100% claystone.
02:30 – 03:00	Ream and surveys at 3008 ft, inc 33.7 deg, azm 253.1 deg.
03:00 – 04:00	Dir. drill sliding from 3073' to 3088'. WOB 15/20 klbs, 750 gpm, pres 2650 psi.
04:00 – 05:00	Dir. drill rotating from 3088' to 3168'. WOB 15/20 klbs, 70 rpm, 770 gpm, pres 2640 psi. 7 k ft-lb TQ.
05:00 – 06:00	Circulate, pump hi vis pill to clean the hole. ream and take survey at 3102 ft, inc 33.5 deg, azm 252.4 deg.
06:00 – 09:30	Dir. drill rotating from 3168' to 3310'. WOB 16/17 klbs, 65 rpm, pres 2360 psi, 650 gpm. Pepesa Pump #2 liner 6" leak, working with pump #1 White Star and #3 PZ8. ROP 68 ft/hr.
09:30 – 11:00	Dir. drill rotating from 3310 to 3357'. WOB 17 klbs, 65 rpm, pres 2900 psi, 760 gpm. Working with pump #1 & #2 (White Star). ROP 85 ft/hr.
11:00 – 12:00	Dir. drill rotating from 3357' to 3391'. WOB 16 klbs, 65 rpm, pres 2300 psi, 650 gpm. Pepesa Pump #2 packing cover fail, working with pump #1 White Star and #3 PZ8. ROP 65 ft/hr.
12:00 – 12:30	Dir. drill rotating from 3391' to 3418'. WOB 17 klbs, 65 rpm, pres 2900 psi, 760 gpm. Working with pump #1 & #2 (White Star). ROP 90 ft/hr.
12:30 – 13:00	Dir. drill rotating from 3418' to 3453'. WOB 16 klbs, 68 rpm, pres 2357 psi, 680 gpm. Pepesa Pump #1 piston fail, working with pump #2 White Star and #3 PZ8. ROP 70 ft/hr.
13:00 – 14:00	Dir. drill rotating from 3453' to 3515'. WOB 17 klbs, 65 rpm, pres 2900 psi, 760 gpm. Working with pump #1 & #2 (White Star). ROP 105 ft/hr.
14:00 – 15:00	Dir. drill rotating from 3515' to 3548'. WOB 16 klbs, 65 rpm, pres 2350 psi, 680 gpm. Pepesa Pump #1 piston fail, working with pump #2 White Star and #3 PZ8. ROP 60 ft/hr.
15:00 – 19:00	Dir. drill rotating & sliding from 3548' to 3736'. WOB 15 klbs, 65 rpm, pres 2970 psi, 750 gpm, TQ 7 klb-ft Working with pump #1 & #2 (White Star). ROP 60 ft/hr.
19:00 – 21:00	Circulate, pump vis pill, condition hole, shakers clean, ok.
21:00 – 23:30	Wiper trip, from 3736 ft. to shoe (1894 ft). without problem. no show drag.
23:30 – 00:00	Rig services while clean possum belly and shaker tank.

December 19th, 2012

00:00 – 02:00	RIH from Shoe (1894 ft) to 3520 ft . without problem. last 2 stand wash down to

	bottom (3736 ft).
02:00 – 02:30	Circulate bottom up with 780 gpm.
02:30 – 03:30	Dir. drill rotating from 3736' to 3790'. WOB 17 klbs, 60 rpm, pres 2750 psi, 750 gpm. Pepesa Pump #1 packing cover fail, ROP 54 ft/hr.
03:30 – 04:30	Dir. drill rotating from 3790' to 3831'. WOB 16 klbs, 60 rpm, pres 2100 psi, 660 gpm. working with pump #2 White Star and #3 PZ8.
04:30 – 05:00	Ream & survey.
05:00 – 09:00	Dir. drill rotating from 3831' to 3975'. WOB 17 klbs, 65 rpm, pres 2780 psi, ROP 51 ft/hr. Survey @ 3862' incl 33.9 deg, azm 252.6 deg.
09:00 – 10:00	Pepesa repair pumps #2 and #1.
10:00 – 12:00	Dir. drill rotating from 3975' to 4032'. WOB 14 klbs, 750 gpm, pres 2840 psi, TQ 12 klbs-ft.
12:00 – 12:30	Accumulate reaming and circulating.
12:30 – 14:00	Cia. Phoenix work string up/down, position tool face. Dir. drill sliding from 4032' to 4045'. WOB 20 klbs, 670 gpm, pres 2200 psi. Pepesa pump #1 packing fail.
14:00 – 15:00	Dir. drill rotating from 4045' to 4080'. WOB 14 klbs, 750 gpm, pres 2840 psi, TQ 13 klbs-ft.
	Last survey @ 3957' inc 34.2 deg, azm 252.5 deg. Geology sample @ 4040', 40% Siltstone, 30% sandstone, 30% claystone.
15:00 – 15:30	Pepesa Rig service.
15:30 – 16:30	Dir. drill rotating from 4080' to 4125'. WOB 12 klbs, 63 rpm, pres 2768', 680 gpm.
16:30 – 17:30	Dir. drill sliding from 4125' to 4130'. WOB 19 klbs, 750 gpm. Work string up/down, positioning tool face.
17:30 – 18:30	Accumulate pumps #1 and #2 problem with packing cover.
18:30 – 21:00	Dir. drill sliding from 4130' to 4145. WOB 15/20 klbs, 750 gpm. Work string up/down, positioning tool face. drill slide turn string from right to left side.
21:00 – 23:00	Dir. drill rotating from 4145' to 4210'. WOB 17 klbs, 63 rpm, pres 2250 psi, 670 gpm. 12 k ft-lb TQ. Working with pump # 2 with star & 3 PZ 8.
23:00 – 23:30	Ream & take survey.
23:30 – 00:00	Dir. drill rotating from 4210' to 4244'. WOB 17 klbs, 63 rpm, pres 2950 psi, 750 gpm. 12 k ft-lb TQ. Working with pump # 1 & 2 with.

December 20th, 2012

00:00 – 01:30	Dir. drill rotating from 4244' to 4287'. WOB 17 klbs, 63 rpm, pres 2950 psi, 750 gpm. 12 k ft-lb TQ. Working with pump # 1 & 2 White star.
01:30 – 02:00	Dir. drill rotating from 4287' to 4305'. WOB 15 klbs, 63 rpm, pres 2350 psi, 680 gpm. 12 k ft-lb TQ. Working with pump # 2 white star & # 3 PZ 8. while repair: Pump #1 packing cover fail, change liner.
02:00 – 02:30	Ream & take survey.
02:30 – 03:00	Dir. drill rotating from 4305' to 4314'. WOB 15 klbs, 60 rpm, pres 2350 psi, 680 gpm. 12 k ft-lb TQ. Working with pump # 2 white star & # 3 PZ 8.
03:00 – 03:30	Circulate with Pump # 3. (Pepesa repair: Pump #2 piston fail and Pump #1: change: packing cover, piston, liner & valve).
03:30 – 04:30	Dir. drill rotating from 4314' to 4344'. WOB 15 klbs, 60 rpm, pres 3000 psi, 760 gpm. 12 k ft-lb TQ. Working with pump #1&2 white.
04:30 – 05:00	Pepesa repair pumps #1 and #3. circulate with pump # 2. 480 gpm.
05:00 – 07:30	Dir. drill rotating from 4344' to 4400'. WOB 15 klbs, 60 rpm, pres 2980 psi, 760 gpm. 12 k ft-lb TQ, 30 ft/hr ROP. Last geology sample at 4340 ft: 60% Sand, 20% Siltstone, 10% sandstone, 10% claystone.
07:30 – 09:00	Dir. drill sliding from 4400' to 4408'. WOB 22 klbs, 745 gpm, pres 2900 psi. Work string up/down to position tool face.

09:00 – 10:00	Circulate bottom up, shaker clean, ok.
10:00 – 16:00	POOH dir. BHA w/ 12 1/4" PDC bit to change MWD battery and inspection bit. Continue POOH to 300 ft.
16:00 – 17:00	L/D mud motor, and 12 1/4" PDC bit.
17:00 – 19:00	M/U and TIH new 12 1/4" PDC bit MRE519M, jet 1x18;4x16, new mud motor and new battery for MWD, and perform shallow test at 500 ft, MWD synchronize, ok.
19:00 – 21:00	Continue TIH dir. BHA w/ 12 1/4" PDC bit from 500' to shoe (1894ft). and Circulate at shoe
21:00 – 21:30	Circulate at shoe.
21:30 – 22:00	Rig services (lubricating)
22:00 – 00:00	Continue TIH dir BHA with 5" DP from shoe (1894ft) to 3850 ft. found restriction, cont. RIH with circulation and rotation to 4000 ft. tight hole.

December 21st, 2012

00:00 – 01:30	Continue TIH dir BHA with 5" DP, reaming from 4000 ft to bottom (4408 ft).
01:30 – 02:00	Circulate bottom up with 770 gpm, 2950 psi.
02:00 – 03:30	Directional drill rotate from 4408 ft to 4413 ft. Directional drill slide from 4413 ft to 4423 ft with 720 gpm, 2570 psi, 10 klb WOB.
03:30 – 05:00	Directional drill rotate from 4423 ft to 4495 ft. with 750 gpm, 2960 psi, 65 rpm, 15 klb WOB. 10 K ft-lb TQ. 50 ft/hr ROP.
05:00 – 05:30	Ream & take survey.
05:30 – 06:00	Directional drill rotate from 4495 ft to 4545 ft. with 750 gpm, 2960 psi, 65 rpm, 15 klb WOB. 10 K ft-lb TQ. 50 ft/hr ROP. Last geology sample at 4490 ft 20% Sand, 20% sandstone, 40% siltstone, 20% claystone.
06:00 – 11:00	Directional drill rotate from 4545 ft to 4698 ft. with 760 gpm, 2978 psi, 63 rpm, 12 klb WOB. 12 K ft-lb TQ.
11:00 – 11:30	Accumulate ream and surveys.
11:30 – 12:00	Pepesa perform rig service and pumps inspection.
12:00 – 13:00	Dir. drill sliding from 4698' to 4709'. WOB 20 klbs, pres 2641 psi, 730 gpm.
13:00 – 15:00	Dir. drill rotating from 4709' to 4782' WOB 12/14 klbs, 760 gpm, pres 2959 psi, 68 rpm. Last survey @ 4620', inc 34.4 deg, azm 251.2 deg. Last geology sample @ 4760', 80% claystone, 10% Siltstone, 10% Sandstone.
15:00 – 15:30	Ream & take survey.
15:30 – 18:00	Dir. drill rotating from 4782' to 4882' WOB 12/14 klbs, 750 gpm, pres 2950 psi, 68 rpm.
18:00 – 18:30	Ream & take survey.
18:30 – 20:30	Dir. drill sliding from 4882' to 4896'. WOB 20 klbs, pres 2700 psi, 725 gpm.
20:30 – 23:00	Dir. drill rotating from 4896' to 4972' WOB 12/14 klbs, 750 gpm, pres 2980 psi, 65 rpm.
23:00 – 23:30	Ream & take survey.
23:30 – 00:00	Dir. drill rotating from 4972' to 4994' WOB 12/14 klbs, 750 gpm, pres 2980 psi, 65 rpm.

December 22nd, 2012

00:00 – 01:30	Dir. drill rotating from 4994' to 5067' WOB 12/14 klbs, 750 gpm, pres 3000 psi, 65 rpm. 12 k ft-lb TQ.
01:30 – 02:00	Ream & take survey 5000 ft, 31.7 deg inc, 251.4 deg azm.
02:00 – 04:00	Dir. drill rotating from 5067' to 5163' WOB 12/14 klbs, 750 gpm, pres 3020 psi, 65 rpm. 12 k ft-lb TQ.
04:00 – 04:30	Ream & take survey at 5095 ft, 31.7 deg inc, 251.4 deg azm.

04:30 – 06:00 Dir. drill rotating from 5163' to 5261' WOB 12/14 klbs, 750 gpm, pres 3100 psi, 65 rpm. 12 k ft-lb TQ. Last geology sample at 5190 ft: 50% Sand, 20% Sandstone, 10% Siltstone, 20% claystone.

06:00 – 08:00 Dir. drill sliding from 5261' to 5285'. WOB 25 klbs, pres 2795 psi, 730 gpm.

08:00 – 14:30 Dir. drill rotating from 5285' to 5615'. WOB 17 klbs, pres 3000 psi, 740 gpm, 60 rpm.

14:30 – 15:00 Accumulate ream and survey. Last survey @ 5475', inc 30.4 deg, azm 253.9 deg. Last geology Sample @ 5490'. FM Rio Bravo, 80% claystone, 10% Siltstone, 10% Sand.

15:00 – 20:30 Dir. drill rotating from 5615' to 5898'. WOB 19 klbs, pres 2980 psi, 730 gpm, 65 rpm.

20:30 – 22:30 Circulate, Pump hi vis pill and continue circulate to shaker clean.

22:30 – 00:00 POOH 12 1/4" PDC bit with dir. BHA from bottom (5898 ft) to 4795 ft. with normal drag. flow check ok.

December 23rd, 2012

00:00 – 06:00 Cont. POOH 12 1/4" PDC bit with dir. BHA from 4795 ft to Shoe, with normal drag. continue POOH & L/D dir BHA at surface.

06:00 – 12:30 M/U and TIH Slick BHA w/ 12 1/4" tricone bit to calibrate hole, to 4200'.

12:30 – 14:00 Continue TIH from 4200' to 4290', restriction at 4240'. Work string up/down, clean and ream with 50 rpm, 600 gpm.

14:00 – 18:30 Continue TIH Slick BHA w/ 12 1/4" tricone bit from 4290' to bottom (5898 ft) reaming with 620 gpm, 50 rpm.

18:30 – 20:30 Circulate, pump hi vis pill to clean the hole, continue circulate to shaker clean.

20:30 – 00:00 TOOH from bottom (5898 ft) to 5500 ft with circulation & rotation. (tight hole) continue POH from 5500 ft to 3600 ft with normal drag.

December 24th, 2012

00:00 – 00:30 Circulate at 3600 ft a bottom up.

00:30 – 02:30 TIH from 3600 ft, tag at 5180 ft wash down to 5237 ft. Continue TIH from 5237 ft to bottom without problems.

02:30 – 04:30 Circulate, pump hi vis pill to clean the hole, continue circulate to shaker clean. increase MW from 10.7 to 10.8 ppg.

04:30 – 06:00 TOOH from bottom (5898 ft) to 4200 ft. with normal drag.

06:00 – 08:00 Continue pull out 12 1/4" tricone bit from 4200' to 1788' inside 13 3/8" shoe.

08:00 – 08:30 Wait on mechanical and 7/8"x650 ft crane cable. Circulate bottom up, perform flow check, ok. Prepare drilling table, Pepesa inspection DP hydraulic tong.

08:30 – 15:00 Wait on mechanical and 7/8"x650 ft crane cable. (Manitowoc 020).

15:00 – 17:30 TIH w/ 12 1/4" tricone bit from 1788' to 5898'. free with out restriction. Savia mechanical arrived to location at 13:30 hrs. with 7/8"x900 ft crane cable.

17:30 – 18:30 Circulate bottom up, shaker clean ok. Savia mechanical continue changing 7/8" crane cable.

18:30 – 22:30 Pull out slick BHA w/ 12 1/4" tricone bit from 5898' to 5500 with circulation. cont TOOH from 5500 to shoe (1900 ft) with normal drag. ITS Personnal rig up hydraulic tongs and fill up tool from barge.

22:30 – 00:00 Continue POOH from 1900' to 600 ft.

December 25th, 2012

00:00 – 00:30 Rig services.

00:30 – 02:00 Continue L/D JAR, 6 3/4" DC ,8" drill collar, STB & 12 1/4" bit. Rig up 3 casing

	joints, (csg 9 5/8", BTC, 43.5 lb/ft), install shoe and float valve according to casing tally.
02:00 – 03:30	Retrieve wear bushing, L/D hawk jaw, TD links and organize rig floor.
03:30 – 04:30	R/U ITS running tools (Install spider, side door elevator, 20 ft links, hydraulic tong, single joint, fill up tool) on rig floor.
04:30 – 05:00	Perform safety & operational meeting with PEPESA, ITS, Tramarsa & Savia personnel to run 9 5/8" csg.
05:00 – 06:00	R/U & M/U 9 5/8" drillable float shoe, 2 jts 9 5/8" csg 43.5 ppf, BTC. Install 2 centralizer and install 9 5/8" drillable float collar. Run at 192 ft.
06:00 – 18:00	Continue TIH 9 5/8" casing, 43.5 ppf, BTC. to 5898 ft, 158 joints. fill casing every 10 joints. and circulate at 2500 ft & 5100 ft.
18:00 – 20:30	Sofia vessel arrived to location, provide consume water and Diesel. Cia ITS change side door, and install conventional elevator. Circulate w/ 225 gpm, 300 psi.
	Medomack cement vessel arrived to location, prepare spacer fluid while Sofía vessel finish to provide water and diesel.
20:30 – 23:00	Continue circulation with 335 gpm (8 bpm), pres 440psi. Cia Halliburton rig up cement lines from Medomack vessel to platform. Install Halliburton cement head.
23:00 – 23:30	Perform safety meeting with Halliburton and Pepesa crew.
23:30 – 00:00	Halliburton fill cmt lines with fresh water and test lines w/ 3000 psi. drop bottom plug. pump 20 bbls 8.4 ppg mud flush w/5 bpm.

December 26th, 2012

00:00 – 03:30	Pump 50 bbls ,11.5 ppg tuned spacer w/ 5 bpm. Start mix lead slurry Extendacem V 13,5 ppg. Pump lead slurry ExtendaCem V: 13,5 ppg, 203 bbls, 5 bpm, 480 psi. Pump tail cement Halcem V: 195 bbls, 15.2 ppg, 5 bpm, 650-730 psi. Stop pumping and drop top plug. displacement with 435 bbls mud 10.8 ppg (1.5 bbls over of theoric calculated) 7/2 bpm 470/1100 psi. Return to surface 40 bbls contaminad cement & 15 bbls cement of 13 ppg. Pump plug with 1100 psi and over pressure to 1600 psi. Perform back flow test 2bbls, ok. Used 1570 stk of cement Pacasmayo.
03:30 – 04:30	WOC, Halliburton open cement head and discharge. R/D Cementing lines and Pepesa crew L/D flow line, kill line, HCR and clean BOP, clean tanks and shakers.
04:30 – 06:00	Lift 13 5/8" BOP w/raiser, center 9 5/8" csg, set slips 175 klbs. L/D belt nipple to remove 9 5/8" csg landing joint.
06:00 – 09:30	Cut and level 9 5/8" csg on first level. Install casing spool 13 5/8 x 3M - 11 x 3M, tight bolts and perform test w/1900psi by 10 min, ok. Install double flange drill extension 13 5/8 x 5M- 11x5M/ 11x.
09:30 – 14:00	Install 13 5/8" x 5M drilling spool, BOP stack and tighten bolts. Connect chock line and kill lines from drilling spool to manifold.
14:00 – 15:00	Run 5" DP joint to center 13 5/8" BOP and weld pads to BOP on second level.
15:00 – 18:00	Install bell nipple and flow line, move material from platform to barge.
18:00 – 23:00	Install 9 5/8" plug tester. Perform BOP test. Pipe rams, 500 & 3000 psi, by 10 min, ok. Annular w/ 300 & 1500 psi, by 10 min, ok. Pepesa P/U 5"DP from barge to platform. Remove 5" DP and continue BOP test: Blind ram w/ 300 & 3000 psi, by 10 min, ok. Blind ram w/ external, medium, internal of manifold w/ 300 & 3000 psi, by 10 min, ok. Test TDS, ok.
23:00 – 00.00	P/U stand and retrieve plug tester. M/U & install wear bushing secure stops, ok.

December 27th, 2012

00:00 – 01:00	Cut off and slip drilling line 120 ft. Rig up from barge to platform 5" DP, measure and take serial number.
01:00 – 02:30	Prepare drilling table. Phoenix Rig up directional tools, calibrate MWD tool.
02:30 – 06:00	M/U dir. BHA 8 1/2" PDC bit (MSI 616 BPX, jet 4x13; 2x14, Mud motor 6 3/4" BH 1.5, STB 8 1/4", UBHO, MWD monel). Install MWD tool & continue RIH to 300 ft. Shallow test w/ 430 gpm & 650 psi, ok.
06:00 – 12:30	Continue RIH dir BHA w/ 8 1/2" PDC bit from 300' to 2680'. in single joint 5" DP.
12:30 – 13:00	Pepesa change crew, perform safety meeting.
13:00 – 18:30	Continue RIH directional BHA w/ 8 1/2" PDC bit from 2680' to 5802' (TOC), wash down last three stands with 400 gpm, 1400 psi. Fill pipe each 1000 ft.
18:30 – 20:00	Drillout from 5802' to 5870' w/400 gpm, 1400 psi, wob 5/8 klbs, 40 rpm, 9/11 klb-ft tq. Drillout top, bottom plug and float collar at 5805'.
20:00 – 20:30	Circulate at 5870' w/ 400 gpm, 1400 psi, observed by shakers top & bottom plug rubbers.
20:30 – 21:30	Perform CIT w/1500 psi by 10 min, ok.
21:30 – 22:30	Drillout cement from 5870' to 5885' (9 5/8" csg shoe) w/ 400 gpm, 1400 psi, 5-8 klb wob, 9/11 klb-ft tq, 40 rpm.
22:30 – 23:30	Circulate w/400 gpm & 1400 psi to change mud system Ezmud-Clayseal 10.8 ppg by Baradril-N 10.7 ppg. Clean shaker, possum belly and sun tank on platform.
23:30 – 00:00	Continue rotary drilling new formation from 5885' to 5895' (9 5/8" csg shoe at 5885') with 400 gpm, 1400 psi, 6-10 klb wob, 40 rpm, 9/11 klb-ft tq. Geologist take sample and confirm 50% of formation.

December 28th, 2012

00:00 – 00:30	Continue circulate with 400 gpm, 1400 psi and Geologist take bottom sample and confirm 90% formation.
00:30 – 01:00	Perform FIT w/ MW 10.7 ppg, 1020 psi, EMW 14,43 ppg and TVD 5180 ft, ok. Start drilling ahead.
01:00 – 12:00	Drill rotating from 5895 ft to 6337 ft, 450/550 gpm, press 1580/2850 psi, 10/18 klbs wob, 55/65 rpm, tq 9/12 kft-lb, ROP avg 41 ft/hr.
12:00 – 15:00	Accumulate circulating, reaming, surveys & conections. Last survey at 6280 ft, inc 25.8°, azm 251.60°. Pump 30 bbl HVP at 6242 ft.
15:00 – 20:00	Accum drill rotating from 6337 ft to 6715 ft, 550 gpm, press 2900 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROP avg 75.6 ft/hr.
20:00 – 21:30	Drilling sliding from 6715 ft to 6737 ft, 500 gpm, press 2600 psi, 20/25 klbs wob, ROP avg 14.6 ft/hr.
21:30 – 00:00	Accumulate circulating, reaming, surveys & conections. Last survey at 6660 ft, inc 19.7°, azm 246.8°. Pump 30 bbl HVP at 6620 ft. Last geology sample at 6730 ft 70% Clyst, 10% Sltst, 10% Sd and 10% Sst.

December 29th, 2012

00:00 – 02:30	Accum drill rotating from 6737 ft to 6903 ft, 550 gpm, press 2980 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROP avg 69.36 ft/hr.
02:30 – 05:00	Accum drill sliding from 6903 ft to 6926 ft, 500 gpm, press 2600 psi, 20/25 klbs wob, ROP avg 9.6 ft/hr.
05:00 – 06:00	Accumulate circulating, reaming, surveys & conections. Last survey at 6850 ft, inc 17.6°, azm 247.9°. Last geology sample at 6920 ft 90% Clyst, 10% Sltst and

	10% Sst.
06:00 – 10:30	Accum drill rotating from 6926 ft to 7207 ft, 540 gpm, press 2980 psi, 15/20 klbs wob, 60 rpm, tq 10/13 kft-lb, ROP avg 61.3 ft/hr.
10:30 – 12:30	Accum drill sliding from 7207 ft to 7277 ft, 500 gpm, press 2650 psi, 20/25 klbs wob, ROP avg 37.2 ft/hr.
12:30 – 15:00	Accumulate circulating, reaming, surveys & conections. Last survey at 7229 ft, inc 12.0°, azm 251.5°. At 7094 ft pump 30 bbl HVP and circulate a bottom up to clean hole.
15:00 – 21:00	Accum drill rotating from 7277 ft to 7536 ft, 540 gpm, press 3100 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROP avg 44.53 ft/hr.
21:00 – 22:30	Accum drill sliding from 7536 ft to 7569 ft, 540 gpm, press 2950 psi, 25/30 klbs wob, ROP avg 24.75 ft/hr.
22:30 – 00:00	Accumulate circulating, reaming, surveys & conections. Last survey at 7513 ft, inc 9.0°, azm 245.9°. At 7094 ft pump 30 bbl HVP and circulate a bottom up to clean hole. Last geology sample at 7560 ft.

December 30th, 2012

00:00 – 03:00	Accum drill rotating from 7569 ft to 7676 ft, 525 gpm, press 3150 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROP avg 39.6 ft/hr.
03:00 – 05:30	Accumulate circulating, reaming, surveys & conections. Last survey at 7609 ft, inc 8.6°, azm 241.2°. At 7601 ft pump 30 bbl HVP to clean hole.
05:30 – 08:30	Drill sliding from 7676 ft to 7727 ft, 530 gpm, press 3000 psi, 25/30 klbs wob, ROP avg 18.2 ft/hr.
08:30 – 09:30	Accum drill rotating from 7727 ft to 7772 ft, 540 gpm, press 3100 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROP avg 30.3 ft/hr.
09:30 – 11:00	Accumulate circulating, reaming, surveys & conections. Last survey at 7703 ft, inc 7.9°, azm 243.5°.
11:00 – 12:30	Drill sliding from 7772 ft to 7792 ft, 520 gpm, press 3050 psi, 25/30 klbs wob, ROP avg 17.4 ft/hr. Last geology sample at 7580 ft 100% Clyst and trz. dark Clyst (possible next Upper Basal Salinas Top).
12:30 – 13:00	Continue circulate and perform check shock at 7733 ft, inc 7.6°, azm 243.2°.
13:00 – 15:00	Condition hole to short trip. Circulate with 550 gpm, 3100 psi a bottom up & pump 30 bbl viscosity pill 11.8 ppg, 150 sec/qt and continue circulate with 580 gpm, 3250 psi up to clean shaker.
15:00 – 17:30	Perform short trip. POOH 8 1/2" directional BHA from 7792 ft to 5840 ft. POOH from 7792 ft to 7039 ft with back reaming (D/U 190 klb) and continue POOH free with D/U 230 klb.
17:30 – 18:00	Rig Services.
18:00 – 20:00	RIH from 5840 to 7792 ft without problems. Wash down last two stands with 450 gpm and 2800 psi.
20:00 – 20:30	Circulate a bottom up with 540 gpm, 3000 psi to continue drilling.
20:30 – 22:30	Drill sliding from 7792 ft to 7828 ft, 540 gpm, press 3200 psi, 25/30 klbs wob, ROP avg 18.7 ft/hr.
22:30 – 00:00	Drill rotating from 7828 ft to 7854 ft, 540 gpm, press 3150 psi, 15/22 klbs wob, 60 rpm, tq 10/14 kft-lb, ROP avg 25.3 ft/hr. Last geology sample at 7850 ft 100% Clyst.

December 31st, 2012

00:00 – 03:30	Accumulate drill sliding from 7854 ft to 7904 ft, 520 gpm, press 3150 psi, 25/30 klbs wob, ROP avg 15.3 ft/hr.
03:30 – 05:30	Accumulate drill rotating from 7904 ft to 7977 ft, 540 gpm, press 3200 psi, 15/22

klbs wob, 60 rpm, tq 10/14 kft-lb, ROP avg 38 ft/hr.

05:30 – 06:00 Accumulate circulating, reaming, surveys & conexions. Last survey at 7893 ft, inc 4.7°, azm 230.5^a. Last geology sample at 7970 ft 100% Clyst.

06:00 – 10:00 Accumulate drill rotating from 7977 ft to 8101 ft, 540 gpm, press 3150 psi, 15/22 klbs wob, 65 rpm, tq 10/14 kft-lb, ROP avg 38.2 ft/hr.

10:00 – 13:30 Accumulate drill sliding from 8101 ft to 8195 ft, 520 gpm, press 3200 psi, 25/30 klbs wob, ROP avg 23.5 ft/hr.

13:30 – 15:00 Accumulate circulating, reaming, surveys & conexions. Last survey at 8083 ft, inc 3.3°, azm 239.3^a. Last geology sample at 8190 ft 90% Clyst, 10% Sst.

15:00 – 16:30 Drill sliding from 8195 ft to 8230 ft, 530 gpm, press 3150 psi, 25/30 klbs wob, ROP avg 23.4 ft/hr.

16:30 – 21:30 Accumulate drill rotating from 8230 ft to 8423 ft, 540 gpm, press 3150 psi, 14/16 klbs wob, 65 rpm, tq 13/16 kft-lb, ROP avg 38.5 ft/hr.

21:30 – 00:00 Accumulate circulating, reaming, surveys & conexions. Last survey at 8368 ft, inc 3.4°, azm 241.6^a. Last geology sample at 8420 ft 100% Clyst.
Happy New Years 2013.

January 01st, 2013

00:00 – 05:00 Accumulate drill rotating from 8423 ft to 8513 ft, 520 gpm, press 3150 psi, 14/16 klbs wob, 65 rpm, tq 13/16 kft-lb, ROP avg 36.6 ft/hr.

05:00 – 06:00 Accumulate circulating, reaming, surveys & connection. Last survey at 8557 ft, inc 4.7°, azm 230.0^a. Last geology sample at 8510 ft, 100% Clyst.

06:00 – 16:30 Accumulate drill rotating from 8513 ft to 8994 ft, 520 gpm, press 3200 psi, 15 klbs wob, 65 rpm, tq 13/16 kft-lb, ROP avg 37.1 ft/hr.

16:30 – 19:00 Accumulate circulating, reaming, surveys & connection. Pump 30 bbl HVP to clean hole. Last survey at 8937 ft, inc 6.6°, azm 219.3^a. Last geology sample at 8990 ft, 50% Clyst, 30% Sd, 20% Sst.

19:00 – 21:00 Mud loss was observed 50 bbl, continue circulate with pump rate of 400 gpm, 2050 psi and Mud Engineers condition mud system with bridge materials (Calcium Carbonate 150 & 250 mesh, 8 ppb).

21:00 – 22:00 Continue circulate with 500 gpm, 2950 psi. Pump 40 bbl HVP, 120 sec/qt and displace to clean hole and circulate up to clean shakers. Spot 35 bbl LCM pill (bridge materials) & balance pump on bottom hole.

22:00 – 00:00 Perform short trip. POOH 8 1/2" directional BHA from 8993 ft to 8034 ft, with back reaming (D/U 230 klb).

January 02nd, 2013

00:00 – 02:00 Continue perform short trip. POOH 8 1/2" directional BHA from 8034 ft to 7700 ft, with back reaming (D/U 220 klb). RIH from 7700 ft to 8993 ft last two stand wash down with 250 gpm and 1600 psi.

02:00 – 03:00 Circulate a bottom up with 400 gpm, 2150 psi and 60 rpm, don't have mud loss.

03:00 – 20:00 Accumulate drill rotating from 8994 ft to 9420 ft, 450/500 gpm, press 2600/3200 psi, 15/23 klbs wob, 65/60 rpm, tq 15/18 kft-lb, ROP avg 26.1 ft/hr.

20:00 – 00:00 Accumulate circulating, reaming, surveys & connection. At 9300 ft pump 30 bbl HVP to clean hole. Last survey at 9316 ft, inc 6.4°, azm 209.8^a. Last geology sample at 9380 ft, 60% Clyst, 30% Sst.

January 03rd, 2013

00:00 – 04:00 Accumulate drill rotating from 9420 ft to 9561 ft, 480 gpm, press 2950 psi, 18/23 klbs wob, 60 rpm, tq 15/17 kft-lb, ROP avg 34.5 ft/hr.

04:00 – 06:00	Accumulate circulating, reaming, surveys & connection. Last survey at 9506 ft, inc 6.4°, azm 199.0°. Last geology sample at 9560 ft, 90% Cyst and 10% Sst.
06:00 – 17:00	Accumulate drill rotating from 9561 ft to 9800 ft (TD), 480/500 gpm, press 2950/3100 psi, 18/23 klbs wob, 65 rpm, tq 15/19 kft-lb, ROP avg 23.5 ft/hr.
17:00 – 20:00	Accumulate circulating, reaming, surveys & connection. Last survey at 9745 ft, inc 7.3°, azm 189.5°. Last geology sample at 9800 ft, 100% Cyst.
20:00 – 22:00	Condition on bottom hole to maneuver 5" DP due high torque and drag (reaming and back reaming). Several times during back reaming stuck drilling string, continue maneuver to circulate and reciprocate.
22:00 – 00:00	Continue circulate with 500 gpm and 3100 psi. Pump 40 bbl HVP, 140 sec/qt and displace to clean hole and circulate up to clean shakers.

January 04th, 2013

00:00 – 06:00	POOH 8 1/2" directional BHA from 9800 ft to 6600 ft with back reaming (D/U 230 klb) and circulate with 400 gpm, 2600 psi.
06:00 – 07:00	Perform flow check at 6600 ft by 10 min, ok. Pump 20 bbl sluge pipe.
07:00 – 12:30	Continue POOH 8 1/2" BHA with drag normal from 6600 ft to surface. L/D BHA (MWD monel, UBHO, 8 1/4 STB, 6 3/4" Mud motor, PDC Bit).
12:30 – 13:30	Pepesa crew condition rig floor and platform.
13:30 – 18:30	M/U & RIH 8 1/2" slick BHA with 8 1/2" rr-tricone bit Smith, x/o, 6 3/4" Bit Sub, 6 3/4" STB, x/o, 2 jt x 6 1/2" DC, x/o, 18 jt 5" HWDP, 6 3/4" Hydraulic Jar, 6 jt 5" HWDP, BHA: 821.45 ft.
18:30 – 19:30	Continue RIH with 5" DP from 821.45 to 5804 ft, fill pipe with 1000 ft.
19:30 – 20:30	Circulate a bottom up at 5804 ft with 350 gpm, 1200 psi. Pepesa condition area to rig services.
20:30 – 23:00	Cut off and slip 1 1/4" drilling line 150 ft. Change gravel jaws and TD rig services.
23:00 – 00:00	Continue RIH 8 1/2" slick BHA from 5804 ft to 8963 ft, where find restriction.
	Continue wash down 350 gpm, 1300 psi, from 8963 ft to 9574 ft.

January 05th, 2013

00:00 – 02:00	Continue wash down 350 gpm, 1300 psi, from 9574 ft to 9800 ft. From 9800 ft to 9780 ft observed tight hole, working string with rotation & circulation due high torq and drag condition hole up to 9780.
02:00 – 03:30	Condition hole, circulate a bottom up & 40 bbl pump HVP of 11.8 ppg, 150 seg/qt. Continue circulate to displace pill with 550 gpm, 3000 psi up to clean shakers.
03:30 – 13:00	POOH 8 1/2" slick BHA from 9780 ft to 7200 ft with back reaming 350 gpm, 1300 psi. Perform flow check by 10 min, ok. Continue POOH 8 1/2" slick BHA from 7200 ft 5800 ft with normal drag. Continue POOH.
13:00 – 15:00	Pepesa crew L/D belt nipple & flowline sleeve. R/U 13 5/8" flange with 7 1/16" WTF adapter, and install lubricator. WTF crew R/U pulleys and equipment on rig floor and platform.
15:00 – 15:30	Perform safety and operating meeting with WTF, Pepesa, TGT, and Savia crew.
15:30 – 16:30	WTF crew M/U logging tools (GR - Den - Neu - LAT - SGR - Caliper).
16:30 – 17:30	RIH to 6000 ft and log from 6000 ft to 5800 ft, correlate depth, calibrate and check tools (csg shoe at 5887 ft).
17:30 – 18:00	RIH logging tools from 6000 ft and tag at 7160 ft, Attempted several times to pass without success.
18:00 – 00:00	WTF begin log from 7160 ft to 5887 ft & continue POOH logging tool to surface.

January 06th, 2013

00:00 – 01:00	L/D WTF logging tools & lubricator.
01:00 – 03:00	R/D 13 5/8" flange with 7 1/16" WTF. Pepesa crew R/U belt nipple & sleeve flowline.
03:00 – 07.30	M/U & RIH 8 1/2" slick BHA with 8 1/2" rr-tricone bit Smith, x/o, 6 3/4" Bit Sub, 6 3/4" STB, x/o, 2 jt x 6 1/2" DC, x/o, 18 jt 5" HWDP, 6 3/4" Hydraulic Jar, 6 jt 5" HWDP, BHA: 821.45 ft. Continue RIH.
07:30 – 08:00	Broke gels and circulate with 510 gpm, 1500 psi to continue RIH.
08:00 – 09:00	Continue RIH from 5840 ft to 7155 ft without problems.
09:00 – 16:30	Continue RIH from 7155 ft to 8890 ft, wash down with 550 gpm, 2150 psi and 70 rpm, work drilling string in Several point with rotation & circulation due high torq and drag. TGT Chromatograph record 6500 gas unit.
16:30 – 17:00	Circulate to displace 6500 units gas with 350 gpm and 1250 psi.
17:00 – 18:30	Continue wash down from 8890 ft to 8940 ft, drilling string tag at 8940 ft, work string and pass with rotation & circulation. Continue wash down from 8940 ft to 9700 ft with 500 gpm, 1650 psi.
18:30 – 19:00	At 9700 ft TGT Chromatograph record 8800 gas units, circulate to displace 8800 units gas with 330 gpm and 1000 psi.
19:00 – 20:00	Wash down from 9700 ft to 9800 ft with 550 gpm, 2200/2100 psi and 70 rpm. Meanwhile Pepesa crew perform well control training to blowout on rig site.
20:00 – 23:00	Circulate with 600 gpm, 2200 psi and 75 rpm. Pump 40 bbl heavy viscosity pill, 13.5 ppg, 140 sec/qt, displace and circulate up to clean shakers. Observed, pump pressure decrease gradually up to 1600 psi with 600 gpm, perform check mud pump and lines without problems, is possible that drilling string have a wash out.
23:00 – 00:00	POOH 8 1/2" slick BHA from 9800 ft to 9100 ft with circulation 500 gpm, 1000 psi.

January 07th, 2013

00:00 – 01:00	Continue POOH slick BHA from 9100 ft to 8600 ft with drag normal (D/U 270 klbs). On 5" DP # 40 of DP tally find a DP with wash out (1/4" x 1.5").
01:00 – 01:30	RIH slick BHA from 8600 ft to 9800 ft, last two stand wash down with 500 gpm and 2350 psi (normal stand pipe pressure), NPT for PEPESA.
01:30 – 03:30	Circulate with 590 gpm, 2980 psi and 75 rpm. Pump 40 bbl viscosity pill, 120 sec/qt, displace and circulate up to clean shakers, NPT for PEPESA.
03:30 – 04:00	POOH 8 1/2" slick BHA from 9800 ft to 9300 ft with circulation 370 gpm, 1250 psi, NPT for PEPESA.
04:00 – 06:00	Continue POOH 8 1/2" slick BHA from 9300 ft to 7580 ft with drag normal (D/U 275), NPT for PEPESA.
06:00 – 11:30	Continue POOH 8 1/2" slick BHA from 7580 ft to surface with drag normal (D/U 220), Perform flow check at 7580 ft, 5850 ft (9 5/8" csg shoe) & 855 ft by 10 min, ok.
11:30 – 13:00	Pepesa crew L/D belt nipple & flowline sleeve. R/U 13 5/8" flange with 7 1/16" WTF adapter, install lubricator extension. WTF R/U pulleys and equipment on rig floor.
13:00 – 13:30	Perform safety and operating meeting with WTF, Pepesa and Savia crew to run logging tools.
13:30 – 14:00	M/U WTF logging tools (CMI:caliper, MDL:Resistivity, MSS:Sonic, GPD: Density, MDN: Neutrón) on rig floor.
14:00 – 18:00	WTF run logging tools from surface to 7715 ft. At 7715 ft tag, Attempted Several times to pass without success.

18:00 – 20:30	WTF begin log from 7715 ft to 7100 ft & continue POOH logging tool to surface. L/D Logging tools.
20:30 – 21:00	WTF crew change logging tools configuration, remove MSS:Sonic log, and remove finder tools.
21:00 – 00:00	WTF run logging tools (CMI:caliper, MDL:Resistivity, GPD: Density, MDN: Neutrón) from surface to 7723 ft. At 7723 ft tag and observe restriction to pass. Attempted Several times and pass from 7715 ft. WTF operator perform maneuver to pass without success.

January 08th, 2013

00:00 – 02:30	WTF begin log from 7899 ft to 7715 ft & continue POOH logging tool to surface. L/D Logging tools, lubricator, pulleys and equipment. Decided to run TDL (Thru Drill Pipe Logging) to reach bottom hole and logging.
02:30 – 04:00	Pepesa crew R/D 13 5/8" flange with 7 1/16" WTF adapter. P/U belt nipple & sleeve flowline.
04:00 – 14:00	M/U & RIH 5" Mule Shoe, 5" DP to 9800 ft to run TDL, previously all 5" DP was run rabbit (2.6"), Fill pipe each 1000 ft, and tag DP at 7720 ft and 8040 ft. the last 10 stands was wash down to bottom hole as a caution with 400 gpm, 1500 psi.
14:00 – 16:00	Circulate with 500 gpm, 2180 psi and 60 rpm. Pump 40 bbl viscosity pill, 120 sec/qt, displace and continue circulate up to clean shakers with 550 gpm, 2550 psi.
16:00 – 16:30	POOH 5" DP from 9800 ft to 8475 ft (mule shoe).
16:30 – 18:30	Connect 4 1/2" IF x 7 1/16" adapter to install lubricator. WTF R/U pulleys and logging equipment on rig floor.
18:30 – 20:00	M/U WTF logging tools (CMI:caliper, MDL:Resistivity, GPD: Density, MDN: Neutrón). RIH logging tools thru 5" DP (TDL) to 8470 ft, correlate depth, calibrate and check tools.
20:00 – 21:30	RIH WTF logging tools to 9785 ft and begin logging from 9785 ft to 9500 ft. Wireline drum stop due present problems with WTF Hydraulic generator logging cabin.
21:30 – 00:00	WTF, Pepesa and ITS mechanics, attempt to repair the hydraulic generators of logging cabin, without success (NPT for WTF).

January 09th, 2013

00:00 – 17:00	WTF, Pepesa and ITS mechanics, continue attempt to repair the hydraulic generators of logging cabin, without success. (NPT for WTF). Meanwhile Pepesa driller move TD upwards and downwards, Waiting WTF mechanics and hydraulic generator spare part.
17:00 – 20:00	Arrive to location Ferreyros technician, review WTF generators and find a burned sensor and fuel pump inoperative.
20:00 – 22:30	Condition platform to locate the logging wireline.
22:30 – 23:00	Perform safety and operating meeting with WTF, Pepesa and Savia crew to recover wireline and logging tools with TD.
23:00 – 00:00	WTF & Pepesa organize rig floor and install "T" to support logging wireline and WTF operator take tension and weight.

January 10th, 2013

00:00 – 02:30	Pepesa & WTF crew organize rig floor, condition 2 clamps type "T" (bolts and nuts test). Install T clamps and perform tension test, ok.

	WTF Engineers takes measure of wireline by each run of TD (87 ft by TD run) and calibrate depth.
02:30 – 09:30	WTF & Pepesa recover wireline from 9760 ft to 6300 ft, WTF trip speed to pick up wireline in open hole 25 ft/min, WTF Engineers perform tension control locate on the head logging tools. (weak point set at 6 klb) and monitoring the Martin Decker parameters. Pepesa organize log wireline on platform.
09:30 – 10:30	"T" Clamps present cross threads of bolts and nuts, Pepesa welder change bolts and nuts of T Clamps.
10:30 – 11:00	Pepesa perform crew change, perform safety and operation meeting to continue recover wireline.
11:00 – 14:30	Continue WTF & Pepesa recover wireline from 6300 ft to 5600 ft, WTF Engineers continue monitoring tension control on head logging tools and Martin Decker parameters. Pepesa continue organize log wireline on platform.
14:30 – 15:30	Change maneuver (install dead line and pulleys on rig floor) to recover 175 ft of wireline by each run of TD, perform test, ok.
15:30 – 21:30	Continue WTF & Pepesa recover wireline from 5600 ft to surface, WTF Engineers continue monitoring tension control on head logging tools and Martin Decker parameters. Pepesa continue organize log wireline.
21:30 – 22:30	WTF crew recover all wireline and L/D logging tools (CMI, MDL, GPD & MDN), lubricator, pulleys and equipment.
22:30 – 00:00	Pepesa connect TD on drill pipe string and circulate to break gels and continue circulate with 300/500 gpm, 1100/1650 psi. Continue circulation to displace bottom gas units (1500 U).

January 11th, 2013

00:00 – 02:00	Wash down from 8460 ft to 9800 ft with 400 gpm, 1100 psi and 70 rpm.
02:00 – 05:30	Mud Engineer perform treatment and conditioning with caustic soda, dispersant, hydrates and adjust MW: 11.8 ppg of the mud system. Circulate with 500 gpm, 2100 psi and 75 rpm. Pump 40 bbl sweep pill, 140 sec/qt, displace and circulate up to clean shakers.
05:30 – 11:30	POOH 5" DP from 9800 ft to 1000 ft with normal drag. Perform flow check at 5800 ft and 1000 ft by 10 min, ok.
11:30 – 12:30	Pepesa crew cut and slip 120 ft 1 1/4" drilling lines.
12:30 – 13:30	Continue POOH 5" DP from 1000 ft to surface, L/D mule shoes.
13:30 – 14:00	M/U 5" DP and running tool to recover wear bushing, L/D running tool and 5" DP.
14:00 – 15:00	Pepesa L/D hawk jaw and condition rig floor, change 5" hyd elevator by 5.5" elevator and change 5 ft links by 15 ft links. R/U ITS 5 1/2" csg running tools (Install hydraulic power tong, side door elevator and spider) on rig floor.
15:00 – 15:30	Perform safety & operational meeting with Pepesa, ITS, Tranmarsa, TGT & Savia personnel to run 5.5" csg.
15:30 – 16:00	P/U & M/U 5.5" drillable float shoe, 2 jt 5.5" csg 17 ppf, N-80, BTC. Install 2 SR centralizer & install 5.5" drillable float collar 17 ppf, N-80, BTC. Perform float collar test, ok.
16:00 – 00:00	Run 155 jts 5.5" csg, 17 ppf, N-80, BTC at 5855 ft. Fill pipe each 500 ft. Install 32 bowl spring & 16 semi rigid centralizers.

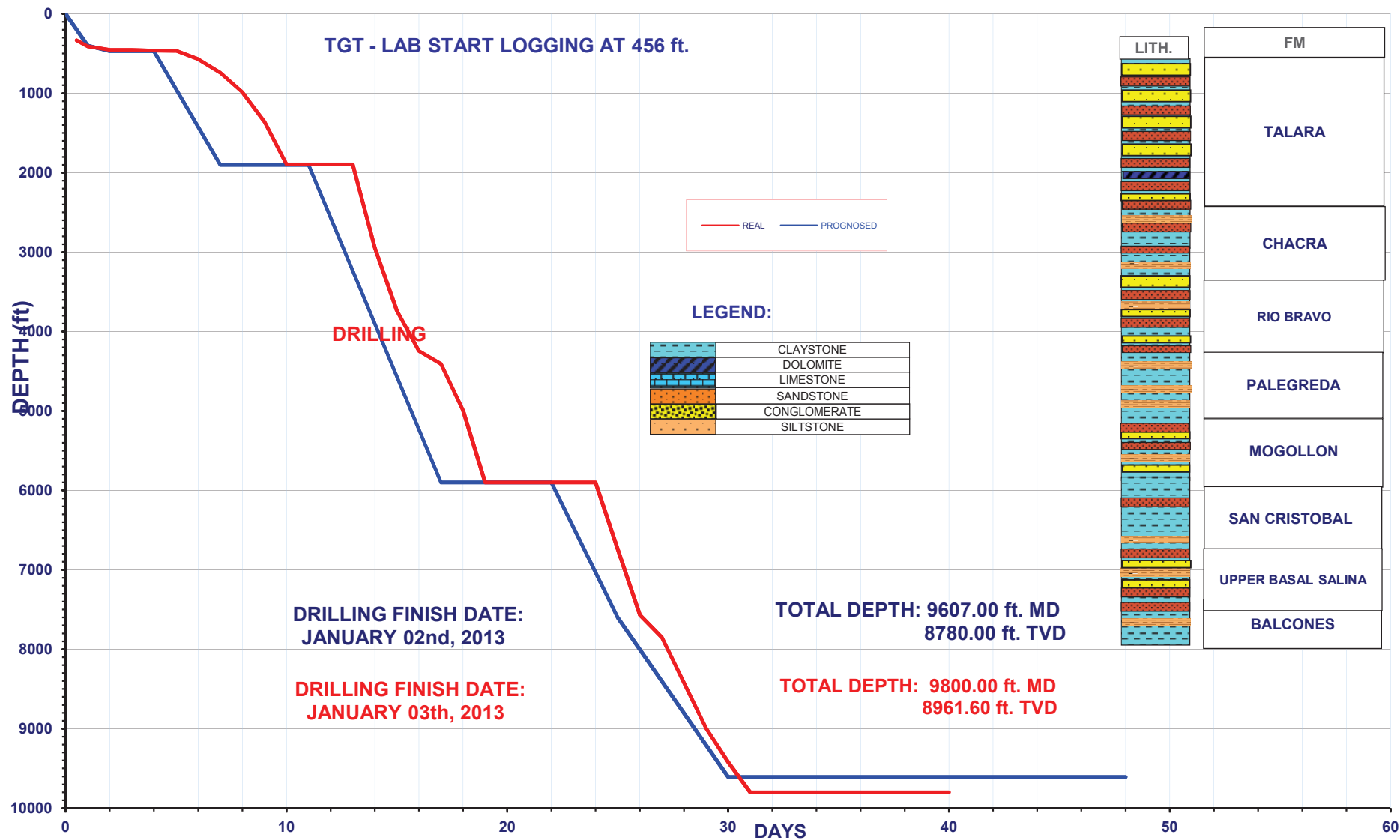
January 12th, 2013

00:00 – 00:30	Circulate at 5855 ft to broke gels with 300 gpm and 400 psi.
00:30 – 01:00	ITS and Pepesa crew change side door elevator by spider, install fill up tool. While continue circulate with 300 gpm and 400 psi.
01:00 – 05:00	Run 224 jts 5.5" csg, 17 ppf, N-80, BTC at 8480 ft. Install 39 bowl spring & 17 semi rigid centralizers.
05:00 – 05:30	At 8480 ft, circulate to broke gels and circulate with 270 gpm and 400 psi.
05:30 – 07:00	Run 259 jts 5.5" csg, 17 ppf, N-80, BTC at 9767 ft. Install 39 bowl spring & 17 semi rigid centralizers.
07:00 – 09:30	Last joint No 259, 5.5" csg wash down to 9800 ft (csg shoe at 9798 ft) with 300 gpm and 280 psi.
09:30 – 11:00	Circulate with 320 gpm and 440 psi. Reciprocate 5.5" csg string up to 10 ft on rig floor, parameters D/U 280 lkb, D/D 140 klb, HL 230 klb. Medomack cement barge arrive to location at 09:40 hrs, Halliburton crew M/U cement lines from Medomack to rig floor, P/U cement lines, valves and quick latch cement head.
11:00 – 12:00	Stop circulation. L/D csg spider, fillup tool and spider elevator. M/U Side door elevator, install quick latch cement head, cement lines and valves.
12:00 – 13:00	Continue circulate and reciprocate on bottom with 280 gpm, 500 psi, with full return by shakers. Perform safety and operation meeting with Pepesa, Halliburton, TGT, Tramarsa and Savia crew.
13:00 – 13:30	Halliburton perform cement lines test w/ 3150 psi by 10 min, ok.
13:30 – 15:30	Begin cement job: Pump 60 bbl mud 11.8 ppg of low rheology, pump 20 bbl Mud Flush 8.4 ppg w/5 bpm, 470 psi, 50 bbl Turned Spacer 12.7 ppg w/5bpm, 450 psi. Drop bottom plug. Halliburton technician begin mixs cement and pump 284 bbl Halcem V, 13.5 ppg w/5 bpm, press 730 - 480 psi. pump 84 bbl ExpandaCem V, 15.2 ppg w/4 bpm, press 780 - 500 psi. Observed by shakers full return.
15:30 – 17:00	Drop top plug and displace w/227 bbl of mud 11.8 ppg w/7 - 2 bpm 600 - 980 psi, perform bump plug from 980 psi to 1500 psi by 5 min. Perform back flow 1.5 bbl, float collar valve, ok. leave closed cement head to ensure back flow. Csg shoe: 9798 ft, Float Collar: 9725 ft. Total cement used 1332 sxs (PacasmayoV).
17:00 – 18:30	WOC while Halliburton L/D cement lines and Pepesa untight riser bolts. L/D kill line, HCR, lines and hydraulics lines from Koomy. L/D Bell nipple and flow line sleeve.
18:30 – 20:00	Perform maneuver to lift 13 5/8" BOP stack, set casing hanger (slips) with 190 klb, ok.
20:00 – 23:00	Open Halliburton quick latch cement head, ok. L/D cement head, cut & retrieve 5.5" landing joint. N/D BOP 13 5/8" X 5M, drilling spool 13 5/8" x 5M, riser 13 5/8" x 5M.
23:00 – 00:00	Pepesa welder cut & bevel 5.5" casing and install tubing spool (section "C"). tighten bolts.

CURVA DE PERFORACIÓN



DRILLING PROGRESS CURVE WELL : LO6-26XD



PROPIEDADES DE LODO

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Date	12-08-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012										
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	467 / 467 ft										
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura	Rig Name	PEPESA 40										
Contractor	PEPESA	County		Rig Activity	Operaciones en Superficie										
Contractor Rep	PEDRO GUERRERO	Field or Block	LOBITOS/	Unit System	WSE API(Copy)										
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)	Pumps	1	2	3						
Bit Size	in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO			
Make/Type					C	18.000	@	448	Bore	in	6.500	6.500			
Jets					Strokes	in	12.000	12.000	10.000						
TFA	in2				Eff (%)	95	95	95							
Jets Velocity	ft/s				bbl/strk	0.117	0.117	0.097							
Jet Impact Force	lb				SPM	0	0								
Bit HHSI	hhp/in2	gpm bbl/min	0 0.00	0 0.00	0 0.00	Circulation/Hydraulics Data									
Bit Depth MD	ft	Riser			Open Hole			BU Time min	AV, Riser	Circ Press psi					
Bit Depth TVD	ft							Total Circ Time	AV min DP	Press Drop DP					
RPM Bit	rpm							BU Strokes	AV max DC	Press Drop An					
RPM Surface	rpm							Total Strokes	ECD@Shoe	Press Drop @ Bit					
Torque	ft-lbf							Total GPM	ECD@Bit	Tot Pres Loss					
WOB	lbm														
Properties		1	2	Hyd 3	4	Targets	Program								
Fluid Set		AQI IAGEL / Chemi	AQI IAGEL / Chemi	AQI IAGEL / Chemi					Fluid Type						
Source		Active Pit 1	Active Pit 1	Active Pit 1					AQUAGEL / Chemical						
Time		6:00	16:00	23:59					Las propiedades del fluido se mantienen de acuerdo a lo programado. Se recibio los siguientes productos quimicos: Aldacide G, Barolift, Aktaflo S, SAPP, EZ Spot, Clayseal Plus, Dextrid, N-Seal, Barofibre Coarse, Defoamer Silicone y Pac-L.						
Depth (MD/TVD)	ft	465/465	467/467	467/467											
FL Temp	°F	100	100	100											
Density @ °F	ppg	8.90@90	8.90@90	8.90@90											
FV @ °F	sec/qt	46@90	46@90	46@90											
PV @ °F	cp	8	8	8											
YP	lbs/100ft2	18	18	18											
GELS	lbs/100ft2	8/24/30	8/25/31	8/25/31											
600/300		34.0/26.0	34.0/26.0	34.0/26.0											
200/100		22.0/18.0	21.0/17.0	21.0/17.0											
6/3		9.0/8.0	9.0/8.0	9.0/8.0											
Filtrate (API)	mL/30min														
HTHP @ °F	mL/30min														
Cake (API/HTHP)	32nd in														
Corr Solid	% by vol	2.8	2.8	2.8											
NAP / Water	% by vol	0.0/97.0	0.0/97.0	0.0/97.0											
NAP / Water Ratio															
Sand	% by vol														
MBT	ppb eq.	8.0	8.0	8.0											
pH @ °F		8.9@90	8.9@90	8.9@90											
ALK Mud (Pm)	mL														
ALK Filt (Pf/Mf)	mL														
Chlorides	mg/L														
Total Hardness	mg/L														
LGS / HGS	% by vol	1.2/1.6	1.2/1.6	1.2/1.6											
LGS / HGS	ppb	10.77/23.23	10.77/23.23	10.77/23.23											
ASG	SG	3.515	3.515	3.515											
Additional Properties									Rig Activity						
Product Name		Units	Start	Rec	Used	End	Cost	Solids Control Equipment				Time			
Senior Mud Engineer	DAY				1		\$550.00	Shaker		Screens	Hrs	Misc	24.0		
Junior Mud Engineer	DAY				1		\$400.00	ALS II ALS II VSM-100 VSM-100 VSM-100		80 80 100 140 80 80 100 140 80 80 140 140		Btms Up Time			
Lab Trailer	DAY				1		\$100.00					BU Time			
AKTAFLO-S	55 Gal DRUM			4		4						Circulating			
ALDACIDE G	5 Gal CAN			32		32						Coring			
BARAZAN D PLUS	25 lbm BAG	80				80		Hydrocyclone		Cones	Screens	Hrs	CutOffDrilling		
BARITE G	100 lbm BAG	720				720				12 - 4		2 - 12	175 175 175 230	Dir Work	
BAROFIBRE COARSE	40 lbm BAG			60		60						Drilling			
BAROLIFT	15 lbm BOX			5		5						Fishing			
Carbonato de Calcio M250	40 kg BG	240				240		Mud conditioner		12 - 4		2 - 12		Logging	
CAUSTIC SODA FLAKE	25 kg BAG	36				36								N. Up BOP	
CLAYSEAL PLUS	55 Gal DRUM			15		15								Plug Back	
Costo barril etapa 20"	0 bbl BARREL	14				14								Reaming	
Costo por barril etapa 12 1/4"	0 bbl BARREL	2,120				2,120		Centrifuge		Speed		Feed Rate		Other	
Costo por barril etapa 17"	0 bbl BARREL	1,266				1,266								Total	
Costo por barril etapa 8 1/2"	0 bbl BARREL	1,951				1,951								Rotating	
DEFOAMERS SILICONE	5 Gal CAN			24		24								ROP	
DEXTRID	50 lbm BAG			54		54		Fluid Volume Breakdown		Primary Active Fluid: AQUAGEL / Chemical				Dil Rate	
EZ SPOT	55 Gal DRUM	4				4				Active	bbl	Additions	bbl	Losses	bbl
KWIK SEAL MEDIUM	40 lbm BAG	59				59				Annulus		Base		Fluid Dumped	
N-SEAL	30 lbm BAG			48		48									
PAC R	50 lbm BG	37				37									
PAC-L	50 lbm BAG			40		40									
SAPP	25 kg BAG			40		40		Total Hole		129.3		Dewatering			
SODIUM BICARBONATE	25 kg BAG	37				37									
X-TEND II	2 lbm BAG	19				19									
								Active Pits		494.7		Sea Water			
								Total Circ		494.7		Whole Mud			
								Reserve*		200.0		Barite			
								Prev Vol*		823.9		Chemicals			
								Net Change*				Other			
								Total Vol*		824.0		Total			
Active		Fluid Type		Vol bbl		Deviation Information									
Primary Active		In Hole		Reserve		Survey Date									
☑ AQUAGEL / Chemical*		129.3		200.0		Survey MD									
						Survey TVD									
						Angle									
						Direction									
						Horiz Displ.									
						ft									

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Date	12-11-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012							
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	986 / 986 ft							
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura	Rig Name	PEPESA 40							
Contractor	PEPESA	County		Rig Activity	Tripping							
Contractor Rep	PEDRO GUERRERO	Field or Block	LOBITOS/	Unit System	WSE API(Copy)							
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)		Pumps		1	2	3	
Bit Size	17.000 in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO
Make/Type	SMITH / FH16H	Drill Pipe	5.000	4.276	430	C	18.000	@	448	Bore	6.500	6.500
Jets	3x16 1x15	Drill Collar	6.500	2.500	96					in	12.000	12.000
TFA	0.762 in2	Drill Collar	8.000	2.500	96					in	12.000	10.000
Jets Velocity	ft/s	Motor	8.000		27					Eff (%)	95	95
Jet Impact Force	lb	Bit			1					bbl/strk	0.117	0.097
Bit HHSI	hhp/in2									SPM		
Bit Depth MD	650 ft									gpm bbl/min	0 0.00	0 0.00
Bit Depth TVD	650 ft											
RPM Bit	rpm	Riser			Open Hole			Circulation/Hydraulics Data				
RPM Surface	rpm				Open Hole			17.000	538	BU Time min	AV, Riser	Circ Press psi
Torque	ft-lbf									Total Circ Time	AV min DP	Press Drop DP
WOB	lbm									BU Strokes	AV max DC	Press Drop An
										Total Strokes	ECD@Shoe	9.20 Press Drop @ Bit
										Total GPM	ECD@Bit	9.20 Tot Pres Loss
Properties		1	2	Hyd 3	4	Targets		Program		Fluid Treatments		
Fluid Set		AQIAGEL / Chemical	AQIAGEL / Chemical	AQIAGEL / Chemical						Fluid Type		
Source		Active Pit 1	Active Pit 1	Active Pit 1						AQUAGEL / Chemical		
Time		6:00	17:00	23:59						Efectua tratamiento al fluido de acuerdo a las variables operativas. Bombeo 30 bbl de pildora viscosa de 9.2 ppg y 100 sec/qt.		
Depth (MD/TVD)		ft 798/798	900/900	986/986								
FL Temp		°F 100	100	100								
Density @ °F		ppg 9.10@90	9.20@90	9.20@90								
FV @ °F		sec/qt 46@90	47@90	47@90								
PV @ °F		cp 13@120	12@120	12@120								
YP		lbs/100ft2 22	22	22								
GELS		lbs/100ft2 9/25/30	9/25/30	9/26/32								
600/300		48.0/35.0	46.0/34.0	46.0/34.0								
200/100		28.0/22.0	28.0/22.0	27.0/21.0								
6/3		10.0/9.0	10.0/9.0	10.0/9.0								
Filtrate (API)		mL/30min 6.0	6.0	6.0								
HTHP @ °F		mL/30min										
Cake (API/HTHP)		32nd in 1/0	1/0	1/0								
Corr Solid		% by vol 3.8	3.8	3.8								
NAP / Water		% by vol 0.0/96.0	0.0/96.0	0.0/96.0								
NAP / Water Ratio												
Sand		% by vol 0.25	0.25	0.25								
MBT		ppb eq. 12.5	15.0	15.0								
pH @ °F		8.9@90	8.9@90	8.9@90								
ALK Mud (Pm)		mL 0.42	0.39	0.39								
ALK Filt (Pf/Mf)		mL 0.20/0.62	0.21/0.65	0.22/0.63								
Chlorides		mg/L 300	300	300								
Total Hardness		mg/L 100	100	100								
LGS / HGS		% by vol 1.7/2.1	1.0/2.8	1.0/2.8								
LGS / HGS		ppb 15.50/30.22	8.68/41.24	8.68/41.24								
ASG		SG 3.475	3.794	3.794								
Additional Properties												

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Date	12-13-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012								
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	1,896 / 1,896 ft								
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura	Rig Name	PEPESA 40								
Contractor	PEPESA	County		Rig Activity	Tripping								
Contractor Rep	PEDRO GUERRERO	Field or Block	LOBITOS/	Unit System	WSE API(Copy)								
Bit Information		Drill String (in) / (ft)		Casing (in) / (ft)	Pumps	1	2	3					
Bit Size	in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO	
Make/Type					C	18.000	@	448	Bore	in	6.000	6.000	
Jets									Strokes	in	12.000	12.000	10.000
TFA	in2								Eff (%)		95	95	95
Jets Velocity	ft/s								bbl/strk		0.100	0.100	0.083
Jet Impact Force	lb								SPM				
Bit HHSI	hhp/in2								gpm bbl/min	0 0.00	0 0.00	0 0.00	
Bit Depth MD	ft								Circulation/Hydraulics Data				
Bit Depth TVD	ft	Riser			Open Hole				BU Time min	AV, Riser	Circ Press psi		
RPM Bit	rpm				Open Hole 17.000 1,448				Total Circ Time	AV min DP	Press Drop DP		
RPM Surface	rpm								BU Strokes	AV max DC	Press Drop An		
Torque	ft-lbf								Total Strokes	ECD@Shoe 9.80	Press Drop @ Bit		
WOB	lbm								Total GPM	ECD@Bit 9.80	Tot Pres Loss		
Properties		1	2	Hyd 3	4	Targets		Program	Fluid Treatments				
Fluid Set		AQIAGEL / Chemical	AQIAGEL / Chemical	AQIAGEL / Chemical					Fluid Type AQUAGEL / Chemical				
Source		Active Pit 1	Active Pit 1	Active Pit 1					Observa fuerte incremento de contenido arcilloso. Lava tanques de ECS y envia 250 bbls a Dewatering. Prepara, bombea y desplaza a superficie 4 pidoras viscosas: 30 bbls, 9.4 ppg x100 seg perforando a 1540 ft, una pildora de 60 bbls de 9.4 ppg x 100 segs, una pildora de 60 bbls de 9.8 ppg x 100segs y una cuarta de 30 bbls de 9.8 ppg x 100 segs, al llegar a TD 1896 ft de acuerdo al programa del representante de la Operadora Savia Peru.				
Time		12:00	18:00	23:59									
Depth (MD/TVD)	ft	1,896/1,896	1,896/1,896	1,896/1,896									
FL Temp	°F	100	100	100									
Density @ °F	ppg	9.40@90	9.80@90	9.80@90									
FV @ °F	sec/qt	47@90	52@90	52@90									
PV @ °F	cp	13@120	15@120	15@120									
YP	lbs/100ft2	20	24	24									
GELS	lbs/100ft2	9/28/32	10/34/40	10/34/41									
600/300		46.0/33.0	54.0/39.0	54.0/39.0									
200/100		25.0/18.0	28.0/22.0	27.0/22.0									
6/3		10.0/9.0	11.0/10.0	11.0/10.0									
Filtrate (API)	mL/30min	6.0	6.0	6.0					Rig Activity				
HTHP @ °F	mL/30min												
Cake (API/HTHP)	32nd in	1/0	1/0	1/0									
Corr Solid	% by vol	4.8	6.8	6.8									
NAP / Water	% by vol	0.0/95.0	0.0/93.0	0.0/93.0									
NAP / Water Ratio													
Sand	% by vol	0.25	0.25	0.25									
MBT	ppb eq.	20.0	20.0	20.0									
pH @ °F		9.5@90	9.5@90	9.5@90									
ALK Mud (Pm)	mL	0.49	0.47	0.47									
ALK Filt (Pf/Mf)	mL	0.24/0.51	0.23/0.58	0.24/0.58					Continua perforando desde 1358 ft hasta 1600 ft, se bombeo 30 bbl de pildora viscosa de 9.4 ppg y 100 sec/qt a 1540 ft. Continuo perforando hasta 1896 ft. Bombeo 60 bbl pildora viscosa de 9.4 ppg y 100 sec/qt, circula pozo a 1896 ft. Continua circulando y bombea otra pildora viscosa de 60 bbl con 9.8 ppg y 100 sec/qt. Continua circulando pozo a 1896 ft. Bombea 30 bbl pildora viscosa de 9.8 ppg y 100 sec/qt. Comienza a sacar tubería desde 1896 ft hasta superficie. Al cierre, comienza a bajar tubería.				
Chlorides	mg/L	300	300	300									
Total Hardness	mg/L	100	100	100									
LGS / HGS	% by vol	1.5/3.3	2.5/4.3	2.5/4.3									
LGS / HGS	ppb	13.32/48.51	22.59/63.05	22.59/63.05									
ASG	SG	3.708	3.613	3.613									
Additional Properties													

Date	12-14-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012								
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	1,896 / 1,896 ft								
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura	Rig Name	PEPESA 40								
Contractor	PEPESA	County		Rig Activity	Run casing and cement								
Contractor Rep	RIGOBERTO COVENAS	Field or Block	LOBITOS/	Unit System	WSE API(Copy)								
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)	Pumps	1	2	3				
Bit Size	in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO	
Make/Type					C	18.000	@	448	Bore	in	6.000	6.000	6.000
Jets					Strokes	in	12.000	12.000	10.000				
TFA	in2				Eff (%)	95	95	95					
Jets Velocity	ft/s				bbl/strk	0.100	0.100	0.083					
Jet Impact Force	lb				SPM								
Bit HHSI	hhp/in2	gpm bbl/min	0 0.00	0 0.00	0 0.00	Circulation/Hydraulics Data							
Bit Depth MD	ft	Riser			Open Hole			BU Time min	AV, Riser	Circ Press psi			
Bit Depth TVD	ft				Open Hole 17.000 1,448			Total Circ Time	AV min DP	Press Drop DP			
RPM Bit	rpm							BU Strokes	AV max DC	Press Drop An			
RPM Surface	rpm							Total Strokes	ECD@Shoe 9.80	Press Drop @ Bit			
Torque	ft-lbf							Total GPM	ECD@Bit	Tot Pres Loss			
WOB	lbm												
Properties		1	2	Hyd 3	4	Targets		Program		Fluid Treatments			
Fluid Set	AQIAGEL / Chemical	AQIAGEL / Chemical	AQIAGEL / Chemical							Fluid Type AQUAGEL / Chemical			
Source	Active Pit 1	Active Pit 1	Active Pit 1							Termina de sacar sarta direccional a superficie libre. monta Assy de reconocimiento con broca de 17" y baja a fondo perforado 1896 ft. Circula, bombea 50 bbls de pildora viscosa de 9.8 ppg x 100 segs y circula a superficie. Efectua prueba de diametro promedio y saca sarta a superficie. Efectua preparativos para bajar Csg 13 3/8" y baja mismo TD 1896 ft. Circula pozo acondicionando para Cementacion.			
Time	6:00	21:00	23:59										
Depth (MD/TVD)	ft 1,896/1,896	1,896/1,896	1,896/1,896										
FL Temp	°F 100	100	100										
Density @ °F	ppg 9.80@90	9.80@90	9.80@90										
FV @ °F	sec/qt 46@90	46@90	45@90										
PV @ °F	cp 14@120	15@120	14@120										
YP	lbs/100ft2 22	20	20										
GELS	lbs/100ft2 9/30/35	9/27/32	9/27/32										
600/300	50.0/36.0	50.0/35.0	48.0/34.0										
200/100	25.0/19.0	26.0/19.0	25.0/18.0										
6/3	10.0/9.0	9.0/8.0	9.0/8.0										
Filtrate (API)	mL/30min 6.0	6.0	6.0										
HTHP @ °F	mL/30min												
Cake (API/HTHP)	32nd in 1/0	1/0	1/0										
Corr Solid	% by vol 6.8	6.8	6.8										
NAP / Water	% by vol 0.0/93.0	0.0/93.0	0.0/93.0										
NAP / Water Ratio													
Sand	% by vol 0.15	0.15	0.15										
MBT	ppb eq. 20.0	20.0	20.0										
pH @ °F	9.5@90	9.4@90	9.4@90										
ALK Mud (Pm)	mL 0.51	0.44	0.46										
ALK Filt (Pf/Mf)	mL 0.23/0.56	0.25/0.58	0.25/0.58										
Chlorides	mg/L 300	300	300										
Total Hardness	mg/L 100	100	100										
LGS / HGS	% by vol 2.5/4.3	2.5/4.3	2.5/4.3										
LGS / HGS	ppb 22.59/63.05	22.59/63.05	22.59/63.05										
ASG	SG 3.613	3.613	3.613										
Additional Properties										Rig Activity			

Date	12-15-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012									
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	1,896 / 1,896 ft									
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura	Rig Name	PEPESA 40									
Contractor	PEPESA	County		Rig Activity	Operaciones en Superficie									
Contractor Rep	RIGOBERTO COVENAS	Field or Block	LOBITOS/	Unit System	WSE API(Copy)									
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)	Pumps	1	2	3					
Bit Size	in	OD ID Length			T OD Set MD	Model	BOMCO	BOMCO	BOMCO					
Make/Type					C 20.000 @ 448	Bore in	6.000	6.000	6.000					
Jets					C 13.375 @ 1,896	Strokes in	12.000	12.000	10.000					
TFA	in2					Eff (%)	95	95	95					
Jets Velocity	ft/s					bbl/strk	0.100	0.100	0.083					
Jet Impact Force	lb					SPM								
Bit HHSI	hhp/in2					gpm bbl/min	0 0.00	0 0.00	0 0.00					
Bit Depth MD	ft					Circulation/Hydraulics Data								
Bit Depth TVD	ft	Riser			Open Hole		BU Time min	AV, Riser	Circ Press psi					
RPM Bit	rpm						Total Circ Time	AV min DP	Press Drop DP					
RPM Surface	rpm						BU Strokes	AV max DC	Press Drop An					
Torque	ft-lbf						Total Strokes	ECD@Shoe 9.80	Press Drop @ Bit					
WOB	lbm						Total GPM	ECD@Bit	Tot Pres Loss					
Properties		1	Hyd 2	3	4	Targets	Program	Fluid Treatments						
Fluid Set		AQI IAGFI / Chemi	AQI IAGFI / Chemi					Fluid Type AQUAGEL / Chemical						
Source		Active Pit 1	Active Pit 1					Cia Halliburton termina de cementar. procede a limpieza de tanques del activo y reservva, canaletas, zarandas, pozuum belly y lineas auxiliares. Trata fluido en tanques de reserva con ECS.						
Time		12:00	23:59											
Depth (MD/TVD)	ft	1,896/1,896	1,896/1,896											
FL Temp	°F	100	100											
Density @ °F	ppg	9.80@90	9.80@90											
FV @ °F	sec/qt	46@90	46@90											
PV @ °F	cp	14@120	14@120											
YP	lbs/100ft2	20	20											
GELS	lbs/100ft2	9/25/30	9/25/31											
600/300		48.0/34.0	48.0/34.0											
200/100		25.0/19.0	25.0/19.0											
6/3		9.0/8.0	9.0/8.0											
Filtrate (API)	mL/30min	6.0	6.0											
HTHP @ °F	mL/30min													
Cake (API/HTHP)	32nd in	1/0	1/0											
Corr Solid	% by vol	6.8	6.8											
NAP / Water	% by vol	0.0/93.0	0.0/93.0											
NAP / Water Ratio														
Sand	% by vol	0.15	0.15											
MBT	ppb eq.	20.0	20.0											
pH @ °F		9.4@90	9.4@90											
ALK Mud (Pm)	mL	0.48	0.48											
ALK Filt (Pf/Mf)	mL	0.24/0.55	0.24/0.55											
Chlorides	mg/L	300	300											
Total Hardness	mg/L	100	100											
LGS / HGS	% by vol	2.5/4.3	2.5/4.3											
LGS / HGS	ppb	22.59/63.05	22.59/63.05											
ASG	SG	3.613	3.613											
Additional Properties								Rig Activity Continua con los trabajos de cementacion. Lava y desarma lineas, retira cabeza de cementacion. Fragua cemento, corta y retira tramo de casing de 13 3/8". Desarma diverter. Instala extension 13 3/8" x 5000, drilling spool, BOP 13 3/8" x 5000 y prueba pernos. Instala lineas HCR, Valvula y linea de Kill Line. Prueba de operatividad de BOP. Al cierre, Operaciones en superficie.						
Product Name		Units	Start	Rec	Used	End	Cost	Solids Control Equipment			Time			
Senior Mud Engineer		DAY			1		\$550.00	Shaker		Screens	Hrs	Misc	15.0	
Junior Mud Engineer		DAY			1		\$400.00	ALS II				Wait On Cemen	6.0	
Lab Trailer		DAY			1		\$100.00	ALS II				Cementing	3.0	
AKTAFLO-S		55 Gal DRUM	2			2		VSM-100		80 80 100 140		Btms Up Time		
ALDACIDE G		5 Gal CAN	32			32		VSM-100		80 80 100 140		BU Time		
BARAZAN D PLUS		25 lbm BAG	57			57		VSM-100		80 80 140 140		Circulating		
BARITE G		100 lbm BAG	1,120			1,120						Coring		
BAROFIBRE COARSE		40 lbm BAG	60			60						CutOffDrilling		
BAROLIFT		15 lbm BOX	5			5						Dir Work		
Carbonato de Calcio M250		40 kg BG	120			120		Hydrocyclone		Cones	Screens	Hrs	Drilling	
CAUSTIC SODA FLAKE		25 kg BAG	22			22		Mud conditioner		12 - 4	2 - 12	170 170 170 200	Fishing	
CLAYSEAL PLUS		55 Gal DRUM	14			14						Logging		
DEFOAMERS SILICONE		5 Gal CAN	24			24						N. Up BOP		
DEXTRID		50 lbm BAG	54			54		Centrifuge		Speed	Feed Rate	Hrs	Other	
EZ SPOT		55 Gal DRUM	4			4		Centrifuge 1434		4000			Total	24.0
KWIK SEAL MEDIUM		40 lbm BAG	59			59		Centrifuge 1458		4000			Rotating	0.0
N-SEAL		30 lbm BAG	48			48							ROP	
PAC R		50 lbm BG	19			19							Dil Rate	
PAC-L		50 lbm BAG	40			40								
SAPP		25 kg BAG	36			36								
SODIUM BICARBONATE		25 kg BAG	25			25								

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Date	12-17-2012 11:59:00 PM	Well Name	LO6-26XD						Spud Date	12-04-2012				
Operator	SAVIA PERU S.A	Country	Peru						Depth (MD/TVD)	2,940 / 2,940 ft				
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura						Rig Name	PEPESA 40				
Contractor	PEPESA	County							Rig Activity	Drilling				
Contractor Rep	RIGOBERTO COVENAS	Field or Block	LOBITOS/						Unit System	WSE API(Copy)				
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)			Pumps	1		2		3	
Bit Size	12.250 in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO		
Make/Type	HDBS / FM2845R	Drill Pipe	5.000	4.276	2,142	C	20.000	@	448	Bore	in	6.000	6.000	5.500
Jets	4x16 1x18	Drill Pipe	5.000	3.063	650	C	13.375	@	1,896	Strokes	in	12.000	12.000	10.000
TFA	1.034 in2	Drill Collar	6.500	2.500	120					Eff (%)		95	95	95
Jets Velocity	229.3 ft/s	Motor	8.000		27					bbl/strk		0.100	0.100	0.070
Jet Impact Force	888.3 lb	Bit	12.250		1					SPM		91	86	
Bit HHSI	1.74 hhp/in2									gpm bbl/min		381 9.07	360 8.57	0 0.00
Bit Depth MD	2,940 ft							Circulation/Hydraulics Data						
Bit Depth TVD	2,940 ft	Riser			Open Hole			BU Time min	20.5	AV, Riser		Circ Press psi	1,650	
RPM Bit	rpm				Open Hole 12.250 1,044			Total Circ Time	41.5	AV min DP	140.6	Press Drop DP	860	
RPM Surface	rpm							BU Strokes	3,621	AV max DC	168.4	Press Drop An	21	
Torque	ft-lbf							Total Strokes	7,352	ECD@Shoe	10.14	Press Drop @ Bit	474	
WOB	lbm							Total GPM	741	ECD@Bit	10.09	Tot Pres Loss	1,670	
Properties		1	Hyd 2	3	4	Targets			Program		Fluid Treatments			
Fluid Set		FZ-MUD/CLAYSEA	FZ-MUD/CLAYSEA								Fluid Type EZ-MUD/CLAYSEAL			
Source		Active Pit 1	Active Pit 1								Se acondiciono 300 bbl de fluido de la fase anterior y preparo 500 bbl de fluido EZ MUD / CLAYSEAL para comenzar la fase de 12 1/4". Preparo y bombeo dos pildoras viscosas de 30 bbl cada uno con 110 sec/qt. Se cambiaron mallas en el mud cleaner. El fluido se mantiene de acuerdo a lo programado.			
Time		14:00	23:59											
Depth (MD/TVD)	ft	2,595/2,595	2,940/2,940											
FL Temp	°F	100	100											
Density @ °F	ppg	10.00@90	10.10@90											
FV @ °F	sec/qt	46@90	47@90											
PV @ °F	cp	14@120	15@120											
YP	lbs/100ft2	18	20											
GELS	lbs/100ft2	9/20/26	9/21/26											
600/300		46.0/32.0	50.0/35.0											
200/100		24.0/19.0	26.0/21.0											
6/3		9.0/8.0	9.0/8.0											
Filtrate (API)	mL/30min	8.0	8.0											
HTHP @ °F	mL/30min													
Cake (API/HTHP)	32nd in	1/0	1/0											
Corr Solid	% by vol	7.8	7.8											
NAP / Water	% by vol	0.0/92.0	0.0/92.0											
NAP / Water Ratio														
Sand	% by vol	0.15	0.15											
MBT	ppb eq.	15.0	15.0											
pH @ °F		9.5@90	9.5@90											
ALK Mud (Pm)	mL	0.48	0.50											
ALK Filt (Pf/Mf)	mL	0.32/0.54	0.34/0.55											
Chlorides	mg/L	300	300											
Total Hardness	mg/L	120	120											
LGS / HGS	% by vol	3.0/4.8	2.2/5.5											
LGS / HGS	ppb	27.23/70.32	20.40/81.34											
ASG	SG	3.584	3.739											
Additional Properties											Rig Activity			
Product Name		Units	Start	Rec	Used	End	Cost	Solids Control Equipment				Time		
Senior Mud Engineer	DAY				1			Shaker		Screens	Hrs	Drilling	22.0	
Junior Mud Engineer	DAY				1			ALS II				Circulating	2.0	
Lab Trailer	DAY				1			ALS II				Btms Up Time		
CLAYSEAL PLUS	55 Gal DRUM	24			10	14		VSM-100		80 80 100 140	23.0	BU Time		
BARAZAN D PLUS	25 lbm BAG	57			15	42		VSM-100		80 80 100 140	23.0	Coring		
AKTAFLO-S	55 Gal DRUM	9			2	7		VSM-100		80 80 140 140	23.0	CutOffDrilling		
DEXTRID	50 lbm BAG	54			32	22						Dir Work		
EZ MUD DP	50 lbm BG	49			10	39						Fishing		
PAC-L	50 lbm BAG	40			6	34		Hydrocyclone		Cones	Screens	Hrs	Logging	
PAC R	50 lbm BG	19			4	15		Mud conditioner		12 - 4	2 - 12	170 170 170 170	23.0	
ALDACIDE G	5 Gal CAN	32			6	26							N. Up BOP	
SODIUM BICARBONATE	25 kg BAG	69			6	63							Plug Back	
CAUSTIC SODA FLAKE	25 kg BAG	62			6	56							Reaming	
BARITE G	100 lbm BAG	1,760			400	1,360		Centrifuge		Speed	Feed Rate	Hrs	Repair	
BAROFIBRE COARSE	40 lbm BAG	60				60		Centrifuge 1434		4000			Other	
BAROLIFT	15 lbm BOX	5				5		Centrifuge 1458		4000			Total	
BARO-LUBE GOLD SEAL	55 Gal DRUM	15				15							Rotating	
Carbonato de Calcio M250	40 kg BG	376			30	346							ROP	
DEFOAMERS SILICONE	5 Gal CAN	24				24		Fluid Volume Breakdown		Primary Active Fluid: EZ-MUD/CLAYSEAL				
EZ SPOT	55 Gal DRUM	4				4		Active	bbl	Additions	bbl	Losses	bbl	
KWIK SEAL MEDIUM	40 lbm BAG	59				59		Annulus	360.9	Base		Fluid Dumped		
LIGNOX PLUS	50 lbm BAG	50				50		Pipe Cap	43.9	Drill Water	70.0	Transferred		
N-SEAL	30 lbm BAG	48				48		Total Hole	404.9	Dewatering	380.0	SCE		
SAPP	25 kg BAG	36				36		Active Pits	327.9	Sea Water		Downhole		
STEELSEAL 100	50 lbm BAG	60				60		Total Circ	732.8	Whole Mud	300.0	Misc Other		
STEELSEAL 50	50 lbm BAG	42				42		Reserve*	70.0	Barite				
THERMA-THIN	5 Gal CAN	48				48		Prev Vol*		Chemicals	52.7			
WALLNUT SHELLS	50 lbm BAG	48				48		Net Change*	802.8	Other				
								Total Vol*	802.8	Total	802.7	Total Losses		
Active		Fluid Type		Vol bbl		Deviation Information								
Primary Active		In Hole		Reserve		Survey Date								
☒ EZ-MUD/CLAYSEAL*		404.9		70.0		Survey MD								
☐ AQUAGEL / Chemical						Survey TVD								
						Angle								
						Direction								
						Horiz Displ.								
						ft								

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Date	12-19-2012 11:59:00 PM	Well Name	LO6-26XD					Spud Date	12-04-2012						
Operator	SAVIA PERU S.A	Country	Peru					Depth (MD/TVD)	4,240 / 4,240 ft						
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura					Rig Name	PEPESA 40						
Contractor	PEPESA	County						Rig Activity	Drilling						
Contractor Rep	RIGOBERTO COVENAS	Field or Block	LOBITOS/					Unit System	WSE API(Copy)						
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)			Pumps		1		2		3	
Bit Size	12.250 in	OD	ID	Length	T	OD	Set	MD	Model		BOMCO	BOMCO	BOMCO		
Make/Type	HDBS / FM2845R	Drill Pipe	5.000	4.276	3,442	C	20.000	@	448	Bore	6.000	6.000	5.500		
Jets	4x16 1x18	Drill Pipe	5.000	3.063	650	C	13.375	@	1,896	Strokes	12.000	12.000	10.000		
TFA	1.034 in2	Drill Collar	6.500	2.500	120					Eff (%)	95	95	95		
Jets Velocity	248.8 ft/s	Motor	8.000		27					bbl/strk	0.100	0.100	0.070		
Jet Impact Force	1,086.6 lb	Bit	12.250		1					SPM	96	96			
Bit HHSI	2.31 hhp/in2									gpm bbl/min	402 9.57	402 9.57	0 0.00		
Bit Depth MD	4,240 ft							Circulation/Hydraulics Data (Simulated)							
Bit Depth TVD	4,240 ft	Riser			Open Hole			BU Time min	27.1	AV, Riser		Circ Press psi	2,500		
RPM Bit	55 rpm				Open Hole 12.250 2,344			Total Circ Time	49.5	AV min DP	152.6	Press Drop DP	1,270		
RPM Surface	rpm							BU Strokes	5,199	AV max DC	182.7	Press Drop An	31		
Torque	ft-lbf							Total Strokes	9,496	ECD@Shoe	10.64	Press Drop @ Bit	580		
WOB	19.5 lbm							Total GPM	804	ECD@Bit	10.64	Tot Pres Loss	2,258		
Properties		1	2	Hyd 3	4	Targets		Program		Fluid Treatments					
Fluid Set		E7-MUD/CLAYSEA	E7-MUD/CLAYSEA	E7-MUD/CLAYSEA						Fluid Type EZ-MUD/CLAYSEAL					
Source		Active Pit 2	Active Pit 2	Active Pit 1						Perfora arcilla y deflocula sistema con SAAP, alcalinidad y premix en tanque de reserva controlando filtrado con Pac R, Pac L y Dextrid. revoque ok. Densifica de acuerdo a curva de densidades. efectua tratamiento directo a sistema manteniendo propiedades. Evita centrifugar por encontrarse en formacion deplelada y fluido conteniendo sellante carbonato de calcio al momento. Cambia arreglo de mallas en Zarandas. Observa torque erratico de HTA. Incrementando peso 10.5 ppg, acompanado de N-Seal como agente puenteante, observando comportamiento de hoyo.					
Time		8:00	16:00	23:59											
Depth (MD/TVD)		ft 3,800/3,800	4,000/4,000	4,240/4,240											
FL Temp		°F 110	110	110											
Density @ °F		ppg 10.40@100	10.40@100	10.50@100											
FV @ °F		sec/qt 46@100	44@100	49@100											
PV @ °F		cp 18@120	12@120	14@120											
YP		lbs/100ft2 22	18	19											
GELS		lbs/100ft2 12/35/41	11/35/42	10/32/38											
600/300		58.0/40.0	42.0/30.0	47.0/33.0											
200/100		30.0/22.0	22.0/17.0	24.0/19.0											
6/3		12.0/11.0	11.0/10.0	10.0/9.0											
Filtrate (API)		mL/30min 8.0	8.0	8.0											
HTHP @ °F		mL/30min 32nd in 1/0	1/0	1/0											
Cake (API/HTHP)		% by vol 9.8	8.8	9.8											
Corr Solid		% by vol 0.0/90.0	0.0/91.0	0.0/90.0											
NAP / Water															
NAP / Water Ratio															
Sand		% by vol 0.15	0.20	0.25											
MBT		ppb eq. 20.0	20.0	20.0											
pH @ °F		9.0@100	9.3@100	9.3@100											
ALK Mud (Pm)		mL 0.38	0.41	0.42											
ALK Filt (Pf/Mf)		mL 0.16/0.77	0.22/0.67	0.25/0.54											
Chlorides		mg/L 300	300	300											
Total Hardness		mg/L 100	100	100											
LGS / HGS		% by vol 4.0/5.8	2.0/6.8	3.3/6.5											
LGS / HGS		ppb 36.50/84.85	18.21/99.64	29.68/95.88											
ASG		SG 3.544	3.835	3.667											
Additional Properties															

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Date	12-25-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012								
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	5,898 / 5,898 ft								
Operator Rep	DAVID LI,RAUL ROSALES	State	Piura	Rig Name	PEPESA 40								
Contractor	PEPESA	County		Rig Activity	Run casing and cement								
Contractor Rep	RIGOBERTO COVENAS	Field or Block	LOBITOS/	Unit System	WSE API(Copy)								
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)	Pumps	1	2	3				
Bit Size	in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO	
Make/Type					C	20.000	@	448	Bore	in	6.000	6.000	6.000
Jets					C	13.375	@	1,896	Strokes	in	12.000	12.000	10.000
TFA	in2				C	9.625	@	5,898	Eff (%)		95	95	95
Jets Velocity	ft/s									bbl/strk	0.100	0.100	0.083
Jet Impact Force	lb									SPM	90	90	
Bit HHSI	hhp/in2									gpm bbl/min	0 0.00	377 8.97	0 0.00
Bit Depth MD	ft				Circulation/Hydraulics Data								
Bit Depth TVD	ft	Riser			Open Hole			BU Time min		AV, Riser	Circ Press psi		
RPM Bit	rpm							Total Circ Time		AV min DP	Press Drop DP		
RPM Surface	rpm							BU Strokes		AV max DC	Press Drop An		
Torque	ft-lbf							Total Strokes		ECD@Shoe	10.80	Press Drop @ Bit	
WOB	lbm							Total GPM		ECD@Bit		Tot Pres Loss	
Properties		1	2	3	Hyd 4	Targets		Program		Fluid Treatments			
Fluid Set		FZ-MUD/CI AYSFA	FZ-MUD/CI AYSFA	FZ-MUD/CI AYSFA	FZ-MUD/CI AYSFA					Fluid Type	EZ-MUD/CLAYSEAL		
Source		Active Pit 1	Active Pit 1	Active Pit 1	Active Pit 1					Baja Csg 9 5/8" a TD y recibe fluido en sistema activo completo.Trata en superficie mismo para Cementacion. Cia Halliburton cementa Csg 9 5/8".			
Time		6:00	16:00	21:00	23:59								
Depth (MD/TVD)	ft	5,898/5,898	5,898/5,898	5,898/5,898	5,898/5,898								
FL Temp	°F	100	100	100	100								
Density @ °F	ppg	10.80@90	10.80@90	10.80@90	10.80@90								
FV @ °F	sec/qt	47@90	45@90	44@90	44@90								
PV @ °F	cp	16@120	15@120	16@120	15@120								
YP	lbs/100ft2	18	16	14	14								
GELS	lbs/100ft2	10/31/38	10/32/37	9/29/34	9/30/34								
600/300		50.0/34.0	46.0/31.0	46.0/30.0	44.0/29.0								
200/100		25.0/19.0	23.0/18.0	20.0/16.0	20.0/17.0								
6/3		10.0/9.0	10.0/9.0	9.0/8.0	9.0/8.0								
Filtrate (API)	mL/30min	8.0	8.0	8.0	8.0								
HTHP @ °F	mL/30min												
Cake (API/HTHP)	32nd in	1/0	1/0	1/0	1/0								
Corr Solid	% by vol	11.8	11.8	11.3	11.3								
NAP / Water	% by vol	0.0/88.0	0.0/88.0	0.0/88.5	0.0/88.5								
NAP / Water Ratio													
Sand	% by vol	0.12	0.10	0.12	0.12								
MBT	ppb eq.	20.0	20.0	20.0	20.0								
pH @ °F		9.5@90	9.4@90	9.4@90	9.4@90								
ALK Mud (Pm)	mL	0.52	0.43	0.43	0.44								
ALK Filt (Pf/Mf)	mL	0.38/0.66	0.32/0.56	0.31/0.55	0.35/0.68								
Chlorides	mg/L	300	300	300									
Total Hardness	mg/L	100	100	100	100								
LGS / HGS	% by vol	5.0/6.8	5.0/6.8	4.0/7.3	4.0/7.3								
LGS / HGS	ppb	45.77/99.39	45.77/99.39	36.63/106.78	36.54/107.04								
ASG	SG	3.517	3.517	3.630	3.631								
Additional Properties													

Date	12-26-2012 11:59:00 PM	Well Name	LO6-26XD	Spud Date	12-04-2012									
Operator	SAVIA PERU S.A	Country	Peru	Depth (MD/TVD)	5,898 / 5,898 ft									
Operator Rep	DAVID LI	State	Piura	Rig Name	PEPESA 40									
Contractor	PEPESA	County		Rig Activity	Operaciones en Superficie									
Contractor Rep	RIGOBERTO COVENAS	Field or Block	LOBITOS/	Unit System	WSE API(Copy)									
Bit Information		Drill String (in) / (ft)			Casing (in) / (ft)	Pumps	1	2	3					
Bit Size	in	OD	ID	Length	T	OD	Set	MD	Model	BOMCO	BOMCO	BOMCO		
Make/Type					C	20.000	@	448	Bore	in	6.000	6.000	6.000	
Jets					C	13.375	@	1,896	Strokes	in	12.000	12.000	10.000	
TFA	in2				C	9.625	@	5,898	Eff (%)		95	95	95	
Jets Velocity	ft/s								bbl/stk		0.100	0.100	0.083	
Jet Impact Force	lb								SPM		100			
Bit HHSI	hhp/in2								gpm bbl/min		419 9.97	0 0.00	0 0.00	
Bit Depth MD	ft				Circulation/Hydraulics Data									
Bit Depth TVD	ft				Riser			Open Hole			BU Time min	AV, Riser	Circ Press psi	500
RPM Bit	rpm							Total Circ Time	AV min DP	Press Drop DP				
RPM Surface	rpm							BU Strokes	AV max DC	Press Drop An				
Torque	ft-lbf							Total Strokes	ECD@Shoe	10.80	Press Drop @ Bit			
WOB	lbm							Total GPM	419	ECD@Bit	Tot Pres Loss			
Properties		Hyd 1	2	3	4	Targets	Program	Fluid Treatments						
Fluid Set		EZ-MUD/CLAYSEA							Fluid Type					EZ-MUD/CLAYSEAL
Source		Active Pit 1							Continuo Cementacion, con retorno de cemento a superficie, ok. Envia volumen de lodo contaminado con mezclas de cementacion a unidad de United. Limpia trampa y tk desarenador. Centrifuga para LGS tanques de reserva. de fluido recuperado. Acondiciona fluido en tanques de reserva para etapa 8 1/2".					
Time		23:59												
Depth (MD/TVD)	ft	5,898/5,898												
FL Temp	°F	100												
Density @ °F	ppg	10.80@90												
FV @ °F	sec/qt	45@90												
PV @ °F	cp	15@120												
YP	lbs/100ft2	14												
GELS	lbs/100ft2	9/29/34												
600/300		44.0/29.0												
200/100		23.0/18.0												
6/3		9.0/8.0												
Filtrate (API)	mL/30min	8.0												
HTHP @ °F	mL/30min													
Cake (API/HTHP)	32nd in	1/0												
Corr Solid	% by vol	11.3												
NAP / Water	% by vol	0.0/88.5												
NAP / Water Ratio														
Sand	% by vol	0.12												
MBT	ppb eq.	20.0												
pH @ °F		9.1@90												
ALK Mud (Pm)	mL	0.36												
ALK Filt (Pf/Mf)	mL	0.25/0.54												
Chlorides	mg/L	300												
Total Hardness	mg/L	100												
LGS / HGS	% by vol	4.0/7.3												
LGS / HGS	ppb	36.63/106.78												
ASG	SG	3.630												
Additional Properties									Cia. Halliburton continua con los trabajos de cementacion del Csg 9 5/8". Cia. Halliburton retira cabeza de cementacion y lineas. Realiza trabajos para sentar BOP. Corta y bisela Csg 9 5/8". Realiza prueba de operatividad del BOP. Prepara maniobra para corte de cable de perforar. Al cierre, operaciones en superficie.					
Product Name		Units	Start	Rec	Used	End	Cost	Solids Control Equipment				Time		
Senior Mud Engineer		DAY			1		\$550.00	Shaker		Screens	Hrs	Wait On Cemen	10.0	
Junior Mud Engineer		DAY			1		\$400.00	ALS II				Misc	9.0	
Lab Trailer		DAY			1		\$100.00	ALS II				Cementing	3.0	
AKTAFLO-S	55 Gal DRUM	4				4		VSM-100	200 200 230 230			Test BOP	2.0	
ALDACIDE G	5 Gal CAN	20				20		VSM-100	170 170 200 230			Btms Up Time		
BARACOR 100	55 Gal DRUM	1				1		VSM-100	170 170 230 325			BU Time		
BARAKLEAN FL PLUS	55 Gal DRUM	1				1						Circulating		
BARAZAN D PLUS	25 lbm BAG	10				10						Coring		
BARITE G	100 lbm BAG	920				920						CutOff/Drilling		
BAROFIBRE COARSE	40 lbm BAG	50				50		Hydrocyclone	Cones	Screens	Hrs	Dir Work		
BAROLIFT	15 lbm BOX	5				5		Mud conditioner	12 - 4	2 - 12	230 230 230 230	Drilling		
BARO-LUBE GOLD SEAL	55 Gal DRUM	15				15						Fishing		
Carbonato de Calcio M250	40 kg BG	64				64						Logging		
CAUSTIC SODA FLAKE	25 kg BAG	31				31		Centrifuge	Speed	Feed Rate	Hrs	Other		
CLAYSEAL PLUS	55 Gal DRUM	20				20		Centrifuge 1434	4000			Total	24.0	
DEFOAMERS SILICONE	5 Gal CAN	24				24		Centrifuge 1458	4000			Rotating	0.0	
EZ MUD DP	50 lbm BG	37				37						ROP		
EZ SPOT	55 Gal DRUM	4				4						Dil Rate		
KWIK SEAL MEDIUM	40 lbm BAG	59				59		Fluid Volume Breakdown		Primary Active Fluid: EZ-MUD/CLAYSEAL				
LIGNOX PLUS	50 lbm BAG	22				22		Active	bbl	Additions	bbl	Losses	bbl	
NO BLOK C	55 Gal DRUM	1				1		Annulus		Base		Fluid Dumped		
N-SEAL	30 lbm BAG	42				42		Pipe Cap		Drill Water		Transferred		
PAC R	50 lbm BG	81				81		Total Hole	439.2	Dewatering		SCE	-30.0	
PAC-L	50 lbm BAG	89				89		Active Pits		Sea Water		Downhole		
SAPP	25 kg BAG	17				17		Total Circ		Whole Mud		Misc Other		
SODIUM BICARBONATE	25 kg BAG	40				40		Reserve*	664.0	Barite				
STEELSEAL 100	50 lbm BAG	60				60		Prev Vol*	1,133.2	Chemicals				
STEELSEAL 50	50 lbm BAG	42				42		Net Change*	-30.0	Other				
THERMA-THIN	5 Gal CAN	48				48		Total Vol*	1,103.2	Total		Total Losses	-30.0	
Active		Fluid Type		Vol bbl		Deviation Information								
Primary Active		In Hole		Reserve		Survey Date								
EZ-MUD/CLAYSEAL*		439.2		664.0		Survey MD								
						Survey TVD								
						Angle								
						Direction								
						Horiz Displ.								

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

This report, the software, any data contained in this report and any interpretations based on this report are offered "as-is" and "where-is." There are no representations or warranties, expressed or implied, including implied warranties of merchantability and/or fitness for a particular purpose and/or non-infringement. In no event will Halliburton or its affiliates or suppliers be liable for any damages, whatsoever, including, but not limited to direct, indirect, consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits or use of hardware or software). Customer uses at their own risk.

Drilling Fluids - Fluid Properties Daily Report

Report 030: 01-02-2013

Properties	1	2	3 Hyd	4	5	6	7	8
Fluid Set	BARADRIL-N	BARADRIL-N	BARADRIL-N					
Source	Active Pit 1	Active Pit 1	Active Pit 1					
Time	9:00	17:00	23:59					
Depth (MD/TVD)	ft	9,000/9,000	9,046/9,046	9,420/9,420				
FL Temp	°F	115	115	115				
Density @ °F	ppg	11.80@110	11.80@110	11.80@110				
FV @ °F	sec/qt	54@110	56@110	53@110				
PV @ °F	cp	20@120	19@120	18@120				
YP	lbs/100ft2	21	21	19				
GELS	lbs/100ft2	8/27/32	9/34/39	9/32/38				
600/300		61.0/41.0	59.0/40.0	55.0/37.0				
200/100		32.0/21.0	31.0/22.0	28.0/20.0				
6/3		9.0/8.0	9.0/8.0	9.0/8.0				
Filtrate (API)	mL/30min	4.8	4.8	4.8				
HTHP @ °F	mL/30min							
Cake (API/HTHP)	32nd in	1/0	1/0	1/0				
NAP / Water	% by vol	0.0/81.0	1.0/81.0	1.0/81.0				
NAP / Water Ratio								
Sand	% by vol	0.10	0.10	0.10				
MBT	ppb eq.	20.0	20.0	20.0				
pH @ °F		9.0@100	9.0@100	9.2@100				
ALK Mud (Pm)	mL	0.44	0.45	0.43				
ALK Filt (Pf/Mf)	mL	0.35/0.78	0.33/0.77	0.34/0.77				
ALK Filt (P)	mL							
ALK Filt (P1/P2)	mL							
Chlorides	mg/L	300	300	300				
Total Hardness	mg/L	100	100	100				
Alkalinity	mL							
AgNO3	mL							
CaCl2	ppb							
THTS	mL							
Calcium	mg/L							
NaCl Sol	ppb							
NaCl Insol	ppb							
Excess Lime	ppb	0.04	0.05	0.04				
WPS	ppm							
Elec. Stability	V							
Corr Solid	% by vol	18.8	17.8	17.8				
LGS / HGS	% by vol	11.6/7.2	9.5/8.3	9.5/8.3				
LGS / HGS	ppb	105.53/106.17	86.39/122.36	86.39/122.36				
ASG	SG	3.214	3.347	3.347				

Drilling Fluids - Fluid Properties Daily Report

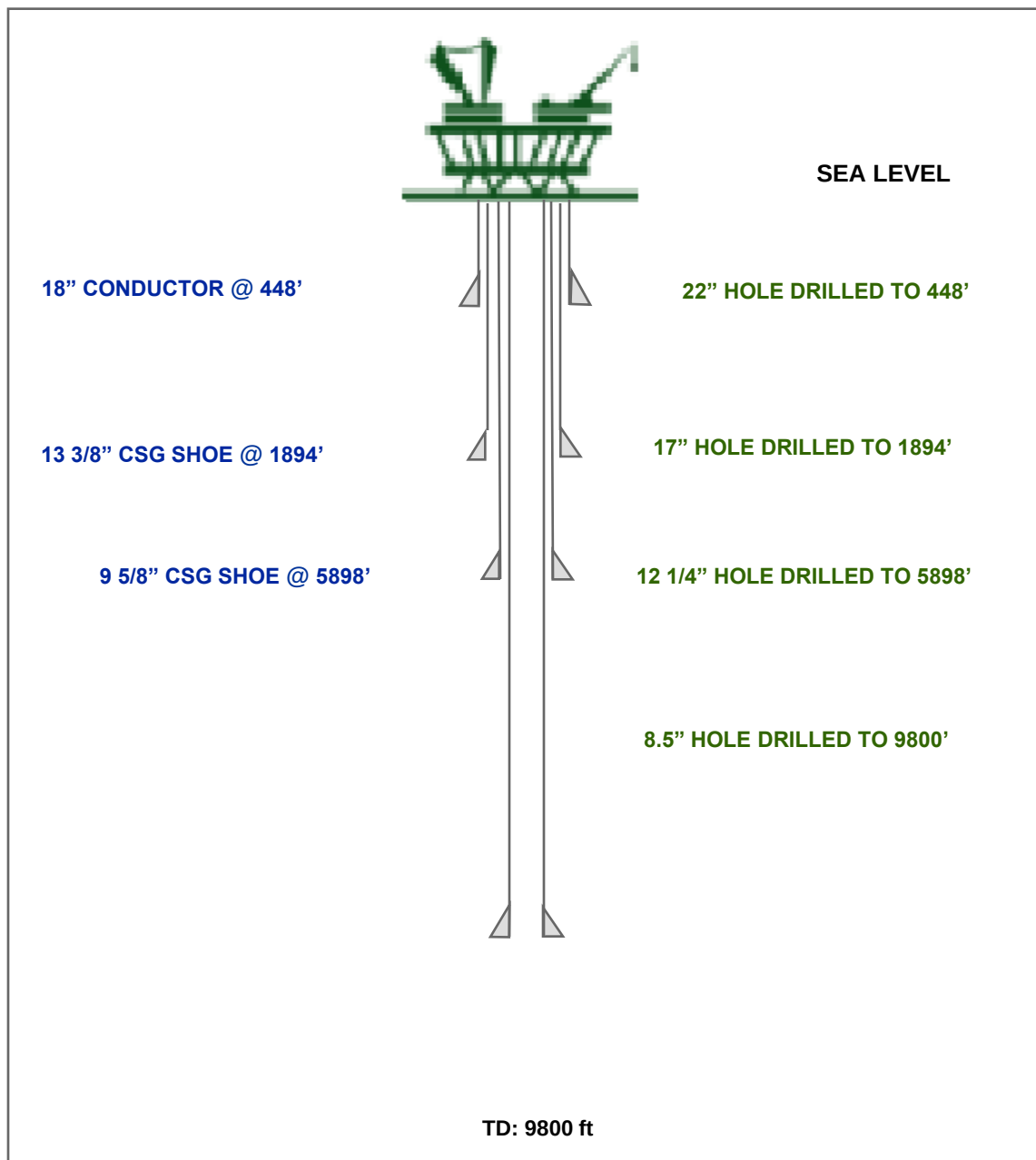
Report 031: 01-03-2013

Properties	1	2	3 Hyd	4	5	6	7	8
Fluid Set	BARADRIL-N	BARADRIL-N	BARADRIL-N					
Source	Active Pit 1	Active Pit 1	Active Pit 1					
Time	10:00	18:00	23:59					
Depth (MD/TVD)	ft	9,556/9,556	9,784/9,784	9,800/9,800				
FL Temp	°F	115	115	115				
Density @ °F	ppg	11.80@110	11.80@110	11.80@110				
FV @ °F	sec/qt	54@110	56@110	52@110				
PV @ °F	cp	20@120	22@120	20@120				
YP	lbs/100ft2	19	21	20				
GELS	lbs/100ft2	9/36/42	10/41/48	9/39/45				
600/300		59.0/39.0	65.0/43.0	60.0/40.0				
200/100		28.0/20.0	34.0/23.0	31.0/20.0				
6/3		9.0/8.0	10.0/9.0	9.0/8.0				
Filtrate (API)	mL/30min	4.8	4.8	4.8				
HTHP @ °F	mL/30min							
Cake (API/HTHP)	32nd in	1/0	1/0	1/0				
NAP / Water	% by vol	1.0/80.0	1.0/80.0	1.0/80.5				
NAP / Water Ratio								
Sand	% by vol	0.10	0.10	0.10				
MBT	ppb eq.	20.0	20.0	20.0				
pH @ °F		9.3@110	9.5@110	9.5@110				
ALK Mud (Pm)	mL	0.41	0.48	0.49				
ALK Filt (P1/Mf)	mL	0.32/0.85	0.36/0.89	0.38/0.92				
ALK Filt (P)	mL							
ALK Filt (P1/P2)	mL							
Chlorides	mg/L	300	300	300				
Total Hardness	mg/L	100	100	100				
Alkalinity	mL							
AgNO3	mL							
CaCl2	ppb							
THTS	mL							
Calcium	mg/L							
NaCl Sol	ppb							
NaCl Insol	ppb							
Excess Lime	ppb	0.04	0.05	0.05				
WPS	ppm							
Elec. Stability	V							
Corr Solid	% by vol	18.8	18.8	18.3				
LGS / HGS	% by vol	11.5/7.3	11.5/7.3	10.5/7.8				
LGS / HGS	ppb	104.68/107.58	104.68/107.58	95.54/114.97				
ASG	SG	3.222	3.222	3.283				

TUBERÍAS DE REVESTIMIENTO

WELLBORE SCHEME

WELL: LO6 – 26XD



REPORTE DE BROCAS



BIT RECORD



WELL: LO6-26XD

* STARTED MUD LOGGING @ 456 ft.

BIT	SIZE	MAKE	TYPE	SERIAL	DEPTH		HOLE	ROP Effective	HOURS	HOURS	JETS	GPM/PSI	WOB/RPM Klbs / rpm	IADC
	IN				IN	OUT	Made	M/HR	Total	Drilling				
1	17	SMITH	XR+CPS	PW4161	456	986	530	12.5	75.3	42.4	3X16;1X15	760/840	18/50	2-3-CT-A-1-I-NO-BHA
2	17	SMITH	S519MHPX	JF1485	986	1896	910	72.3	101.4	12.6	12X10	755/1700	20/50	2-2-CT-A-X-I-NO-TD
3	12 1/4	NOV	RSR519S	EL45470	1896	4408	2512	64.0	95.1	39.2	1X18;4X16	700/2325	18/65	1-3-CT-T-X-2/16-NR-BHA
4	12 1/4	NOV	MSRE519M	220935	4408	5898	1490	50.4	59.5	29.6	1X18;4X17	725/2865	20/65	1-2-CT-S-I-NO-TD
5	8 1/2	SMITH	MIS616BPX	JF2935	5898	9800	3902	37.8	199.2	103.2	4X13;2X14	580/2850	25/70	1-3-CT-S-X-I-NO-TD

FORMATIONS:	MD (ft)	TVD (ft)
TALARA	0	0.0
CHACRA	1700	1641.7
RIO BRAVO	3470	3353.3
PALEGREDA	5500	4831.2
MOGOLLON	5810	5098.1

FORMATIONS:	MD (ft)	TVD (ft)
SAN CRISTOBAL	6910	6098.5
UPPER BASAL SALINA	8870	8037.7
LOWER BASAL SALINA	-	-
BALCONES	9685	8847.6
TD	9800	8961.6

REPORTE DE SURVEYS

SURVEY REPORT

WELL: LO6-26XD

MD	Inc	Azi	TVD	North	East	Vert Sect	Dog Leg	Build	Turn
ft	deg	deg	ft	ft	ft	ft	°/100	°/100	°/100
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.21	237.02	100.00	-0.10	-0.15	0.18	0.21	0.21	-122.98
200	0.95	93.21	200.00	-0.25	0.52	-0.43	1.13	0.74	-143.81
300	0.51	171.60	299.99	-0.73	1.41	-1.16	0.98	-0.44	78.39
378	1.08	218.21	377.98	-1.65	1.01	-0.51	1.05	0.73	59.76
410	0.96	339.28	409.98	-1.64	0.73	-0.25	5.55	-0.37	378.34
443	1.05	294.60	442.98	-1.26	0.35	0.00	2.33	0.27	-135.39
466	1.34	302.65	465.97	-1.02	-0.06	0.34	1.45	1.26	35.00
510	1.07	303.46	509.96	-0.52	-0.84	0.95	0.61	-0.61	1.84
556	1.22	261.44	555.95	-0.35	-1.68	1.71	1.81	0.33	-91.35
647	4.12	292.48	646.85	0.75	-5.66	5.23	3.45	3.19	34.11
680	4.68	308.91	679.75	2.05	-7.80	6.94	4.16	1.70	49.79
743	6.96	302.26	742.42	5.70	-13.03	10.96	3.77	3.62	-10.56
833	9.83	291.88	831.45	11.48	-24.78	20.65	3.59	3.19	-11.53
931	13.03	282.94	927.51	17.07	-43.31	36.93	3.72	3.27	-9.12
988	13.90	278.30	982.94	19.50	-56.35	48.79	2.43	1.53	-8.14
1083	15.10	271.20	1074.92	21.40	-80.02	71.02	2.26	1.26	-7.47
1176	16.90	265.00	1164.32	20.48	-105.60	95.86	2.67	1.94	-6.67
1271	19.50	259.60	1254.57	16.41	-134.96	125.20	3.26	2.74	-5.68
1369	23.20	257.10	1345.83	9.15	-169.87	160.77	3.89	3.78	-2.55
1462	25.20	257.60	1430.65	0.81	-207.07	198.82	2.16	2.15	0.54
1557	27.50	256.40	1515.77	-8.69	-248.14	240.93	2.49	2.42	-1.26
1652	29.10	255.80	1599.42	-19.52	-291.86	285.94	1.71	1.68	-0.63
1747	31.10	255.00	1681.60	-31.54	-337.96	333.56	2.15	2.11	-0.84
1825	32.10	254.00	1748.04	-42.46	-377.34	374.43	1.45	1.28	-1.28
1964	31.40	253.80	1866.23	-62.75	-447.62	447.57	0.51	-0.50	-0.14
2058	30.80	252.50	1946.72	-76.82	-494.08	496.12	0.96	-0.64	-1.38
2153	31.90	253.20	2027.85	-91.39	-541.31	545.53	1.22	1.16	0.74
2248	33.70	252.70	2107.70	-106.48	-590.51	596.98	1.92	1.89	-0.53
2343	33.80	252.00	2186.69	-122.48	-640.80	649.74	0.42	0.11	-0.74
2438	33.90	250.90	2265.59	-139.32	-690.97	702.60	0.65	0.11	-1.16
2533	32.90	251.20	2344.90	-156.30	-740.43	754.83	1.07	-1.05	0.32
2628	32.60	252.40	2424.80	-172.35	-789.25	806.18	0.75	-0.32	1.26
2723	33.90	253.90	2504.25	-187.44	-839.10	858.26	1.62	1.37	1.58
2818	33.50	254.80	2583.28	-201.66	-889.85	910.97	0.67	-0.42	0.95
2913	33.60	253.80	2662.46	-215.87	-940.39	963.47	0.59	0.11	-1.05
3008	33.70	253.10	2741.54	-230.86	-990.85	1016.10	0.42	0.11	-0.74
3102	33.50	252.40	2819.84	-246.29	-1040.53	1068.11	0.46	-0.21	-0.74
3197	33.30	252.10	2899.15	-262.23	-1090.34	1120.38	0.27	-0.21	-0.32
3292	33.20	251.90	2978.59	-278.33	-1139.88	1172.44	0.16	-0.11	-0.21
3387	33.20	252.00	3058.09	-294.44	-1189.34	1224.42	0.06	0.00	0.11
3482	33.00	251.50	3137.67	-310.69	-1238.61	1276.26	0.36	-0.21	-0.53
3577	33.30	251.90	3217.21	-327.00	-1287.93	1328.17	0.39	0.32	0.42
3672	33.50	252.80	3296.52	-342.86	-1337.76	1380.44	0.56	0.21	0.95
3767	33.90	252.70	3375.55	-358.49	-1388.10	1433.14	0.43	0.42	-0.11
3862	33.90	252.60	3454.40	-374.29	-1438.67	1486.11	0.06	0.00	-0.11
3957	34.20	252.50	3533.12	-390.24	-1489.42	1539.28	0.32	0.32	-0.11
4052	34.20	252.00	3611.69	-406.52	-1540.27	1592.66	0.30	0.00	-0.53
4147	33.50	251.40	3690.59	-423.13	-1590.51	1645.53	0.82	-0.74	-0.63
4241	33.10	251.50	3769.15	-439.55	-1639.44	1697.09	0.43	-0.43	0.11
4336	32.90	252.50	3848.83	-455.54	-1688.65	1748.80	0.61	-0.21	1.05
4431	34.00	251.30	3928.09	-471.81	-1738.42	1801.12	1.35	1.16	-1.26
4525	34.50	251.40	4005.79	-488.73	-1788.54	1853.97	0.54	0.53	0.11
4620	34.40	251.20	4084.13	-505.96	-1839.44	1907.65	0.16	-0.11	-0.21

MD	Inc	Azi	TVD	North	East	Vert Sect	Dog Leg	Build	Turn
4715	33.30	251.20	4163.03	-523.01	-1889.54	1960.50	1.16	-1.16	0.00
4810	33.60	251.20	4242.29	-539.89	-1939.11	2012.80	0.32	0.32	0.00
4905	31.80	251.30	4322.23	-556.39	-1987.71	2064.07	1.90	-1.89	0.11
5000	31.70	251.40	4403.01	-572.37	-2035.07	2114.00	0.12	-0.11	0.11
5095	31.70	251.40	4483.84	-588.29	-2082.38	2163.87	0.00	0.00	0.00
5190	31.70	251.20	4564.67	-604.30	-2129.67	2213.74	0.11	0.00	-0.21
5285	30.70	253.10	4645.93	-619.39	-2176.50	2262.92	1.48	-1.05	2.00
5380	30.40	253.60	4727.74	-633.23	-2222.76	2311.20	0.41	-0.32	0.53
5475	30.40	253.90	4809.68	-646.68	-2268.92	2359.27	0.16	0.00	0.32
5569	30.50	254.10	4890.71	-659.81	-2314.71	2406.91	0.15	0.11	0.21
5664	30.50	253.80	4972.57	-673.14	-2361.05	2455.13	0.16	0.00	-0.32
5759	30.90	254.20	5054.26	-686.51	-2407.67	2503.63	0.47	0.42	0.42
5830	30.50	254.00	5115.30	-696.44	-2442.53	2539.88	0.58	-0.56	-0.28
5995	29.40	254.60	5258.27	-718.74	-2521.83	2622.25	0.69	-0.67	0.36
6090	28.60	253.80	5341.36	-731.28	-2566.14	2668.30	0.94	-0.84	-0.84
6185	27.30	252.00	5425.28	-744.35	-2608.70	2712.82	1.63	-1.37	-1.89
6280	25.80	251.60	5510.26	-757.61	-2649.04	2755.25	1.59	-1.58	-0.42
6375	24.20	251.50	5596.35	-770.32	-2687.12	2795.36	1.68	-1.68	-0.11
6470	22.30	249.80	5683.63	-782.72	-2722.51	2832.79	2.12	-2.00	-1.79
6565	20.60	248.30	5772.05	-795.12	-2754.95	2867.40	1.88	-1.79	-1.58
6660	19.70	246.80	5861.24	-807.61	-2785.20	2899.91	1.09	-0.95	-1.58
6755	18.40	249.90	5951.03	-819.07	-2814.00	2930.76	1.73	-1.37	3.26
6850	17.60	247.90	6041.39	-829.63	-2841.39	2959.99	1.06	-0.84	-2.11
6945	16.20	249.10	6132.28	-839.76	-2867.08	2987.48	1.52	-1.47	1.26
7039	14.80	250.70	6222.86	-848.41	-2890.66	3012.53	1.56	-1.49	1.70
7134	13.40	254.40	6315.00	-855.38	-2912.72	3035.66	1.75	-1.47	3.89
7229	12.00	251.50	6407.67	-861.47	-2932.68	3056.53	1.62	-1.47	-3.05
7324	11.30	252.80	6500.71	-867.36	-2950.94	3075.70	0.79	-0.74	1.37
7419	10.70	248.60	6593.97	-873.33	-2968.04	3093.79	1.05	-0.63	-4.42
7513	9.00	245.90	6686.58	-879.51	-2982.88	3109.76	1.87	-1.81	-2.87
7609	8.60	241.20	6781.45	-886.04	-2996.03	3124.19	0.86	-0.42	-4.90
7703	7.80	243.80	6874.49	-892.24	-3007.91	3137.32	0.94	-0.85	2.77
7798	5.80	230.20	6968.82	-898.16	-3017.38	3148.06	2.69	-2.11	-14.32
7893	4.70	230.30	7063.42	-903.72	-3024.06	3156.02	1.16	-1.16	0.11
7988	3.70	234.80	7158.17	-907.97	-3029.56	3162.48	1.11	-1.05	4.74
8083	3.30	239.30	7252.99	-911.14	-3034.42	3168.01	0.51	-0.42	4.74
8178	3.80	236.70	7347.81	-914.26	-3039.40	3173.67	0.55	0.53	-2.74
8273	2.00	251.20	7442.68	-916.52	-3043.60	3178.33	2.03	-1.89	15.26
8368	3.40	241.60	7537.58	-918.40	-3047.65	3182.73	1.54	1.47	-10.11
8463	4.50	234.70	7632.35	-921.89	-3053.17	3189.00	1.26	1.16	-7.26
8557	4.70	230.00	7726.05	-926.50	-3059.13	3196.00	0.45	0.21	-5.00
8652	5.00	226.80	7820.71	-931.83	-3065.13	3203.24	0.43	0.32	-3.37
8747	5.50	224.20	7915.31	-937.93	-3071.32	3210.87	0.58	0.53	-2.74
8842	6.20	222.60	8009.81	-944.97	-3077.97	3219.20	0.76	0.74	-1.68
8937	6.60	219.30	8104.22	-952.97	-3084.90	3228.07	0.57	0.42	-3.47
9032	6.20	216.50	8198.63	-961.32	-3091.41	3236.63	0.53	-0.42	-2.95
9126	5.90	214.90	8292.11	-969.36	-3097.19	3244.40	0.37	-0.32	-1.70
9221	6.20	211.80	8386.58	-977.73	-3102.69	3251.99	0.47	0.32	-3.26
9316	6.40	209.80	8481.00	-986.68	-3108.02	3259.59	0.31	0.21	-2.11
9411	6.60	208.10	8575.39	-996.09	-3113.23	3267.18	0.29	0.21	-1.79
9506	6.40	199.00	8669.78	-1005.91	-3117.52	3274.02	1.10	-0.21	-9.58
9600	6.80	193.20	8763.16	-1016.29	-3120.50	3279.74	0.83	0.43	-6.17
9695	7.20	190.00	8857.45	-1027.63	-3122.82	3285.09	0.59	0.42	-3.37
9745	7.30	189.50	8907.05	-1033.84	-3123.88	3287.84	0.24	0.20	-1.00
9800	7.41	188.95	8961.60	-1040.79	-3125.01	3290.84	0.24	0.20	-1.00

REPORTE DE SARTA DE PERFORACIÓN

The diagram illustrates a 17-inch PDC bit drillstring assembly, showing the components from the bit at the bottom to the top. The components are numbered 1 through 11, with their respective descriptions listed to the right of the assembly:

- 17" PDC Bit
- PDM 9 5/8" BH=1.5°
- XO
- 15" STB
- UBHO
- 3 x 8" DC
- 8" Jar
- XO
- 3x 6.5" DC
- XO
- 15 x 5" HWDP
- 12 5" DP



PHOENIX
TECHNOLOGY SERVICES

BHA TABLE					Mud Weight(ppg): 8.9			Buoyancy Factor: 0.86					
Item	Description	Connection		Serial	Tube		Length	Cum Length	Item Weight	Tool Weight	Cum Weight	Fishing Neck	
#		Top	Bottom		OD	ID							(inch)
1	17" PDC Bit	7 5/8 REGP			17			1.60	1.60	565	904	904	
2	BH=1.5)	6 5/8 REG	7 5/8 REG	24xh24404	9 5/8	N/A		27.47	29.07	186	5,117	6,021	1.99
3	XO	7 5/8 REG	6 5/8 REG	X245001	8	2 13/16		5.01	34.08	150	751	6,772	
4	15" STB	6 5/8 REG	6 5/8 REG	PTS11350	8	2 13/16		5.69	39.77	150	854	7,625	1.74
5	UBHO	6 5/8 REG	7 5/8 REG	Q203007	8	3 3/4		5.05	44.82	160	809	8,434	
6	3 x 8" DC	6 5/8 REG	6 5/8 REG	RIG	8	2 7/8		90.00	134.82	154	13,892	22,327	
7	8" Jar	6 5/8 REG	6 5/8 REG	20336-004	8	2 3/4		18.11	152.93	160	2,901	25,228	2.05
8	XO	4 IF	6 5/8 REG	RIG	6 1/16	2 4/5		2.68	155.61	98	262	25,490	
9	3x 6.5" DC	4 IF	4 IF	RIG	6 1/2	2 7/8		90.65	246.26	111	10,059	35,549	
10	XO	4 IF	4 1/2 IF	RIG	5	3		2.08	248.34	50	103	35,653	
11	15 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	455.88	704.22	23	10,303	45,956		
12	5" DP	4 1/2 IF	4 1/2 IF	RIG	5	3							
	Res to Bit =	N/A											
	PWD to Bit =	N/A					Total BHA =	704.22					
	Gamma to Bit =	N/A					Weight Below Jar =	22327					
	Directional =	51					Weight available =	19288					

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.17	rpm/gpm
Bit Box - Bend	8.2	ft
Bit Box - Sleeve STB	3	ft
MOTOR	Min	Max
Flow (GPM)	600	1200
WOB (Kiln)	10	20

Expected ROP:	50	ft/hr
Depth in :	450	ft
Depth Out:	465	ft

BIT : SMITH		TYPE:		Boquillas: 4 X 16		TFA:
STB	Type	Length Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	String STB		3 1/2	8	15	2.1

NOTES

Customer Signature

Directional Driller Signature

Diagram illustrating the components of a 12 5/8 inch DP (Drill Pipe) assembly, numbered 1 through 11 from bottom to top:

- 17" PDC Bit
- PDM 9 5/8" BH=1.5"
- XO
- 15" STB
- UBHO
- 3 x 8" DC
- 8" Jar
- XO
- 3 x 6.5" DC
- XO
- 15 x 5" HWDP
- 12 5/8" DP



PHOENIX
TECHNOLOGY SERVICES

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.17	rpm/gpm
Bit Box - Bend	8.2	ft
Bit Box - Sleeve STB	3	ft
MOTOR	Min	Max
Flow (GPM)	600	1200
WOB (Klb)	10	20
Expected ROP:	50	ft/hr
Depth in :	465	ft
Depth Out:	465	ft

BIT : SMITH		TYPE:		Boquillas: 4 X 16		TFA:
STB	Type	Lenght Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	String STB		3 1/2	8	15	2.1

NOTES

Directional Driller Signature

The diagram illustrates a 17' PDC BH assembly, showing 11 numbered components from top to bottom:

- 17' PDC BH
- PDM 9 5/8" BH=1.5"
- XO
- 15" STB
- UBHO
- 3 x 8" DC
- 8" Jar
- XO
- 3x 6.5" DC
- XO
- 15 x 5" HWDP
- 12 5" DP



PHOENIX
TECHNOLOGY SERVICES

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.17	rpm/gpm
Bit Box - Bend	8.2	ft
Bit Box - Sleeve STB	3	ft
MOTOR	Min	Max
Flow (GPM)	600	1200
WOB (Klb)	10	20

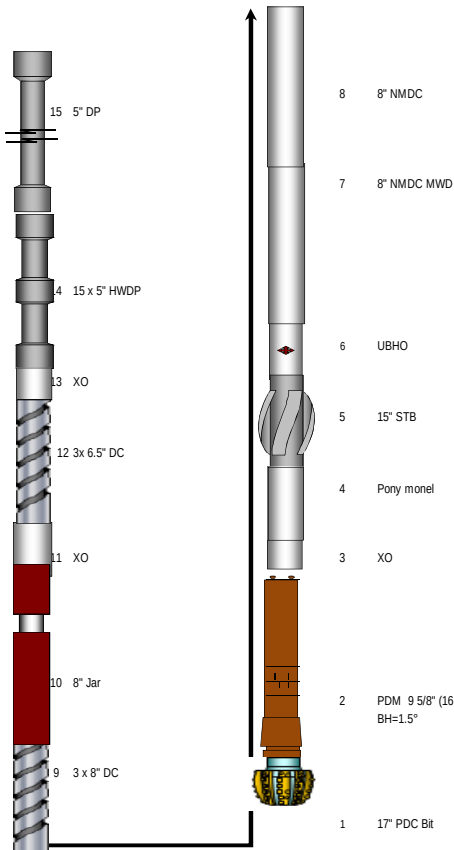
BT : SMTH		TYPE:		Boquillas: 4 X 16		TFA
STB	Type	Lenght Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Net
1	String STB		3 1/2	8	15	2.1

Expected ROP:	50	ft/hr
Depth in :	465	ft
Depth Out:	465	ft

NOTES

Directional Driller Signature

BHA # 4 - SECCION 17"

SAVIA
LOB 6-26XD

BHA TABLE				Mud Weight(ppg): 9.1		Buoyancy Factor: 0.86						
Item #	Description	Connection		Serial	Tube		Length (ft)	Cum Length (ft)	Item Weight (lbs)	Tool Weight (lbs) BF	Cum Weight (lbs) BF	Fishing Neck (ft)
		Top	Bottom		OD (inch)	ID (inch)						
1	17" PDC Bit	7 5/8 REGP			17		1.15	1.15	565	650	650	
2	PDM 9 5/8" (16 3/4" Sleeve STB, BH=1.5)	6 5/8 REG	7 5/8 REG	24xh24404	9 5/8	N/A	27.47	28.62	186	5,117	5,767	1.99
3	XO	7 5/8 REG	6 5/8 REG	X245001	8	2 13/16	5.01	33.63	150	751	6,518	
4	Pony monel	6 5/8 REG	6 5/8 REG	P203006	8	2 13/16	15.11	48.74	150	2,267	8,784	
5	15" STB	6 5/8 REG	6 5/8 REG	PTS11350	8	2 13/16	5.69	54.43	160	912	9,696	1.74
6	UBHO	6 5/8 REG	7 5/8 REG	Q203006	8	3 3/4	3.25	57.68	154	502	10,197	
7	8" NMDC MWD	6 5/8 REG	6 5/8 REG	FL203005	8	3 1/4	30.74	88.42	160	4,925	15,122	
8	8" NMDC	6 5/8 REG	6 5/8 REG	RFL203003	8	3 1/4	30.27	118.69	98	2,958	18,080	
9	3 x 8" DC	6 5/8 REG	6 5/8 REG	RIG	8	2 7/8	90.00	208.69	111	9,987	28,067	
10	8" Jar	6 5/8 REG	6 5/8 REG	20336-004	8	2 3/4	18.11	226.80	50	900	28,967	2.05
11	XO	4 IF	6 5/8 REG	RIG	6 1/16	2 4/5	2.68	229.48	50	134	29,101	
12	3x 6.5" DC	4 IF	4 IF	RIG	6 1/2	2 7/8	90.65	320.13	50	4,533	33,634	
13	XO	4 IF	4 1/2 IF	RIG	5	3	2.08	322.21	25	51	33,685	
14	15 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	455.88	778.09	26	11,671	45,355	
15	5" DP	4 1/2 IF	4 1/2 IF	RIG	5	3						
	Res to Bit =	N/A										
	PWD to Bit =	N/A					Total BHA =	778.09				
	Gamma to Bit =	N/A					Weight Below Jar =	28067				
	Directional =						Weight available =	24162				

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.17	rpm/gpm
Bit Box - Bend	8.05	ft
Bit Box - Sleeve STB	3.5	ft
MOTOR	Min	Max
Flow (GPM)	600	1200
WOB (Klb)	10	20

Expected ROP:	50	ft/hr
Depth in :	986	ft
Depth Out:	1896	ft

NOTES						

BIT : JF1485		TYPE: SS19MHPX		Boquillas: 12X10		TFA:
STB	Type	Length Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	String STB		3 1/2	8	15	1.74

Customer Signature

Directional Driller Signature



PHOENIX
TECHNOLOGY SERVICES

BHA TABLE					Mud Weight(ppg):		10.7	Buoyancy Factor:		0.84		
Item #	Description	Connection		Serial	Tube		Length	Cum Length	Item Weight	Tool Weight	Cum Weight	Fishing Neck
		Top	Bottom		OD	ID						
1	12.25" PDC Bit	6 5/8 REG		E145473	12 1/4		0.85	0.85	267	227	227	
2	MOTOR 7/8 3.0 8" (12 1/8" Sleeve STB, BH+1.5)	6 5/8 REG	6 5/8 REG	24XH19702	8	N/A	23.74	24.59	105	2,493	2,720	2.22
3	Pump motor 6"	6 5/8 REG	6 5/8 REG	P203006	8	2 13/16	15.11	39.70	159	2,402	5,122	
4	12 1/8" STB	6 5/8 REG	6 5/8 REG	PTS 11306	8	3	5.58	45.28	143	798	5,920	1.73
5	UBHO	6 5/8 REG	7 5/8 REG	Q203006	8	3 3/4	3.25	48.53	100	325	6,245	
6	8" NMDC MWD	6 5/8 REG	6 5/8 REG	FL203005	8	3 1/4	30.74	79.27	143	4,396	10,641	
7	8" NMDC	6 5/8 REG	6 5/8 REG	RFL203003	8	3 1/4	30.27	109.54	153	4,631	15,272	
8	XO	4 IF	6 5/8 REG	RIG	6 1/16	2 4/5	2.68	112.22	98	262	15,534	
9	1x 6 3/4" DC	4 IF	4 IF	RIG	6 1/2	2 7/8	30.10	142.32	101	3,040	18,574	
10	XO	4 IF	4 1/2 IF	RIG	8	2 3/4	2.08	144.40	50	104	18,678	
11	18x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	6 1/16	2 4/5	546.25	690.65	50	27,313	45,991	
12	3ar 6 3/4"	4 1/2 IF	4 1/2 IF	JAG165474-52	6 1/2	2 3/4	19.70	710.35	68	1,340	47,330	2.46
13	6 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	180.98	891.33	50	9,049	56,379	
14	5" DP	4 1/2 IF	4 1/2 IF	RIG	5	3						
	Res to Bit =	N/A										
	PWD to Bit =	N/A					Total BHA =	891.33				
	Gamma to Bit =						Weight Below Jar =	45991				
	Directional =						Weight available =	38466				

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.17	rpm/gpm
Rotary Table =	60	RPM
Bit Box - Bend	6.37	t
Bit Box - Sleeve STB	2.05	t
MOTOR	Min	Max
Flow (GPM)	300	900
WOB (Kib)	10	30

Expected ROP:	50	ft/hr
Depth in :	1896	ft
Depth Out:		ft

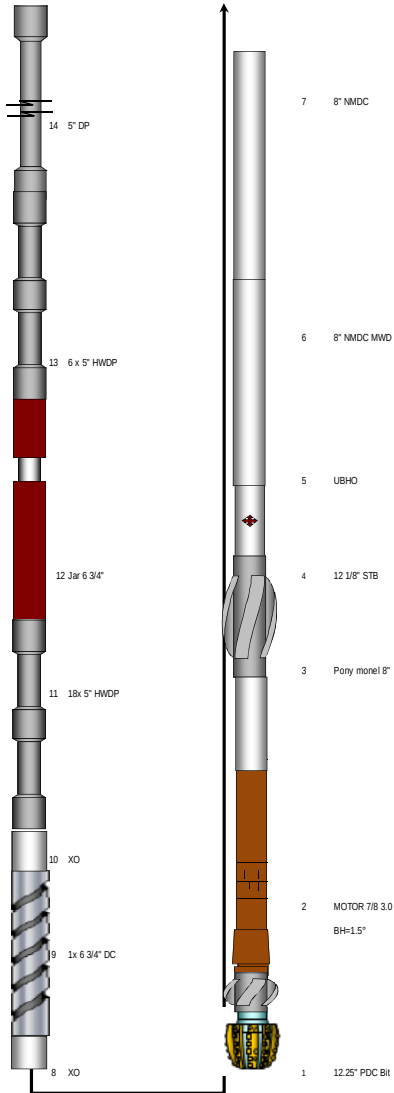
BIT: E145473		TYPE: RSR535		Boopiles: 4X36 1X18		TFA: 1.0339
STB	Type	Length Blade/ Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	Sleeve 12 3/8"			7 7/8"	8 1/8"	
1	String STB		3 1/2"	8	12 1/8"	1.73

NOTES	
Cement top 1954'	
Casing shoe 1894'	

Directional Driller Signature _____

BHA # 6 - SECCION 12 1/4"

SAVIA
LOB 6-26XD



BHA TABLE					Mud Weight(ppg)		10.7		Buoyancy Factor:		0.84		
Item #	Description	Connection		Serial	Tube		Length (ft)	Cum Length (ft)	Item Weight (lbs)	Tool Weight (lbs) BF	Cum Weight (lbs) BF	Fishing Neck (ft)	
		Top	Bottom		OD (inch)	ID (inch)							
1	12.25" PDC Bit	6 5/8 REG		228935	12 1/4		0.86	0.86		267	230	230	
2	MOTOR 7/8 3.0 8" (11 3/4" Sleeve STB, BH+1.5)	6 5/8 REG	6 5/8 REG	24XH19705	8	N/A	24.10	24.96		105	2,531	2,760	2.20
3	Pony monel 8"	6 5/8 REG	6 5/8 REG	P203006	8	2 13/16	15.11	40.07		159	2,402	5,163	
4	12 1/8" STB	6 5/8 REG	6 5/8 REG	PTS 11306	8	3	5.58	45.65		143	798	5,961	1.73
5	UBHO	6 5/8 REG	7 5/8 REG	Q203006	8	3 3/4	3.25	48.90		100	325	6,286	
6	8" NMDC MWD	6 5/8 REG	6 5/8 REG	FL203005	8	3 1/4	30.74	79.64		143	4,396	10,681	
7	8" NMDC	6 5/8 REG	6 5/8 REG	RFL203003	8	3 1/4	30.27	109.91		153	4,631	15,313	
8	XO	4 IF	6 5/8 REG	RIG	6 1/16	2 4/5	2.68	112.59		98	262	15,575	
9	1x 6 3/4" DC	4 IF	4 IF	RIG	6 1/2	2 7/8	30.10	142.69		101	3,040	18,615	
10	XO	4 IF	4 1/2 IF	RIG	8	2 3/4	2.08	144.77		50	104	18,719	
11	18x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	6 1/16	2 4/5	546.25	691.02		50	27,313	46,031	
12	Jar 6 3/4"	4 1/2 IF	4 1/2 IF	JAG165474-52	6 1/2	2 3/4	19.70	710.72		68	1,340	47,371	2.46
13	6 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	180.98	891.70		50	9,049	56,420	
14	5" DP	4 1/2 IF	4 1/2 IF	RIG	5	3							
	Res to Bit =	N/A											
	PWD to Bit =	N/A						Total BHA =	891.70				
	Gamma to Bit =							Weight Below Jar =	46031				
	Directional =							Weight available =	38500				

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.17	rpm/gpm
Rotary Table =	60	RPM
Bit Box - Bend	6.42	t
Bit Box - Sleeve STB	2	t
MOTOR	Min	Max
Flow (GPM)	300	900
WOB (Klb)	10	35

Expected ROP	50	ft/hr
Depth in :	4406	ft
Depth Out:	5899	ft

NOTES						

BIT : 228935		TYPE: M-SRES19M-A3D		Boquillas: 4X16 1X18		TFA: 1.0339
STB	Type	Length Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	Sleeve 11 3/4"			7 7/10	11 3/4"	
1	String STB		3 1/2	8	12 1/8"	1.73

Customer Signature

Directional Driller Signature

BHA Acondicionamiento- SECCION 17"

SAVIA
LOB 6-26XD

BHA TABLE					Mud Weight(ppg): 9.1		Buoyancy Factor: 0.86					
Item	Description	Connection		Serial	Tube		Length	Cum Length	Item Weight	Tool Weight	Cum Weight	Fishing Neck
#		Top	Bottom			OD (inch)						
1	17" Bit	7 5/8 REGP			17		1.15	1.15	565	650	650	
2	Bit Sub	6 5/8 REG	7 5/8 REG	Rig			3.00	4.15	186	559	1,209	
3	15" STB	6 5/8 REG	6 5/8 REG	PTS11350	8	2 13/16	5.69	9.84	150	853	2,062	1.74
4	3 x 8" DC	6 5/8 REG	6 5/8 REG	RIG	8	2 7/8	90.00	99.84	150	13,500	15,562	
5	8" Jar	6 5/8 REG	6 5/8 REG	0336-004	8	2 3/4	18.11	117.95	160	2,901	18,463	2.15
6	XO	4 IF	6 5/8 REG	RIG	6 1/16	2 4/5	2.68	120.63	154	414	18,877	
7	3x 6.5" DC	4 IF	4 IF	RIG	6 1/2	2 7/8	90.65	211.28	160	14,522	33,399	
8	XO	4 IF	4 1/2 IF	RIG	5	3	2.08	213.36	98	203	33,602	
9	15 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	455.88	669.24	111	50,589	84,191	
10	5" DP	4 1/2 IF	4 1/2 IF	RIG	5	3						
11												
12												
13												
14												
15												
	Res to Bit =	N/A										
	PWD to Bit =	N/A					Total BHA =	669.24				
	Gamma to Bit =	N/A					Weight Below Jar =	15562				
	Directional =						Weight available =	13396				

COMMENTS		
PDM @		deg
Ratio (RPM) =		rpm/gpm
Bit Box - Bend		ft
Bit Box - Sleeve STB		ft
MOTOR	Min	Max
Flow (GPM)		
WOB (Klb)		

Expected ROP:		
Depth in :		
Depth Out:		

NOTES						

STB	Type	Lenght Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	String STB		3 1/2	8	15	1.74

Customer Signature

Directional Driller Signature

BHA Acondicionamiento- SECCION 12.25"

SAVIA
LOB 6-26XD

BHA TABLE				Mud Weight(ppg):		10.7	Buoyancy Factor:		0.84			
Item #	Description	Connection		Serial	Tube		Length (ft)	Cum Length (ft)	Item Weight (lbs/ft)	Tool Weight (lbs) BF	Cum Weight (lbs) BF	Fishing Neck (ft)
		Top	Bottom		OD (inch)	ID (inch)						
1	12 1/4" Bit	6 5/8 REG			12 1/4		0.86	0.86	267	230	230	
2	12 1/8" STB	6 5/8 REG	6 5/8 REG	PTS 11306	8	3	5.58	6.44	98	545	775	
3	Bit Sub	6 5/8 REG	6 5/8 REG	RIG	8	2 13/16	5.69	12.13	98	556	1,331	
4	3 x 8" DC	6 5/8 REG	6 5/8 REG	RIG	8	2 7/8	90.00	102.13	150	13,500	14,831	
5	XO	4 IF	6 5/8 REG	RIG	6 1/16	2 4/5	2.68	104.81	98	262	15,093	
6	1x 6.5" DC	4 IF	4 IF	RIG	6 1/2	2 7/8	30.10	134.91	101	3,040	18,133	
7	XO	4 IF	4 1/2 IF	RIG	8	2 3/4	2.08	136.99	50	104	18,237	
8	18x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	6 1/16	2 4/5	546.25	683.24	50	27,313	45,549	
9	Jar 6 3/4"	4 1/2 IF	4 1/2 IF	JAG165474-52	6 1/2	2 3/4	19.70	702.94	68	1,340	46,889	2.46
10	6 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	180.98	883.92	50	9,049	55,938	
11	5" DP	4 1/2 IF	4 1/2 IF	RIG	5	3						
12												
13												
14												
15												
	Res to Bit =	N/A										
	PWD to Bit =	N/A					Total BHA =	883.92				
	Gamma to Bit =	N/A					Weight Below Jar =	45549				
	Directional =						Weight available =	38097				

COMMENTS		
PDM @		deg
Ratio (RPM) =		rpm/gpm
Bit Box - Bend		ft
Bit Box - Sleeve STB		ft
MOTOR	Min	Max
Flow (GPM)		
WOB (Klb)		

Expected ROP:		
Depth in :		
Depth Out:		

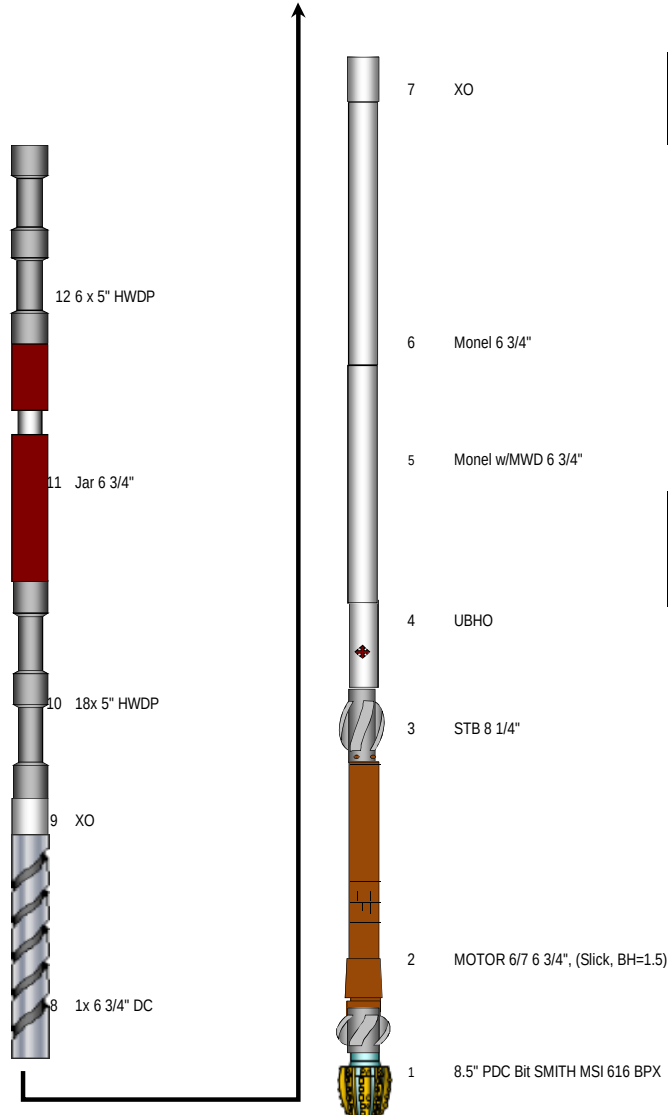
NOTES						

STB	Type	Length Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	String STB		3 1/2	8	12 1/8"	1.73

Customer Signature

Directional Driller Signature

BHA 7 Section 8.5"

SAVIA
LOB 6-26XD

BHA TABLE				Mud Weight(ppg):		10.8	Buoyancy Factor:		0.83			
Item #	Description	Connection		Serial	Tube		Length (ft)	Cum Length (ft)	Item Weight (lbs/ft)	Tool Weight (lbs BF)	Cum Weight (lbs BF)	Fishing Neck (ft)
		Top	Bottom		OD (inch)	ID (inch)						
1	8.5" PDC Bit SMITH MSI 616 BPX	4 1/2" REG		JF 2935	8 1/2		0.80	0.80	100	80	80	
2	MOTOR 6/7 6 3/4", (Slick, BH=1.5)	4 1/2" IF	4 1/2" REG	24XH65114	6 1/2		30.01	30.81	76	2,281	2,361	
3	STB 8 1/4"	4 1/2" IF	4 1/2" IF	PTS113050	6 3/4	2 13/16	4.50	35.31	98	440	2,801	1.50
4	UBHO	4 1/2" IF	4 1/2" IF	Q171004	6 3/4	2 13/16	2.75	38.06	100	275	3,076	
5	Monel w/MWD 6 3/4"	4 1/2" IF	4 1/2" IF	FL171002	6 3/4	2 13/16	30.15	68.21	98	2,946	6,022	5.00
6	Monel 6 3/4"	4 1/2" IF	4 1/2" IF	FL171004	6 3/4	2 13/16	29.61	97.82	101	2,991	9,012	5.00
7	XO	4 IF	4 1/2" IF	RIG	6 3/4	2 3/4	2.90	100.72	50	145	9,157	
8	1x 6 3/4" DC	4 IF	4 IF	RIG	6 3/4	2 7/8	30.10	130.82	50	1,505	10,662	
9	XO	4 1/2 IF	4 IF	RIG	6 1/2	2 3/4	2.08	132.90	68	141	10,804	
10	18x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	546.25	679.15	50	27,313	38,116	
11	Jar 6 3/4"	4 1/2 IF	4 1/2 IF	JAR	6 1/2	2 13/16	19.64	698.79	68	1,336	39,452	2.46
12	6 x 5" HWDP	4 1/2 IF	4 1/2 IF	RIG	5	3	180.98	879.77	50	9,049	48,501	
13												
14												
15												
Res to Bit =		N/A										
PWD to Bit =		N/A					Total BHA =	879.77				
Gamma to Bit =		46.29					Weight Below Jar =	38116				
Directional =		55					Weight available =	31822				

COMMENTS		
PDM @	1.5	deg
Ratio (RPM) =	0.31	rpm/gpm
Rotary Table =	70	RPM
Bit Box - Bend	6.35	ft
Bit Box - Sleeve STB	SLICK	ft
MOTOR	Min	Max
Flow (GPM)	300	600
WOB (Klb)	0	

Expected ROP:		
Depth in :		
Depth Out:		

BIT PDC 6 BLADES / 16 mm		TFA = 0.8192				
STB	Type	Lenght Blade / Gauge	Width Blade	OD Body	OD Blade	Fishing Neck
1	String STB	12'	3'	6.75"	8 3/8	1.8

NOTES	

Customer Signature

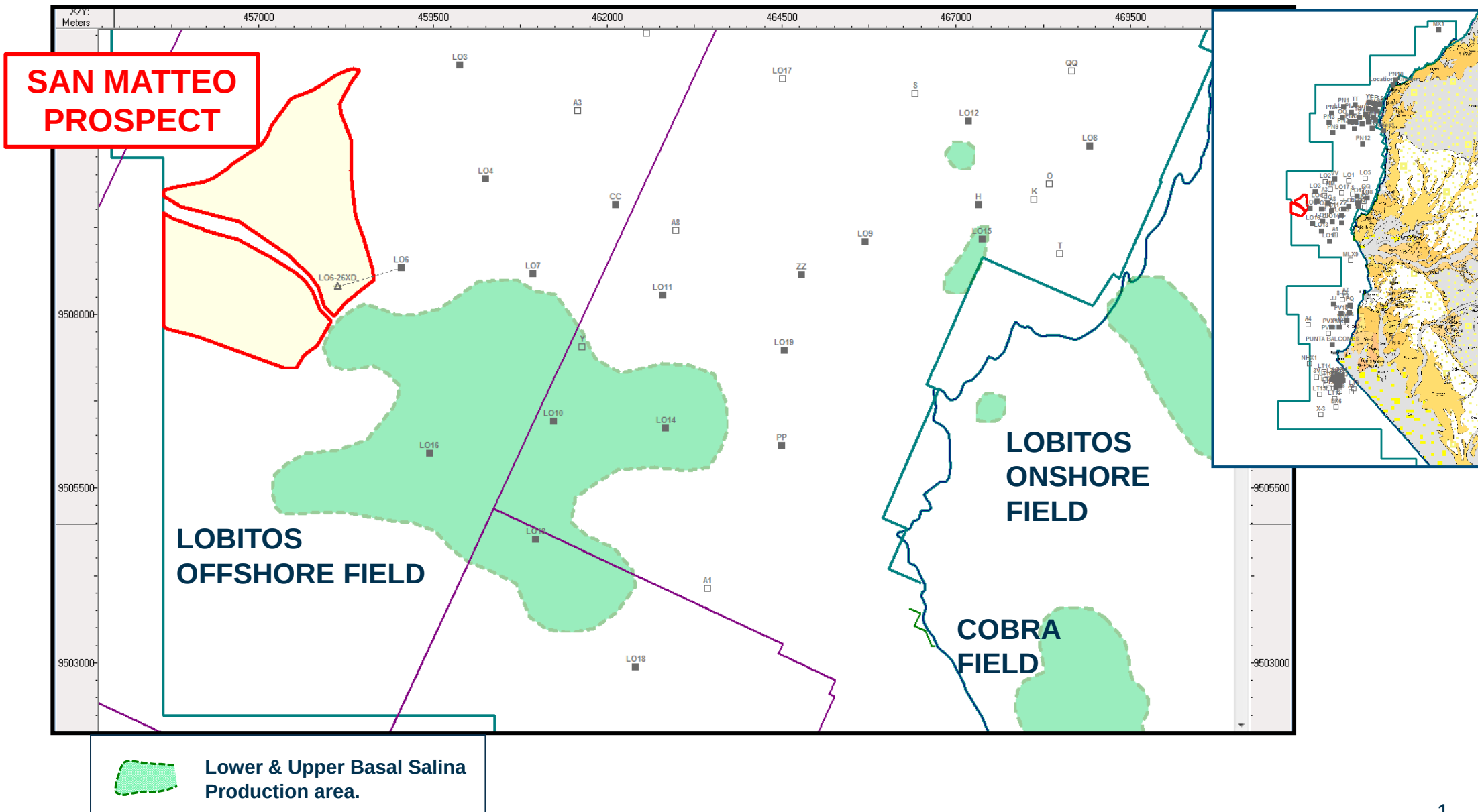
Directional Driller Signature

ANEXOS

SAN MATTEO PROSPECT LOCATION MAP



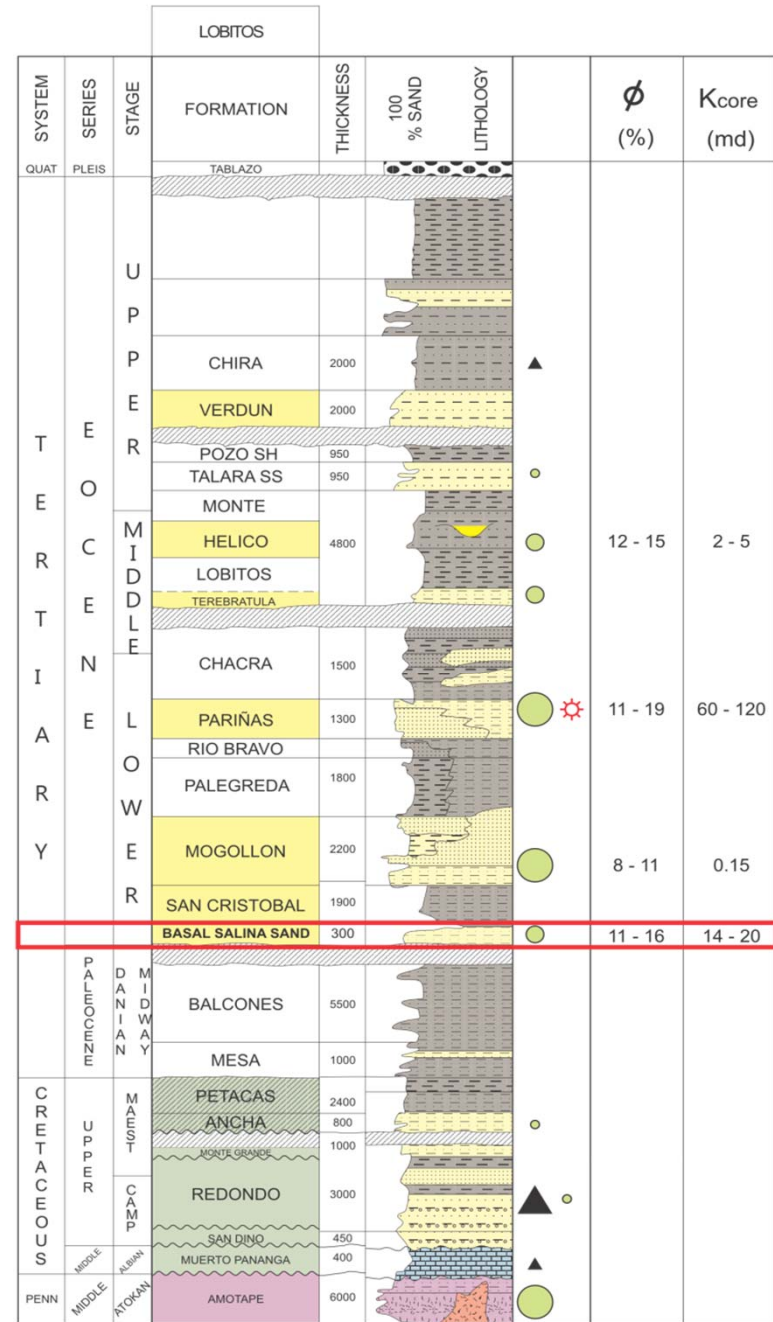
SAVIA
PERÚ



STRATIGRAPHIC COLUMN



SAVIA
PERÚ



● OIL ZONE
▲ SOURCE ROCK

PERMIAN INTRUSIVES

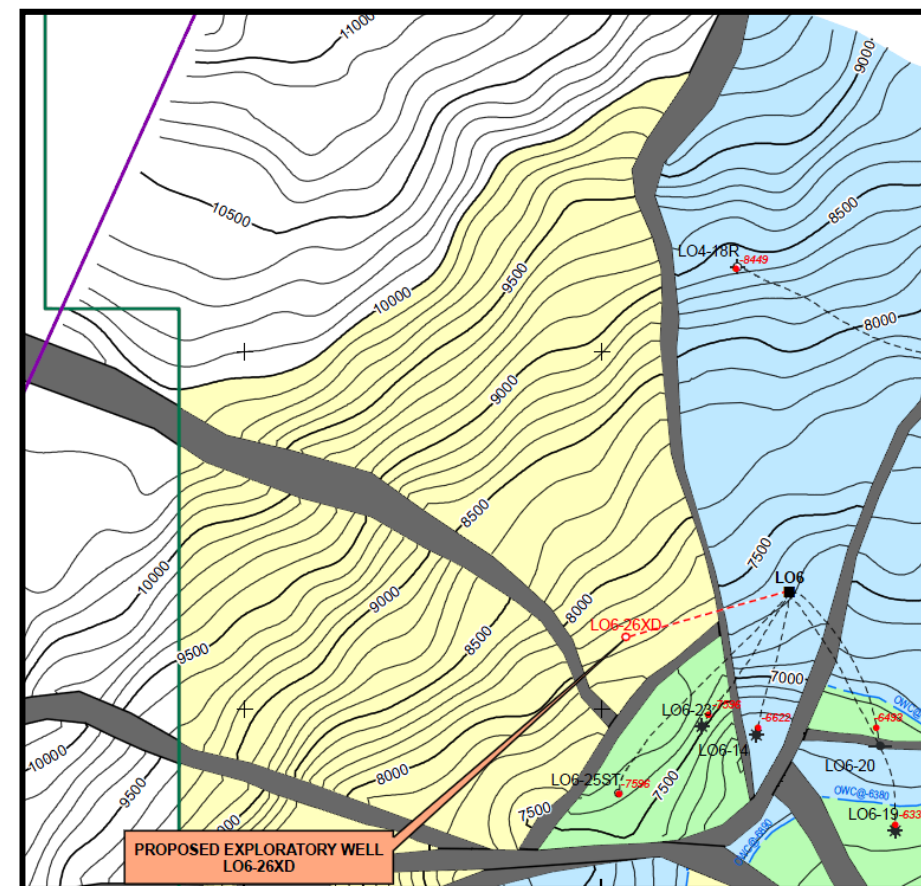
FP-12-011

GEOLOGICAL PROGNOSIS											
AREA LOBITOS - SAN MATTEO		OFFICIAL WELL NUMBER		SAVIA PERU N° LO6-26XD (SAN MATTEO)		TYPE OF WELL EXPLORATORY		RIG N°			
PRIMARY OBJECTIVE LOWER BASAL SALINA				SECONDARY OBJECTIVE UPPER BASAL SALINA							
SURFACE COORDINATES (UTM) 9°508,662.12 mN 459,045.17 mE ("A" Conductor)				TARGET COORDINATES (UTM) 9°508,400 mN 458,133 mE							
E KB: L 50 FT E WATER DEPTH V 335 FT A GROUND LEVEL T. ---- FT		DIRECTION OF W DEVIATE WELL S 74° W E ANGLE CONDUCTOR L FROM VERTICAL VERTICAL L RECOMMENDED DEPTH OF K.O.P. 500 FT BUILD UP ANGLE AT 2.5 DEG / 100 FT		T DRILLED DEPTH A 8600 FT R VERTICAL DEPTH G 7773 FT E HORIZONTAL DRIFT T 3113 FT LIMITS (DIAMETER) TOP: 50 FT BASE: 50 FT		T ESTIMATED FINAL O 9607 FT T HORIZONTAL DRIFT D 3113 FT E MAX. ANGLE P. 33.26 DEG					
GROUP / FORMATION / MEMBER				DRILLED TOP (MD/FT)		VERT. TOP (VD/FT)		SUBSEA TOP (SS/FT)		OBSERVATIONS	
TALARA								AT SURFACE			
CHACRA				1930		1840		-1790			
RIO BRAVO				4185		3726		-3676			
PALEGREDA				5787		5066		-5016			
MOGOLLON				6701		5894		-5844			
SAN CRISTOBAL				7210		6387		-6337			
UPPER BASAL SALINA				8016		7189		-7139		SECONDARY OBJECTIVE	
LOWER BASAL SALINA				8600		7773		-7723		MAIN OBJECTIVE	
BALCONES				9300		8473		-8423			
TOTAL DEPTH				9607		8780		-8730			
C BIT SAMPLES O TO BE TAKEN N RECOMMENDED T FOR R. PALEO-PALYNOLOGY				EVERY 30 FT. FROM SURFACE TO 5000 FT. EVERY 10 FT. FROM 5000 FT. TO TOTAL DEPTH PALEONTOLOGY EVERY 60 FT. THROUGHOUT THE WELL PALYNOLOGY AT REQUEST OF LIMA OFFICE				REMARKS BASAL SALINA & BALCONES TOPS WERE DEFINED BY 3D SEISMIC INTERPRETATION BY E. BORDA IT IS RECOMMENDED TO REACH 0 DEG OF INCLINATION BEFORE UPPER BASAL SALINA TOP AND HOLD TO TOTAL DEPTH			
L RECOMMENDED O OPEN HOLE G RECOMMENDED O AFTER CASING I NEARBY WELLS N FOR G CORRELATION				DLL-MSFL-FDC-CNL-GR, SONIC-DIPOLAR, DIPMETER-FMI, PRESSURE POINTS CHECKSHOT (OPTIONAL) NOT CONSIDERED LO6-25ST, LO6-23, LO6-9X, LO6-17							
E SIDEWALL V CORES A CONVENTIONAL L CORES U GAS A LOGGER T. FORMATION TESTING				IF NECESSARY AT REQUEST OF LIMA OFFICE NOT CONSIDERED USING A MUD LOGGING UNIT THROUGHOUT DRILLED SECTION IF NECESSARY AT REQUEST OF LIMA OFFICE							
RECOMMENDED BY EDGAR BORDA FRITZ PALACIOS		DATE: NOV 2012		REVISED BY ENRIQUE GONZALES		DATE: Nov. 8.12		APPROVED BY PEDRO ALARCON		DATE: Nov. 12, 2012	

FIGURE 2



SAN MATTEO Prospect GEOLOGICAL PROGNOSIS



SAN MATTEO PROSPECT TOP LOWER BASAL SALINA FM. - DEPTH STRUCTURE MAP

C.I. 100 ft



SAVIA

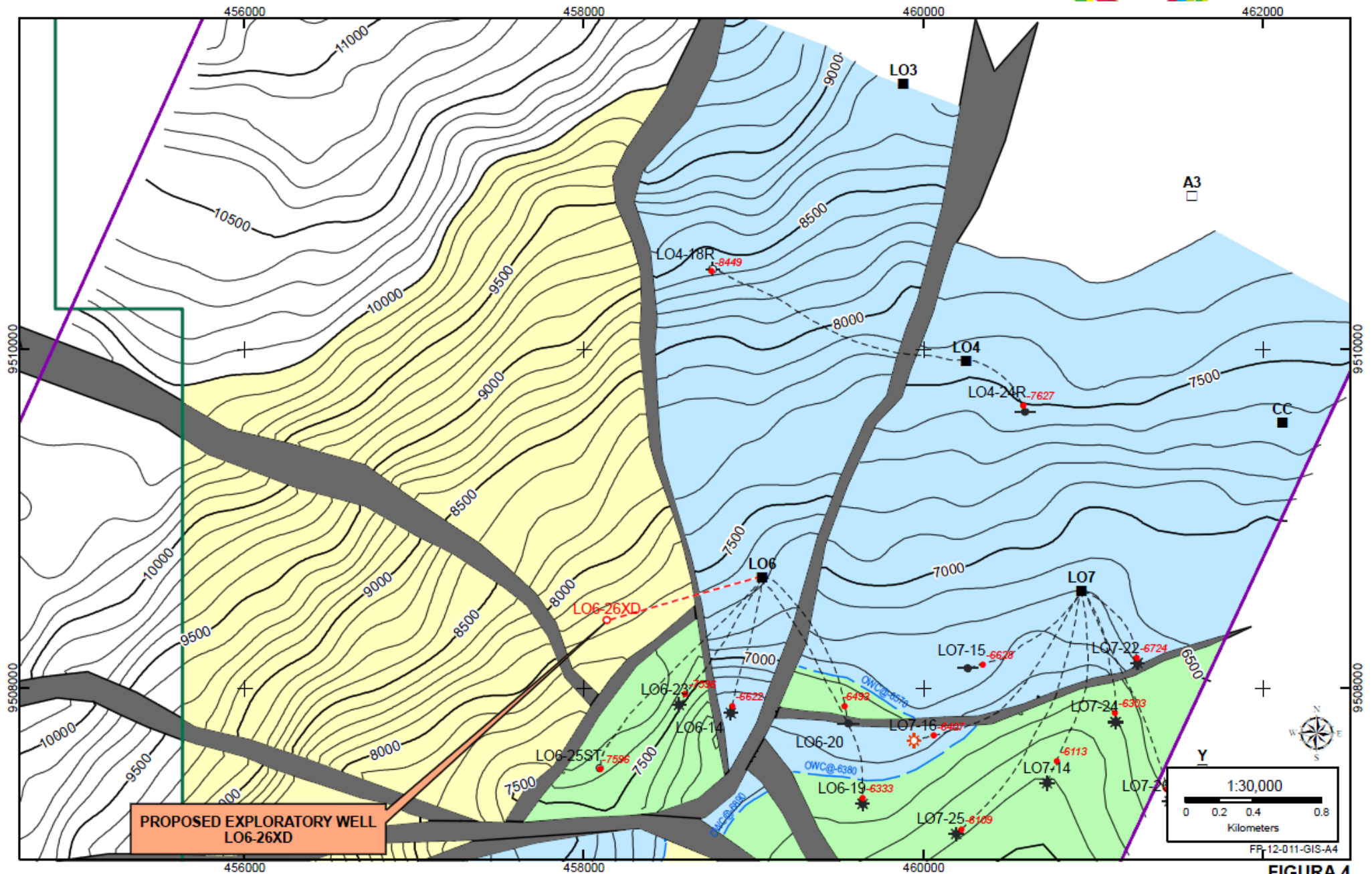


FIGURA 4

SAN MATTEO PROSPECT
TOP UPPER BASAL SALINA FM. - DEPTH STRUCTURE MAP
 C.I. 100 ft

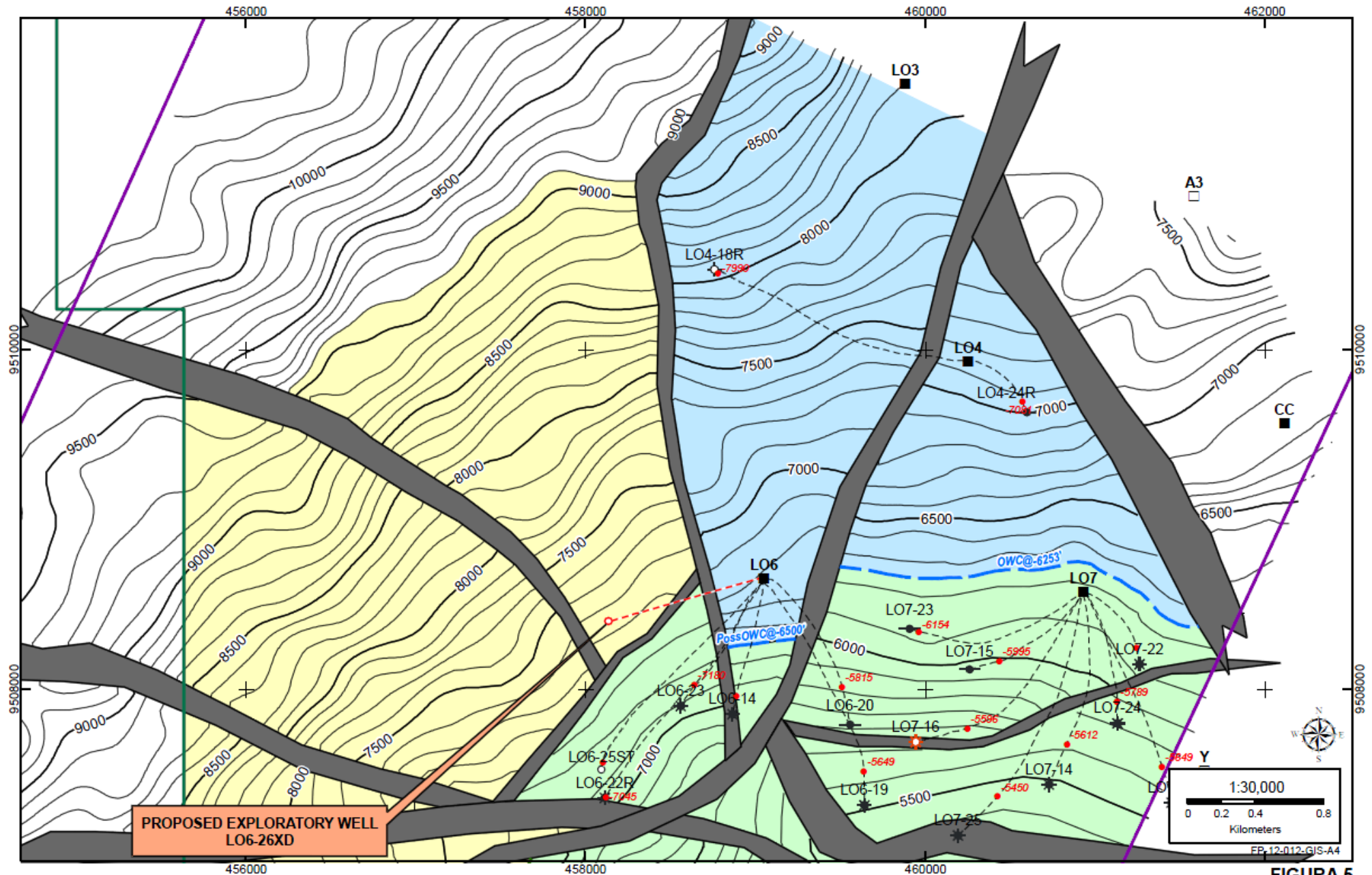


FIGURA 5

SAN MATTEO PROSPECT

ARBITRARY SEISMIC LINES PSTM – LO6-26XD (SAN MATTEO)

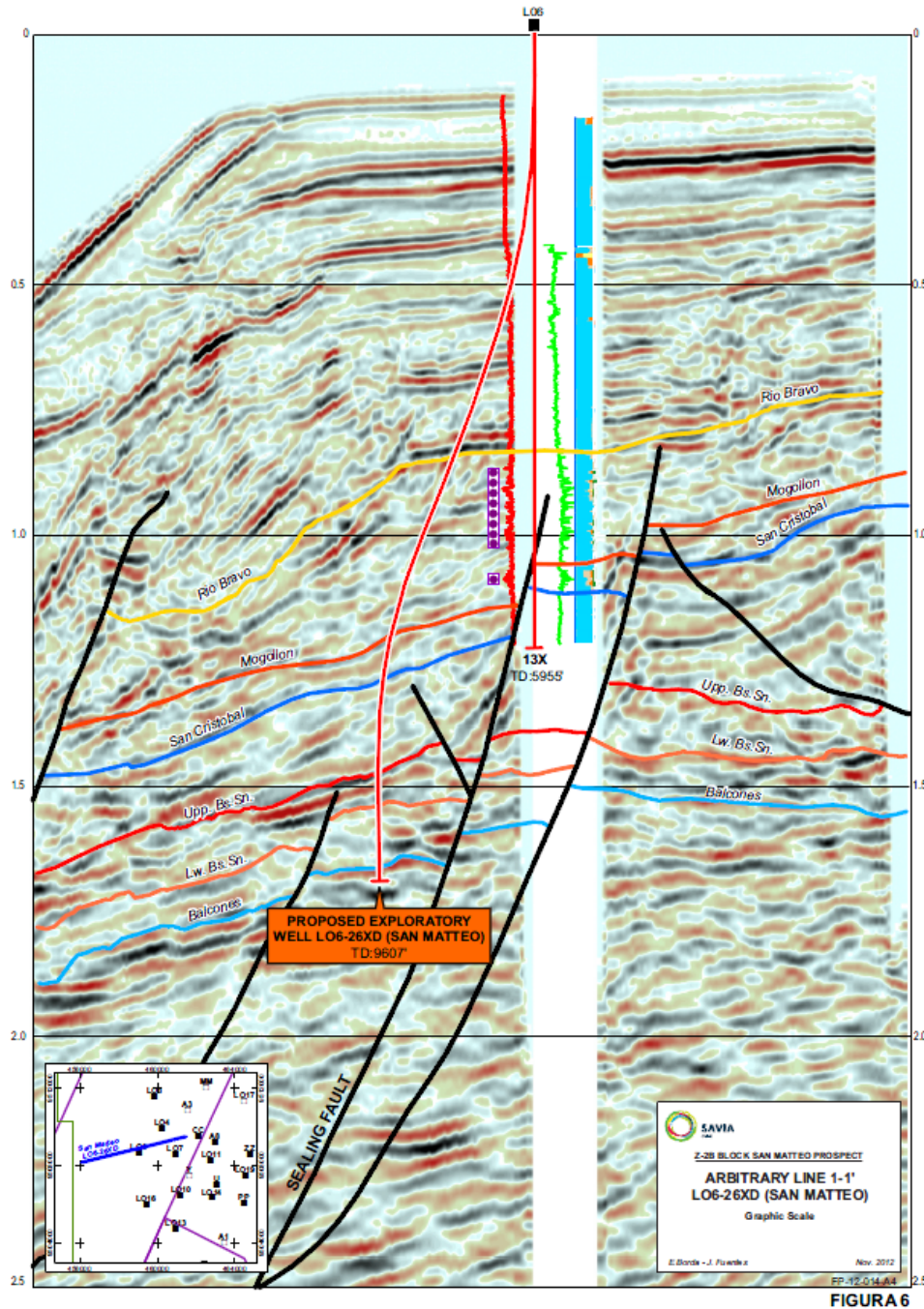


FIGURA 6

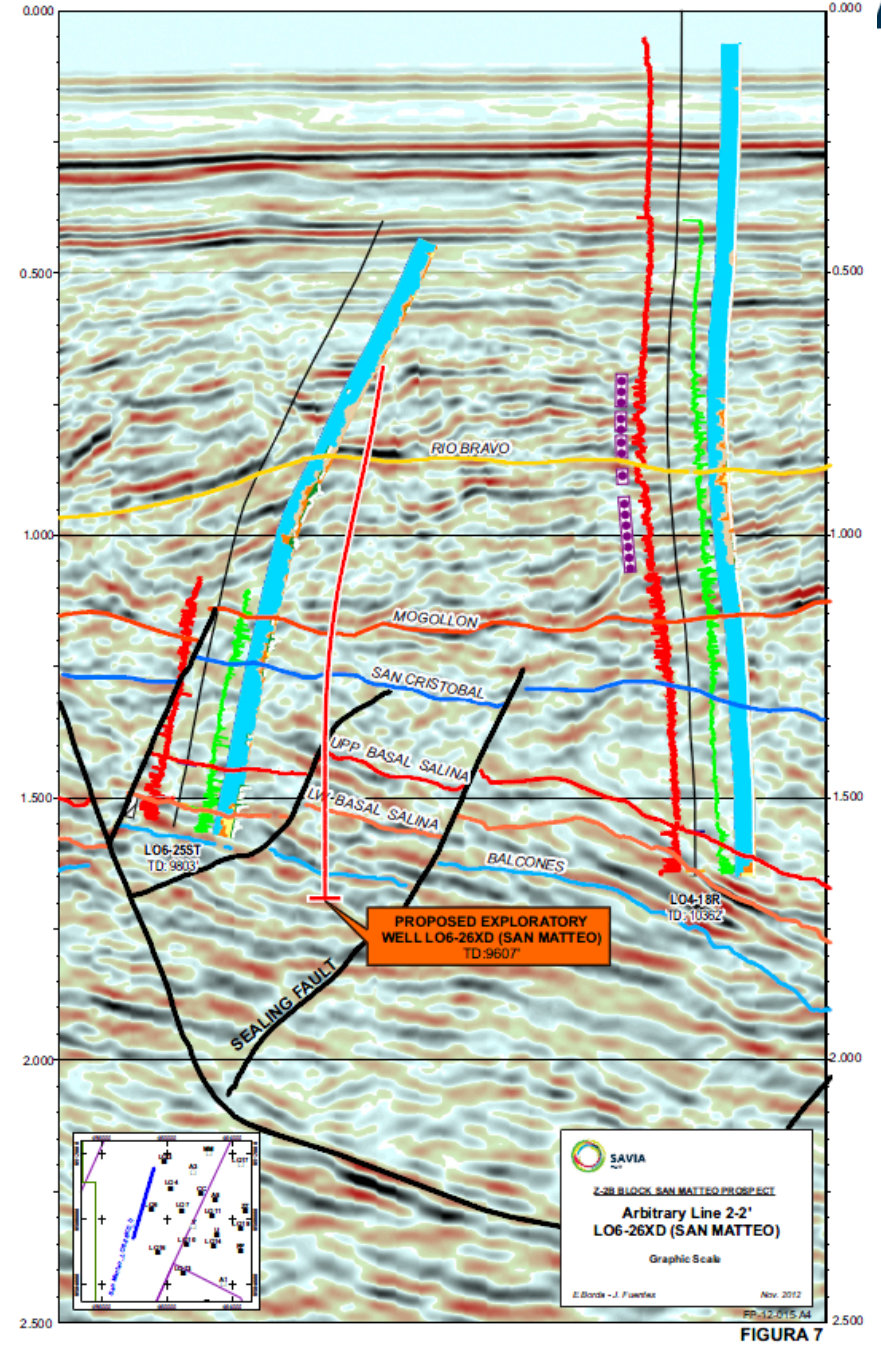
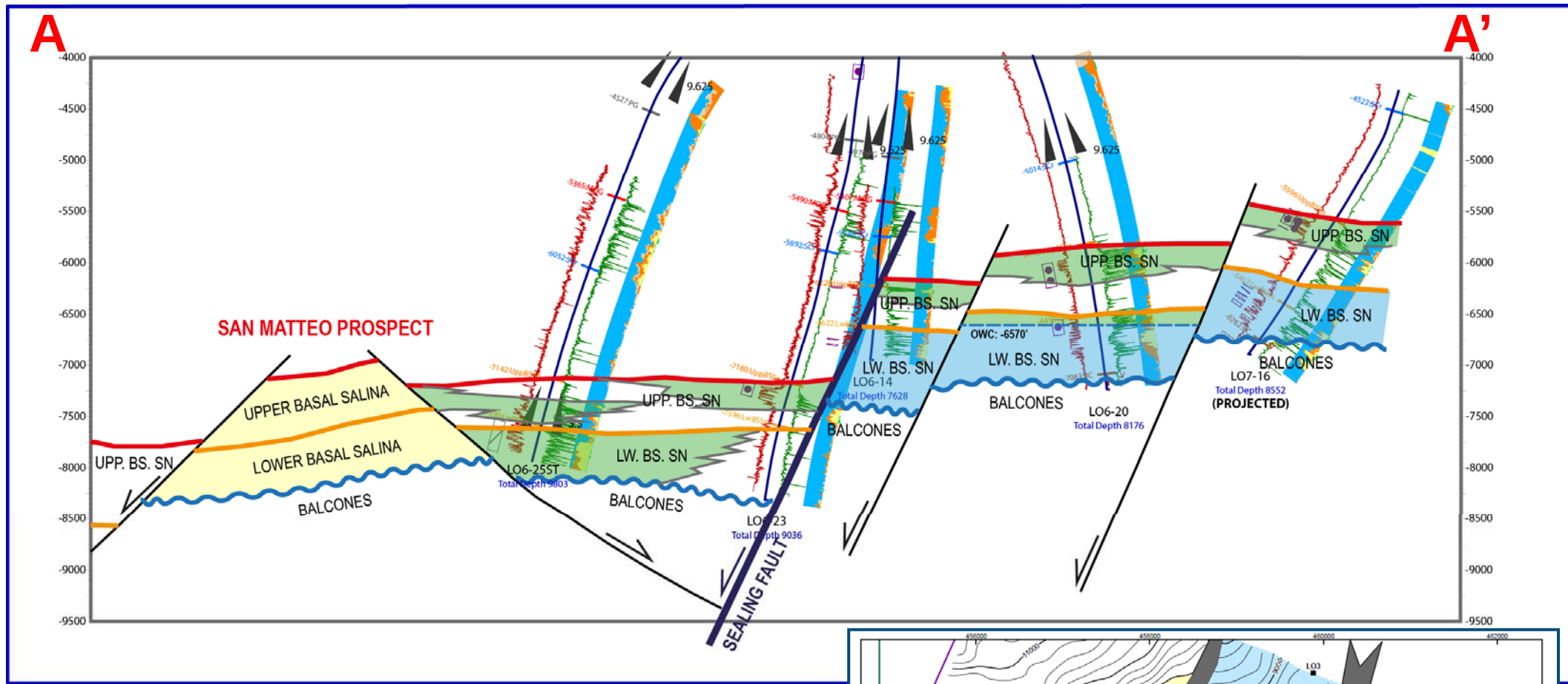
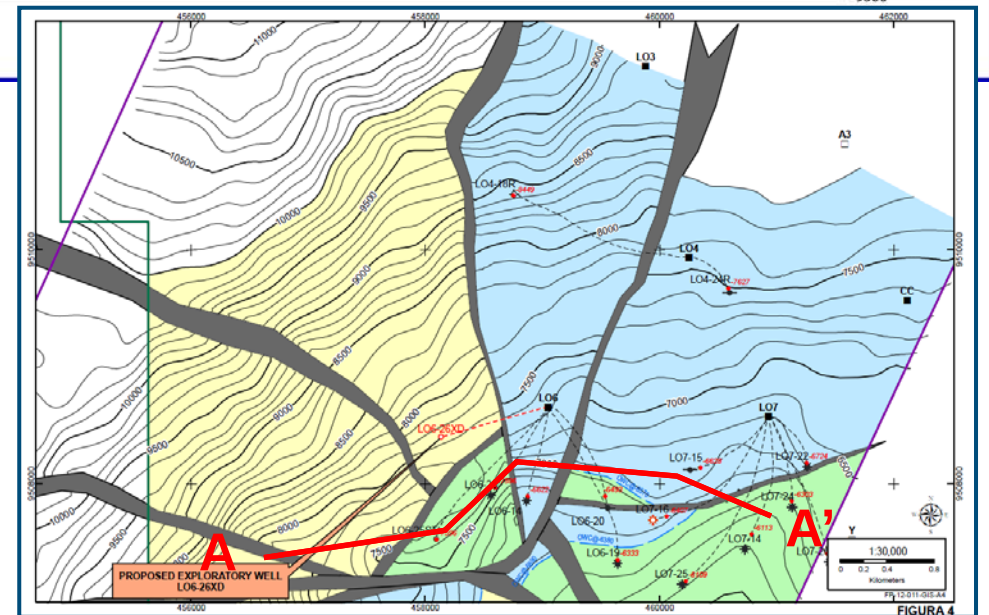
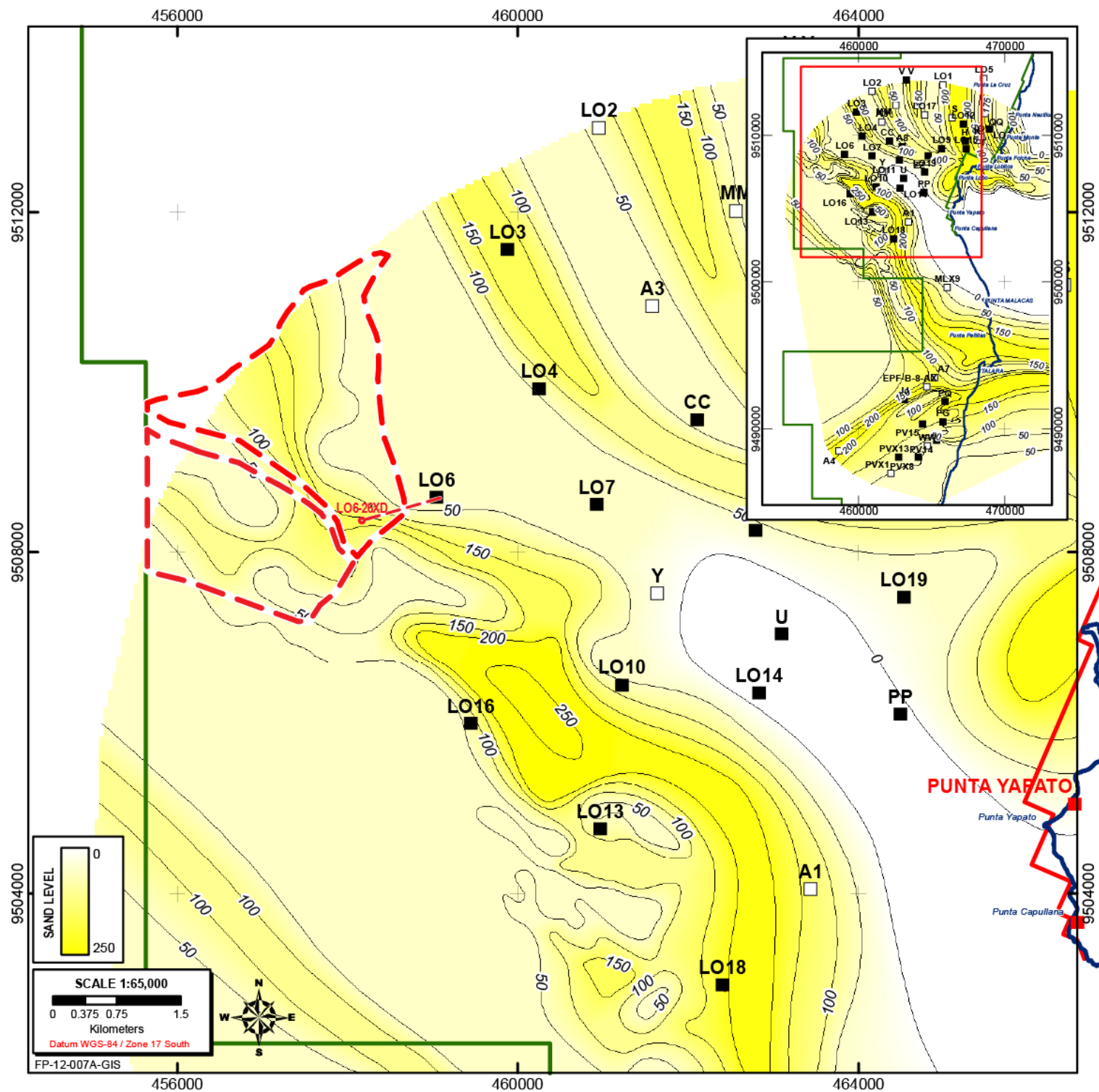


FIGURA 7



**SAN MATTEO
SCHEMATIC GEOLOGICAL
SECTION A-A' (W-E)**

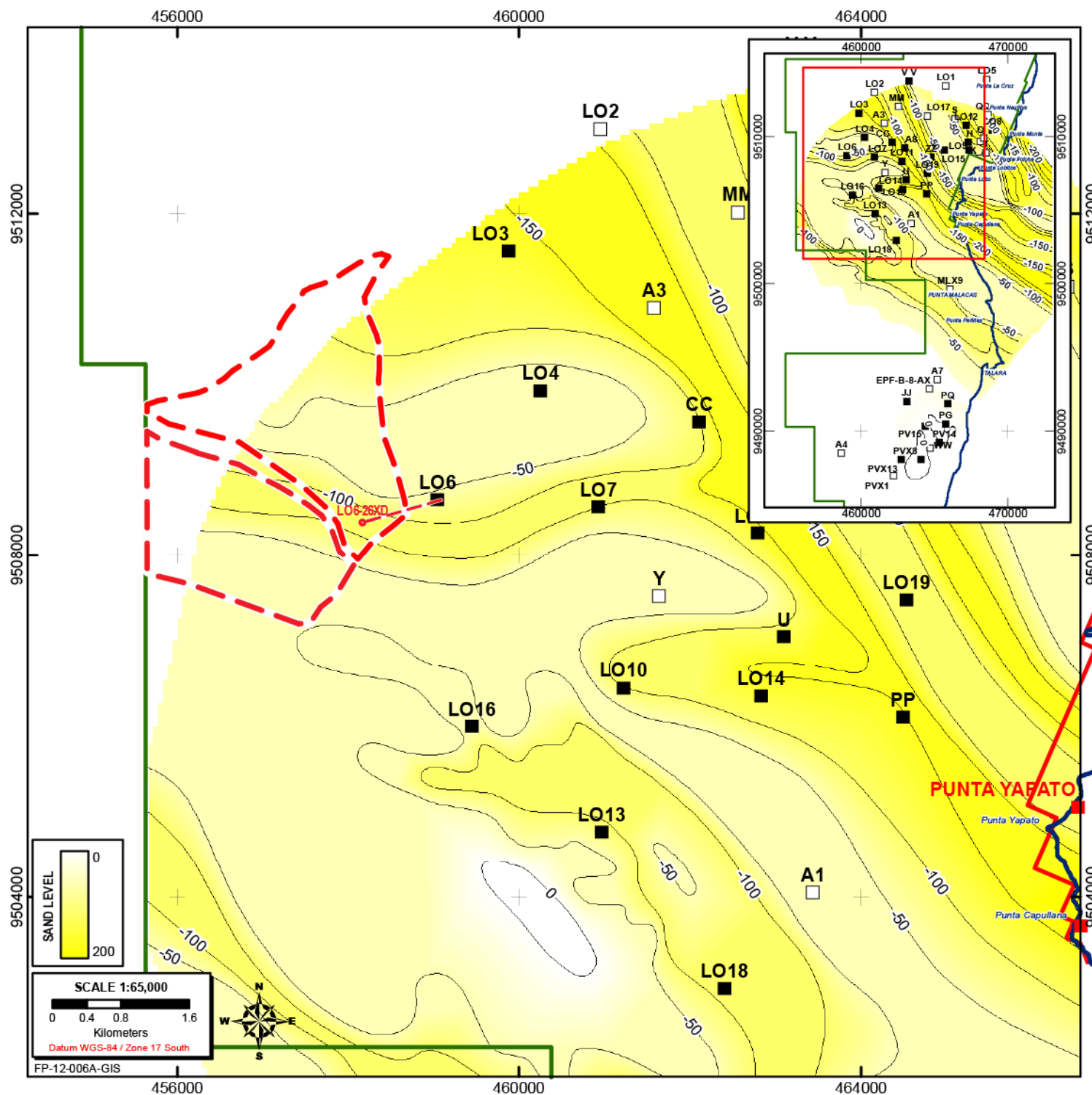




SAVIA
PERÚ

LOWER BASAL SALINA FM. RESTORED VERTICAL NET SAND MAP

M. Chavez Aug 2012



SAVIA
PERÚ

UPPER BASAL SALINA FM. RESTORED VERTICAL NET SAND MAP

M. Chavez Aug 2012

SAN MATTEO PROSPECT GEOCHEMICAL PLAY MAP

